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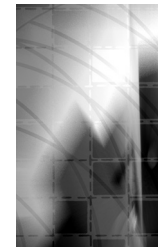

Early career consequences of temporary employment in Germany and the UK

Michael Gebel
University of Mannheim

ABSTRACT

This article investigates the effects of temporary employment at labour market entry on subsequent individual careers, drawing on data from the British Household Panel Study (BHPS) and the German Socio-Economic Panel (GSOEP) from the period 1991 to 2007. The results show that German temporarily employed entrants suffer from higher initial wage penalties and risks of temporary employment cycles but that all differences compared to entrants with permanent contracts diminish after five years. The integration scenario works more effectively in the UK, where disadvantages are less pronounced and employment losses are primarily related to further education. Moreover, these tendencies vary by education groups and gender. Disadvantages of initial temporary employment are weaker for women in Germany, while gender differences in the UK apparently have less impact. Across borders, temporary contracts are associated with greater initial but vanishing wage penalties and temporary employment cycles for tertiary graduates.

KEY WORDS

comparative study / early career / employment effects / temporary employment / wages

Introduction

Recent research has identified temporary employment as a crucial new source of inequality in Europe (DiPrete et al., 2006). To best cope with rising unemployment in the course of globalisation and increased international competition, European governments have promoted temporary contracts as an instrument of labour market flexibility (Esping-Andersen and Regini,

2000). Whereas the core workforce's job security is still relatively stable, labour market entrants are most at risk of needing to accept temporary contracts (Blossfeld et al., 2008). Politically significant research questions emerge because labour market entry is such an important stage of the life-course: does entering the labour market in temporary positions damage an entrant's future career? Are these only transitory effects or are they long-lasting effects?

There is little available research that investigates the career effects of temporary employment at labour market entry (De Vries and Wolbers, 2005; McGinnity et al., 2005; Scherer, 2004; Steijn et al., 2006), which is surprising because young adults' increased reliance on temporary work begs detailed evaluation of this policy measure. This article addresses this specific deficit through a comprehensive study of the early career consequences of temporary employment in Germany and the UK. These research questions invite this comparative perspective because national institutional settings may mediate individual-level relations (Mayer, 2004).

Beyond providing a cross-country comparison, this study contributes to the literature by assessing temporary employment consequences on multiple dimensions. It investigates the subsequent employment career in terms of unemployment, inactivity risks and further education activities. Because being employed does not yield information about job quality this study also investigates subsequent job quality, addressing both wages and an entrant's chances of finding a permanent job. This broad perspective is accomplished by studying the outcomes at different points during the first five career years using longitudinal data from the GSOEP and BHPS. Following individual career trajectories is essential in order to assess whether initial temporary jobs create a new underclass of deprived temporary workers or whether the initial disadvantages fade over time. Finally, this study tests whether the effects differ between gender and skill subgroups (Gash, 2008; Gash and McGinnity, 2007; Giesecke and Groß, 2004).

The article is organised as follows: the next section discusses the theoretical mechanisms of the career effects of temporary employment at the individual level. The following section addresses the mediating influence of the institutional context. The subsequent section presents the data set, variables and methods, followed by a discussion of the empirical results. Finally, the last section offers concluding remarks.

Individual career effects of temporary employment

This theoretical section focuses on micro-mechanisms that relate initial temporary employment to career outcomes. A convenient starting point is the contrast between the entrapment and the integration perspective (Giesecke and Groß, 2003; Korpi and Levin, 2001). The *entrapment hypothesis* is based on ideas from *segmentation theory*, which suggests that there is a 'two-tiered' labour market: one primary segment offering well paid positions with good working conditions and structured career ladders, and one secondary segment offering

