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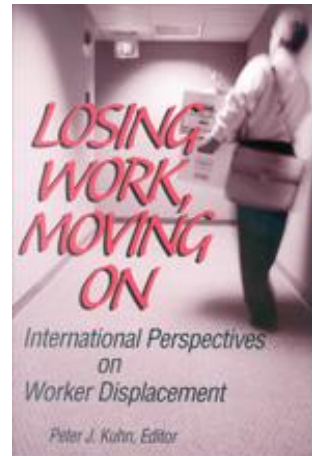
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“I get knocked down, but I get up again.”
Chumbawumba, 1997

Industrial restructuring, changes in technology, and recession are all associated with worker displacement, the involuntary separation of an employee from a job. Workers also leave jobs for personal reasons, but because these are considered voluntary actions and presumably not as closely linked with economic hardship, there is less concern over the consequences of this type of movement. The media in Britain and Australia, and perhaps because of this the general public, are also pre-occupied with the idea of declining job security (see, for example, Kelley, Evans, and Dawkins 1998). Whilst job security is difficult to quantify, public concern could arise not only from a belief that a long-term employment relationship is now less likely, but also from a belief that, if unlucky enough to lose a job, a replacement job is likely to be of lower quality, to pay lower wages, and to be less stable.

In this chapter we examine the consequences of job loss for displaced workers in Britain and Australia. Fallick (1996) and Kletzer (1998) provide useful summaries of over ten years of research into the issue in North America. As yet, however, the evidence from Britain and Australia is sparse.

For Britain, Gregory and Jukes (1997) provided the first evidence of the effects of unemployment on the subsequent earnings of a sample of unemployed male benefit claimants. They find, on average, an earnings penalty of around 10 percent compared with men who remain in jobs. The research in this chapter draws on data from the British Household Panel Survey (BHPS) over the period 1991 to 1996 to broaden the scope of inquiry on job displacement in Britain by including all unemployment spells (claimant or otherwise) and spells of economic inactivity (allowing for discouraged job seekers), together with information for women and/or part-time working. The analysis highlights which groups are most likely to experience displacement, which groups are most likely to get back into work, and the earnings changes associated with reentry into work.

For Australia, a range of case-study-type evidence is available which suggests that displaced workers face considerable difficulties in obtaining new jobs, but does not provide clear conclusions on the effects of displacement on future wages (Borland 1998). In this chapter, data from two sources are used to extend existing research. First, aggregate-level data from the Australian Bureau of Statistics (ABS) and Labor Force Survey (LFS) are used to describe patterns and trends in the incidence of displacement and labor market outcomes for displaced workers. Second, individual-level data from the Youth in Transition Survey (YTS) are used to examine the consequences of displacement for young workers in Australia in the mid 1980s and early 1990s. The analysis provides a more detailed treatment of post-displacement employment and wage outcomes for displaced workers in Australia than in previous studies—for example, by presenting information on average employment outcomes over the two-year period following displacement.

The next section provides background information on the labor markets in Britain and Australia in the 1980s and 1990s. The third section describes the institutional and legal framework surrounding job displacement in Britain and Australia. The fourth section outlines the

data sources used for each country and presents findings from analysis of the incidence of displacement and the consequences of job loss. The last section presents a summary of the main results for each country and attempts to offer a comparative perspective on how institutional differences between Britain and Australia might have affected wage and employment outcomes for displaced workers in those countries. Differences between the data sources—in particular, the Australian data source is restricted to younger workers whereas the British data source covers all age groups—mean that the scope for such comparisons is somewhat limited. However, some conclusions regarding the role of institutional factors are preferred.

LABOR MARKET BACKGROUND

Britain

At the beginning of the nineties, Britain entered a recession that was to last until the end of 1992. Unemployment reached a peak of around 3 million, some 10.5 percent of the workforce, in the spring of the following year. The recession primarily affected men. Male employment fell by 1.3 million in the three years between 1990 and 1993, while female employment fell by only 150,000 over the same period. The economic downturn helped increase the movement of many men—mostly, but not entirely, over age 50—into economic inactivity. The number of men outside the labor force grew by around 700,000 over the recession period and continued to rise over the rest of the nineties, albeit more slowly. Manufacturing and the distribution and retail sectors bore the brunt of the fall in employment: 600,000 jobs were lost in manufacturing between 1990 and 1993 and 400,000 jobs in distribution and trade. Younger workers were hit worst by the recession. The employment rate for those aged 20–24 years fell from 75.5 percent to 66.0 percent, some 500,000 workers, from 1990 to 1993, compared with the national fall from 75.2 percent to 70.6 percent over the same period.

The labor market in the early years of recovery was dominated by a rise in the share of part-time and temporary jobs. By the end of 1996,

when the British sample stops, the employment rate had recovered to 72 percent, up by some 600,000 from its 1993 low. Of the net new-job creation 200,000 were for full-time work and 400,000 for part-time work. Half of the net growth in employment was accounted for by temporary jobs. Youth (20–24) employment fell, however, by a further 300,000. This may, in part, be explained by an increased enrollment in tertiary education. Three-quarters of all net employment growth between 1993 and 1996 was accounted for by the public sector and finance industries. Over the same period the increase in earnings inequality that had begun at the start of the eighties continued apace, until 1996 when inequality stopped rising. By 1996, the gross hourly earnings of the lowest decile had fallen to 53 percent of the median, while hourly earnings of the top decile had risen to 220 percent of median earnings. The typical entrant back into work after a spell of non-employment could expect to receive earnings around the bottom quartile of the aggregate earnings distribution, some 69 percent of median earnings in 1996.

Australia

Individual-level data on displaced workers in Australia used in this study are from the early to mid 1980s and early 1990s, and primarily for workers aged 18 to 22 years. Hence in this subsection a range of descriptive information on the Australian labor market in the 1980s and 1990s—in aggregate and for persons aged 15–24 years—is presented.

In 1978, the average unemployment rate in Australia was 7.8 percent, with that for 15- to 24-year-olds at 14.4 percent. Both these rates attained a local maximum in 1983 at 9.9 and 17.9 percent, respectively; declined to a trough of 5.7 and 10.4 percent in 1989; and rose to a higher peak in the recession of the early 1990s of 10.7 percent for the population as a whole in 1993, and 19.5 percent for youth in 1992. This 1990s recession was also distinguished by a substantially larger share of the unemployed population in long-term unemployment; for example in 1993, 36.9 percent of the unemployed had been in that state for over a year, compared with 31.2 percent in 1984. Some reversal of the above increases has now taken place. In May 1998 the rate of unemployment for the working-age population was at 8 percent.

Along with being higher for younger than older labor-force participants, the incidence of unemployment has been particularly high for those with low levels of educational attainment or whose last job was in an unskilled blue-collar occupation, and for some immigrant groups (Borland and Kennedy 1998).

Changes in employment/population and labor-force participation rates also took place in the 1980s and 1990s. The aggregate employment/population rate varied procyclically but displayed little overall trend. As in most industrialized countries, however, the stability of the aggregate employment/population rate disguises opposing trends for males and females. For females both employment and labor-force participation have increased since the mid 1970s, while for males there has been a decrease in participation over this period (see for example, Gregory 1991 and EPAC 1996).¹ Focusing on persons aged 15–24 years, employment and labor-force participation also remained remarkably constant throughout this period (employment at about 60 percent, participation at about 68 percent). However, significant changes occurred in the composition of employment: the full-time employment/population rate declined substantially—from 52 percent in 1980 to 38 percent in 1995—while the part-time employment/population rate increased to compensate. Underlying the change in the composition of employment has been an increase in schooling and university participation, from 34 percent in 1987 to 44 percent in 1995.

The 1980s and 1990s in Australia were characterized by relatively little real wage growth. Between 1978 and 1984, average real weekly earnings of full-time employees grew by a total of 7.6 percent, but fell after that. Only by 1995 had average real weekly earnings recovered to their 1984 level. These trends were similar for youths, although declines in the 1980s were larger for them. (This latter finding could be due to changes in the composition of the full-time youth labor force.) Earnings dispersion was relatively stable from the early to late 1980s, but then increased during the first half of the 1990s (Gregory 1993 and Borland and Wilkins 1996).

INSTITUTIONS

Institutional factors are generally supposed to have an important role in determining both the incidence of worker displacement and subsequent outcomes for displaced workers. In this section we identify the key institutional features which are likely to be relevant for understanding what happens to displaced workers—employment-protection legislation; the unemployment benefit system; and wage-setting institutions. Employment-protection legislation may affect whether and how firms are able to lay off workers. Differential costs of layoffs may also influence the incidence of worker displacement. Unemployment benefits may affect the jobless duration and search activities of displaced workers. Wage-setting institutions help determine both the wages displaced workers surrender and their wages at reemployment.

Britain

Employment protection

How easy is it for firms to make their employees redundant in Britain and what are the costs to firms? Employment-protection legislation, as covered by the Statutory Redundancies Payments Scheme (1965), has operated largely unchanged since its inception. This covers mandatory severance pay, advance notice, legal requirements, and procedures for dismissal. There are relatively few legislative constraints on the ability of firms to make redundancies. The qualifying period—before general rights exist to claim redundancy payments and unfair dismissal—was extended, first, from six months to one year in 1979 and, then, to two years in 1985 for full-time jobs and five years for part-time jobs. In 1995, an EU antidiscrimination ruling was brought in which equalized the qualification period at two years tenure for all. If a worker qualifies for redundancy rights then the entitlements are as follows:

- there is a minimum notice period of one week for each year of service, up to a maximum of 12 weeks.
- an employer must make a lump-sum payment to any employee dismissed because of redundancy, calculated using a formula based on length of service and age. This is then multiplied by the

worker's weekly earnings (with a ceiling imposed currently at £210), as follows:

- 0.5 week's pay for each complete year of service between ages 18 and 21,
- 1 week's pay for each complete year of service between ages 22 and 40,
- 1.5 weeks' pay for each complete year of service between ages 41 and 60.

There is a maximum, national, service period of 20 years. Service before age 18 and after age 60 does not count toward redundancy-compensation entitlement. Since qualification for these general rights requires two years' tenure, then the minimum notification period is two weeks, irrespective of hours worked, and the minimum compensation lies between one and three weeks' pay. The maximum amount an employer might be required to pay as a statutory redundancy payment is £6,300 ($20 \times 1.5 \times 210$), around one-third average annual earnings. Unions tend to negotiate supplements that raise the compensation and notification period substantially. Employers sometimes make larger payments as an incentive for the workforce to take "voluntary" redundancy. A statutory redundancy payment is not liable to tax and any nonstatutory "golden handshake" is also tax free if it is under £30,000. If the employer fails to make the statutory payment, the employee must present a complaint in writing to an Industrial Tribunal within six months. A right to time off during the period of dismissal notice to look for work or make arrangements for training exists after two years of employment. There is a penalty of two-fifths of weekly pay for each week if the employer does not allow this. The employee also has the right to have recognized trade unions consulted by employers before redundancy proposals are put into effect. This requires no minimum length of employment. Employers wishing to make 100 or more workers redundant at the same time are obliged to give 90-days' notice to the Secretary of State for Employment and to consult with the employees' representatives. Firms wishing to make between 20 and 100 workers redundant are obliged to give 30-days' notice to the same parties (Selwyn 1996). Workers on fixed-term contracts are excluded from redundancy rights if they agree in writing to exclude their rights

to make any claim, even if their jobs last for more than two years. Such a clause is now common in many fixed-term contract agreements. General rights apply against “unfair dismissal” after two years, including an award of compensation by an Industrial Tribunal if a claim is made within three months of the dismissal. Any employer who dismisses a woman for some reason connected to her pregnancy, for example, may well be dismissing her unfairly.

Unemployment benefits

Once displaced, what can workers expect to receive from the state? To receive any benefit workers must first register with the state employment service and sign a weekly declaration that they are available for, and actively seeking, work. The British unemployment benefit system encompasses both contribution-based insurance (UI) and means-tested assistance (UA). Both benefits are paid out of general taxation revenue. National Insurance Contributions (NIC) are compulsory for all employees earning above a minimum level, currently £63 a week, as a given percentage of gross pay. Employees who do not pay NICs are not eligible for UI payments and must therefore apply for means-tested assistance. No contributions are required on jobs paying below £63 a week, but NICs are levied on all earnings once the wages rise above this threshold. This profile creates what is called an “entry fee,” crossing above which incurs a sharp rise in the tax burden. As a result, more part-time jobs may be created than would otherwise be, and this may affect the new-job wage-offer distribution and hence the cost of job loss.²

To be entitled to contributory unemployment benefit a displaced worker must have been employed continuously for two years immediately prior to displacement and must have earned a wage higher than the contribution lower limit (£63 per week). Before 1988 a worker could have been credited with NICs during a spell of unemployment and still qualified for benefit. Since 1983, unemployment benefit in Britain has been paid at a flat rate (£48.25 in 1996), irrespective of previous earnings for a set period. In 1996, the duration period for receipt of UI was reduced from 12 to 6 months. After exhaustion of UI, claimants are transferred to means-tested assistance payments. This benefit is levied at the level of the household rather than the individual and pays a claimant the difference between the household’s weekly net

income and their needs level or “applicable amount.” UI claimants can also claim UA simultaneously since the flat rate UI payment is normally below the amount a family would get on UA. In addition, those living in rented accommodations can claim means-tested help with their housing costs (Housing Benefit). Successful claimants will normally have all of their rent paid, except a nominal amount. Those who own their residences can claim help with their mortgage payments after a 6-month spell of unemployment. Council Tax Benefit, help with local authority taxes, is also paid to those on means-tested benefit, such that 100 percent of their Council Tax is paid.

