TEMPORARY JOBS:
WHO GETS THEM, WHAT ARE THEY WORTH, AND DO THEY LEAD ANYWHERE?*

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Abstract

In Britain about 7% of male employees and 10% of female employees are in temporary jobs. In contrast to much of continental Europe, this proportion has been relatively stable over the 1990s. Using data from the British Household Panel Survey, we find that, on average, temporary workers report lower levels of job satisfaction, receive less work-related training, and are less well-paid than their counterparts in permanent employment. We find some evidence that temporary jobs are a stepping stone to permanent work, although this transition takes between 18 months and three and a half years depending on contract type (seasonal or fixed term) and gender. Moreover, the wage growth penalty associated with experience of seasonal jobs is quite high, and it is likely that workers experiencing such jobs early in their working lives will never catch up. But experience of fixed-term contracts may lead to high wage growth if the workers move to permanent full-time jobs. This is because workers (especially women) who had such contracts enjoy high returns to "experience capital" once they acquire a permanent job.

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Keywords: temporary jobs, fixed term contracts, individual unobserved heterogeneity, job-specific effects.

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Non-technical Summary

Temporary contracts are often regarded as a measure of labour market flexibility. They afford a means of ensuring that the returns to entrepreneurs and the start-up and demise of firms are unconstrained by institutional rigidities such as employment restriction legislation and trade union activity. In periods of rapid technical change or demand volatility, temporary contracts allow firms to hire and fire workers as they wish. Since the duration of a temporary job is invariably short of statutory continuous experience requirements for redundancy pay, workers on temporary contracts can be costlessly laid off in a downturn. This may explain the dramatic growth in temporary jobs in France, Italy and Spain, countries characterised by high levels of employment protection. In contrast, in the United States and Britain, which have relatively little employment protection regulation, the proportion of the workforce on fixed term contracts has been fairly stable. In Britain about 7% of male employees and 10% of female employees are in temporary jobs.

While labour market flexibility has been the goal of various governments in the 1980s and 1990s in both Britain and the US, there are potential costs to the use of temporary employment contracts. Some commentators have expressed concern about the quality of the stock of jobs and the lack of opportunities for career advancement associated with temporary or flexible work, while there is also case study evidence of decreasing *employer* enthusiasm for temporary contracts, owing to the low levels of retention and motivation of such staff.

Even in Britain – which has relatively mild restrictions on dismissal for redundancy or cause – it is costly to discharge long-serving employees. Insofar as these are simple transfers from the firm to the separating worker, there is no particular reason to avoid permanent appointments. However, severance costs can contain a deadweight element. There is a considerable cost in time and expense to a firm in being brought before an industrial tribunal to defend an unfair dismissal claim. Firms might therefore prefer to have a cushion of workers without employment rights who can be freely discharged in the event of adverse market conditions. However, workers will typically prefer a permanent contract to a temporary one. The permanent contract is equivalent to the temporary one with an option to remain in employment. In a competitive labour market, it therefore follows that there must be a wage premium to temporary jobs. The firm should be willing to pay this premium to gain the employment flexibility of being able to discharge workers at lower cost. Therefore, other things being equal, temporary jobs should pay a higher wage than permanent jobs.

There are a number of reasons why this may not hold in practice. It is not efficient for workers in temporary employment to invest heavily in specific human capital. This has implications for the characteristics of workers holding temporary jobs. Moreover, the lack of specific human capital associated with temporary jobs will have a negative effect on the wages paid to temporary workers.

In addition to specific human capital, temporary workers may differ from permanent workers in ability. The ability level of temporary workers depends on the future job prospects of a post. While one possibility is that a firm maintains a high-turnover, low ability pool of temporary workers to adjust its employment to match market conditions, an alternative is that firms view the initial temporary contract as a probationary stage. If the likelihood of eventual permanency is sufficiently high, the temporary job can be attractive to a worker of high

ability. In either case, wages of temporary workers may be low relative to permanent workers. A temporary worker with low ability gains a low wage for this reason and because of the low specific human capital held by a temporary worker. If temporary jobs are probationary, firms may seek to have the right workers self-select into probationary jobs by instituting a wide differential paid to the successful workers when they achieve permanency. During probation, the wage is low. There are of course other reasons why wages of temporary workers may be low. Some unions are more concerned about longer serving members, and agree contracts with steep returns to seniority. Temporary workers may be an extreme case of outsiders, who receive a low wage compared to permanent workers

To distinguish between these alternative scenarios, we consider the dynamic aspects of temporary jobs. In jobs where the temporary contract is a form of probation, there will be a high probability of obtaining a permanent post at the current employer. In this case, the low wage during the temporary contract period will be compensated for by high future wages. There should be little overall career loss to starting with a temporary post. In contrast, if temporary jobs are held by individuals with low ability to acquire specific human capital, there will be a large, permanent career loss to these individuals.

We use longitudinal data from the first seven waves of the British Household Panel Survey (BHPS), conducted over the period 1991-1997. The analysis is carried out separately for men and women in employment. Using these data—which disaggregate temporary work into seasonal or casual jobs and fixed term contract jobs—we find that, on average, temporary workers report lower levels of job satisfaction, receive less work-related training, and are less well-paid than their counterparts in permanent employment. We also found some evidence that temporary jobs are a stepping stone to permanent work. The median time in temporary work before such a transition is between 18 months and three and a half years, depending on contract type (seasonal or fixed term) and gender. Our wage growth models (which allow for potential endogeneity of many of the explanatory variables including contract type) show that the wage growth penalty associated with experience of a temporary job is quite high. This is especially the case for workers in seasonal and casual jobs and, to a lesser extent, for men on fixed-term contracts. Indeed, it is unlikely that the wages of workers experiencing such jobs early in their working lives will ever catch up with their permanent counterparts. We do find evidence, however, that women who start off their career on fixed-term contracts may experience a high wage growth, and, within a period of 7-10 years, have fully caught up with their permanent counterparts. In general, because the implications drawn for seasonal-casual workers differ from those drawn for contract workers, our results emphasise the importance of distinguishing among types of temporary employment.

How do these findings relate to the theory? There is clear evidence from the training and satisfaction results that temporary workers do not acquire much specific human capital. Seasonal and casual workers suffer a continuing wage penalty, even after years of labour market experience. This suggests that workers initially in these jobs are less able. They do not just suffer a short-run disadvantage from the lack of training while a seasonal/casual worker, but have a long-term earnings loss. Men who begin in jobs with fixed-term contracts suffer a permanent earnings loss, but not as great as for men in seasonal/casual work. This is consistent with two possibilities. These men may be less able than those who immediately acquire a permanent job on entering the workforce. They may also lose out from never quite catching up on the human capital investment foregone during the period of temporary work. In contrast, women who start with fixed-term contracts fully catch up with those who began on permanent contracts. This is consistent with a view that some women, upon entering the labour force, may take longer to decide on their career choices. Under this hypothesis, women who begin in temporary work are as able as those who begin in permanent jobs, and these women eventually make up for the lack of human capital acquisition during the period of temporary work.

I. INTRODUCTION

Temporary contracts are often regarded as a measure of labour market flexibility. They afford a means of ensuring that the returns to entrepreneurs and the start-up and demise of firms are unconstrained by institutional rigidities such as employment restriction legislation and trade union activity. In periods of rapid technical change or demand volatility, temporary contracts allow firms to hire and fire workers as they wish. Since the duration of a temporary job is invariably short of statutory continuous experience requirements for redundancy pay, workers on temporary contracts can be costlessly laid off in a downturn (see for example Bentolila and Bertola, 1990; Bentolila and Saint-Paul, 1994; and Booth, 1997). This may explain the dramatic growth in temporary jobs in France, Italy and Spain, countries characterised by high levels of employment protection. In contrast, in the United States and United Kingdom, which have relatively little employment protection regulation, the proportion of the workforce on fixed term contracts has been fairly stable.[1]

In Britain and the US, labour market flexibility has been the goal of various governments in the 1980s and 1990s. However, there are potential costs to the use of temporary employment contracts. Some commentators have expressed concern about the quality of the stock of jobs and the lack of opportunities for career advancement associated with temporary or flexible work (Farber, 1997 and 1999; Arulampalam and Booth, 1998). Purcell, Hogarth and Simm (1999) have also found case study evidence from 50 British firms of decreasing *employer* enthusiasm for temporary contracts, owing to the low levels of retention and motivation of such staff.