short term, low paid work and providing no career prospects (Doeringer and Piore, 1971). As insiders, permanent workers are expected to be located in the primary segment, whereas less favoured peripheral workers with temporary contracts are usually found as outsiders in the secondary segment, with almost no chance of entering the primary segment. Continued career disadvantages for the temporarily employed labour market entrants can be expected on several outcome levels. For example, permanent contract holders may secure a wage premium due to their higher bargaining power as insiders in the wage negotiation process (Lindbeck and Snower, 1989) and because employers have to pay efficiency wages as incentive mechanisms (Rebitzer and Taylor, 1991). Secondary segment jobs also offer poorer opportunities for skill acquisition since temporary jobs have a shorter duration (Booth et al., 2002). However, lower skill investments may hinder upward mobility into stable primary sector jobs and hinder compensating wage growth. Furthermore, according to signalling and statistical discrimination theories, a worker who begins his or her professional life in a temporary job might be viewed as a bad hire by future employers, inducing a stigmatising signal. Therefore, when considered from the entrapment perspective, one can expect enduring wage penalties, repeated temporary employment and unemployment risks, as well as less further education for temporary workers (Hypothesis **1**).

In contrast, the *integration explanation* assumes that temporary contracts may be a kind of prolonged probationary period serving as a screening device (Wang and Weiss, 1998). This argument should be especially relevant for entrants without working experience, whose skills are difficult to recognise by employers. The screening costs are expected to be transferred – as a form of insurance against poor matching quality – from the employer to the temporary employee by paying him or her less. If the young employee fulfils the employer's expectations, the employment relationship will be maintained or converted into a permanent contract, inducing incentives for training and compensating wage growth. For the small group who fail to measure up to their respective employer's expectations, their contracts will not be renewed. Thus, according to the integration explanation, one could expect lower initial wages followed by compensating wage growth for entrants with temporary jobs, partly induced through compensating skill investments. Similarly, subsequent unemployment risks should initially be higher for graduates with temporary jobs but should converge after successful screening to the employment prospects of graduates with permanent jobs (Hypothesis **2**).

Why should the segmentation or integration scenario apply to all labour market entrants in the same way? A more natural assumption would be that the dominant scenario varies between subgroups. One important line of differentiation is the skill divide (Gash, 2008; Giesecke and Groß, 2004). The screening perspective should be especially pronounced among high-skilled labour market entrants because it is difficult for an employer to assess them due to high task complexity and the difficulty of supervising them. Initial wage penalties are expected to be higher for temporary contract holders in the high-skilled

segment because high-skilled permanent contract holders profit particularly from higher bargaining power and efficiency wages. Furthermore, some high-skilled jobs are temporary in their nature (e.g. project work) and, thus, induce cycles of temporary jobs without being of low job quality. In contrast, temporary jobs for the less educated are concentrated in the secondary segment to adjust to short-term demand fluctuations without providing upward mobility chances. Therefore, higher initial disadvantages and cycles of uncertainty should be observed but there should also exist a catching-up process for tertiary graduates with temporary contracts compared to less educated entrants (Hypothesis **3**).

Labour market behaviour and outside options still differ between men and women such that gender-specific implications of temporary jobs may emerge (Gash and McGinnity, 2007; Giesecke and Groß, 2004). It can be expected that female entrants are more concentrated in disadvantaged labour market segments compared to their male counterparts owing to the prevailing occupational sex segregation. Young women often prefer jobs that allow a combination of family and work duties at the cost of future career options due to lower investments into specific human capital (Booth et al., 2002). Consequently, employers are reluctant to invest in women's early careers because employers anticipate lengthy breaks in employment. Thus, female entrants with permanent contracts should have fewer opportunities to secure wage and employment career advantages compared to female entrants in temporary positions. It is also expected that temporarily employed women withdraw more often from the labour force and dedicate themselves to raising children (Hypothesis **4**).

Institutional differences between Germany and the UK

Education and training systems

The German education system is usually classified as highly standardised and stratified, with a high degree of vocational specificity (Shavit and Müller, 1998). Early stratification and the dominant apprenticeship system provide clear education signals such that the school-to-work transition runs smoothly (Scherer, 2005). This smooth transition is guaranteed because many apprentices are retained by their training firm after graduation. Strong employer involvement in the vocational training organisation ensures standardised qualifications that are easily transferable between firms. However, due to the strong education-occupation linkages, the labour market is segmented according to the skill divide, making mobility between segments difficult.