Individuals can receive means-tested assistance indefinitely, provided they satisfy eligibility requirements. For an unemployed worker this requires a weekly declaration of availability for work at the local Jobcentre, administered by the government employment service. Recent attention has been given to the growing numbers of economically inactive men of working age. Over most of the period covered by this chapter, many of these individuals were claiming long-term sickness benefit (SI). This is a means-tested benefit paying around £30 above the rate for UA, with eligibility determined by a general practitioner. Claimants could move off unemployment benefit into SI after a period of six months claiming means-tested income support. Claims were also allowed after a 6-month period out of work receiving employer-contributed statutory sick pay. It is possible therefore that some displaced workers who could not find a job immediately may have ended up receiving a sickness benefit. In 1995, concerned with the growth in claims, the government replaced SI with Incapacity Benefit, restricting the role of the general practitioner to an “objective” test of a medical basis for the ability to perform work-related activities.

These myriad variations in benefits and the uncertainty surrounding likely wage offers make the calculation of potential replacement rates facing displaced workers very difficult. OECD estimates of “typical replacement ratios” for the United Kingdom are shown in Table 4.A1 in the appendix. Replacement rates are relatively low until housing benefits are taken into account. Thereafter they approach parity with the income brought home by a worker earning two-thirds of the average production worker’s salary.

The employment service offers a range of training, advice, and support schemes aimed at helping the unemployed back into work.

Claimants are required to produce evidence that they are actively seeking work and/or had “good cause” for turning down a job they were offered. They are also encouraged, but not obliged, to complete a Back to Work Plan containing goals that they have to achieve during the unemployment spell. This is reviewed after an unemployment spell of 13 weeks and from then on the claimant is referred to the plethora of support schemes and advisory networks available at that time. These initiatives target various categories of unemployment duration—currently *JobClubs* (6 months unemployed), *JobPlan Workshops* (12 months), *Restart* courses (24 months)—and try to match jobseekers to posted vacancies, placement in relevant employment-subsidy programs, remotivation counselling, and improvement in the extent and quality of their job search. Recruitment subsidies and work programs were not in place during the sample period, though the government has recently introduced a wage subsidy scheme, *The New Deal*, for those unemployed in excess of six months. Schmitt and Wadsworth (1998) provide more details on changes to the benefit system over time and the consequences for unemployment outflows.

Wage-setting institutions

What are the principal forces shaping wages in Britain and what might be the consequences for displaced workers looking to reenter work? Wages are relatively free of regulations governing pay determination. Over the sample period, the Conservative administration encouraged, but did not mandate, decentralized determination of wages. There was no national minimum-wage regulation applicable in the United Kingdom over the sample period. Wages Councils, which had previously set minimum rates of pay for around 2 million low-paid workers in selected industries, were abolished in 1993, except in agriculture. Union density in Britain, which continues to fall, is currently estimated to be around 30 percent, and only around 20 percent in the private sector. Collective bargaining coverage has no legal status. Employers must agree as to whether unions are recognized for negotiation purposes. Recent estimates show that collective representation has also been considerably undermined, with just 37 percent of employees covered by collective agreements in 1996, but with 70 percent coverage in large public sector workplaces (Cully and Woodland 1997). If pay is not determined through collective bargaining, then management

or a “review body” in the public sector decides (Beatson 1995). Gregg and Wadsworth (1997) provided an analysis of the changing nature of wages being offered to the non-employed.

Australia

The Constitution of the Commonwealth of Australia assigns powers to make legislation between state and federal governments. The power to regulate industrial relations matters is divided between these two: Federal powers are those explicitly stated in the Constitution, and residual powers are assigned to the states. For example, section 51(xxxv) of the Constitution allows the federal government to make laws with respect to “conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one state.”

Regulation of the terms and conditions of employment in Australia occurs through: a) Provisions of state and federal government workplace relations legislation; and b) The “award system” whereby a system of industrial tribunals specify and enforce a set of minimum terms and conditions for workers in specific occupation or industry groups.

In what follows we discuss these two sources of employment regulation in turn.

Employment protection

In Australia any employment contract of indefinite duration between an employer and employee will generally be terminable by notice (Creighton, Ford, and Mitchell 1993, p. 225). Currently, regulation of the appropriate notice period for worker retrenchment in Australia occurs through workplace relations legislation and through the wage-setting system. First, some states in Australia have enacted legislation which requires (or can be used to require) employers to provide advance notification of dismissal (Social Justice Consultative Council, 1992). Second, awards setting out minimum terms and conditions of employment may contain provisions relating to minimum-notice periods.

Prior to 1984 most awards (federal and state) contained provisions to the effect that “Employment . . . shall be terminated by a week’s notice on either side given at any time during the week or by the pay-

ment or forfeiture of a week's wages at the case may be" (Creighton, Ford, and Mitchell 1993, p. 225). The *Termination, Change and Redundancy (TCR) Test Case* decision handed down by the Federal Conciliation and Arbitration Commission in 1984, however, provided a stronger set of conditions governing worker retrenchment which could henceforth be included in awards. These conditions specify minimum requirements for advance notification of retrenchment, severance payments, and such other employer obligations as providing time off for job interviews.

Provisions from the TCR Test Case relating to advance notice and severance payments for retrenched workers are as follows (Creighton, Ford, and Mitchell 1993, pp. 225–226):

- Advance Notice:

“(i) Where an employer has made a definite decision that the employer no longer wishes the job the employee has been doing done by anyone and this is not due to the ordinary and customary turnover of labor and that decision may lead to termination of employment, the employer shall hold discussions with the employees directly affected and their union.

(ii) The discussions shall take place as soon as practicable after the employer has made a definite decision . . .

(iii) For the purposes of the discussion the employer shall, as soon as practicable, provide in writing to the employees concerned and their union, all relevant information about the proposed terminations including the reasons for the proposed termination, the number and categories of employees likely to be affected, and the number of workers normally employed and the period over which the terminations are likely to be carried out.”

- Severance Pay:

“. . . an employee whose employment is terminated [made redundant] . . . shall be entitled to the following amount of severance pay in respect of a continuous period of service:

Period of continuous service	Severance pay
1 year or less	nil
1 year and less than 2 years	4 weeks' pay
2 years and less than 3 years	6 weeks' pay
3 years and less than 4 years	7 weeks' pay
4 years and over	8 weeks' pay

*Week's pay means the ordinary time rate of pay for the employee concerned."

Incorporation of these TCR Test Case conditions into awards seems to have been far from complete. Pearce, Bartone, and Stephens (1995, p. 20) reported that in 1990 only 25 percent of federal awards included provisions from the TCR Test Case. Moreover, it is important to note that the redundancy conditions from the TCR Test Case do not apply to employees with less than one year's continuous service, where an employer can demonstrate incapacity to pay, and in some circumstances, to employers who employ fewer than 15 workers. On the other hand, there are other groups of employees—such as public sector employees for whom redundancy conditions are specified in special legislation regulating public sector employment—who would have much stronger notice provisions than those specified in the TCR Test Case.

Unemployment benefits

The Australian social security system is primarily a social assistance scheme. Payments are funded from general taxation revenue and are based on a person's current need, rather than on previous levels of earnings or duration of employment. Payments are generally available to all residents of Australia, subject to eligibility and duration of residency.

Unemployment benefit payments are available to persons who have lost or left employment and to persons who are unable to obtain work on leaving school. Receipt of benefits is subject to an income test that allows some nonbenefit earnings before benefits are withdrawn at a dollar-for-dollar rate. A waiting period of 13 weeks applies for persons who should be able to support themselves during the initial period of an unemployment spell (for example, persons who have received

recreation leave or termination payments from an employer, or who have considerable financial assets).

There is no limit on the duration of receipt of unemployment benefits provided that an unemployed person is willing and able to undertake paid employment and is actively seeking work (for example, for some unemployed persons the “activity test” involves keeping a job-search diary).

Unemployment benefit replacement rates vary, depending on whether an unemployed person is single or married, has any children, and owns or rents housing. For example, in 1983 the unemployment benefit for a married person with dependent spouse was \$137.30, for unmarried persons aged 16–17 years without dependents was \$40.00, for unmarried persons aged 18 years and above without dependents was \$68.65, for unmarried persons aged 18 years and above with dependents was \$82.35, and for each child of an unemployed person with dependents was \$10 (Commonwealth Department of Social Security 1983). At the same time, average weekly earnings for a full-time employee were \$172 for a 15- to 19-year-old, \$270 for a 20- to 24-year-old, and \$318 for employees as a whole (Australian Bureau of Statistics 1983).

Table 4.A2 in the appendix presents some more-recent summary information on replacement rates in Australia compared to average rates for the OECD. Three main features are evident. First, for none of the cases where an unemployed person would shift to full-time employment at the average earnings level do unemployment benefits exceed average earnings. Second, both in absolute terms and relative to OECD averages, replacement rates in Australia are higher for couples with children than couples with no children, and higher for couples than for single persons. Third, the longer duration of unemployment benefits in Australia than in most other countries means that, whereas replacement rates in Australia are below the OECD average in the first month of unemployment, this ordering is reversed in the sixtieth month of unemployment. It is also important to note that in Australia persons receiving unemployment benefits are eligible for other non-cash benefits—in particular, the Health Care card provides access to reduced-cost medicines and public transport travel.

Displaced workers who shift out of the labor force will also be eligible for social security benefits. Age pensions are available to males

over age 65 and females over 61. Persons who have a medical condition which prevents full-time work are eligible for disability support pensions. And service pensions are available to male war veterans over age 60 and female war veterans over age 55. Each of these pensions is subject to income and assets tests (see Commonwealth Department of Social Security 1997).

Wage-setting institutions

There are three main dimensions to the regulatory structure for wage setting in Australia:

- a) Regulation of the wage bargaining process and of the form of agreement over terms and conditions of employment which can be made between a worker and employer;
- b) Regulation providing for intervention by a third party (industrial tribunal) in the process of wage bargaining, and in the determination of terms and conditions of employment; and
- c) Regulation promoting collective organization of workers and providing a right for collective organizations to represent workers in negotiations over terms and conditions of employment.

Most workers in Australia have minimum terms and conditions specified in “awards.” These are written documents which are ratified and enforced by industrial tribunals at either the state or federal level. Individual awards generally cover workers within specific occupation or industry groups. Each award specifies a range of minimum wage rates for workers with different skill levels in that occupation or industry group. Hence a multitude of different minimum wage rates exist in the economy. The conditions in an award may be agreed by consent between a union and employers and then ratified by the relevant industrial tribunal or may be arbitrated by the industrial tribunal.

The principle of “common rule” means that any decision of an industrial tribunal about conditions in an award will be extended to all workers in the workforce group covered by that award, regardless of union status. Award coverage remained high and relatively constant in the period from the 1950s to 1990s. In 1954 the proportion of workers covered by awards was 90 percent (Dabscheck and Niland 1981, p. 274), and in May 1990, this proportion was 80 percent—33.5 percent

covered under federal awards, and 46.5 percent under state awards (Australian Bureau of Statistics 1990). It is important to note, however, that for a large proportion of these workers minimum wage conditions specified in awards are not binding. Estimates for 1995 suggest that about 25 percent of workers had rates of pay at award levels (Australian Industrial Relations Commission 1997, p. 124).

Industrial tribunals have an important function in wage determination in Australia. These tribunals exist at both the federal and state level, and may have general coverage (for example, the Federal Industrial Relations Commission) or coverage restricted to specific occupation groups (such as the Federal Coal Industry Tribunal). At the federal level the wage-determination process involves a three-tier system: a) national wage cases where the federal industrial tribunal adjusts wages for all workers covered by federal awards (often with flow-ons to workers covered by state awards); b) industry cases where the federal industrial tribunal is concerned with setting conditions in a specific award; and c) over-award negotiations or enterprise-level negotiations which occur directly between employers and employees and do not involve an industrial tribunal. Although a greater proportion of workers are covered by state tribunals than federal tribunals, federal tribunals are generally considered to be more important in the regulation of wage setting in Australia (see, for example, Dabscheck and Niland 1981, p. 273). In particular, wage increases granted to workers covered by federal awards in national wages cases would usually flow on to workers covered by state awards.

The importance of industrial tribunals in wage setting—and hence the degree of centralization in wage bargaining—has varied over time. In some periods, uniform national wage increases have constituted the only source of wage increase for workers covered by awards (wage indexation phases of 1975–1981 and 1983–1985, for example). At other times, the most important source of wage increases is from over-award or enterprise-level negotiations (for example, between 1974 and 1975).