These issues are particularly important since governments are moving away from welfare benefits towards 'workfare' systems. Temporary jobs – in the UK, subsidised by the government (see Dickens, Gregg and Wadsworth, 2000) – provide an important potential route for welfare recipients to enter the permanent workforce. The desirability of these policies (particularly, the subsidisation of temporary jobs) depends upon whether they are 'dead end' jobs with poor pay and prospects, satisfactory careers in their own right, or a route to permanent employment in good jobs.

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[1] The proportion of workers in fixed term contracts in France, Italy and Spain increased respectively from 4.7, 4.8 and 15.6 percent in 1985 to 13.1, 8.2 and 33.6 percent in 1997. In the UK, the proportion of workers in fixed term contracts was 7 percent in 1985 (thus, higher than in Italy and France at that time) but remained stable over time and reached 7.4 percent in 1997. In 1997, of the 150 million workers in the European Union, about 12 percent were employed on fixed-term contracts (European Commission, 1999).

Remarkably little is known about temporary workers in Britain (Dex and McCulloch, 1995), and it is therefore important to improve our understanding of their career opportunities and to assess the extent and impact of this form labour market flexibility. In this paper we investigate three main issues. First, we describe who holds temporary jobs in 1990s Britain. Second, we investigate how satisfied temporary workers are with their jobs, how much training they receive, and how their wages compare with permanent workers. Third, we estimate how long it takes temporary workers to move into permanent jobs, which workers will be successful in this way, and how the wage profiles of workers who have ever held a temporary job compare with permanent workers over time. We address these issues using longitudinal data from the first seven waves of the British Household Panel Survey (BHPS), conducted over the period 1991-1997. The analysis is carried out separately for men and women in employment and distinguishes between 'casual and seasonal workers' and workers on 'fixed-term contracts'. Our results show that:

- Temporary workers are highly heterogeneous in terms of their monetary remuneration and labour supply. Men and women with more experience in the labour market, employed in the private sector, and in full-time jobs, are less likely to be in either form of temporary work. Older female professionals and teachers, public sector employees, and women with higher educational qualifications are more likely to be on fixed-term contracts. However, there are fewer observable attributes affecting the male probability of being employed on a fixed-term contract.

- Temporary workers (in particular those in seasonal-casual jobs) report lower levels of job satisfaction than workers employed in permanent jobs, especially in terms of promotion prospects and security. Relative to permanent workers, they are also less likely to receive on-the-job training and have lower current pay.

- Seasonal-casual jobs are typically very short, with a median duration of three months. Fixed-term contracts are longer, with a median duration of about twelve months. After being in temporary work, more than two thirds of temporary workers stay with the same firm for at least another spell of employment (which in the majority of cases is also temporary). For men, the exit from a fixed-term contract to a permanent job seems to be uncorrelated with most of the observable individual and job-related characteristics as well as unobservables. (Indeed, only age, part-time employment status and some occupational groups affect this transition.) However, once unobserved heterogeneity has been accounted for, the female exit from a fixed-term contract into a permanent job is more likely for the more educated and those employed in the private sector, in a non-union job and working more hours of unpaid overtime. The exit from seasonal-casual jobs into permanency is more likely when the local labour market is tighter, and for full-time workers who are employed in the private sector, work long hours and are in union-covered jobs (particularly women).

- The experience of a seasonal-casual job depresses wage growth for both men and women. After the first ten years of working, the wage penalty for having had a seasonal or casual job in the first year is 12% for men and 5% for women. In contrast, while a fixed-term contract in the early stages of the career is associated with lower wages at that time, it may lead to higher wage profiles for workers moving to permanent full-time jobs. This is because workers (especially women) who had a fixed-term contract enjoy higher returns to 'experience capital' once they acquire a permanent job.

In the following section, we present the main hypotheses underlying our analysis. In Section III, we describe the data source and examine the raw data to see the extent of temporary job holding in the British labour market. In Section IV, we provide a picture of temporary work in 1990s Britain. In particular, we estimate who gets a temporary job, the level of satisfaction of temporary workers, the on-the-job training undertaken by temporary workers, and their wage levels compared to permanent workers. We also estimate the impact of an experience of a temporary job on subsequent wages and employment. The final section summarises and draws some conclusions.

II. HYPOTHESES

Even in the UK – which has relatively mild restrictions on dismissal for redundancy or cause – it is costly to discharge long-serving employees. Workers with sufficient length of service are entitled to statutory redundancy pay and can claim unfair dismissal.[2] Insofar as these are simple transfers from the firm to the separating worker, there is no particular reason to avoid permanent appointments.[3] However, severance costs can contain a deadweight element. There is a considerable cost in time and expense – as well as in overall industrial relations – to a firm in being brought before an industrial tribunal to defend an unfair dismissal claim. For these reasons, firms might prefer to have a cushion of workers without employment rights who can be freely discharged in the event of adverse market conditions.

However, workers will typically prefer a permanent contract to a temporary one.[4] The permanent contract is equivalent to the temporary one with an option to remain in employment. In a competitive labour market, it therefore follows that there must be a wage premium to temporary jobs. The firm should be willing to pay this premium to gain the employment flexibility of being able to discharge workers at lower cost. Therefore, other things being equal, temporary jobs should pay a higher wage than permanent jobs.

There are a number of reasons why this may not hold in practice. It is not efficient for workers in temporary employment to invest heavily in specific human capital. This has implications for the characteristics of workers holding temporary jobs. The workers holding these jobs will be the ones for whom there is either a greater probability of wishing to separate (either to change occupation or geographical location) or a higher cost (or lower benefit) to acquiring specific human capital. Young, single individuals might be disinclined to make a large investment in a particular job until they are sure of their career and regional preferences. If it is believed – as in Lazear and Rosen (1990) – that women are more likely to move to non-market employment, then women will also be more likely to hold temporary posts. Older workers might – given the shorter period of return – also be less inclined to invest in specific human capital. It should therefore be possible to examine the workplace and individual characteristics of temporary workers compared to permanent workers. But

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[2] The length of service to obtain most of these benefits has recently been lowered from two to one year, and it is likely that there will be new limitations on the ability of workers to sign away these benefits upon taking up a temporary job. The maximum sum awardable for unfair dismissal has also recently been increased. For women and ethnic minorities there is no limit on the sum. This may be a deterrent for firms to appoint women and workers from ethnic minorities to permanent posts.

[3] Indeed, as argued in Booth (1997), government imposed redundancy pay can substitute for incomplete private contracting and sustain more efficient investments in specific human capital, since workers receive job protection.

[4] Exceptions may include students or new labour market entrants who wish to work temporarily to raise funds, for example, to travel. Other workers – such as computer analysts – may view temporary contracts as a route to self-employment.

also, the lack of specific human capital will have a negative effect on the wages paid to temporary workers.

In addition to specific human capital, temporary workers may differ from permanent workers in ability. The ability level of temporary workers very much depends upon the future job prospects of a post. It is possible that a firm maintains a high-turnover, low ability pool of temporary workers to adjust its employment to match market conditions. Alternatively, firms may view the initial temporary contract as a probationary stage – subject to job performance and employment demand, workers will move into permanent employment at the firm. If the likelihood of eventual permanency is sufficiently high, the temporary job can be attractive to a worker of high ability. In either case, wages of temporary workers may be low relative to permanent workers. A temporary worker with low ability gains a low wage for this reason and because of the low specific human capital held by a temporary worker. If jobs are probationary in nature, then – as argued by Loh (1994) and by Wang and Weiss (1998) - firms may seek to have the right workers self-select into probationary jobs by instituting a wide differential paid to the successful workers when they achieve permanency. During probation, the wage is low.