Although the British education system has attempted standardisation, the link between education certificates and occupations is weak because the certificates are not closely geared to employers' requirements or to specific occupations (Heath and Cheung, 1998). The system is weakly stratified due to the comprehensive school system. Vocational training is very diverse, but the low standardisation hinders the transferability of skills across employers (Shavit

and Müller, 1998). Further education plays an important role in generating occupation-specific knowledge because the British educational system does not provide clear signals for British employers (Kim and Kurz, 2001).

Labour market regulation

Although employment protection was already weak in the UK, Conservative governments (1979–97) took further deregulation measures (Deakin and Reed, 2000). For example, the qualifying period required by employees to achieve the right to claim unfair dismissal and financial compensation for economic redundancy was raised from six months to two years (Cam et al., 2003). This qualifying period may have served as a functional equivalent to temporary contracts. Besides legal regulations, volunteer collective bargaining agreements on employment protection in unionised sectors play an important role but unions were weakened by Conservative governments (Cam et al., 2003). However, when the Labour Party came to power, employment protection was raised, with the qualifying period reduced to one year in 1999 (Deakin and Reed, 2000). Until 2002, there were no statutory restrictions on the use, length and renewals of temporary contracts. Furthermore, temporary employees were allowed to waive their legal rights of dismissal protection. However, in 1999, new restrictions on waiver clauses were set (Kim and Kurz, 2001), and, in 2002, renewals were forbidden for employees who had been employed for four years or more.

In Germany, employment protection for permanent contracts is more rigid than in the UK. Dismissal protection rules only legalise dismissals for 'just causes'; otherwise, the dismissal is not valid or high severance payments are necessary (Giesecke and Groß, 2004; Mertens et al., 2007). A partial labour market deregulation has been implemented that successively facilitates the use of temporary contracts while leaving the protection of permanent contracts unchanged. In 1985, contract limitations up to 18 months were permitted in certain cases without employers having to provide specific reasons, such as newly hired employees or successful apprentices wishing to continue their employment when no permanent position was available. In 1996, existing restrictions on newly hired employees and successful apprentices were removed. The maximum duration of temporary contracts without employers having to provide specific reasons was raised to 24 months and within this period, employers could renew the contract three times. This policy changed somewhat in 2001, when follow-up temporary contracts were forbidden if there was a previous temporary contract with the employer. In Germany, collective agreements do not allow for unequal pay of temporary- and permanent-contract workers but, in practice, temporary workers' occupational positions are often downgraded to allow for lower payments even under collective bargaining agreements (Boockmann and Hagen, 2006).

Overall, dismissal regulations for permanent jobs are more rigid in Germany, and are believed to be the primary reason why employers choose temporary contracts for youths (Kahn, 2007). Combined with the partial labour market deregulation, German employers had not only incentives to use temporary

contracts but also increased opportunities to do so (Blanchard and Landier, 2002). While the German education system provides clear signals of job candidate suitability for hiring employers, the less standardised and stratified British education system might induce incentives for employers to use temporary contracts as screening devices, especially because there are no restrictions on their use. However, such screening contracts can be mimicked by the rather long qualifying period of permanent contracts. Thus, it can be expected that temporary employment is widespread among entrants in both countries, but the incidence should be lower in the UK.

The higher insecurity of employees in permanent jobs in the UK should reduce insiders' bargaining power and the necessity of paying efficiency wages such that fewer differences between temporary and permanent first jobs can be expected. In contrast, insider power should be stronger in Germany due to the stronger protection of permanent jobs as well as stronger unions, which represent the insider. Strict protection of permanent employment also hinders mobility, which deepens labour market segmentation (Gangl, 2003). The German education system, combined with its occupational labour market structure, introduces further mobility barriers across the skill divide. If German graduates are allocated into temporary jobs, it will be hard for them to make their way into better jobs, while the open British markets should provide graduates more chances of making up for initial disadvantages. Hence, the integration perspective should be more appropriate for the British case, whereas the segmentation perspective seems more applicable in Germany (Hypothesis 5).