Trade unions have a key role in representing workers in bargaining over terms and conditions of employment in Australia. The important function of unions, and incentives for union organization, have been effected through legislation which assures access to industrial tribunals for registered trade unions and which provides exclusive jurisdiction

over members through the process of registration (Creighton, Ford, and Mitchell 1993, pp. 923–925). The main types of unions in Australia are occupational unions which cover workers performing tasks in a single generic category (for example, Federated Clerks Union); partial industrial unions which draw members from a single industry but do not have exclusive jurisdiction of that industry (for example, Australian Railways Union); and general unions which organize workers irrespective of occupation or industry classification (for example, Australian Workers' Union).

As in a number of other industrial countries, union density has declined in Australia over the past two decades. In 1976, 51 percent of workers were union members; but by 1996 this had declined to 31 percent (Australian Bureau of Statistics 1996). Between 1990 and 1996 a dramatic decrease in the number of trade unions (from 299 to 132) also occurred, largely reflecting a process of union amalgamations.

The description of the regulation of wage setting in Australia applies to most of the period after the 1940s. Since 1993, however, there have been a number of important developments in the regulation of wage bargaining in Australia. Since these developments have not had a significant effect on wage outcomes until very recently, they are not directly relevant for the analysis of the experiences of displaced workers in Australia that will be undertaken in this chapter. Nevertheless it seems worthwhile to present a brief overview of the main changes. The primary recent developments in federal regulation of wage bargaining in Australia (Commonwealth Department of Industrial Relations 1996) have been to

- Change legislative provisions for wage bargaining so that enterprise-level bargaining is the main method for workers to obtain changes in terms and conditions of employment.
- Reduce the role of the federal industrial tribunal in wage setting, its main function now being to guard the interests of employees not able to gain wage increases through enterprise bargaining via arbitration on general “safety net” wage increases.
- Provide scope for employers to enter formal agreements with workers without a legal requirement for union involvement in the wage-bargaining process.

Summary

A fair degree of similarity appears to exist between institutional factors in Britain and Australia. In both countries, levels of employment protection are relatively low. The OECD ranks Britain and Australia as having respectively the fourth and seventh lowest levels of employment protection out of 20 OECD countries (see Nickell and Layard 1999). The unemployment benefit system in the two countries are also quite similar. Benefits are provided for an unlimited period, but subject to a job-search activity test (which has been progressively tightened in each country from the 1980s onwards). Benefit replacement rates in both countries are below the OECD average in the first month of unemployment for single adults and couples with no children. They are about the same as the OECD average for couples with children. In the sixtieth month benefit replacement rates in Britain and Australia are above the OECD average for couples both with and without children. The main difference between the two countries appears to be in wage-setting institutions. Wage setting in Australia—over the relevant periods for this study—appears to have been more highly regulated than in Britain. There has been a more comprehensive system of minimum wages in Australia, and wage setting has involved a much greater role for centralized regulatory bodies. Trends in union density in the two countries, however, have been quite similar.

What do institutional factors suggest about the experiences of displaced workers in Britain and Australia? First, the similarity in levels of employment protection indicates that this should not be a source of significant differences in rates of worker displacement between Britain and Australia (although employment protection might be important for explaining differences between these countries and European countries with much stricter regulation of worker dismissals). Second, differences in wage-setting institutions might be expected to cause differences in the way in which displaced workers respond to job loss. In particular, the system of minimum wages and centralized wage setting in Australia—compared to Britain—may reduce the chances that displaced workers find new jobs with earnings below those in their pre-displacement jobs. Hence, differences in wage-setting institutions may cause adjustment to job loss to occur through non-employment to a greater degree in Australia than Britain. By contrast, the unemploy-

ment benefit system in each country does not seem likely to be a source of differences in job-search behavior or non-employment durations of displaced workers in the two.

RESULTS

This section presents findings on the experiences of displaced workers in Britain and Australia. The data sources used for the empirical analysis for each country are described, and some descriptive information on the incidence of worker displacement is presented. The main parts of the empirical analysis involve an examination of the earnings and employment consequences of job loss for displaced workers.

Several authors have provided evidence from the United States to the effect that job displacement involves reductions in wages (Hamermesh 1987; Topel 1991; Jacobson, LaLonde, and Sullivan 1993; Stevens 1997; Farber 1993, 1997). The reasons advanced for this are loss of firm-specific human capital, loss of good job-match capital, or loss of wage premiums. United States evidence also suggests that the costs of job displacement rise with age, tenure in previous job, and loss of a union job. Moreover, earnings appear to fall within the job prior to displacement. Earnings do recover after a new job is secured, but not all these losses are recouped after reentry. Stevens (1997) suggested that this occurs largely because of subsequent, repeated job loss.

For Britain, Gregg and Wadsworth (1997) have shown that the wages of jobs taken by those who were out of work have fallen relative to others in work. In part this decline is due to higher job-specific returns, rewards to seniority, and experience at the firm, which cannot be transferred. As the wage returns to experience rise within any occupation or skill group, then the job currently held is likely to pay more than any new job gained after a displacement. The longer a worker has been in the job, the greater this penalty will be if some or all of the returns to accumulated on-the-job experience are lost in the next job. So the costs of job loss may be higher among older and more experienced workers or wherever job loss is a relatively rare event.

Evidence from the United States also suggests that displaced workers experience increases in non-employment and a reduction in hours of employment following displacement (Swaim and Podgursky 1991; Ruhm 1991; Farber 1993). Important determinants of the duration of non-employment for displaced workers appear to be macroeconomic conditions prevailing at the time of displacement and factors, such as a worker's job tenure and union membership status, which affect the extent of earnings losses from cross-industry mobility (and hence determine the scope of a displaced worker's job search).

Kletzer and Fairlie (1998) found that earnings losses for young displaced workers in the United States are substantial and persistent (around 10 percent five years following job loss). Gustafson (1998) obtained similar results on earnings losses and also found that young displaced workers have significantly lower employment probabilities and (for those obtaining jobs) lower hours of work than young labor-force participants who have not experienced displacement. This research suggests that young workers potentially have as much to lose from displacement as their older counterparts.

Britain

Data

There is no equivalent to the Displaced Workers Survey in Britain with which to try and investigate the costs of displacement. Our estimation of the cost of job loss utilizes the information contained within the labor market histories embedded in the British Household Panel Survey, a panel survey of around 5,500 households. The BHPS has been carried out annually since 1991 and currently runs for six waves. Information on labor market status for around 8,000 working age individuals—together with gross monthly pay, hours, and other job characteristics, if in work—is recorded between September and December of each year. Details of any changes in labor market status from the September of the previous year until the interview date are recorded in a series of job history spell data.³ Data on monthly earnings in each spell are also recorded, and respondents are asked why they left their previous employment.

Our basic strategy is to compare earnings data in the current job with earnings in the previous job, with or without an intervening spell

out of employment. The principal earnings information in the BHPS is the individual's usual gross monthly pay in the job. Because hours of work are only asked at the date of interview and not in the job history data, we are unable to calculate hourly earnings. There is information on whether each job is full- or part-time and we use this wherever possible. We exclude those who report very low earnings, below £5 a week. At these earnings, if true, most recipients will be transitory labor market participants. Earnings are deflated by the Retail Price Index into September 1995 prices. Students in full-time education and individuals on maternity leave are removed from the sample, as are those under the age of 18 and those over pensionable age. Missing data on several variables, notably previous job tenure, reduce the final sample to 25,442 person years, of which 791 are displaced workers with weekly wage information before and after displacement.

We focus on the earnings changes of four groups: 1) workers reporting no change in employer over the year (stayers);⁴ 2) workers who lost a job either through redundancy or dismissal (displaced); 3) workers who came to the end of a temporary contract (temporary); and 4) workers who left their last job for other reasons, such as for family or health or retirement (leavers). The sum of the displacement, temporary, and leaver rates gives the total separation rate. We also distinguish between those who found a job without an intervening spell of joblessness and those who did not.

The British institutional system often blurs the distinctions among the four categories. If employed for less than two years prior to displacement, a worker is not eligible for redundancy pay. Yet the term "redundancy" is a commonly accepted phrase used to cover any involuntary separation. Also, unlike in the United States, "getting the sack" is a common phrase that does *not* necessarily imply that the dismissal was justified by the behavior of the individual (for example, poor time keeping). Hence for many workers the terms are essentially interchangeable. We do distinguish, however, between workers displaced from industries where employment is falling and those displaced from industries where employment is rising, in an attempt to enforce some exogeneity over the cause of job loss. Temporary contract holders are exempt from redundancy rules and so are best looked at separately. Unlike in continental Europe a temporary contract is not normally a probationary period prior to starting a permanent job.

Incidence of displacement

Our first step is to identify the principal characteristics associated with displacement in Britain. Table 4.1 outlines average annual separation and displacement rates derived from pooling the six years of the BHPS. We calculate for each wave how many were in work at September 1 of the previous year, and then count how many were observed separating from that job within a year. On average, one in five employees, some 5 million workers, separated from their jobs over a year. Some 4.7 percent of employees lost their jobs each year as the result of displacement. Of these, one-third did not experience any joblessness (data not shown). The ending of a temporary contract was around one-third as common as displacement in the stock of jobs as a whole, but since only 7 percent of employees were on such contracts, the separation rate is very high. Displacement rates are around 1 percentage point higher in industries in which net employment falls over the year. One in 8 displacements are classified as sackings by the respondents but when focusing on those with more than two years of job tenure this ratio falls to 1 in 12. The final two rows contrast separation rates between industries with growing and falling workforces. Separation rates in the former are higher, because a larger quit rate dominates the lower displacement rate.

Men are more than twice as likely to be displaced as women, 6.4 percent compared to 2.9 percent (Table 4.2). The displacement rate for younger workers, under the age of 25, at 7.3 percent, is nearly twice that of other age groups. There is less evidence that education affects displacement. The difference between the highest and lowest education groups, at around 0.7 percentage points, is not large. There is some variation in displacement rates across industries. Construction has the highest rate at 13.2 percent and public services the lowest, at around 1.4. Displacements in the service sector are less common than in manufacturing. The incidence of displacement falls with job tenure. There is a 7.9 percent chance that a worker in a job for less than 12 months will lose his or her job and a less than 4 percent chance of displacement for a worker in a job for five years or more. These numbers are consistent with the findings of Gregg and Wadsworth (1998) for Britain who used a different data source. Longer job tenure is not associated with a lower likelihood of displacement followed by a spell out

of employment. This is a little surprising, since longer tenured workers should have longer official notification periods with which to try and find alternative work.

In order to determine the principal characteristics associated with displacement, holding other observed factors constant, we next consider multinomial logit estimates of the probability that, within a year, the worker will 1) be displaced, 2) quit his or her job, or 3) come to the end of a temporary contract. The default category is the set of job stayers. Table 4.3 gives the results. The coefficients are marginal effects relative to the sample mean probabilities of belonging to each category.⁵ Consistent with Table 4.2, young, single males with less education working in a full-time job in a small firm in manufacturing or construction with job tenure under two years are all more likely to be displaced from work, though the gender and age differences are statistically significant only for temporary contract terminations. The last column of Table 4.3 gives marginal effects from a binary logit estimation of the probability that a displaced worker will find a new job only after a spell of joblessness. Here we remove those in temporary contracts from the sample so that the base category is the set of displaced workers who undertake a job-to-job move. The estimates are less precise, but part-time and low-tenured workers appear much more likely to experience a spell out of work between jobs.

Time out of work

We next examine the duration pattern of joblessness following displacement in more detail. Table 4.4 takes the sample of workers in a job in September of the year prior to the survey and compares the likelihood of being in work one year later by type of job separation. The numbers are annual averages over the six waves. Around one-half of all displaced workers are in employment one year after the initial September observation, compared with around two-thirds of all those who separate from their jobs. Those displaced workers with no non-employment spell between jobs are nearly twice as likely to be in work in the two observation points than displaced workers who are out of work for some finite length of time.

Kaplan-Meier estimates of monthly survival and hazard rates for the time taken to return to work, allowing for censoring based on the Cox likelihood model, are outlined in Table 4.5. We follow Gu and

Kuhn (1998) by including any displaced workers with no jobless spell in the likelihood function with duration set to one month and all other durations increased by one month.⁶ Any displaced workers not back in employment are treated as right censored at the number of months of the ongoing jobless spell. The first observation on the hazard is therefore the proportion of displaced workers who find a new job without a spell of joblessness (21.6 percent). Thereafter the hazard falls with the duration of joblessness to around 10 percent at month 10.

The determinants of the probability of displacement and the time taken to return to work are given in Table 4.6. The first columns present Cox proportional hazard estimates of jobless duration including job-to-job movers; the second columns exclude job-to-job movers. Men are both more likely to lose their jobs and are some 10 percent less likely to return to work. Long job tenure is associated with a quicker return to work. However, as column 2 shows, once job-to-job moves are excluded, long job tenure is no longer associated with a longer period of joblessness.

Earnings consequences of job loss

How much do displaced workers lose? Table 4.7 summarizes the mean of the difference in weekly log real earnings before and after displacement. As a comparison we show the annual earnings change recorded for workers who remain in the same job over the year. Weekly wages of the average displaced worker are around 10 percent lower in the new job than in the job lost (row 3). If the displaced worker moves from one full-time job to another, the penalty is only around 4 percent.⁷ Weekly earnings of those who remain with their employer rise by around 5 percent over a year. So displaced workers not only experience wage losses relative to their previous job but they also forego general increases in wage levels. The total pay penalty is then 14 percent and 10 percent for those working full-time both before and after displacement. For those moving directly from one job to another the wage falls by just 2 percent. Hence wage falls are mainly limited to those displaced workers experiencing some time out of work, and some of the observed fall is due to shorter hours after displacement. The wage gaps for all exits into non-employment (including quits and those leaving temporary jobs) are smaller, which suggests that displacement does have distinct labor market effects. Those leav-

ing temporary jobs or quitting a job and moving directly into a new job achieve wage gains above those staying with the same employer.