There are other reasons why wages of temporary workers may be low. Booth and Frank (1996) find evidence that some unions are more concerned about longer serving members, and agree contracts with steep returns to seniority. Temporary workers may be an extreme case of outsiders, who receive a low wage compared to permanent workers. However, there are also situations where temporary jobs might have high wages. If productivity is positively correlated with the returns to general human capital, then highly productive workers may prefer to be employed in a succession of temporary jobs. This may hold for high skill jobs such as computer systems experts who may in fact view high-paid temporary jobs as a form of self-employment.

It may be possible to distinguish between these alternative scenarios by considering the dynamic aspects of temporary jobs. In jobs where the temporary contract is a form of probation, there will be a high probability of obtaining a permanent post at the current employer. In this case, the low wage during the temporary contract period will be compensated for by high future wages. There should be little overall career loss to starting with a temporary post. In contrast, if temporary jobs are held by individuals with low ability to acquire specific human capital, there will be a large, permanent career loss to these individuals. A recent literature (Autor, 1999; Polivka, 1996; Abraham and Taylor, 1996; Houseman and Polivka, 1999) makes the further point that firms can hire temporary workers from temporary help supply firms. Hiring in this way can allow for lower wage rates in a two-tier wage structure, can allow for economies of scale in screening and training temporary workers, and can facilitate rapid changes in the firm's level of employment in respect to temporary or unpredictable changes in demand (and thus be associated with less job stability). In view of these possibilities, firms might find it optimal to only hire temporary workers when there is an element of probation involved.

III. THE DATA

The data used in our analysis are the first seven waves of the British Household Panel Survey (BHPS). This is a nationally representative random sample survey of private households in Britain. Wave 1 interviews were conducted during the autumn of 1991, and annually thereafter (see Appendix A). Our analysis is based on the sub-sample of men and women who were born after 1936 (thus aged at most 60 in 1997), who reported positive hours of work, who provided complete information at the interview dates, who left school and were employed (either part-time or full-time) at the time of the survey, and who were not in the armed forces or self-employed. We have a longitudinal sample of 1,728 male workers and 1,971 female workers.

The data allow us to distinguish two types of temporary work. The first type refers to seasonal or casual jobs; the second type refers to jobs done under contract or for a fixed period of time. The precise form of the question asked in the BHPS interviews is given in Appendix A. The percentages of workers in these two types of temporary work are given in Table 1, where individuals are disaggregated by gender and by wave. Over the seven-year period, the average percentage of male workers in all temporary jobs is 6.8%, with 3.9% of them being in seasonal and casual jobs and 2.9% in jobs involving fixed-term contracts. The proportion of women in temporary work is higher, with 6.3% of all women employees being in seasonal and casual jobs and 3.3% in fixed-term contracts. We also observe a slight decline in women's seasonal and casual work since 1991, while the proportion of fixed-term contract jobs has remained quite stable between 1991 and 1997. For men, instead, the proportion of both types of temporary work increased in 1993-95, and declined thereafter.[5]

Table 1 also reports the male and female average hourly wages disaggregated by type of contract (permanent, seasonal and casual, or fixed-term contract), the wage differences by contract and their significance.[6] For men, permanent work always provides higher wages. The largest wage gap is between permanent and seasonal-casual workers, averaging £3.76 over the period, a highly significant 78% wage gap.[7] This difference is also significant in each of the BHPS years. The hourly pay differential between permanent and fixed-term contract workers is still significant over the seven-year period, but it is only £1.17 (a 16% wage gap), and it is not significant in five of the seven survey years. A different picture emerges for women. The highest wages are earned by workers on fixed-term contracts rather than by workers in permanent jobs. The pay difference between fixed-term contact and permanent workers of £0.90 per hour (a 13% wage gap) is significant over the period, but five out of seven differences in each survey year are not significant. The largest wage gap arises between seasonal-casual workers and workers in fixed-term contracts. The differential of £2.27 (46% wage gap) is highly significant over the entire period, and it remains significant in all BHPS years but one. Thus the data suggest that temporary workers are heterogeneous in terms of their remuneration, with fixed-term contract workers receiving significantly higher wages than seasonal-casual workers. In fact, for women in fixed-term contracts (who gain, on average, even higher wages than permanent workers), there may be a form of compensating differential for the effective buyout of employment rights. In the case

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[5] For both men and women, the incidence of temporary work is larger in part-time employment than in full-time employment. Over the seven-year survey period, of the 41% female part-timers, almost 11% are seasonal-casual workers and 4% are on fixed-term contracts (while 3% of the full-timers are in seasonal-casual jobs and another 3% are on fixed-term contracts). In the case of men, the difference between part-time and full-time workers is even more dramatic. Of the only 5% male part-timers, 34% are seasonal-casual workers and almost 9% are on fixed-term contracts. The corresponding figures for full-time workers are 2% and 3%, respectively.

[6] The hourly wage rate is given as ω=PAYGU/[(30/7)(HS+κHOT)], where PAYGU is the usual gross pay per month in the current job (deflated by the 1997 Retail Price Index), HS is standard weekly hours, HOT is paid overtime hours per week, and κ is the overtime premium. We set κ at 1.5, the standard overtime rate, but all our results below are robust to alternative values of κ ranging between 1 and 2.

[7] The wage gap is calculated as ω^p-ω^t, where ω denotes the hourly wage rate, and the superscripts p and t denote permanent and temporary (seasonal-casual or fixed-term contract) work, respectively.

of men, there is no immediate evidence of equalising wage differences, with workers in permanent jobs earning the highest pay.[8]

Temporary jobs may be associated with greater variation in hours of work for several reasons. For example, temporary work may be used by some employers as a form of probationary contract, allowing firms to observe workers' ability and effort and to retain the best workers when the temporary jobs ends. For this reason, we might expect workers on fixed-term contracts to put in more effort, in order to elicit the conversion from a temporary to a permanent job. One measure of this effort is the willingness to put in extra hours of work as demanded by the employer. Conversely, for jobs that are not probationary, we might expect temporary workers to put in lower effort or hours, since the threat of job loss is not so compelling as the job will end anyway. Moreover, temporary jobs may be associated with greater hours fluctuations than permanent jobs, since temporary contracts are likely to be a response to demand fluctuations.

We find that, for men in permanent jobs, the mean of normal hours worked per week is 45, with a standard deviation of 11; for men in seasonal-casual jobs these figures are 28 and 17, respectively, while for those on fixed-term contracts, they are 41 and 15. The data show an overall greater dispersion for women. Their mean weekly hours of work is 32 with a standard deviation of 13 if they are in permanent jobs, while the corresponding figures are 21 and 13 if they are in seasonal-casual jobs, and 31 and 14 if they are on fixed-term contracts.[9] Figure 1 shows a bimodal distribution of normal hours for male seasonal-workers, while permanent and fixed-term contract workers look alike in their hours distributions with a pronounced spike at 40 (although we do observe more fixed-term contract workers at the two ends of the distribution). In the case of women, even the hours distribution for permanent workers is bimodal, a consequence of the large proportion of women working part-time. If we pool both types of temporary work together, we find a clear bimodal distribution of weekly hours of work, with peaks at around 15 and 48 hours. But seasonal-casual workers tend to

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[8] We also performed multiple-comparison (oneway analysis of variance) tests for the joint equality of mean hourly wages in the three types of contracts. The tests always reject the hypothesis of equality of means for both men and women and for all BHPS years. In addition, we tested for gender wage differences by contract type. We cannot reject the null hypothesis of equal means for either type of temporary work (except for seasonal-casual work in 1994). But we always reject the null hypothesis in the case of permanent work. Indeed, permanent male workers earn also significantly more than the top female earners, that is fixed-term contract workers.

[9] Segal and Sullivan (1997:121) also find that US temporary workers display higher standard deviations in hours worked than permanent workers.

concentrate at the lower end of the distribution, while fixed-term contract workers cluster at the opposite end (see also Appendix B summarising the hours distribution by contract type , using inequality measures).

The differences between workers in seasonal-casual jobs and workers on fixed-term contracts also emerge when we consider their distribution by occupation and industry (see also Table 2 discussed below). In Figure 2, we observe a large concentration of seasonal-casual male and female workers in personal and protective services, sales, plant and machine operative and other low-skill occupations and in primary, distribution and catering industries.[10] But the largest share of male and female workers on fixed-term contracts is in professional and technical occupations across almost all industries. Thus the two types of temporary work seem to identify two distinct groups of workers. On one hand, we have workers in seasonal-casual jobs, who, on average, receive lower wages and put in lower effort (as measured by hours) than permanent workers, and are more concentrated in low-skill occupations. On the other hand, we have workers on fixed-term contracts, who are better paid than seasonal-casual workers (and, in the case of women, receive higher wages than permanent workers), work longer hours and are primarily concentrated in professional and technical occupations.