Research design

Data and variables

The analyses are run on comparable longitudinal data from the BHPS and GSOEP 1991–2007.[1] Both data sets collect yearly micro-data like education, employment and earnings, as well as a monthly calendar of economic activity. East Germany is excluded from the sample because of prevailing economic East-West differences and due to the high share of subsidised temporary jobs, which are different in nature. Migrants are not included because their labour market outcomes may be influenced by different mechanisms.

It is difficult to define labour market entry because young persons interrupt their educational careers for holiday jobs and because the entry process has become less clear (Müller, 2005). There is the risk that the sample of first jobs includes insignificant jobs, which should not be interpreted as the labour market entry. Hence, this study reconstructs the entry process based upon monthly activity information following the literature. This study focuses on the first significant employment spell, which is defined as entering part-time or full-time work (excluding military service) for at least six months after having left education.[2] Leaving education is defined as being out of education for more than six

months after a period of 'dominant' education, i.e. having been in education for more than six months during the previous year. The sample was restricted to persons who were not older than 32 years of age when leaving education, and only the first labour market entry for each person was considered.

The survey question about the temporary nature of the employment is available for the time of the interview. Hence, the yearly survey information about the contract type should coincide with the factual first job contract type if there is no contract change between the month of the first job entry and the survey month.[3] The alternative labour market status of self-employment is ignored because it is a negligible category for labour market entrants. In this study, a binary indicator is defined for temporary employment, which means a contract with predefined limited duration, while permanent employment is defined as an open-ended contract. Unfortunately, due to a small number of cases and to limited data, subgroups of temporary workers cannot be differentiated.[4]

The different outcome dimensions were investigated up to five years after labour market entry. Subsequent employment chances are evaluated based on the monthly activity status, which differentiates between employment, unemployment, further education and inactivity. Moreover, job quality is measured by the probability of holding a permanent contract[5] and the logarithm of real wages per hour worked. A rich set of individual and firm characteristics is included as control variables. The educational qualification of the respondent is measured by combining information about the highest school and vocational degree obtained following the CASMIN classification (Shavit and Müller, 1998). Gender is dummy coded and labour market entry cohorts are defined in three intervals. The father's occupational position should proxy for the long-term parental influence on labour market success. The firm size is distinguished in four groups and industries are differentiated in seven categories according to the Classification of Economic Activities in the European Community (NACE), with public servants in a separate category.

Propensity score matching

The consequences of receiving a temporary contract compared to receiving a permanent contract at the onset of an entrant's labour market career are assessed using propensity score matching. This method compares the career outcomes of temporarily employed entrants with the career outcomes of otherwise equal entrants who have permanent contracts. Thus, this approach forms 'statistical twins' that differ only in their contract status and not in other observed characteristics in order to account for self-selection (Morgan and Harding, 2006; Rosenbaum and Rubin, 1983).

Statistical similarity is measured using the propensity score, i.e. the probability of entering a temporary job conditional on a set of observable control variables, which collapses the multiple control variables into one dimension (Rosenbaum and Rubin, 1983). The propensity score estimation represents the first step of matching and it coincides with a logistic regression explaining the

determinants of temporary employment. Only exogenous control variables that are not influenced by the variable of interest itself (i.e. starting a temporary job) are used. As with regression analysis, the matching approach relies on the assumption that, conditional on a set of observable control variables, all outcome-relevant differences between temporary and permanent contract holders who form the statistical twin groups are balanced. Besides the set of control variables, the focus on young job entrants should make this assumption plausible because young job entrants do not yet differ in experience, careers and tenure.

In the second step of matching, algorithms form 'statistical twins' (in terms of the propensity score) that differ only in their contract status. The outcomes of these individuals are then compared to estimate the average effects of entering a temporary contract instead of a permanent contract. Specifically, the average treatment effect of the treated (ATT) is calculated, which measures this effect for temporary workers.