There is considerable variation around these averages. Comparison of earnings changes by individual characteristics are given in Table 4.8. Part (a) of the table looks at all reemployed workers; part (b) restricts attention to workers in full-time jobs both before and after separation. Women experience weekly wage losses around twice those of men, but the gap is lower for full-time job changes. Older workers and those out of work longer also face higher pay cuts than the average. The weekly wage loss for those over 50 is around 18 percent. Education is not correlated with the size of earnings loss. There is little evidence that the pay gap widens with job tenure, beyond one year in the previous job. Coming from a declining industry also makes little difference. The biggest variations, however, remain where displacement results in a spell out of work.

We now explore the size of these wage changes, controlling for observed differences in worker and firm characteristics in Table 4.9. We present weekly, full-time to full-time moves only and regressions that control for part-time status, to be as clear as possible about what is going on. Displacement that results in time out of work remains strongly significant, but this increases with longer durations out of work. The biggest falls in earnings are associated with those coming back into smaller firms than the ones they left. The results do not confirm the effect of job tenure on displacement found elsewhere (Kletzer 1998). Age is a weakly significant determinant of earnings changes but the point estimates for over 50s are large. Gender only matters for weekly wages, reflecting a greater propensity for women to return part-time after displacement. Displacement from a declining industry makes little difference. This is important as displacement here is perhaps a little more exogenous to the abilities of the worker.

Table 4.9 also examines whether there are any distinguishing characteristics between displaced and temporary-contract workers that are associated with lower earnings on return to work. We present results for the entire set of displaced and temporary workers with or without a spell out of work and the subsets who move full-time to full-time. The results are not always well determined, but the length of time out is negatively associated with the change in earnings for displaced workers. Those out for more than 12 months experience a cost of job loss

17 percent greater than displaced workers who move immediately to another job. For the full-time sample, older workers experience wage losses around 15 percent above the base group.

Table 4.10 estimates the cost of job loss for displaced workers relative to stayers, conditional on the characteristics outlined in Table 4.8. We present simple OLS estimates of the difference in log wage growth between job stayers and displaced workers. Other types of separation are included as intercept terms. The raw weekly cost is 16.9 percent if a spell out of work is observed. Controlling for worker and firm characteristics makes little difference to these estimates. Termination of a temporary contract that results in a spell out of work reduces earnings growth by only around 2 percent. Moving to a new job directly after displacement leads to a loss of earnings in the order of 5 percent. However, compared to those quitting and moving to a new job the gap is large.

Australia

Data

The empirical analysis in this section draws on two main types of data. First, we use aggregate-level evidence on the rate of worker displacement and reemployment probabilities for displaced workers, which are available for various years between 1975 and 1997. Second, we use individual-level data on earnings and employment outcomes of young workers in Australia that allow displaced workers to be identified.

The sources for the aggregate-level data are the Australian Bureau of Statistics (ABS) Labor Mobility Survey, a periodic supplement to the ABS Labor Force Survey; and two special surveys of displaced workers, also undertaken as supplements to the ABS Labor Force Survey. The first of these (Australian Bureau of Statistics 1993) focused on the state of Victoria only; the second (Australian Bureau of Statistics 1997) was Australia-wide. The displaced worker surveys collected information on whether a respondent had been displaced from a job in the previous three-year period; the characteristics of the job from which the respondent had been displaced; reason for displacement; respondent's labor-force status at the survey date; and the respondent's personal characteristics.

The data source for detailed analysis of displaced workers in Australia is the Youth in Transition Survey (YTS). This is a series of longitudinal surveys conducted by the Australian Council for Educational Research. Surveys of cohorts born in 1961, 1965, 1970, and 1975 have been undertaken.⁸ Individuals in each cohort were initially sampled in their mid teens (for example, the 1961 cohort were initially sampled as 14-year-olds), and then in each subsequent year through to 1995.⁹ In the initial survey for each cohort a range of background information was collected relating, for example, to country of birth, parents' educational attainment, and mathematics aptitude. In each subsequent annual survey two main types of information relevant to this study were collected. First, respondents completed a diary showing educational and labor-force status in each month throughout the preceding year. Second, respondents provided information on details of labor-force status, earnings, hours and weeks worked, and occupation in the survey month (October).

A sample of displaced workers was extracted from the YTS by defining displacement to occur where being "laid off" was a "very important" or "fairly important" reason for losing their last job. Information on reason for job loss in the preceding year is available for persons in the 1961 cohort for 1981, 1982, 1983, and 1993, and in the 1965 cohort for 1983, 1984, 1985, and 1993. Information on the construction of other variables is presented in the appendix.

Data from the YTS has a number of shortcomings for analyzing experiences of displaced workers. The primary one is that the sample is likely to display length sampling bias. That is, since the sample of displaced workers is drawn from a subset of respondents who were unemployed at the survey date (only those persons were asked questions about reasons for job loss), displaced workers who have relatively long spells of unemployment will tend to be overrepresented, and those with short spells of unemployment will tend to be underrepresented. To attempt to overcome this problem, each observation is weighted by the inverse of the duration of the completed non-employment spell. The rationale for making this correction is that, in a steady state, the probability of sampling a spell at any instant of time is proportional to its completed length. Hence, by weighting each observation by the inverse of its length, the entire density function for completed new spell durations is obtained.¹⁰ For an incomplete spell, a completed

spell duration is estimated as the weighted average of all completed spells lasting longer than that incomplete spell. The weights are used in all subsequent analyses of the sample of displaced workers.¹¹

One aspect of the length bias problem which cannot be addressed is that—since a displaced worker must be unemployed to be observed as displaced—there is no information on displaced workers who had an immediate transition to employment following displacement. For this reason the results should be interpreted as conditional on experiencing some joblessness. Two other shortcomings should also be noted. First, since a question on reason for job loss was asked only in four years for each cohort, the sample of displaced workers which can be obtained is quite small. Second, the sample of displaced workers from the YTS is unrepresentative of the general population of displaced workers in that it is restricted to a group of relatively young workers who were displaced at trough points in the Australian labor market.¹² For example, Farber (1993) found that the difference in employment outcomes between displaced and nondisplaced workers is greater during recessions than expansions.

Incidence of displacement

Time-series information on annual rates of job separation from the ABS *Labor Mobility Survey*—together with the rate of unemployment—are displayed in Table 4.11. “Rate of job separation—displacements” can be interpreted as the rate of worker displacement. This is equal to the number of workers who ceased a job during the year whose reason for ceasing that job was being laid off or a business closure divided by the total number of persons who held a job during the year. Other rate-of-separation measures are similarly defined.¹³ It is evident that the annual rate of aggregate job separation is about 25 percent. The annual rate of job separation due to displacement is about 5 percent; and the rate due to job loss is about 9 percent. The aggregate rate of job separation is inversely correlated with the rate of unemployment. Job separation rates due to displacement and job loss display a positive correlation with the rate of unemployment. Over the period between 1975 and 1997, the aggregate rate of job separation displays a slight downward trend. The rate of job separation due to displacements does not show any particular trend.

Average displacement rates for workers in disaggregated gender and tenure categories can also be calculated using information from the ABS *Labor Mobility Survey*.¹⁴ Table 4.12 shows the average rate of displacement in Australia from 1983 to 1997. A number of findings emerge. First, displacement declines with years of tenure of an employee (in particular for employees with up to five years of tenure); second, the rate of displacement is generally higher for male than female workers; and third, the amount of cyclical variation in the rate of displacement is largest (in absolute terms) for workers with low tenure.

Other evidence on the incidence of worker displacement is available from the population surveys of displaced workers undertaken in Victoria in 1993, and for Australia in 1997. The main findings from the surveys—summarized in Table 4.13—are that

- Between October 1990 and 1993 about 10 percent of workers in Victoria were displaced from a job. Between July 1994 and 1997 about 7 percent of workers in Australia were displaced.
- Rates of displacement are higher for male than female workers, but they do not display a strong correlation with age.

Farber (1997, p. 121) reported that the proportion of persons in the United States displaced from employment between 1991 and 1993 was 12.8 percent, and between 1993 and 1995 was 15.1 percent. Over the period from 1981 to 1995 in the United States the three-year displacement rates for various subperiods were found to range from 9.0 to 15.1 percent. Hence it appears that the three-year job displacement rate found from the Australian displacement survey is quite similar to rates found for the United States.

Time out of work

Aggregate-level information on labor market outcomes for displaced workers is available from the ABS surveys of retrenched workers. This information—on the labor-force status at the survey date of workers displaced in the previous three years—is also presented in Table 4.13. It shows that

- In October 1993 the rate of employment of persons in Victoria who had been displaced in the previous three-year period was

50.8 percent; and in July 1997 the rate of employment of persons displaced in Australia in the previous three years was 54.7 percent.

- The probability of reemployment among displaced workers was lowest for persons in older age groups (50+ years), whose last job was in a blue-collar occupation, and who were from a NESB country. It is higher for men than women, and lower for persons without postschool qualifications than for those with postschool qualifications.

Information on the employment status of displaced workers from the ABS retrenched worker surveys appears comparable to information presented by Ruhm (1998, Table 4) on the labor-force status at February 1996 of workers displaced in the United States between 1993 and 1995. Ruhm found that 71.6 percent of displaced workers were in employment at the survey date. This is considerably higher than the employment ratios for displaced workers of around 50 to 55 percent found from the Australian surveys. It suggests the possibility that employment costs of displacement are higher in Australia than the United States. However, it is also necessary to take into account that the labor market in the United States was much stronger than in Australia during this period of the mid 1990s, so that at least part of the difference in employment outcomes for displaced workers may be explained by cyclical factors.

Tables 4.14 to 4.17 present information on labor-force outcomes for young displaced workers using individual-level data from the YTS. These tables are based on a sample of persons unemployed at the survey dates who are classified as displaced workers. In the calculations for each table the weighting method (using the inverse of completed duration of the spell of non-employment) described above has been applied.

Table 4.14 presents information on the labor-force status of the sample of displaced workers at 6 and 12 months after the date of displacement. First, it is clear that a substantial proportion of displaced workers remain unemployed and out of the labor force in the year after displacement. Second, there is no significant change in the non-employment probability of displaced workers between 6 and 12 months. What does happen, however, is that the composition of

employment for displaced workers in employment shifts to some degree from part-time to full-time jobs. Third, some effect of educational attainment is apparent—in particular, having completed high school or having a postschool qualification is associated with a higher probability of full-time employment for female displaced workers.

An alternative aspect of labor-force transitions for displaced workers is to examine the duration of spells of non-employment which follow displacement. The Kaplan-Meier hazard results for exit from non-employment and survival function in non-employment for displaced workers are presented in Table 4.15. Over the 12 months following displacement the hazard rate displays a downward trend; however, there is a relatively large degree of month-to-month volatility.

To further explore the process of transition to reemployment, regression analysis of the determinants of the time to exit from non-employment for displaced workers has been undertaken. The analysis involves estimation of a weighted probit regression where the dependent variable is a monthly observation of whether a displaced worker exited from non-employment in that month, conditional on not having exited previously. Explanatory variables included are age at time of displacement, reading and mathematical aptitude test scores (with interactions with a dummy variable for the 1961 cohort to allow for differences in the tests between cohorts), rate of unemployment in last occupation, and dummy variables for gender, year, country of birth, and whether a respondent completed high school or had a postschool qualification.

The main results from the regression analysis of determinants of exit from non-employment are shown in Table 4.16. A first main finding is that—consistent with the Kaplan-Meier hazard function—the probability of reemployment declines with spell duration. For each extra month of non-employment the probability of exit from non-employment declines by about 1 percent (evaluated at the mean value of other explanatory variables). Alternative specifications of the spell-duration variable (quadratic and cubic specifications) were also tested; however, *F*-tests could not reject the hypothesis that the extra explanatory terms were insignificant. The second finding is that a range of other explanatory variables—age, whether completed high school or have a postschool qualification, gender, and rate of unemployment in last occupation—are found to affect the probability of exit from non-

employment. Age is inversely related to the probability of reemployment, suggesting that older displaced workers (more than 30 years old) find it relatively more difficult to find a new job. One explanation for this finding may be that rates of job turnover are higher for workers aged 15–24 years than for those 25–34 years, so that the flow of job vacancies may also be higher for the younger group of workers (Borland and Kennedy 1998). However, it is important to note that—due to collinearity between the age and year variables—age is only significant in specifications without year dummy variables. Hence the age variable may be proxying for year effects. Males who are displaced have a higher probability of reemployment than do female displaced workers, and displaced workers in occupations with relatively high rates of unemployment have a relatively lower probability of reemployment. Finally, it appears that high-skill workers—who have completed high school or have a postschool qualification and have higher levels of aptitude in reading—have higher exit probabilities from non-employment than low-skill workers. Other explanatory variables, such as reading and math aptitude, are not found to affect the probability of exit from non-employment.