Table A1 documents the monetary payoff of having experienced a temporary job as opposed to having experienced unemployment. From the 1997 wave of the BHPS, we select a sample of permanent workers who were in either of the following labour market states in 1991, the first survey year: permanent job, seasonal-casual job, fixed-term contract, unemployed, or out of the labour force. Men in a permanent job in both years earn an hourly wage of £9.5, the highest average pay in 1997, while those who were out of the labour force in 1991 earn almost £4.0 less per hour. Men who were on a fixed-term contract in 1991 and are in a permanent job seven years later earn about £1.0 less than those who have been permanent at both interview dates, but this difference is not statistically significant. The difference is larger (around £2 per hour) and significant for those who were either in a seasonal-casual job or were unemployed in 1991. Interestingly, women who experienced a fixed-term contract in 1991 and are in a permanent job in 1997 have the highest wages in that year. But the difference between their wages and those of women who have been in permanent jobs in both survey years is small (about £0.7) and not significant. The wage gap for women who were unemployed in 1991 is £2.3 per hour and highly significant. Thus after gaining permanency, workers who experienced a temporary job (and particularly those on fixed-term contracts) earn on average more than those who were previously unemployed.

However, in this paper we are not concerned with investigating the post-displacement wages of workers who have been unemployed, since this is the focus of an extensive and separate literature (see, *inter alia*, Arulampalam (2000) and references therein). Rather, we concentrate on the important—and largely unexplored—differences between temporary workers and permanent workers. In the following sections, we investigate the extent to which differences between temporary and permanent workers persist after controlling for individual and workplace characteristics, and the consequences of various contract types for labour market transitions, remuneration and wage dynamics.

IV. A PICTURE OF TEMPORARY WORK

IV.1 Who gets a temporary job?

To address this question we first look at the distributions of the two types of temporary work by age group, education, occupation, industry and sector for men and women separately. Table 2 presents those distributions. The largest fraction of seasonal-casual jobs involves young workers with O-level or A-level qualifications, employed in the private sector, in relatively unskilled occupations (men) or in secretarial and personal-services occupations (women), and in the distribution and services industries. Compared to the seasonal and casual workers, those on a fixed-term contract are young but more evenly spread over the age distribution, have a slightly higher education, are employed in the private sector if they are men and in the public sector if they are women, are more heterogeneous in their occupations (with a large representation of professionals, teachers, technicians, secretaries and craft workers), and are mainly employed in the service industries.

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[10] A sizeable group of seasonal-casual female workers are also in transport, banking and other service industries.

In a multivariate setting, we perform multinomial logit regressions for men and women separately.[11] Table 3 reports the risk ratios of being in seasonal-casual work and on a fixed-term contract relative to being in permanent work. The estimates show that, relative to the base of individuals aged 35 to 44, men aged 25 to 34 are significantly less likely to be in a seasonal-casual job, while men aged 45 and over are between two and three times more likely to be in either form of temporary work.[12] For women, we find that seasonal-casual work is more common among the youngest (whose odds are twice as large as women in the reference group), while fixed-term contract work is more common among the oldest (who are twice as likely to be on such contracts than the base of women aged 35-44). The presence of young children may represent household responsibilities correlated with reduced investment in specific human capital, and these may differ between men and women. But regardless of gender, the probability of being in a temporary job is not significantly affected by the presence and number of children in pre-school years. However, an increase in the number of children aged 5-18 increases the probability of being in a seasonal-casual job for men and women, and the probability of being in a fixed-term contract for women.

We find that education has a positive effect on the male probability of being in seasonal-casual jobs (particularly if their highest qualification is either A level or higher degree). However, education has no effect on the male fixed-term contract probability. The picture looks quite different for women. While we find a positive correlation between having higher degrees and being in a seasonal-casual job, we also find that women with any type of educational qualification (with the only exclusion of those with vocational degrees) are between two and three times more likely to be on a fixed-term contract than women with no qualification. These results ought to be interpreted together with the effects of occupation. One stereotype is that temporary workers are largely in clerical and secretarial occupations, or are teachers and nurses. The estimates in Table 3 show that this is true only for female teachers, who are almost four times more likely to be on fixed-term contracts relative to the

[11] We performed several pooled (men and women) regressions. Despite the higher raw percentages (see Table 1), the regression results show that women are less likely than men to be in any type of temporary work, after controlling for demographic and labour market characteristics. We always rejected pooling by gender. For example, when we use the same specification as in Table 3 plus "female" (the gender dummy variable), the χ^2 test on "female" being zero in the two types of temporary work is 6.37 with a *p*-value of 0.0413. Higher χ^2 values (and smaller *p*-values) were obtained after "female" was interacted with other explanatory variables included in Table 3. We also performed a test for pooling the two types of temporary work, a test for pooling permanent work and seasonal-casual work, and a test for pooling permanent work and fixed-term contracts using the procedure suggested by Cramer and Ridder (1991). The three tests strongly rejected pooling.

[12] "Age" here (and in Table 2) refers to the individual's age when he/she entered the survey.

base occupational group of the unskilled. On the other hand, managers, professionals, technicians (men only) and workers in sales occupations are significantly less likely to be in a seasonal-casual jobs. We also find some interesting gender differences. Most notably, female professionals are seven times more likely to be on fixed-term contracts than unskilled workers, while there is little evidence of this relationship for men. In addition, women in craft and semi-skilled (plant and machine operatives) occupations are more likely to be in a seasonal-casual job, but men are not.

There are also stark gender differences in the way employment sectors affect the probability of being in temporary work. Women working in local government, the non-profit sector, the NHS or higher education ("other public") are at least twice as likely to be on a fixed-term contract relative to the base of the private sector. Female local government workers are also more likely to be in seasonal and casual jobs. For men, however, the probability of being in any form of temporary work is unaffected by the type of employing organisation.

Experience in the labour market may indicate (after controlling for age and children) a stronger attachment to paid employment. A work history marked by employment interruptions owing to layoffs may signal not only a potential loss in human capital, but also lower bargaining power or perhaps a lower commitment to work.[13] The estimates in Table 3 show that, for both men and women with average work experience, an additional year of prior full-time experience (in either temporary or permanent work) significantly reduces the risk of being in seasonal-casual jobs by 50-60% and the risk of being on fixed-term contracts by another 50%. Part-time experience does not affect the male likelihood of working on a fixed-term contract, but it does reduce the chance of being in a seasonal-casual job by about 50% for both men and women, and the chance of being in a fixed-term contract by another 50% for women. Only 5% of men are in part-time employment. These few individuals, however, are 8 times (2 times) more likely to be in a seasonal-casual (fixed-term contract) job than full-time workers. For women, most of the seasonal-casual jobs are also likely to be held by part-timers, but no significant differences between part-time and full-time workers are found in the case of work on fixed-term contracts. This may just indicate the diffusion of part-time employment among women: almost 2 in 5 women, in fact, hold a part-time job.

The number of previous layoffs significantly increases the probability of being in any type of temporary job for men, and in a seasonal-casual job for women. The effects are large: for the average male worker, an additional layoff increases the risk of being in a seasonal-casual job by 49% and the risk of being on a fixed-term contract by 30%.[14]

The probability of temporary work is likely to be affected by demand factors and local labour market conditions. For this reason, in our regressions we also control for industry, firm size (both not shown) and local unemployment-vacancy (U/V) ratio.[15] There are no industry effects on the probability of men's being in a seasonal-casual job and on the probability of women's being on a fixed-term contract. But men working in the service and the construction industries are more likely to be on a fixed-term contract, while women working in the banking and particularly distribution and catering industries are more likely to be employed as seasonal or casual workers. Most of the temporary jobs held by women are in large establishments, whereas there is no correlation between firm size and the probability of being in a temporary job for men. Interestingly, for men, there is also no correlation between this probability and the local labour market conditions. However, temporary work for women is procyclical. On average, a one-standard deviation increase in the U/V ratio (i.e., about 12 points) would reduce a woman's probability of being in a seasonal-casual job by approximately 20%.