Why use matching when it relies on a similar assumption to that of regression analysis? Employing matching has several advantages. First, the non-parametric outcome estimation avoids misspecification errors that might bias the linear regression specification. Second, matching guarantees a more appropriate weighting of covariates compared to linear regressions. Third, linear regressions would extrapolate into the region of so-called 'no-common support', making comparisons of non-comparable persons. This problem is avoided in the 'common support' condition of matching, requiring the propensity score not to be equal to 1, which guarantees that only persons with suitable control cases are considered. Finally, one practical advantage is that the first stage of matching – the propensity score estimation – provides as a by-product insight into the determinants of receiving temporary contracts.

Estimation results

Propensity to enter temporary contracts

First, an analysis is made to determine which persons are at risk of entering the labour market via temporary jobs, which represents the propensity score estimation, the first step of matching. In all, 1388 individuals in Germany (1669 in the UK) are observed who made a transition into a permanent or temporary contract and presented complete information on the covariates.[6] In line with previous findings (Scherer, 2005) the age of entrants beginning their first job is on average lower in the UK, whereas the pace of the school-to-work transition is similar to that in Germany. Temporary employment shares at labour market entry are higher in Germany (36.7%) than in the UK (22.1%). In contrast, labour force survey data reveal that the share is much lower for the entire workforce, both in Germany (ranging between 5% and 8% in the period 1991–2007) and in the UK (ranging between 5% and 7% in the period 1991–2007). Obviously, employers prefer temporary contracts for young entrants. As expected, the shares are high in both countries but are higher in Germany. Thus, despite the low job protection

offered by permanent contracts and the long qualifying period for dismissal protection, British employers make use of temporary contracts because there are no restrictions on their usage and probably because of the weak education signals in the UK. While education signalling is stronger in Germany, employers are reluctant to offer permanent contracts because of Germany's strict job dismissal regulations.

Table 1 reveals that, in both countries, temporary contracts are often the entry point into the labour market for university graduates. Compared to this reference group, German entrants with vocational qualifications have, independently of their educational level, a lower propensity to enter the labour market via temporary contracts, which supports previous findings (McGinnity et al., 2005). The lower temporary employment rate among German entrants with vocational qualifications is probably due to the apprenticeship system that provides standardised occupational-specific skills and that allows employers to screen apprentices during the periods they work in the firm, making temporary contracts superfluous. In the UK, persons with vocational skills are also better off, but they represent a rather small group.

Table 1 Propensity to obtain a temporary job at labour market entry: Germany and UK

	Germany		*UK*	
	coeff.	*(z-stat)*	*coeff.*	*(z-stat)*
Education (ref. higher tertiary)				
elementary	−0.50*	(−1.79)	−0.38	(−1.49)
elementary + vocational	−0.76***	(−3.41)		
intermediate secondary	−0.50*	(−1.65)	−0.38**	(−1.98)
intermediate secondary + vocational	−0.73***	(−3.65)	−0.87*	(−1.72)
higher secondary	0.27	(0.98)	0.02	(0.12)
higher secondary + vocational	−0.74***	(−3.31)	−0.73*	(−1.95)
lower tertiary	−0.77***	(−2.84)	−0.58***	(−2.78)
Female	−0.18	(−1.38)	−0.10	(−0.77)
Cohort (ref. cohort 2001–6)				
1990–94	−0.90***	(−5.45)	0.40**	(2.18)
1995–2000	−0.29**	(−2.14)	0.29**	(2.02)
Firm size (ref. GE: 1–19; UK 1–24)				
GE: 20–199; UK 25–99	0.20	(1.23)	0.22	(1.41)
GE: 200–1999; UK: 100–999	0.35*	(1.84)	0.26	(1.62)
GE: >1999; UK: > 999	0.30*	(1.71)	0.39*	(1.84)
Sector (ref. manufacturing/agriculture)				
public service	1.08***	(6.35)	−0.09	(−0.44)
construction	0.01	(0.05)	−1.22***	(−2.82)
trade/hotels and restaurants	0.01	(0.03)	−0.40**	(−2.17)
transport	−0.75*	(−1.67)	−0.25	(−0.67)
finance/real estate	−0.45**	(−1.98)	−0.77***	(−3.42)
services	0.14	(0.60)	−0.37	(−1.56)
Constant	0.17	(0.53)	−1.38***	(−4.79)
Number of observations	1388		1669	

Notes: *p < 0.10, **p < 0.05, ***p < 0.01. Model also includes a set of dummy variables for the father's occupational position. Elementary education in the UK also includes the category elementary + vocational education due to small cell sizes. BHPS 1991–2007, GSOEP 1991–2007; own calculations.