An alternative perspective on the labor-force experience of displaced workers is to examine average hours and weeks of work in the period following displacement. Table 4.17 shows the weighted average ratio of weeks and hours of work in the quarter preceding displacement to weeks and hours of work in each of the first eight quarters after displacement. Displaced workers are found on average to have worse employment outcomes in every quarter in the two years following displacement than in the quarter preceding displacement. This difference is generally statistically significant for the first six to seven quarters following displacement.

Findings from the YTS therefore suggest that the costs to displaced workers from time out of employment may be quite substantial. However, in interpreting results on employment outcomes for displaced workers from the YTS, a number of factors must be taken into account. First, since the sample of displaced workers excludes those who moved immediately to a new job, the adverse employment consequences of displacement may be overestimated. Second, labor-force mobility (transitions into and out of employment, for example) is higher for younger than older labor-force participants so that the apparent employ-

ment consequences of displacement may be in some part due to the age of the sample of workers.

Earnings consequences of job loss

The other main cost of job loss occurs through changes in earnings following displacement. To address this issue in the YTS, data on weekly earnings for both displaced and nondisplaced workers can be taken from the years prior to and following each sample year in which information on reason for job loss is available. For displaced workers, weekly earnings in the predisplacement job are observed for the sample of workers who were in their predisplacement job 12 months prior to the time of the survey question on displacement (that is, in the preceding October). Hence this information on earnings ranges from 1 to 11 months prior to displacement. Weekly earnings in postdisplacement jobs are observed for the samples of workers in employment 12, 24, and 36 months following the time of the survey question on displacement (that is, in October in subsequent years). For nondisplaced workers, weekly earnings data that will match with data for displaced workers is obtained by using the same set of years around those sample years in which information on reason for job loss is available. All displaced and nondisplaced workers with observations on weekly earnings are included in the respective samples.

As an example, for the 1961 cohort, information on reason for job loss is available in 1981. Hence, information on weekly earnings is obtained (if available) for 1980, 1982, 1983, and 1984 for all workers who were displaced and nondisplaced in October 1981. This means that the sample of nondisplaced workers may include some workers who experienced job loss during this period but did not have the status of a displaced worker in October 1981; and it will also include voluntary job switchers. Unfortunately the data set does not allow these separate types of workers to be identified.

Weekly earnings in different years are adjusted to constant dollars, using the Consumer Price Index. Note that since the information is on weekly earnings it may reflect changes in weekly hours of work as well as hourly wage rates. Information on hours of work is not available for a sufficient number of observations to allow the analysis to be undertaken using hourly wage rates.

A factor to take into account in interpreting findings on the effect of job loss on earnings is the potential role of selection effects. One aspect of selection effects is that to the extent that displaced workers who obtain reemployment are not representative of all displaced workers—and, as seems likely, are of higher ability than average—the change in weekly earnings may be an overestimate of the change for all displaced workers.

Table 4.18 shows the weighted average difference between log real weekly earnings in displaced workers' jobs 1–2, 2–3, and 3–4 years after displacement and log real weekly earnings in the predisplacement job, and data on average changes in log real weekly earnings for non-displaced workers taken from the same time periods as for displaced workers. It is evident that both displaced and nondisplaced workers experience growth in weekly earnings over time. Some differences, however, do emerge in comparing earnings changes over time. Focusing on the sample of full-time workers (in order to minimize composition effects) it appears that the difference in earnings outcomes between displaced and nondisplaced workers tends to increase over time. In the period 1–2 years after displacement there is no significant difference in the change in log weekly earnings for displaced and non-displaced workers. In the period 2–3 years after displacement, earnings of nondisplaced workers are about 7 percent higher than for displaced workers, and by 3–4 years this difference has become 16 percent. (These latter findings, however, are based on a very small number of observations for displaced workers.)

To conclude the analysis of earnings outcomes for displaced workers, a regression analysis of the determinants of earnings and changes in earnings was undertaken using data on real weekly earnings predisplacement and 1–2 years postdisplacement. The effect of displacement is examined by including as an explanatory variable a dummy variable for whether a worker was classified as displaced at the relevant survey date.

The findings are presented in Table 4.19. Log weekly earnings in pre- and postdisplacement years are significantly lower for females than males, are decreasing with the rates of unemployment in a worker's occupation category, higher for full-time than part-time workers, and follow a quadratic pattern with age. Displaced workers have lower weekly earnings than nondisplaced workers although the

effect is only statistically significant for postdisplacement earnings where year dummies are included as explanatory variables. The change in log weekly earnings is significantly negatively related to age (reflecting a decreasing rate of increase in earnings), and is significantly affected by switching between part-time and full-time employment. The effect of displacement on the change in log real weekly earnings is not statistically significant. Hence these findings provide some limited evidence that displaced workers have a lower level of earnings than nondisplaced workers, but little evidence of short-term earnings losses due to job loss.

Summary

Analysis of the experiences of Australian displaced workers suggests two main findings. First, these workers experience substantial periods of non-employment following displacement. Second, for younger displaced workers there do not appear to be significant short-term earnings consequences from displacement.¹⁵ One possible explanation for these findings is the nature of labor market institutions in Australia. The absence of a wage adjustment for displaced workers—or more generally in response to adverse demand conditions—would suggest that adjustment should then take place through employment. This appears to be consistent with our findings on employment outcomes for displaced workers. It is also worth noting that other case-study evidence on displaced workers has generally found little effect on earnings of displaced workers who are reemployed but significant effects on employment outcomes for displaced workers (see Borland 1998).

As has been noted earlier, it is also necessary, however, to recognize how selection effects might have affected the findings. First, the sample of displaced workers excludes those workers who shifted to a new job without an intervening period of non-employment. Second, the sample of displaced workers in new jobs—from whom earnings information is obtained—may be of greater average ability than the entire group of displaced workers. Hence, estimates of the employment and wage costs of job loss for Australia derived in this chapter are likely, respectively, to over- and underestimate the true consequences.

CONCLUSIONS

Every year around 5 to 6 percent of workers in Britain and Australia will lose their jobs as a result of layoff, plant closure, or the end of a contract. Job loss is most likely to occur within the first year of any job. Most displaced workers will return to work within a year, though a significant proportion do not.

In Britain, the median length of joblessness is around three months. Displaced workers will enter jobs that pay weekly wages, on average, around 10 percentage points less than those they left behind. Compared with those who remain continuously in the same post, the wage gap is around 15 percent. However, much larger penalties are experienced by displaced workers with longer seniority, and those out of work for 12 months or more.

In Australia, for the sample of young displaced workers examined, job loss has significant consequences for future employment. A large proportion of displaced workers remain out of work for some period following displacement, and average hours of work per quarter postdisplacement remain below average hours of work in the quarter preceding displacement for the two years after job loss. By contrast, for the sample of young workers examined, there do not appear to be significant short-term consequences for labor market earnings due to job loss.

What do these findings suggest about the role of institutional factors in determining experiences of displaced workers? Differences between the data sources make it very difficult to provide any definitive answers to this question. One point to emerge is that rates of separation and worker displacement do appear quite similar in Britain and Australia for the 1990s. In both countries the average rate of separation is about 20 percent; and the average rate of worker displacement around 5 percent. Hence displacements constitute about 25 to 30 percent of total separations.

It is more difficult to make comparisons of the process of adjustment to job loss for displaced workers in Britain and Australia. The case of Australia—with its highly regulated system of wage setting where there have been relatively large costs to displaced workers in the form of time out of employment but little apparent effect on earnings from job loss—does seem consistent with the hypothesis that where

institutional factors prevent wage adjustment to an adverse demand shock there will be greater employment adjustment. However, it is also necessary to note that for Britain there is no evidence of large earnings losses for young displaced workers. This suggests that it would be necessary to exercise caution before attributing the absence of earnings losses in Australia to the effects of wage-setting institutions rather than to age-specific determinants of the adjustment process.

Notes

We are grateful for many helpful comments from Jaap Abbring and Peter Kuhn. LFS and BHPS data for Britain are supplied by the ESRC Data Archive at Essex University with permission of OPCS. YTS data for Australia are supplied by the Australian Council of Education Research.

1. Specifically, men's employment rate fell from 74.4 percent in 1978 to 67.4 percent in 1995; women's increased from 40.5 to 49.7 percent over the same period. Trends in labor-force participation rates were very similar.
2. The government explicitly recognized this problem in its 1998 budget, raising the zero contribution threshold by one-third and imposing a flat NIC rate of 12.5 percent on all earnings above this threshold. This change came too late for the period covered by our data.
3. Attempts to match the current spell in the last wave to a particular spell in the job history data in the following wave proved fraught with errors. The September data across the waves matches better. This is because the September first information is requested in every wave. The spell histories then count forward from this point until the date of interview and backward to September first of the previous year. Matching the current job from the previous wave is hampered both because the interview date floats between September and April of the following year and because of resulting recall error in dating events between last September and the previous interview data. See Halpin (1997) or Paull (1997) on problems in spell data and recall error across waves in the BHPS.
4. "Stayers" includes individuals promoted within a firm to a new job title.
5. The marginal effect of variable x_i on the probability of being in category j , P_j is given by $dP_j/dx_i = P_j[b_j - \sum_k P_k b_k]$ where b_j is the coefficient on variable i in category j . The sample means of the stayer, quit, temporary, and displaced categories are 0.78, 0.14, 0.03, and 0.03.
6. Gu and Kuhn (1998) pointed out that the Cox likelihood function depends only on the ranking of the durations and therefore is invariant to the addition of a scalar. This allows the inclusion of the zero duration job-to-job displaced in the likelihood, unlike other parametric models.

7. These numbers are similar to the findings of Gregory and Jukes (1997) for unemployed men. There is only a very small hourly wage penalty, on average, to being displaced but this is mainly a selection effect, as the monthly wage gap is much smaller for those where hourly wages are defined. *t*-Tests on the equality of the means of the stayer and displaced groups confirm that the weekly and hourly mean pay changes are significantly different in the two groups.
8. Further details on the Youth in Transition survey are available from Marks (various years) and from <http://www.acer.edu.au/lsay/longitud.htm>.
9. The only exception is that a survey for the 1961 cohort was not undertaken in 1985 or 1988 due to resource constraints.
10. Let $f(d)$ be the density of completed new spell durations, and $g(d)$ be the density of completed durations of spells observed at any point in time. In a steady state: $f(d) = k(g(d)/d)$ where k is a constant. Because $f(d)$ must integrate to one, therefore k is equal to the integral over d of $g(d)/d$. Hence, weighting each observation by the inverse of its length gives the density for all new completed spell durations.
11. An alternative approach would be to use maximum likelihood techniques to jointly address the length-sampling bias and censoring issues.
12. Cyclical peaks in the rate of unemployment occurred in quarter 2 of 1983 and quarter 3 of 1993.
13. “Rate of job separation - aggregate” is equal to the number of workers who ceased a job during the year divided by the total number of persons who had a job during the year; and “Rate of job separations - job losers” is equal to the number of workers who ceased a job during the calendar year whose reason for ceasing that last job was retrenchment or ill health, seasonal or temporary job divided by the total number of persons who had a job during the year.
14. Average rates of job separation - displacement for employees in disaggregated tenure (or gender) categories are calculated as

$$\text{Prob}(D_{it} = 1 | T_{it} = j) = [\text{Prob}(T_{it} = j | D_{it} = 1) \times \text{Prob}(D_{it} = 1)] / [\text{Prob}(T_{it} = j)]$$

where $\text{Prob}(D_{it} = 1 | T_{it} = j)$ is the probability that an employee is displaced in time period t given that the employee is in tenure (or gender) category j ; $\text{Prob}(T_{it} = j | D_{it} = 1)$ is the probability that an employee is in tenure (or gender) category j given that the employee has been displaced in time period t ; and $\text{Prob}(D_{it} = 1)$ and $\text{Prob}(T_{it} = j)$ are, respectively, the probabilities that an employee is displaced and that an employee is in tenure (or gender) category j in time period t (Farber 1993, p. 89).

15. These findings seem consistent with Gray (1999), who finds—using a different longitudinal data set covering young workers in Australia in the early 1990s—that in general unemployment experience does not have a strong effect on future hourly wages, but does have a significant influence on future hours of work.

Table 4.1 Average Annual Separation and Displacement Rates in Britain, 1990–96 (%)

Categories	Total separations	Job to job						Exit						All displacements
		Total	Temp. job	Quit	Displacements			Total	Temp. job	Quit	Displacements			
					Total	Redundant	Sack				Total	Redundant	Sack	
All industries	20.9	11.9	0.7	9.8	1.6	1.4	0.2	9.0	0.9	5.0	3.1	2.7	0.4	4.7
Declining industry	19.4	10.9	0.7	9.8	1.6	1.4	0.2	8.2	0.7	4.0	3.5	3.2	0.3	5.1
Growing industry	22.8	12.9	0.7	9.8	1.5	1.3	0.2	9.9	1.0	6.1	2.8	2.3	0.5	4.3
Tenure in previous jobs ≥ 2														
All industries	15.9	8.7	0.4	7.1	1.2	1.1	0.1	7.1	0.3	4.3	2.5	2.3	0.2	4.0
Declining industry	14.8	8.2	0.4	6.5	1.3	1.2	0.1	6.5	0.2	3.4	2.9	2.7	0.2	4.5
Growing industry	17.0	9.2	0.3	7.8	1.1	1.0	0.1	7.7	0.4	5.2	2.1	1.9	0.2	3.5

SOURCE: BHPS.