IV.2 What are temporary jobs worth?

To answer this question we compare temporary and permanent workers across three distinct aspects of their work: the subjective evaluation of their job, on-the-job training, and current wages.

Job satisfaction

Despite its measurement problems, job satisfaction may offer a useful perspective on many aspects of the labour market, through its correlation with job separations, effort and

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[13] All the experience variables (measured in years) and the number of layoffs are constructed using the retrospective work history data collected in wave 3 of the BHPS and the wave-on-wave work history information collected at every survey. See Booth, Francesconi and Garcia-Serrano (1999).

[14] This finding is consistent with Stewart (2000) and Arulampalam (2000). Stewart (2000) argues that unemployment experience followed by low paid unstable jobs contributes to observed low pay persistence.

productivity (Clark 1996). To the extent that job security and promotion prospects are important non-pecuniary aspects of work, temporary workers are likely to report lower levels of job satisfaction than permanent workers are. If, instead, other aspects of work are crucial (e.g., the intrinsic nature of the job and the stress level associated with hours worked or with the relation with the boss), temporary and permanent workers may not differ systematically.

Table 4 reports estimates of an ordered probit model of seven different components of job satisfaction as well as an overall measure for men and women separately.[16] Each aspect of job satisfaction is measured on a scale from 1 to 7, where a value of 1 corresponds to "not satisfied at all" and a value of 7 corresponds to "completely satisfied". The overall measure reveals that seasonal-casual male and female workers are significantly less likely to be satisfied with their jobs than permanent workers. Conversely, no difference in overall job satisfaction emerges between workers in permanent jobs and workers on fixed-term contracts. When we consider the different aspects of job satisfaction separately, we find that workers in both types of temporary work are less satisfied than permanent workers with their promotion prospects and job security. This no doubt reflects the high level of uncertainty surrounding all temporary jobs. We also find some important differences between the two groups of temporary workers. Compared to permanent workers, seasonal-casual workers (both men and women) are slightly more satisfied with their total pay, while workers on fixed-term contracts are less satisfied with pay (particularly men) and more satisfied with their relations with the boss. This may reflect different expectations that the types of temporary workers have about their jobs.[17] Finally, male and female seasonal-casual workers are significantly less likely to be satisfied with the opportunity to use their own initiative and with the work itself. However, workers on fixed-term contracts are no different to permanent

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[15] The information on local labour market conditions refers to 275 travel-to-work areas and was obtained from the National On-line Manpower Information Service.

[16] In the BHPS interviews, individuals are asked to report their satisfaction level for each of the seven aspects of their job first, and then, in a separate question, they are asked about their overall satisfaction. The pooled (men and women) regressions reveal that women are significantly more satisfied than men in all but two aspects of their job (promotion prospects and initiative). Clark (1996) reports similar results and discusses a number of plausible explanations.

[17] The inclusion of log hourly wages as explanatory variable does not alter any of the results reported in Table 4, with the exception of those concerning total pay. In that case we find that both men and women with a seasonal and casual job are more satisfied than permanent workers, while men and women on fixed-term contracts are as satisfied as permanent workers are. We find evidence of a strong, positive association between pay and job satisfaction for all eight measures but security and relation with the boss in the case of men, and but security, relation with the boss and work itself in the case of women.

workers in these aspects of their job. Temporary and permanent workers also report the same levels of satisfaction with their hours of work.[18]

Training opportunities

Temporary and permanent workers may also differ in their receipt or take-up of on-the-job training. On one hand, if firms employ temporary workers to fill up provisional positions that disappear at the end of the season or when demand declines, we may expect temporary workers to receive less training on average. On the other hand, if temporary work is a probationary period used to learn about the worker's ability, temporary workers may be more likely to undertake training than permanent workers.

Table 5 column [1] shows that the male probability of receiving work-related training is 12% lower for workers on fixed-term contracts and 20% lower for men on seasonal-casual contracts, relative to permanent workers, *ceteris paribus*.[19] Female workers on fixed term contracts have a 7% lower probability than permanent workers of being trained, while seasonal-casual females have a 15% lower probability. For both men and women, it is the seasonal or casual temporary workers who display the lowest training probabilities. This result is in accordance with conventional human capital theory: workers in temporary jobs are unlikely to be with the employer for long, and so neither party would want to invest in work-related training. The tobit regressions (in column [3]), however, identify an important difference between temporary workers. While seasonal-casual workers receive, on average, between 9 and 12 fewer training days per year than permanent workers do, there is no differential training intensity between permanent workers and fixed-term workers. This may pick up the different positions and responsibilities of contract workers (only partially controlled for by education, occupation, industry, sector and firm size), and it also suggests the probationary nature of this form of temporary work.[20] Controlling for unobserved

[18] The estimates in Table 4 have also been used to compute the predicted probabilities of reporting low levels of job satisfaction (levels 1 to 3). All probabilities have been computed at sample values. In general, being in a seasonal-casual job has a substantial impact on this probability. For example, it increases the male probability from 13% (baseline) to 17% and the female probability from 10% (baseline) to 14%. The changes in probability generated by being on a fixed-term contract are negligible in all dimensions of job satisfaction, except for promotion prospects and job security.

[19] Our measure of training incidence takes the value of unity if the worker has received training in the past 12 months to increase or improve their skills in the current job. The measure of training intensity is the number of days spent in skill-enhancing training during the last 12 months in the current job. Using the same definition of training, Arulampalam and Booth (1998) find a similar result for the first five waves of the BHPS.

[20] This result is in line with some US studies, which show that temporary services supply workers are likely to receive firm-financed training. See Krueger (1993) and Autor (1999).

heterogeneity reduces the effects on both training incidence and training intensity only marginally, but does not alter the basic picture (columns [2] and [4]).

Current wages

The raw data in Table 1 showed that the permanent-temporary wage gap was between 16% and 78% for men. For women, we detected a 46% wage penalty in the case of seasonal-casual workers and a 13% wage premium for contract workers. But, perhaps, part of these differences is driven by differences in endowments of human capital and work experience or by differences in work motivation and other unobserved individual components. So what happens to this pay differential when we control for such wage-determining factors? Table 6 reports the estimated effects of the two types of temporary work on the natural logarithm of real (1997 prices) hourly wage levels for men and women, after controlling for a large set of individual- and job-specific characteristics.[21] The OLS estimates show that the permanent-temporary wage gap is now 16%-17% for men and 13%-14% for women; that is, it has reduced for men (particularly in the case of seasonal-casual workers) and increased for women (particularly in the case of contract workers), relative to the raw wage data. The random-effects estimates show smaller (but always precisely determined) wage gaps of 11% for men and 9%-12% for women.

In summary, we find that temporary jobs are - relative to permanent jobs - of low quality, as measured by job satisfaction, work-related training opportunities, and current pay levels. But perhaps this does not matter if they offer workers a stepping stone into good permanent jobs. To this we now turn, in order to investigate whether or not temporary jobs offer workers opportunities for subsequent career advancement.

IV.3 Do temporary jobs lead anywhere?

Job duration

How long do temporary jobs last compared to permanent jobs? Kaplan-Meier estimates of job duration, including both completed and uncompleted spells, are given in Table 7, where job tenure is defined as months in the same job with the same employer and not involving a promotion. The estimates show that the median duration of seasonal-casual jobs over the 1990s is very short: it is about 3 months for men and 6 months for women. The median duration of fixed-term contracts is higher and around 12 months for both men and women. But permanent jobs last for a substantially longer time, with a median duration of almost 3½ years for men and 2½ years for women. By 5 years, almost all male and female temporary jobs have finished, as compared with 64% of male and 73% of female permanent jobs.