Gender has no significant effect on an individual's likelihood of obtaining a temporary job, which shows that labour market entry processes are similar among sexes. Interestingly, time trends in temporary employment risk differ between societies. In Germany, recent entrants suffer from higher propensities of temporary work, while the risk is decreased for British entrants. Besides deteriorating labour market entry conditions in Germany, the increasing incidence of temporary jobs among German entrants might be related to the partial deregulation that occured there. In contrast, the decreasing trend in the UK might be explained by the new restrictions on the use of temporary contracts.

Firm size displays similar effects in both countries. The very low incidence of temporary employment in small firms in Germany is likely to be related to the fact that German employment protection rules apply only to firms with more than five employees; (the threshold was raised to ten employees between 1996 and 1998, and after 2003). Shares are higher in both large German and British firms because large firms are more exposed to greater international competition, which calls for flexible work arrangements. The industry sector also influences the temporary employment risk in both countries. Specifically, entering the public sector has a strong impact in Germany. This outcome might be related to legal regulations that have eased the use of temporary contracts in view of greater budgetary constraints. There are specific temporary contracts in the German civil service. For example, public employers often use probationary periods that last a maximum of five years before they provide access to life-long employment in the civil service (Giesecke and Groß, 2004). Furthermore, restrictions on the use and duration of temporary contracts are weaker for scientific personnel in the public service, such as universities, research institutes and hospitals.

Career effects of temporary employment

The incidence of temporary employment decreases substantially during the years after labour market entry. In Germany, the initial share of 36.7 percent decreases to 25.7 percent one year after labour market entry and to 15.3 percent after five years. The decrease is even more pronounced in the UK: from 22.1 percent to 4.0 percent after five years. Obviously, temporary employment does not seem to be a persistent phenomenon among entrants and the decreasing shares suggest that substantial dynamics must be occurring. This finding is confirmed when one distinguishes between entrants with temporary and permanent jobs: among those who started in temporary jobs in Germany, 40 percent (70% in the UK) are in permanent jobs after one year and 76 percent (91.5% in the UK) after five years if they are employed in the respective year. Interestingly, permanent contracts are not as secure as is often assumed: among entrants with permanent contracts, a constant share of 10 percent in Germany (5% in the UK) is in temporary employment in each of the following years. Thus, a certain share of young people starting with permanent contracts lose their jobs and rejoin the labour market via temporary jobs. This might be related to the fact that entrants are often not yet legally qualified for dismissal regulations.

Further support for this observation is found in overall employment chances for entrants with permanent jobs, which decrease to 87 percent after one year in and to 83% after five years in Germany. While employment chances among German entrants with temporary jobs are much lower after one year (78%), there is a convergence to the employment chances of entrants with permanent jobs after five years (83%). Interestingly, convergence cannot be observed in the UK, where the employment gap remains rather constant: an 86–88 percent employment rate for entrants with permanent jobs compared to a 77–79 percent employment rate for entrants with temporary contracts.

While these descriptive results reveal interesting early career dynamics and country differences, the question arises whether these observations withstand a multivariate analysis. Hence, the second step of matching is implemented, where the outcomes of similar entrants with different contracts are compared.[7] To check the sensitivity of results, different algorithms were implemented to group similar individuals, but they produce similar results. Finally, Gaussian kernel matching was chosen because it outperformed the other algorithms in balancing the observable differences. In the first column for each country in Table 2, results are presented for all entrants. For example, entrants with temporary contracts earn on average approximately 0.21 less in terms of initial log wages than comparable permanent contract holders in Germany at the beginning of their job (time = t).[8] Thus, initial wages differences are quite pronounced in Germany. There is still a large log wage loss of 0.16 after three years but the wage penalty becomes insignificant after five years.[9] Therefore, entrants with temporary jobs are able to catch up by entering steeper wage trajectories that level initial wage differentials. Additional analyses show that those temporary workers whose jobs act as 'springboards' to permanent jobs soon attain similar wage levels once they have advanced to permanent jobs. Those who remain in temporary jobs can partially close the wage gap with entrants who started and remained in permanent employment. The most unfavourable wage development is observed for permanent contract holders who lose their jobs and re-enter employment via temporary jobs.