Table 4.2 Separation and Displacement Rates by Worker and Firm Characteristics in Britain

Category	Separation rate	Displacement rate	Job-to-job displacement	Exit and displacement	% job to job in displacements
Gender					
Female	18.6	2.9	1.0	1.9	35.0
Male	23.1	6.4	2.1	4.3	32.7
Age (yr.)					
Youths <25	35.9	7.3	2.1	5.1	29.8
Prime 25–49	18.9	4.3	1.6	2.7	37.6
Mature 50+	16.9	4.4	1.1	3.3	23.9
Marital status					
Single	26.1	5.8	1.8	4.0	30.6
Married	18.8	4.4	1.5	2.8	34.7
Qualifications					
None	19.0	5.5	1.4	4.1	26.0
Lower Intermed.	21.8	4.8	1.7	3.1	35.6
Upper Intermed.	19.2	2.6	1.1	1.5	41.2
Degree	20.6	6.2	2.0	4.2	31.9

Job tenure (yr.)					
<1	35.9	7.9	2.8	5.1	36.0
≥1 – <2	23.8	5.3	1.7	3.6	31.5
≥2 – <5	16.7	3.7	1.1	2.6	30.9
≥5 – <10	13.1	3.3	1.2	2.1	37.2
10+	13.6	3.5	1.0	2.5	28.5
Industry					
Agriculture/energy	18.3	5.4	2.0	3.3	38.0
Manufacturing	21.9	7.8	2.1	5.6	27.6
Construction	36.9	13.2	5.0	8.2	37.7
Distribution	24.4	5.0	1.9	3.1	37.4
Transport	18.7	4.7	1.7	3.0	36.5
Banking	22.8	4.8	2.0	2.8	42.1
Private services	23.9	2.5	1.2	1.2	50.0
Public services	14.6	1.4	0.4	1.0	27.7

Table 4.3 Who Is Displaced? Multinomial Logit and Binary Logit Estimates for Britain

Independent variables	Multinomial logit			Binary logit
	Quit	Temporary	Displaced	Prob. (jobless spell), given displaced
Characteristic				
Male	-0.042** (0.004)	-0.003 (0.001)	0.002 (0.002)	0.075 (0.045)
Single	-0.001 (0.005)	0.003 (0.001)	0.004 (0.003)	0.004 (0.050)
Children	-0.044** (0.005)	0.004** (0.001)	0.001 (0.003)	0.049 (0.047)
Age 25–49 yr.	0.032** (0.008)	0.010** (0.002)	0.003 (0.004)	0.052 (0.082)
Age ≥ 50 yr.	-0.009 (0.007)	0.002 (0.002)	-0.001 (0.003)	-0.056 (0.065)
Qualifications				
Upper intermed.	-0.030** (0.008)	-0.006** (0.002)	0.009** (0.004)	-0.013 (0.085)
Lower level	-0.018** (0.006)	-0.010** (0.002)	0.006 (0.004)	-0.003 (0.073)
None	-0.034** (0.009)	-0.011** (0.002)	0.012** (0.004)	0.058 (0.091)
Occupation				
Professional	0.010 (0.008)	0.005 (0.003)	0.005 (0.003)	0.017 (0.067)
Other nonmanual	0.044** (0.008)	0.012** (0.002)	0.005 (0.004)	-0.023 (0.067)
Unskilled manual	0.035** (0.006)	0.007** (0.002)	0.005 (0.003)	-0.077 (0.055)
Job tenure (yr.)				
<1	0.049** (0.005)	0.016** (0.002)	0.028** (0.003)	0.220** (0.048)
1–2	0.013** (0.006)	-0.001 (0.001)	0.006** (0.003)	0.073 (0.058)
5–10	-0.056** (0.007)	-0.017** (0.003)	-0.009** (0.003)	-0.106 (0.068)
10+	-0.068** (0.008)	-0.023** (0.004)	-0.008** (0.003)	-0.193** (0.077)

Independent variables	Multinomial logit			Binary logit
	Quit	Temporary	Displaced	Prob. (jobless spell), given displaced
Industry				
Agriculture/energy	0.004 (0.007)	0.007** (0.003)	0.030** (0.007)	-0.022 (0.128)
Manufacturing	0.005 (0.007)	-0.001 (0.002)	0.040** (0.003)	-0.023 (0.092)
Construction	0.028** (0.013)	0.005 (0.003)	0.049** (0.005)	-0.217** (0.108)
Retail	0.050** (0.006)	-0.002 (0.002)	0.034** (0.004)	-0.061 (0.090)
Transport	0.010 (0.010)	-0.001 (0.003)	0.028** (0.005)	-0.167 (0.114)
Financial sector	0.018** (0.007)	-0.002 (0.002)	0.028** (0.004)	-0.149 (0.097)
Private services	0.061** (0.009)	0.001 (0.002)	0.029** (0.007)	-0.082 (0.119)
Industry declining	-0.015** (0.004)	-0.005 (0.003)	0.002 (0.002)	0.025 (0.046)
Firm size				
<10	0.035** (0.005)	0.001 (0.001)	0.011** (0.002)	-0.005 (0.053)
10-25	0.014** (0.005)	0.003** (0.001)	0.008** (0.002)	-0.006 (0.054)
Part-time	-0.121** (0.007)	-0.004** (0.002)	-0.014** (0.003)	0.310** (0.083)
<i>N</i>	23,346			781
Pseudo <i>R</i>	0.095			0.135

NOTE: Standard errors are in parentheses. Coefficients in logits are marginal effects and their standard errors relative to sample mean of each category. Equations also include controls for region and year. ** = Statistically significant at the 5% level.
SOURCE: Authors' calculations from BHPS data.

**Table 4.4 Labor-Force Status One Year Later in Britain
(annual averages)**

Group	Self-employed	Employed	Unemployed	Inactive
All separations	6.3	65.3	15.9	12.5
All displaced	7.0	53.6	34.9	4.5
Job to job	13.4	79.5	5.2	1.9
Exit	3.8	40.5	49.9	5.8
All not displaced				
Job to job	7.8	88.6	2.8	0.8
Temporary job	8.6	84.3	6.6	0.5
Not temporary job	7.8	88.9	2.5	0.8
Exit	2.9	33.6	23.6	39.8
Temporary job	4.7	47.0	35.6	12.7
Not temporary job	2.6	31.3	21.5	44.6

SOURCE: Authors' calculations from BHPS data.

**Table 4.5 Kaplan-Meier Estimates of Hazard and Survival Rate of
Return to Work in Britain**

Time out after displacement (months)	Hazard rate	Survival rate
0	0.366	0.633
1	0.204	0.504
2	0.178	0.414
3	0.201	0.331
4	0.154	0.279
5	0.128	0.243
6	0.172	0.202
7	0.120	0.178
8	0.110	0.158
9	0.132	0.137
10	0.106	0.123

NOTE: Job-to-job moves all measured as ending spell at month 0. Initial sample = 853, of which 313 are job-to-job, 475 displaced, and 75 right-censored.

SOURCE: Authors' calculations.

Table 4.6 Cox Estimates of Time to Return to Work for Displaced Workers in Britain

Independent variables	Including job-to-job movers		Excluding job-to-job movers	
	Coeff. (std. err.)	Fraction of baseline	Coeff. (std. err.)	Fraction of baseline
Male	0.049 (0.089)	1.05	0.093 (0.119)	1.09
Single	-0.010 (0.093)	0.99	-0.014 (0.122)	0.98
Children	-0.241** (0.091)	0.79	-0.304** (0.121)	0.74
Age 25–49 yr.	0.252 (0.157)	1.28	0.321 (0.194)	1.38
Age ≥ 50 yr.	0.367** (0.128)	1.44	0.338** (0.170)	1.40
Qualifications				
Upper intermed.	-0.065 (0.167)	0.94	0.001 (0.230)	1.00
Lower level	-0.061 (0.143)	0.94	0.019 (0.200)	1.01
None	-0.036 (0.174)	0.96	0.134 (0.234)	1.14
Occupation				
Professional	-0.010 (0.131)	0.99	0.016 (0.172)	1.01
Other nonmanual	-0.200 (0.131)	0.82	-0.362** (0.171)	0.70
Unskilled manual	-0.059 (0.110)	0.94	-0.233 (0.150)	0.79
Job tenure (yr.)				
<1	-0.496** (0.095)	0.61	-0.481** (0.124)	0.62
1–2	-0.187 (0.116)	0.83	-0.198 (0.155)	0.82
5–10	0.167 (0.134)	1.18	0.072 (0.206)	1.07

(continued)

Table 4.6 (continued)

Independent variables	Including job-to-job movers		Excluding job-to-job movers	
	Coeff. (std. err.)	Fraction of baseline	Coeff. (std. err.)	Fraction of baseline
10+	0.076 (0.151)	1.07	-0.264 (0.247)	0.77
Industry				
Agriculture/energy	0.376 (0.249)	1.45	0.489 (0.329)	1.63
Manufacturing	0.330 (0.173)	1.39	0.369 (0.224)	1.44
Construction	0.525** (0.207)	1.69	0.425 (0.281)	1.52
Retail	0.315 (0.171)	1.37	0.326 (0.221)	1.39
Transport	0.444** (0.214)	1.55	0.404 (0.291)	1.50
Financial sector	0.369** (0.184)	0.45	0.196 (0.246)	1.22
Private services	0.706** (0.228)	2.02	0.852** (0.313)	2.35
Industry declining	-0.046 (0.090)	0.95	-0.002 (0.114)	1.00
Firm size				
<10	-0.076 (0.103)	0.93	-0.129 (0.138)	0.88
10-25	-0.053 (0.102)	0.94	-0.116 (0.134)	0.89
Part-time	-0.544** (0.141)	0.58	-0.299 (0.166)	0.75
<i>N</i>	853		540	

NOTE: Standard errors are in parentheses. Additional coefficients in Cox are measured relative to baseline hazard. Equations also include controls for region and year.

** = Statistically significant at the 5% level.

SOURCE: Authors' calculations.

Table 4.7 Mean Log Weekly Wage Growth by Labor Market Status in Britain

Labor market status	Mean change ^a	Full time – full time ^b
Stayers (22,113)	0.045 (0.302)	0.055 (0.283)
All exits (1,770)	-0.073 (0.582)	-0.004 (0.503)
All displacements (791)	-0.097 (0.581)	-0.044 (0.509)
Job to job (297)	-0.015 (0.486)	0.009 (0.469)
Exit (494)	-0.146 (0.626)	-0.081 (0.534)
All temporary (485)	0.013 (0.552)	0.086 (0.495)
Job to job (199)	0.066 (0.553)	0.098 (0.502)
Exit (286)	-0.023 (0.548)	0.076 (0.491)
Exit and quit (990)	-0.052 (0.566)	0.013 (0.487)
Job to job and quit (1,754)	0.210 (0.572)	0.237 (0.554)

^a Sample size in parentheses.

^b Standard errors in parentheses.

SOURCE: Authors' calculations.

Table 4.8a Mean Weekly Wage Growth by Labor Market Status in Britain (%)

	Stayers	All displaced	Job to job and displaced	Exit and displaced	Temporary	Other exits
Independent variables						
Women	4.9	-15.9	-4.3	-24.7	-0.1	-6.4
Men	4.2	-6.2	0.4	-9.7	3.8	-4.0
Age (yr.)						
Youths (< 25)	10.7	-5.2	1.8	-7.9	4.3	-3.4
Prime (25-49)	4.4	-9.6	0.0	-16.1	0.9	-2.9
Mature (50+)	1.3	-18.0	-15.1	-19.8	-6.4	-20.9
Time out						
<6 months	n.a. ^a	-11.8	n.a.	-11.8	-1.9	-12.4
6+ months	n.a.	-15.6	n.a.	-15.6	-5.2	-24.0
Education						
None	2.6	-10.2	-0.5	-16.4	-8.8	-7.5
0 level and equiv.	5.0	-10.0	-2.3	-14.5	1.2	-4.0
A level/degree	4.5	-8.6	-0.2	-13.8	7.4	-8.1
Job tenure (yr.)						
<1	6.1	-13.3	-3.9	-16.4	0.8	-3.7
≥1 - <2	6.4	-7.7	-4.0	-9.8	3.6	0.4
≥2 - <5	5.1	-6.5	3.5	-14.1	6.4	-5.8
≥5 - <10	2.7	-7.9	-1.9	-15.9	-13.2	-8.6
Industry						
Expanding ind.	5.1	-8.2	0.9	-14.3	2.7	-4.0
Declining ind.	3.9	-10.7	-3.4	-14.7	-0.2	-6.3

^a n.a. = not applicable.

SOURCE: Authors' calculations.