Where do workers go at the conclusion of a temporary job? Arguably, two aspects of the exit from a temporary job are important: a) whether or not the worker is retained in the same firm (regardless of permanency); and b) whether or not the worker gets a permanent contract (regardless of the firm). With regard to the first aspect, Table 7 reveals that the destination patterns by gender are quite similar. About 71% of men and 73% of women in temporary jobs go to another job at the same employer; another 26% and 24%, respectively, go to a job at a different employer; and another 3% goes out of the labour force. We observe virtually no transitions from either of the two types of temporary work to unemployment, and therefore these are not reported in the table (see Boheim and Taylor (2000)). The dynamics of fixed-term contracts are very similar by gender. However, there are some gender differences in the speed at which seasonal-casual jobs end. They tend to end more quickly for men than for women, perhaps reflecting differences in industry and type of work performed.

With regard to the second aspect of temporary workers' exit behaviour—exit into a permanent job—Table 7 shows that, of those employed in a seasonal-casual job, 28% of men and 34% of women have become permanent workers between 1991 and 1997. About 1 in 7 workers did so within the first three months of their job. However, the median seasonal-casual job duration before exit into permanency is 18 months for men and 26 months for women. For workers on fixed-term contracts, the transition rate to permanency is significantly higher for men (38%) and almost the same for women (36%). Their rate of exit into permanency, however, is lower than that of workers in the other type of temporary work. The median duration of fixed-term contracts before turning into permanent jobs is about 3 years

[21] The wage equations for women are selectivity corrected to account for non-participation. The participation equation used for the correction is performed on 2,844 women, with 17,947 person-year observations. The identifying variables are listed in the note to Table 6. The estimated coefficient of the selection term is always negative, but only marginally significant in the OLS regressions, and loses its statistical significance in the random-effects model. The results are unaffected if the selection term is obtained from a random-effects probit model.

for men and 3½ years for women. Finally, regardless of the type of temporary employment and gender, about 70% of workers gaining permanency continue working for the same employer.[22]

To investigate the transition of workers from temporary to permanent employment in a multivariate setting, we specify a discrete-time proportional hazard model that relates the exit process to a number of individual- and job-specific characteristics. Because we condition the estimating sample on temporary workers, we can neither include in estimation all the regressors used in the previous analyses, nor estimate competing-risks models, in which the exit process into permanency gained in the same firm differs from that into permanency gained in another firm. The number of transitions is in fact too small to estimate the entire parameter set and to distinguish the two competing exits. We do, however, allow the determinants of exit behaviour to vary between spells starting in seasonal-casual jobs and spells starting in fixed-term contracts. We estimated two distinct specifications of the baseline hazard function. The first parametric specification constraints the baseline to be of the commonly adopted Weibull type, while the second is non-parametric and attempts to avoid the potential biases caused by mis-specification of a parametric baseline (Meyer (1990), Han and Hausman (1990) and Dolton and van der Klaauw (1995)).[23] The estimation was also performed both with and without a Gamma mixture distribution that is supposed to capture unobserved heterogeneity between individuals.

Before discussing the results, it is useful to consider the baseline hazard function estimates. These are plotted with the Kaplan-Meier estimates of the sample hazard functions in Figure 3a for the exit from seasonal-casual work and Figure 3b for the exit from fixed-term contracts into permanent work.[24] Interestingly, the flexible non-parametric baseline estimates closely mimic the Kaplan-Meier estimates. The estimated Weibull baselines are, instead, always upward sloping (particularly when unobserved heterogeneity is controlled for), suggesting a positive duration dependence, which is clearly rejected by the data. For this

[22] Segal and Sullivan (1997: 129) note that a majority of US temporary workers are employed in permanent jobs one year later, especially in clerical and technical occupations. In their analysis, however, they do not specify whether or not this transition occurs within the same firm.
[23] To exploit the time variation of job tenure fully, we performed our estimation by discretising the job tenure variable in months. The time-varying regressors for which we have precise date information would vary accordingly (such as occupation, industry, sector and firm size), while the other time-varying regressors (such as union coverage and local labour market conditions) would take the same values for all months between two consecutive interviews.
[24] For a discussion on the Kaplan-Meier hazard functions see Appendix C.

reason, we only discuss the estimates obtained from the model with the non-parametric baseline function, which are reported in Table 8. In the Table, columns [1] and [2] refer to the estimates of the model without and with unobserved heterogeneity, respectively.

For three out of the four exits, we find that including a mixing distribution is relevant and has significant effects on the coefficients of some of the covariates. It does not, however, improve the model fit in the case of the male exit from fixed-term contracts, for which the estimates in columns [1] and [2] do not significantly differ from other. Apart from some occupational groups (craft, sales and machine operatives), only age and part-time employment status appear to be good predictors for this exit. This result suggests that, conditional on being on a fixed-term contract (as documented in Table 3), the timing of the entry into permanency is likely to follow a well determined temporal pattern, which has little to do with either observed personal and firm-specific characteristics or worker's unobservables. The evidence for women is rather different. The strong positive effect of any educational qualification on this exit rate is likely to be spurious, as it disappears (except for higher and university degrees) once unobserved heterogeneity is controlled for. Also the negative effect of being employed in a part-time job may not be genuine for the same reason.[25] Moreover, women employed in any organisation of the public sector have a much lower exit rate than those employed in the private sector, even after controlling for education and occupation. A higher number of previous layoffs increases the exit rate into permanency. This may capture vintage effects, as suggested by the lower risk of exit for the youngest cohort of workers. Finally, the local U/V ratio has a significant negative effect on the hazard rate of leaving a fixed-term contract and gaining permanency. A higher unemployment rate could be associated with a lower availability of permanent jobs in the labour market, while fixed-term contracts may provide firms with an additional instrument to face adjustments in their product demand.

Regardless of a worker's gender, both part-time work and living in an area with adverse labour market conditions reduce the chance of exiting seasonal-casual work into permanency. Again, there is evidence of a positive vintage effect. Table 8 also documents some striking gender differences. For men, we find a strong occupational gradient, with workers in managerial, technical and craft occupations having higher risk of leaving seasonal and casual work than workers in semi-skilled and unskilled occupations. For women, instead,

[25] Notice that 57% of the observed spells (measured in months) on fixed-term contracts for women are in part-time jobs, as compared to 18% for men.

the occupational gradient is clearly less pronounced, while other observables play a major role. In particular, those employed in the local government sector and non-profit organisations are significantly less likely to gain permanency than those employed in the private sector, and so are workers in the youngest age group compared to those in the 35-44 age group. Interestingly, women (but not men) who work in union-covered organisations have a higher chance of leaving their seasonal-casual jobs.[26]

In Section II we argued that workers' effort on-the-job will be used by employers to screen out the more able temporary workers for retention. We would therefore expect the amount of effort to be a crucial determinant of exit from temporary contracts into a permanent position at a firm. As a proxy for effort, we use the number of unpaid overtime hours usually worked in a week. Because of endogeneity problems, we use predicted (rather than actual) unpaid overtime hours, whose identification is achieved through exclusion restrictions. These estimates are reported at the bottom of Table 8.[27] The estimates show that, after controlling for unobserved heterogeneity, a higher number of hours of unpaid overtime work increases women's chances of exiting from any type of temporary work. This is clearly not the case for men. In Appendix Table A2 we explore the relationship between effort and exit rates by looking at two additional specifications, one in which we distinguish the effect of total hours of overtime work from that of paid overtime hours, and another specification in which we only include the number of hours of overtime work. All the other covariates enter the regressions as in Table 8. Again, the exit into permanency for men on fixed-term contracts does not seem to be significantly affected by any of the effort measures. But for all the other temporary workers, effort does matter. An increase in the number of overtime hours always leads to a higher hazard of exit (in both specifications), while an increase in the number of paid overtime hours reduces the rate of exit into a permanent job.

Wage profiles

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[26] The hazard rates of leaving any type of temporary work do not significantly differ by industry. Instead, we do find evidence of firm-size effects. Typically, workers (both men and women) in small firms are more likely to end any type of temporary work into a permanent job than workers of larger establishments.

[27] The number of children by four age groups, dummy variables for cohort of entry in the labour market (5), region of residence (6), and whether a worker receives a performance-related pay are assumed to affect an individual's exit propensity only through their effect on unpaid overtime hours. Inclusion of *actual* unpaid overtime hours does not significantly change the results, and thus we do not report those estimates.