In the UK, in contrast, labour market entrants with temporary contracts suffer from smaller initial log wage gaps (-0.10) which slightly decrease over time. More detailed analyses reveal similar patterns to Germany: the highest wage growth is registered for entrants whose initial temporary jobs are 'springboards' to permanent jobs. The combination of losing a permanent job and finding only subsequent temporary jobs also provides the worst signal.

Compared to the UK, the chances of entering a secure employment position are much lower in Germany. After one year, the share of permanent contract holders is 53.6 percentage points lower in Germany, but only 21.9 percentage points lower in the UK for those who started in temporary jobs compared to comparable entrants with initial permanent contracts. After three years, despite the legal restrictions on renewals and durations of temporary contracts in Germany, the gap is more than three times larger in Germany than in the UK. Thus, the integration of temporary employed labour market entrants into

Table 2 Overall and subgroup-specific career effects of temporary employment (ATT)

	Germany						*UK*					
	All	*Low education*	*Medium education*	*High education*	*Women*	*Men*	*All*	*Low education*	*Medium education*	*High education*	*Women*	*Men*
log wage												
T	−0.21***	−0.16*	−0.17***	−0.30***	−0.20***	−0.24***	−0.10***	−0.06	−0.03	−0.15***	−0.14***	−0.06
t+1	−0.16***	−0.25**	−0.06*	−0.31***	−0.18***	−0.21***	−0.10***	−0.10*	−0.05	−0.10**	−0.08**	−0.10**
t+2	−0.15***	−0.19**	−0.17***	−0.15*	−0.14**	−0.20***	−0.12***	−0.11**	−0.17**	−0.11**	−0.15***	−0.09**
t+3	−0.16***	−0.17*	−0.18***	−0.13	−0.15**	−0.17***	−0.06**	−0.02	−0.05	−0.09**	−0.11***	−0.03
t+4	−0.07*	−0.06	−0.12*	−0.04	−0.07	−0.14**	−0.07**	−0.04	−0.12	−0.05	−0.05	−0.07
t+5	−0.08						−0.08**					
permanent contract												
t+1	−53.6***	−42.1***	−47.3***	−63.9***	−55.3***	−53.4***	−21.9***	−13.3**	−15.8*	−27.4***	−20.2***	−23.3***
t+2	−33.3***	−27.2***	−26.0***	−39.3***	−22.9***	−42.3***	−13.1***	−6.1	−13.7**	−16.3***	−17.6***	−6.6*
t+3	−23.9***	−16.0	−12.5	−33.4***	−9.9	−32.4***	−7.2**	−2.9	−12.6**	−9.1**	−7.3*	−6.2*
t+4	−10.3**	−14.4	−4.9	−12.7	−1.2	−22.5***	−7.9***	−4.9	−5.5	−6.5	−10.8**	−4.6
t+5	−3.0						−5.8**					
unemployed												
t+1	0.6	1.8	−0.3	−0.3	0.8	0.3	2.6	2.5	1.9	3.0*	1.8	4.1**
t+2	1.8	−0.2	2.8	1.8	2.4	1.5	0.1	−0.1	2.4	−0.9	−0.9	0.5
t+3	0.5	0.9	−1.8	2.3	0.3	0.8	3.2**	2.9	3.3	3.8	5.0**	1.2
t+4	3.0	3.6	2.8	3.7	2.3	3.2	3.6**	8.2*	4.1	1.1	2.4	4.9**
t+5	1.0						4.7**					

Table 2 (Continued)