Table 4.8b Mean Log Weekly Wage Changes: Full-Time to Full-Time in Britain (%)

	Stayers	All displaced	Job to job and displaced	Exit and displaced	Temporary	Other exits
Independent variables						
Women	7.0	-5.6	0.4	-12.3	10.1	2.5
Men	4.6	-3.9	1.2	-6.8	7.4	0.3
Age						
Youths (<25)	11.7	3.2	7.0	1.7	14.8	4.4
Prime (25-49)	5.2	-5.6	0.8	-10.7	6.5	2.3
Mature (50+)	2.7	-11.5	-7.1	-14.6	-0.7	-11.0
Time out						
<6 months	n.a. ^a	-7.3	n.a.	-7.3	7.8	-0.4
6+ months	n.a.	-8.4	n.a.	-8.4	5.8	-15.3
Education						
None	3.3	-2.3	7.5	-10.4	-5.8	-2.1
0 level and equiv.	6.1	-6.7	-2.0	-9.9	10.0	1.1
A level/degree	5.4	0.5	3.4	-1.6	13.2	2.3
Job tenure (yr.)						
<1	7.6	-5.7	-3.1	-6.8	9.1	3.7
≥1 - <2	6.9	0.5	-0.3	1.0	14.2	4.2
≥2 - <5	6.1	-5.2	5.2	-14.3	4.9	-1.4
5+	3.5	-6.5	0.5	-17.5	3.6	0.6
Industry						
Expanding ind.	6.5	-2.6	3.0	-7.2	10.1	3.0
Declining ind.	4.7	-5.6	-0.8	-8.6	6.9	-0.2

^a n.a. = not applicable.

SOURCE: Authors' calculations.

Table 4.9 OLS Log Wage-Growth Regressions for Separating Groups in Britain

Independent variables	Displaced		Temporary contract	
	All	FT-FT ^a	All	FT-FT
Constant	0.089 (0.066)	0.101 (0.069)	0.105 (0.072)	0.197** (0.070)
Male	0.018 (0.042)	0.050 (0.042)	-0.002 (0.052)	-0.003 (0.054)
Age 25-49 yr.	-0.063 (0.052)	-0.098 (0.056)	-0.012 (0.056)	-0.094 (0.056)
Age 50+ yr.	-0.112 (0.070)	-0.152 ** (0.071)	-0.049 (0.089)	-0.133 (0.094)
Higher intermediate	0.050 (0.044)	0.072 (0.044)	0.065 (0.056)	0.061 (0.059)
Degree	0.081 (0.053)	-0.016 (0.053)	-0.155 (0.236)	-0.191 (0.293)
Tenure 2-5 yr.	0.004 (0.054)	-0.030 (0.054)	0.025 (0.077)	-0.063 (0.079)
Tenure 5+ yr.	0.019 (0.093)	-0.075 (0.040)	-0.082 (0.106)	-0.049 (0.122)
Firm size down	-0.102** (0.039)	-0.021 (.039)	-0.086 (0.052)	-0.089 (0.050)
Industry declining	-0.012 (0.039)	-0.106 (0.046)	-0.002 (0.048)	-0.012 (0.050)
Out <6 mo.	-0.096** (0.045)	-0.105** (0.046)	-0.040 (0.065)	-0.035 (0.067)
Out 6-12 mo.	-0.113 ** (0.054)	-0.110** (0.055)	-0.040 (0.063)	-0.047 (0.064)
Out 12+ mo.	-0.179 (0.110)	-0.170** (0.111)	0.314 (0.191)	0.141 (0.223)
Part-time then	0.519** (0.147)	—	0.139 (0.131)	—
Part-time now	-0.611** (0.147)	—	-0.496** (0.085)	—
R^2	0.150	0.027	0.131	0.025
N	791	688	485	398

NOTE: White adjusted standard errors in parentheses. ** = Statistically significant at the 5% level.

^a FT = Full-time.

SOURCE: Authors' calculations.

Table 4.10 OLS Log Wage-Change Estimates for Britain

Independent variables	All		FT-FT	
Constant	0.046** (0.002)	0.095** (0.006)	0.044** (0.003)	0.088** (0.006)
Job to job and displaced	-0.061** (0.028)	-0.054** (0.027)	-0.061** (0.026)	-0.055* (0.028)
Exit and displaced	-0.169** (0.028)	-0.169** (0.026)	-0.131** (0.023)	-0.152** (0.027)
Job to job and temp.	0.020 (0.039)	0.022 (0.038)	0.009 (0.032)	0.015 (0.036)
Exit and temp.	-0.069** (0.034)	-0.040 (0.031)	0.042 (0.033)	-0.013 (0.034)
Exit and quit	-0.098** (0.018)	-0.0077** (0.017)	-0.047** (0.016)	-0.057** (0.016)
Job to job and quit	0.164** (0.014)	0.161** (0.015)	0.166** (0.013)	0.159** (0.014)
Men	—	-0.025** (0.005)	—	-0.020** (0.005)
Youth (<25 yr.)	—	0.058* (0.007)	—	0.068** (0.007)
Age (50+ yr.)	—	-0.024** (0.006)	—	-0.023** (0.006)
Degree	—	-0.001 (0.005)	—	-0.014** (0.006)
Previous tenure (yr.)				
≤2 – <5	—	-0.012** (0.006)	—	-0.014** (0.006)
≤5 – <10	—	-0.025** (0.005)	—	-0.025** (0.006)
Industry declining	—	-0.020** (0.004)	—	-0.016** (0.005)
Sample size	25,276	25,276	22,424	22,424
R ²	0.023	0.101	0.026	0.036

NOTE: White adjusted standard errors in parentheses. A dash (—) means the variable was not included. ** = Statistically significant at the 5% level; * = statistically significant at the 10% level.

SOURCE: Authors' calculations.

Table 4.11 Annual Rates of Job Separation

Year	Unemployment rate	Rate of separation		
		Displaced	Job losers	Aggregate
1975	4.6	5.9	9.8	24.9
1976	4.7	n.d. ^a	n.d.	n.d.
1977	5.7	n.d.	n.d.	n.d.
1978	6.2	5.7	9.5	24.8
1979	5.9	5.1	8.5	23.0
1980	5.9	n.d.	n.d.	n.d.
1981	5.6	4.4	6.2	25.0
1982	6.7	7.2	10.2	24.8
1983	9.9	5.6	8.4	22.4
1984	8.5	4.7	8.0	23.3
1985	7.9	4.1	7.6	24.6
1986	8.0	4.6	8.8	24.5
1987	7.8	4.4	9.0	25.4
1988	6.8	4.1	7.6	26.2
1989	5.7	4.4	9.3	25.5
1990	7.0	6.5	10.1	23.2
1991	9.5	6.4	10.1	21.4
1992	10.5	n.d.	n.d.	n.d.
1993	10.7	5.4	9.3	22.2
1994	9.2	n.d.	n.d.	n.d.
1995	8.1	4.6	8.7	23.0
1996	n.d.	n.d.	n.d.	n.d.
1997	8.4	4.4	7.6	21.4

^a n.d. = No data available.

SOURCE: Australian Bureau of Statistics, *Labor Mobility Survey*, various years.

Table 4.12 Average Rate of Job Displacement in Australia from 1983 to 1997

	1983	1985	1987	1989	1991	1993	1995	1997
Gender								
Male	0.059	0.043	0.046	0.045	0.073	0.060	0.052	0.048
Female	0.050	0.038	0.041	0.043	0.052	0.043	0.039	0.038
Tenure (yr.)								
<1	0.136	0.096	0.097	0.095	0.131	0.104	0.098	0.096
≥1 – <3	0.051	0.036	0.042	0.044	0.084	0.062	0.045	0.046
≥3 – <5	0.040	0.022	0.030	0.023	0.045	0.044	0.028	0.031
≥5 – <10	0.023	0.016	0.019	0.017	0.028	0.027	0.024	0.026
10+	0.020	0.015	0.012	0.014	0.029	0.024	0.020	0.020

SOURCE: Australian Bureau of Statistics, various years, Catalogue no. 6209.0.

Table 4.13 Incidence of Displacement and Reemployment of Displaced Workers in Australia

Population	Probability of displacement	Probability of reemployment at survey date
Victoria: 1990–93		
Total	0.108	0.508
Gender		
Male	0.129	0.525
Female	0.082	0.472
Age (yr.)		
18–24	0.103	0.501
25–34	0.117	0.597
35–44	0.105	0.571
45–54	0.100	0.471
55–64	0.122	0.197
Education		
Univ. degree +	—	0.584
Trade qualification	—	0.648
Completed H.S.	—	0.490
Not completed H.S.	—	0.358
Country of birth		
Australia		0.528
Immigrant – ESB ^a	—	0.581
Immigrant – NESB ^b	—	0.418
Tenure (yr.)		
<1	—	0.430
≥1 – <3	—	0.595
≥3 – <5	—	0.581
≥5 – <10	—	0.587
10+	—	0.386
Occupation		
Manager/professional	—	0.591
Tradesperson	—	0.604
Clerical/sales	—	0.517

Population	Probability of displacement	Probability of reemployment at survey date
Plant and machine operators, laborers etc.	—	0.383
Australia: 1994–97		
Total	0.073	0.547
Gender		
Male	0.091	0.552
Female	0.052	0.536
Victoria: 1994–97		
Total	0.078	0.536
Male	0.098	0.560
Female	0.055	0.466
Age (yr.)		
18–24	—	0.486
25–34	—	0.593
35–44	—	0.620
45–54	—	0.575
55–64	—	0.326
Tenure (yr.)		
<1	—	0.451
≥1 – <3	—	0.606
≥3 – <5	—	0.634
≥5 – <10	—	0.626
10+	—	0.579
Occupation		
Manager/professional	—	0.648
Tradesperson	—	0.591
Clerical/sales	—	0.550
Plant and machine operators, laborers, etc.	—	0.452

^a ESB = English-speaking background.

^b NESB = Non-English-speaking background.

SOURCE: Australian Bureau of Statistics 1993, 1997.

Table 4.14 Labor Force Status of Displaced Workers in Australia

Population	Employed, full-time	Employed, part-time	Unemployed	Out of labor force	No. of observations
Six months after displacement					
Aggregate					
Male	0.44	0.18	0.26	0.12	198
Female	0.36	0.21	0.31	0.12	178
Educational attainment					
Male					
NCHS	0.43	0.15	0.30	0.12	104
CHS/postschool qualif.	0.46	0.21	0.22	0.11	94
Female					
NCHS	0.27	0.25	0.35	0.13	73
CHS/postschool qualif.	0.42	0.19	0.29	0.10	105
Twelve months after displacement					
Aggregate					
Male	0.51	0.10	0.22	0.17	179
Female	0.43	0.09	0.26	0.22	162

Educational attainment

Male

NCHS 0.48 0.13 0.21 0.18 88

CHS/postschool qualif. 0.54 0.07 0.22 0.17 91

Female

NCHS 0.28 0.08 0.38 0.24 60

CHS/postschool qualif. 0.52 0.10 0.19 0.19 92

Table 4.15 Estimated Kaplan-Meier Hazard and Survival Rate of Return to Work in Australia

Time out after displacement (months)	Hazard rate	Survival rate
1	0.284	0.716
2	0.168	0.596
3	0.241	0.454
4	0.184	0.365
5	0.145	0.314
6	0.134	0.274
7	0.114	0.246
8	0.108	0.224
9	0.183	0.190
10	0.083	0.178
11	0.065	0.170
12	0.159	0.151

NOTE: Sample size is 390, of whom 305 are observed returning to work. Maximum observed duration in sample is 40 months.

SOURCE: Authors' calculations.

**Table 4.16 Determinants of Probability of Exit from Non-employment—
Marginal Effects for Australia**

Covariates	Col. 1	2
Year dummies	No	Yes
Observations	4,403	4,403
Spell duration	-0.0082** (0.0010)	-0.0077** (0.0010)
Age	-0.0063** (0.0019)	0.0078 (0.0222)
Immigrant	-0.0458 (0.0246)	-0.0382 (0.0243)
Completed high school/postschool qualification	0.0307** (0.012)	0.0342** (0.0123)
Reading aptitude	0.0028 (0.0026)	0.0040 (0.0027)
Reading aptitude × cohort 1	0.0001 (0.0031)	-0.0019 (0.0038)
Math aptitude	0.0024 (0.0020)	0.0016 (0.0021)
Math aptitude × cohort 1	-0.0005 (0.0021)	-0.0007 (0.0030)
Female	-0.0238** (0.0115)	-0.0271** (0.0115)
Rate of unemployment in last occupation	-0.0074** (0.0023)	-0.0074** (0.0025)

NOTE: Standard errors are in parentheses. Marginal effects are calculated at average values of other explanatory variables. Marginal effects for dummy variables are for effect of a change from 0 to 1 in that variable. ** = Statistically significant at the 5% level.

Table 4.17 Predisplacement and Postdisplacement Work Time in Australia (ratio of worktime in quarter postdisplacement to worktime in quarter prior to displacement)

Quarter postdisplacement	Total hours			Total weeks			Observations		
	All	Males	Females	All	Males	Females	All	Males	Females
1	0.213**	0.214**	0.220**	0.221**	0.203**	0.223**	389	205	184
2	0.518**	0.533**	0.519**	0.556**	0.585**	0.520**	377	198	179
3	0.576**	0.591**	0.578**	0.598**	0.599**	0.597**	354	189	165
4	0.631**	0.649**	0.631**	0.619**	0.651**	0.578**	345	183	162
5	0.701**	0.740**	0.676**	0.677**	0.727**	0.616**	332	176	156
6	0.717**	0.802**	0.630	0.703**	0.776**	0.610**	309	165	144
7	0.743**	0.780	0.718	0.723**	0.767	0.664	276	152	124
8	0.791	0.831	0.764	0.748	0.796	0.684	268	148	120
Average predisplacement	425.13	433.97	398.34	12.06	12.06	12.06	n.a. ^a	n.a.	n.a.