The general specification of the wage equation that we separately estimate for men and women follows the approach used by Hausman and Taylor (1981), Altonji and Shakotko (1987) and Light and McGarry (1998), and can be written as

$$(1) \qquad \ln \omega_{ijt} = \beta_0 + \beta_1 \boldsymbol{X}_{ijt} + \beta_2 \boldsymbol{Z}_{ijt} + \mu_i + \phi_{ij} + \varepsilon_{ijt},$$

where $\ln \omega_{ijt}$ is the real average hourly wage for individual *i* on job *j* at time *t*, and ***X*** denotes a standard set of variables that are often included in reduced-form wage regressions (e.g., highest educational qualification, part-time and full-time work experience, job tenure, union coverage, industry and occupation). The vector ***X*** also contains dummy variables indicating the workers' region of residence, marital status and disability status, the sector and size of their employing organisation, whether they have received performance-related pay and on-the-job training in the last 12 months, job mobility variables (indicating whether they have changed job because of promotion, quit or layoff), and the average local unemployment rate. The vector ***Z*** includes the contract-related variables that are the focus of our study. Specifically, ***Z*** contains controls for the number of seasonal-casual jobs and the number of fixed-term contracts held over the seven years of the survey, *NSCJ7* and *NFTC7*, respectively.[28] We also include interactions between *NSCJ7* and *NFTC7* and the linear and quadratic full-time experience terms. This allows the returns to 'experience capital' to differ by contract type. We exclude from our reported specification the interactions between contract types and other human capital variables (part-time experience and job tenure), because they had no additional explanatory power and did not alter the estimates of the other variables. The error term in equation (1) contains a time-invariant individual-specific component, μ_i, a time-invariant job-specific component, ϕ_{ij}, and a white noise, ε_{ijt}. We assume that the three error components are distributed independently from each other, have zero means and finite variances.

The estimation of (1) is performed using the instrumental-variables generalised least-squares (IV/GLS) procedure used by Light and McGarry (1998). We use an IV procedure because a number of wage regressors—including work experience, job tenure and, most notably, those related to the contract type—are likely to be correlated with individual- and

[28] For men, the conditional mean (SD) for *NSCJ7* is 1.597 (0.920) while for women it is 1.632 (1.023). For *NFTC7*, the conditional mean (SD) for men is 1.591 (1.014) while for women it is 1.710 (1.198).

job-specific characteristics, which cannot be observed by the analyst and are captured by μ_i and ϕ_{ij}.[29] We treat as endogenous all the regressors in ***Z***, along with part-time employment status, part-time experience and job tenure (and their squared terms), marital status, the job-mobility variables, and the dummy variables indicating training and performance-related pay.[30] The instrumental variables used in estimation are given by: a) the deviations from within-job means of both exogenous and endogenous time-varying variables, and b) the within-job means of all exogenous variables. Because ε_{ijt} is a white noise, the deviations are uncorrelated with the composite error term by construction, and thus they are valid instruments. As instruments, we also use the number of children (in five age groups) that each worker has during the seven-year period and the local unemployment rate.[31]

Table 9 reports the IV/GLS wage estimates of the contract-related variables (columns [1] and [2]) and their interactions with full-time experience (column [2] only) for men and women separately. The column [1] estimates imply that men and women who had one seasonal-casual job between 1991 and 1997 experience, respectively, a wage reduction of 8.9% and 6% as compared to those who had always a permanent job over the same period. The wage penalty associated with the experience of one fixed-term contract is halved at 4.6% but still significant for men, while it becomes insignificant and around 2.4% for women. The gender differences in size and significance of these effects may help interpret the raw data presented in Table 1. Also, the large fraction of the residual variance that is attributable to job-specific unobservables (particularly for women, for whom Var(ϕ_{ij}) is about 44% of the total variance) may help explain the differences between the results of Table 9 and the results of Table 6.

In column [2] we control for the interactions of temporary work with full-time experience. For both men and women, we note that the direct experience effects are always strongly significant but smaller than in the previous specification. In the case of workers with

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[29] See Light and McGarry (1998) for a discussion of the advantages of using a random-effects GLS procedure over a fixed-effects (within-individual/within-job) procedure.

[30] We have performed several sensitivity tests in which other variables in ***X*** were treated as endogenous (namely, part-time experience, job tenure, education, union coverage, disability status, occupation and sector). Adding these variables to the list of endogenous variables did not improve the statistical fit and did not have a statistically significant effect on *NSCJ7*, *NFTC7* and their interactions with full-time work experience.

[31] The overidentifying-restrictions tests cannot reject the hypothesis that these two additional sets of variables are valid instruments at any conventional level of significance, and they improve the R^2 in the first-stage regressions. But the estimated parameters for the variables of primary interest (*NSCJ7*, *NFTC7* and their interactions with full-time experience) are not substantially altered when the additional instrumental variables are left out of the analysis.

one year of full-time experience, the implied penalty to one seasonal-casual job over the first seven years of the career is, ceteris paribus, 11.5% and 4.5% for men and women, respectively. In the case of workers with ten years of full-time experience, the penalty *increases* respectively to 12.3% and 8.8%. Turning to workers on fixed-term contracts, the wage penalty to one fixed-term contract is about 8.5% and 4.7% for men and women with one year of full-time experience, respectively. The penalty *decreases* to 5% and 0.4% in the case of male and female workers, respectively, with ten years of full-time experience. The returns to experience capital differ strongly by contract type and by gender. Experience magnifies the differences between seasonal-casual workers and those who always have been in permanent jobs, while it reduces the differences between fixed-term workers and permanent workers. Both these effects are larger for women.[32]

To describe the effect of contract type on wages further, we compute predicted log-wages paths from the column [2] estimates of Table 9 for workers with four different employment patterns. The first pattern involves workers who are always in a full-time permanent job for the first ten years of their career. The second and third patterns are for workers who hold one-fixed term contract or one seasonal-casual job respectively in the first period (at the start of their career) and are in a permanent job for the remaining part of their career. The fourth pattern involves workers who hold three consecutive one-year fixed-term contracts in the first three years of their career and are employed on a permanent contract thereafter. The predicted wages are computed under the assumptions that the individuals work continuously full-time for the first ten years of their career, are not disabled, are unmarried and childless, live in Greater London, work in the private sector in a non-union job and begin their career in 1991.[33]

The results of this simulation are reported in Table 10 and graphed in Figure 4. Having always had a permanent job is clearly the pattern that delivers the highest real wage

[32] Table A3 shows the IV/GLS wage estimates from other two specifications for men and women. The specification in column [3] is similar to those reported in Table 6. With the exception of the male seasonal-casual estimate, the other estimates document slightly lower wage penalties associated with temporary work than those implied by the OLS and RE/GLS estimates of Table 6. In column [4] we test for the presence of non-linear effects in *NSCJ7* and *NFTC7* on (log) hourly wages. For both men and women, there is no evidence of a wage penalty beyond the first fixed-term contract. We detect, however, a worsening of the wage penalty as the number of seasonal-casual jobs increases, especially for women.

[33] We also assume that each individual's occupation, industry, education, firm size, training, performance-related payment, job mobility patterns and local unemployment rate take the sample values for men and women respectively. Changing these assumptions would only alter the levels but not the relative rankings (and slopes) of the wage profiles in Table 10 and Figure 4.

profile over the first ten years of a man’s career, with an average growth of 3% per year. Male workers who have one or three fixed-term contracts at the beginning of their career display lower wage profiles (especially at the beginning of their work cycle) but a slightly higher wage growth. In fact, the wage gap among these three types of workers is larger at the start of the career and tapers off over time as they accumulate general work experience. But men who started off with a seasonal-casual job have the lowest wage profile and the smallest wage growth. This leads to an increase in the wage gap in comparison with the other three types of workers, which is particularly clear when we contrast pattern 3 to patterns 2 or 4. This finding holds for women too. In the case of women, however, having had one or three fixed-term contracts at the start of the career does not permanently damage the wage profile. Indeed, women following pattern 2 or pattern 4 end up with the highest wage levels and the largest wage growth (approximately 2.5% per year over a ten-year period). The wage gap for these two types of workers and those who have always been in a permanent job is very large at the start of the career, but it declines over time. It is the interaction between full-time experience and fixed-term contracts that cause type 4 (and type 2) workers to overtake type 1 workers, for their productivity increases as they move to permanent jobs. While for these women there is no wage penalty after 10 years, their total returns from employment are lower (compare the areas beneath the curves).

V. CONCLUSIONS

In Britain about 7% of male employees and 10% of female employees are in temporary jobs. In contrast to much of continental Europe, this proportion has been relatively stable over the 1990s. Using data from the British Household Panel Survey—which disaggregates temporary work into seasonal or casual jobs and fixed term contract jobs—we found that, on average, temporary workers report lower levels of job satisfaction, receive less work-related training, and are less well-paid than their counterparts in permanent employment. We also found some evidence that temporary jobs are a stepping stone to permanent work. The median time in temporary work before such a transition is between 18 months and three and a half years, depending on contract type (seasonal or fixed term) and gender. Our wage growth models (which allow for potential endogeneity of many of the explanatory variables including contract type) show that the wage growth penalty associated with experience of a temporary job is quite high. This is especially the case for workers in seasonal and casual jobs and, to a lesser extent, for men on fixed-term contracts. Indeed, it is unlikely that the wages of workers experiencing such jobs early in their working lives will ever catch up with their permanent counterparts. We do find evidence, however, that women who start off their career on fixed-term contracts may experience a high wage growth, and, within a period of 7-10 years, have fully caught up with their permanent counterparts. In general, because the implications drawn for seasonal-casual workers differ from those drawn for contract workers, our results emphasise the importance of distinguishing among types of temporary employment.

How do these findings relate to the theory? There is clear evidence from the training and satisfaction results that temporary workers do not acquire much specific human capital. Seasonal and casual workers suffer a continuing wage penalty, even after years of labour market experience. This suggests that workers initially in these jobs are less able. They do not just suffer a short-run disadvantage from the lack of training while a seasonal/casual worker, but have a long-term earnings loss. Men who begin in jobs with fixed-term contracts suffer a permanent earnings loss, but not as great as for men in seasonal/casual work. This is consistent with two possibilities. These men may be less able than those who immediately acquire a permanent job on entering the workforce. They may also lose out from never quite catching up on the human capital investment foregone during the period of temporary work. In contrast, women who start with fixed-term contracts fully catch up with those who began on permanent contracts. This is consistent with a view that some women, upon entering the labour force, may take longer to decide on their career choices. Under this hypothesis, women who begin in temporary work are as able as those who begin in permanent jobs, and these women eventually make up for the lack of human capital acquisition during the period of temporary work.

APPENDIX A
The British Househ*old Panel Survey and the question on "temporary" work

The first wave of the BHPS, collected in Autumn 1991, was designed as a nationally representative sample of the population of Great Britain living in private households in 1991. The achieved wave 1 sample covers 5,500 households and corresponds to a response rate of about 74% of the effective sample size. At wave 1, about 92% of eligible adults, that is just over 10,000 individuals, provided full interviews. The same individuals are re-interviewed each successive year, and if they split off from their original households to form new households, all adult members (that is, aged 16 or more) of these households are also interviewed. Similarly, children in original households are interviewed when they reach the age of 16. Thus, the sample remains broadly representative of the population of Britain as it changes through the 1990s. Of those interviewed in the first wave, 88% were successfully re-interviewed at wave 2 (Autumn 1992), and subsequent wave-on-wave response rates have consistently been around 95-98% (Taylor et al., 1998).

The core questionnaire elicits information about income, labour market behaviour, housing conditions, household composition, education and health at each annual interview. Information on changes (e.g., employment, household membership, receipt of each income source) which have occurred within the households in the period between interviews is also collected.

The second wave (1992) obtained retrospective information on complete fertility, marital, cohabitation and employment histories for all adult panel members in that year. The third wave (1993) collected detailed job history information. Both these retrospective data have been used to construct some of the variables used in this analysis (e.g, cohort of first partnership, number of partnerships, number of year of part-time and full-time work experience, and number of years of job tenure).

The information on temporary work is obtained from the Mainstage Individual Questionnaire included in all the waves (1-7) used in the analysis. At the beginning of the "Employment" section, individuals are asked whether they do any paid work. If they do, then they are immediately asked:

E4. Is you current job
A permanent job
A seasonal, temporary or casual job
Or a job done under contract or for a fixed period of time?

Further information on the questionnaire as well as on the sampling scheme, weighting, imputation and other survey methods used in the BHPS can be obtained at http://www.iser.essex.ac.uk/bhps/doc/index.htm.

APPENDIX B
Hours inequality by contract type

Another way of documenting differences in the hours distribution by type of contract and gender is to summarise the hours distribution with hours inequality measures. We estimated several inequality indices and always found the same results. Thus, we report the estimates (and bootstrap standard errors) of only the Gini coefficient, the Theil entropy measure (whose income difference sensitivity parameter has been set equal to one), and the variance of logs along with their 95 percent confidence intervals (in italics):

	Men			Women		
Inequality index	Permanent	Seasonal & casual	Fixed-term contract	Permanent	Seasonal & casual	Fixed-term contract
Gini	0.122	0.335	0.183	0.226	0.361	0.256
	(0.001)	(0.014)	(0.012)	(0.002)	(0.007)	(0.011)
95% C.I.	*0.120*	*0.306*	*0.163*	*0.222*	*0.346*	*0.236*
	0.125	*0.370*	*0.209*	*0.230*	*0.375*	*0.277*
Theil (1)	0.029	0.203	0.071	0.092	0.209	0.120
	(0.001)	(0.014)	(0.009)	(0.002)	(0.008)	(0.009)
95% C.I.	*0.028*	*0.176*	*0.053*	*0.089*	*0.192*	*0.105*
	0.031	*0.230*	*0.089*	*0.095*	*0.226*	*0.138*
Variance of Logs	0.090	0.807	0.276	0.295	0.594	0.413
	(0.005)	(0.055)	(0.056)	(0.006)	(0.029)	(0.035)
95% C.I.	*0.083*	*0.718*	*0.183*	*0.283*	*0.531*	*0.349*
	0.100	*0.944*	*0.394*	*0.305*	*0.650*	*0.475*

Note: “C.I.” denotes “Confidence Interval”.

According to the three measures, workers in permanent jobs clearly display the lowest dispersion in hours for both men and women. The highest dispersion in hours is recorded for seasonal-casual workers. The differences in the hours distribution are evident not only between permanent workers and all temporary workers but also between the two types of temporary workers. Notice, in fact, that the 95% confidence intervals of each measure for the three types of contract never overlap.

APPENDIX C
The Kaplan-Meier hazard functions

The Kaplan-Meier hazard functions shown in Figures 3a and 3b clearly mirror the survival estimates reported in Table 6. They document the large discrete "spike" in the risk of gaining permanency at the end of the first year, for both types of temporary workers (and, particularly, for those starting in a seasonal-casual job). They also show a more pronounced gender difference in the case of seasonal-casual work, with men exhibiting other (smaller) spikes more frequently than women, up to the third year of tenure. Another feature of the Kaplan-Meier estimates is that while the risk of entering into a permanent job appears to be increasing (at least between the first and third year of tenure), the exit rate at other tenure levels (particularly in the first year) show the opposite pattern with tenure. Fitting a Weibull hazard in a constant-only model provides the estimates (and standard errors) of the shape parameter α:

	Men		Women	
	Exit from seasonal-casual	Exit from fixed-term contract	Exit from seasonal-casual	Exit from fixed-term contract
α	0.774	1.091	0.847	0.971
	(0.059)	(0.075)	(0.059)	(0.047)

Note: The hazard function is $h(t) = \alpha t^{\alpha-1} e^{c}$, where α is the shape parameter and c is the constant.

From these estimates, it is evident that the hazard rate exhibits negative duration dependence in the case of the exit from a seasonal-casual job into permanency. In the case of the exit from a fixed-term contract, because the estimated values of α are not significantly different from one (for both men and women), the overall hazard is constant. Notice the sharp differences between these results and the estimated Weibull baseline hazard functions graphed in Figures 3a and 3b.

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