NOTE: ** = Statistically significant at the 5% level.

^a n.a. = not applicable.

SOURCE: Authors' calculations

Table 4.18 Predisplacement and Postdisplacement Average Log Weekly Earnings in Australia (postdisplacement job minus predisplacement job)

Years after displacement	Full-time + part-time			Full-time		
	All	Males	Females	All	Males	Females
1 – <2 yr.						
Displaced						
Difference	0.456 (0.058)	0.456 (0.070)	0.455 (0.112)	0.342 (0.048)	0.355 (0.064)	0.312 (0.060)
No. of obs.	94	61	33	74	47	16
Nondisplaced						
Difference	0.428 (0.017)	0.407 (0.022)	0.449 (0.026)	0.324 (0.014)	0.336 (0.019)	0.310 (0.019)
No. of obs.	1,085	539	546	921	492	429
≥2 – <3 yr.						
Displaced						
Difference	0.593 (0.063)	0.637 (0.086)	0.518 (0.101)	0.460 (0.061)	0.511 (0.073)	0.366 (0.113)
No. of obs.	56	35	21	43	28	15
Nondisplaced						
Difference	0.700 (0.024)	0.700 (0.034)	0.700 (0.035)	0.537 (0.019)	0.561 (0.027)	0.511 (0.028)
No. of obs.	670	329	341	549	282	267

(continued)

Table 4.18 (continued)

Years after displacement	Full-time + part-time			Full-time		
	All	Males	Females	All	Males	Females
$\geq 3 - < 4$ yr.						
Displaced						
Difference	0.764 (0.123)	0.723 (0.159)	0.819 (0.193)	0.581 (0.100)	0.592 (0.145)	0.561 (0.191)
Obs.	33	19	14	27	17	10
Nondisplaced						
Difference	0.903 (0.032)	0.877 (0.042)	0.929 (0.050)	0.746 (0.026)	0.775 (0.035)	0.713 (0.036)
Obs.	412	207	205	345	181	164

NOTE: Standard errors are in parentheses.

Table 4.19 Determinants of Ratio of Predisplacement and Postdisplacement Weekly Earnings in Australia

Explanatory variables ^a	Dependent variable		Log (weekly earnings 1–2 yr. postdisplacement/weekly earnings predisplacement)			
	Log (weekly earnings 1–2 yr. postdisplacement)		Log (weekly earnings predisplacement)		Log (weekly earnings 1–2 yr. postdisplacement/weekly earnings predisplacement)	
	No	Yes	No	Yes	No	Yes
Year dummies						
Observations	1,177	1,177	1,177	1,177	1,177	1,177
Constant	–2.806** (0.759)	–3.136** (0.937)	1.013 (0.596)	2.082** (0.771)	1.222** (0.106)	1.310** (0.324)
Displaced	–0.137 (0.084)	–0.199** (0.084)	–0.084 (0.066)	–0.055 (0.070)	0.007 (0.089)	0.070 (0.091)
Female	–0.086** (0.025)	–0.068** (0.024)	–0.092** (0.019)	–0.093 (0.020)	–0.003 (0.027)	–0.022 (0.026)
Age	0.517** (0.066)	0.547** (0.082)	0.257** (0.052)	0.154** (0.068)	–0.036** (0.003)	–0.044** (0.017)
Age ²	–0.008 (0.001)	–0.008** (0.001)	–0.003** (0.001)	–0.001 (0.001)	—	—
Complete H.S./post-school qualifications	–0.012 (0.026)	–0.010 (0.025)	–0.011 (0.021)	–0.010 (0.021)	–0.006 (0.028)	–0.008 (0.027)
Rate of unemployment in last occupation	–0.014** (0.004)	–0.002 (0.004)	–0.011** (0.003)	–0.011** (0.004)	0.003 (0.005)	–0.009 (0.005)

(continued)

Table 4.19 (continued)

Explanatory variables ^a	Dependent variable		Log (weekly earnings 1–2 yr. postdisplacement/weekly earnings predisplacement)			
	Log (weekly earnings 1–2 yr. postdisplacement)	Log (weekly earnings 1–2 yr. postdisplacement)	Log (weekly earnings predisplacement)	Log (weekly earnings predisplacement)	Log (weekly earnings 1–2 yr. postdisplacement/weekly earnings predisplacement)	Log (weekly earnings 1–2 yr. postdisplacement/weekly earnings predisplacement)
Immigrant	0.023 (0.044)	0.024 (0.042)	0.012 (0.034)	0.015 (0.034)	–0.007 (0.047)	–0.007 (0.046)
FT	1.007** (0.034)	1.067** (0.033)	0.056** (0.031)	0.086* (0.031)	—	—
FT to FT	—	—	—	—	–0.090 (0.054)	–0.139** (0.053)
FT to PT	—	—	—	—	–0.859** (0.082)	–0.914** (0.079)
PT to FT	—	—	—	—	0.926** (0.067)	0.934** (0.065)
Adj. R^2	0.720	0.750	0.652	0.654	0.427	0.421
F -statistic	380.39**	268.79**	277.49**	172.45*	98.44**	75.01**

NOTE: Standard errors are in parentheses. A dash (—) means the variable was not included. ** = Statistically significant at the 5% level.

^a FT = full-time; PT = part-time.

SOURCE: Authors' calculations.

Appendix

Data Construction

BRITAIN

Each wave of the BHPS has an individual file and a job-history file. The individual file contains three reference points about jobs, the *current* job, the *Sept. 1 this year* job and the *Sept. 1 last year* job. Each of these has a job identifier, in the form of the spell number in the spell history that relates to this reference point. For some individuals whose current state is the same as that in the previous year, the *current spell identifier* in later waves links these jobs. Otherwise, linking job spells between waves is tenuous, based upon matching information about the jobs. The simplest way to join the waves is to assume that the Sept. 1 reference points can be reasonably linked. Thus the *Sept. 1 this year* of the previous wave should correspond to the *Sept. 1 last year* of the current wave.

Problems can arise, resulting from the nature of the *current* job, which corresponds to the interview date in that wave. This job spell has the only recorded information about certain important job-description variables, specifically the variables for the number of hours worked, full-time or part-time status, temporary or permanent status, and union membership. Only six observation points are available for these variables. It can be difficult to match this *current* job spell to a subsequent wave, except by matching such basic information about the jobs as the start date, occupation, and industry. Inconsistencies in recorded information can make this very difficult, since even the labor-force state for the spell does not always match for the best link points of *Sept. 1 this year* and *Sept. 1 last year*. The design of the survey provides some overlap information when the waves are linked, and also when the job history is linked to the individual response, such that corresponding dates or periods of any state might be matched.

DEFINING DISPLACEMENT

To define a displaced worker, responses are coded on the basis of a self-defined “reason for leaving last job” question.¹ The range of classifications allows us to separate *layoffs* from *redundancy* and *end-of-temporary-job-contract*. In Britain the two categories *layoffs* and *redundancy* are usually synonymous. “Short-term layoffs,” after which workers can be recalled to the same job, do not usually occur in Britain. Britain also differs from many main-

land European countries, in which (sometimes enshrined in law) short-term contracts must be followed by a permanent job if the contract is renewed. Short-term contracts are used in Britain but they are not linked explicitly to any future permanent status.

The tenure of the job is an important part of statutory redundancy provisions, however, with two years' tenure being the significant threshold within this law beyond which entitlement to redundancy and sickness pay begins.

Inconsistencies in recorded information can mean that the spell lengths are not always clear. One obvious example is that some exit job spell lengths are greater than the age of the respondent. Both start and end dates suffer problems and spells can overlap, or there can be undefined gaps, even when only months and years are used.

Reconciling the data from the individual (*indresp*) and job-history (*jbhist*) record files, sourced from different question specifications and sequences within the survey, there is a reasonable level of agreement, but some differences exist which are not generally systematic. Reconciling information within a wave (matching the *indresp* and *jbhist*) results in generally better agreement than reconciling consecutive waves, but data conflicts between them result in multiple possible records rather than a single panel record for some individuals. The analysis relies on spell lengths, so for missing start dates substantial effort was spent in processing the data, but only if the start year was not missing (since it was deemed too difficult to make any reasonable assumptions about the year). Thus an effort was made to reduce *untrue* left and right censoring. Following Paull (1997), only months and years are used for dates. Seasons are recoded to months. We assume that years suffer less recall error than months and that any time gap is an error, since spells in the job history are recorded consecutively. Where consecutive spells exist within a wave, the previous spell end month is substituted for a missing start month *if* the year is the same, and for the current spell the interview month is substituted *if* the start year is the same as the interview year. For end dates (which only exist for job history spells, not the current job), where consecutive spells exist within a wave, the missing previous spell end month is replaced with the following spell start month.

Spell lengths for the current spell are created by taking the recorded tenure variable measured in days and dividing by 30, since no end date exists. For all other spells, (the end year \times 12 plus the end month) – (start year \times 12 plus the start month) is constructed.

Race, age, and gender are only asked when the respondent first enters the panel, and must be copied across. Spell identifiers and job identifiers are used to match job information in the spells and the only file data where a job descriptor data item is missing.

The annual *employment by industry* is also added to the data set in the form of a change variable. This data is sourced from the published statistics 1990–1995 in the Employment Gazette. It is matched to the industry the displaced worker left from.

In order to minimize selection bias due to attrition, we use all individuals observed at any wave and do *not* restrict the panel to only those present in all waves.

AUSTRALIA

Variable Definitions

Displaced worker: Persons who did not have a job at the time of the survey and who responded that being “laid off” was a “very important” or “fairly important” reason for ending their last job. Questions on reasons for job loss were asked in October 1981, 1982, 1983, and 1993 for the 1961 cohort, and in October 1983, 1984, 1985, and 1993 for the 1965 cohort.

Months since displacement: Date of displacement is identified as first month prior to survey date in which the respondent did not work full-time or part-time.

Educational attainment: Variable constructed from information on years of schooling and on whether a postschool qualification was obtained. Individuals reporting having completed high school or reporting having any postschool qualification are classified as being in the category “Complete HS/ Postschool qualifications.”

Age: Equal to year of displacement minus year of birth.

Year: Equal to year of displacement.

Reading aptitude/Math aptitude: Scores from tests administered to respondents as 14-year-olds by Australian Council of Education Research.

Rate of unemployment in last occupation: Rate of unemployment by 1-digit CLO occupation (From ABS, *Labor Force Survey*, Catalogue No. 6203.0, selected issues).

Weekly earnings in predisplacement job/Weekly earnings X to $(X + 1)$ years after displacement: Information obtained from question on “weekly earnings last week.”

Total weeks of work in quarter, x months after displacement: Information from labor market diary. Respondents answering that they were employed part-time or full-time in a month were assumed to have 4 and one-third weeks of work in that month.

Total hours of work in quarter x months after displacement: Information from labor market diary. Respondents answering that they were employed part-time in a month were assumed to have worked for 85 hours in that month.

Respondents answering that they were employed full-time in a month were assumed to have worked 170 hours in that month.

Total weeks/hours of work in quarter prior to displacement: Information from labor market diary. Date of displacement is identified as first month prior to survey date in which the respondent did not work full-time or part-time. Total weeks/hours of work in the preceding quarter are then calculated using the same assumptions as for weeks/hours of work per quarter after displacement.

Appendix Note

1. The following choices are offered: promoted/left for a better job, left for a different job, was made redundant/company went bankrupt, was dismissed or sacked, a temporary job ended, took retirement, stopped for health reasons, left to have a baby, children/home care, care of other person, other reason.

Table 4A.1 Unemployment Benefit Replacement Rates for Single-Earner Households in Britain, 1995

Group	% of APW ^a	% of 2/3 APW
First month, no social assistance		
Gross – single	16	24
Net of tax/other		
Couple – no children	26	39
Couple – 2 children	35	52
Couple – 2 children – housing benefit	77	90
60th month, with social assistance		
Gross – couple no children	25	38
Net of tax/other		
Couple – 2 children – housing benefit	77	90

NOTE: Gross replacement rates are before tax. Net replacement rates are after tax and other benefits.

^a APW = average production worker earnings.

SOURCE: OECD (1997, Table 2.1).

Table 4A.2 Unemployment Benefit Replacement Rates for Single-Earner Households in Australia, 1995

	Australia	OECD
Replacement rate in 1st month of unemployment		
Gross replacement rate		
Single	22	52
Couple (no children)	40	52
Net replacement rate		
Couple (no children)	49	60
Couple (2 children)	64	68
Couple (2 children, housing benefits)	71	73
Replacement rate in 60th month of unemployment		
Gross replacement rate		
Couple (no children)	40	19
Couple (2 children, housing benefits)	71	67

NOTE: Gross replacement rates are before tax. Net replacement rates are after tax and other benefits.

SOURCE: OECD (1997, Table 2.1).

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