	Germany						UK					
	All	*Low education*	*Medium education*	*High education*	*Women*	*Men*	*All*	*Low education*	*Medium education*	*High education*	*Women*	*Men*
inactive												
t+1	2.0	1.8	4.2**	−3.0	0.4	2.3	2.6	1.5	1.7	4.0**	3.0	1.8
t+2	1.0	8.4*	2.3	−1.7	2.2	0.7	−1.7	−1.0	−0.1	−2.3	−1.8	−2.3*
t+3	3.7*	7.2	4.6	2.0	7.2**	1.5	1.2	4.1	−1.6	0.2	1.3	1.4
t+4	−6.6***	3.3	−7.2***	2.0	−7.1	−0.1	0.9	4.3	0.3	−2.2	−2.3	3.8*
t+5	0.1						2.6					
in education												
t+1	5.8**	3.9	8.2**	4.4	3.1	10.0***	5.7***	8.2**	2.8	5.0***	6.0***	5.2*
t+2	6.2**	7.8**	10.8**	2.1	4.4	7.8*	7.5***	3.2	12.6**	6.4***	8.3***	6.7**
t+3	2.8	0.2	12.6***	−7.9	0.0	9.0**	4.0**	−0.7	8.9	5.0*	5.5**	2.7
t+4	5.3*	5.0	15.3***	−2.3	2.6	9.0**	6.3**	2.2	8.1	8.3**	7.9**	4.7*
t+5	0.6						2.4					

Notes: *p < 0.10, **p < 0.05, ***p < 0.0; results from Gaussian kernel matching with bootstrapped standard errors (200 repetitions). For the outcomes permanent contract, unemployed, inactive and in education, ATT measures percentage point differences in outcomes between the treatment and control group. BHPS 1991–2007, GSOEP 1991–2007; own calculations.

permanent contracts is more likely in the UK than in Germany, where 'chains of temporary contracts' (Giesecke and Groß, 2004) and/or long durations of temporary contracts are registered. However, in Germany, any disadvantage disappears in the fifth career year, whereas a small disadvantage remains throughout the fifth career year in the UK.

The analyses show a lower initial but eventually converging job quality in both countries. This finding raises the question of whether such a convergence comes at the cost of high non-employment rates among entrants with temporary contracts. The closing of the wage gap might be induced by a positive selection of successful temporary job entrants, whereas unsuccessful temporary job entrants are trapped in unemployment or inactivity (Mertens and McGinnity, 2004). In order to detect such patterns, employment dynamics are analysed on a monthly basis for the first five career years (results not displayed) and the yearly results are reported in the first column for each country in Table 2. The detailed monthly estimation shows that, in both countries, employment chances drop remarkably after one year and reach a minimum after 18 months for those who start in a temporary job compared to similar entrants with permanent jobs. The delayed effect is related to initial 'lock-in effects' because temporary jobs can be dissolved most easily after their expiration.

In both countries, many temporary contract holders reinvest in education, which confirms the previous findings of McGinnity et al. (2005) for Germany. Temporarily employed entrants more often opt for returning to education, probably in order to increase their future employment chances because they did not obtain the jobs they wanted. An alternative interpretation could be that these entrants do not resist initial temporary employment because they already plan to return to education. While the relative education return rates decrease quickly in Germany below that of five percentage points, these rates are a more enduring phenomenon in the UK. This outcome might also be related to the low signalling value of initial education in the UK, where much further education occurs after the initial labour market start. Because re-entering education implies skill investments, this should not be seen as an 'entrapment' phenomenon.

In Germany, unemployment rates are not significantly higher for job entrants after they have started a temporary job compared to similar job entrants who started in permanent jobs. Thus, the previously observed convergence in job quality is not accompanied by persistent labour market exclusion of entrants with temporary jobs. Furthermore, the inactivity gap diminishes after four years and even reverses its sign. This pattern might be related to women re-entering the labour market after maternity leave, but further interpretation calls for a gender-specific analysis that is performed in the next subsection. In the UK, inactivity rates are similar between both groups but unemployment risks are around four percentage points higher for entrants with temporary contracts. Considering rather low unemployment rates of approximately five percent among labour market entrants, this additional disadvantage is quite large. Thus, a not negligible number of British entrants with temporary jobs suffer from unemployment, which shows that the integration perspective does not work well for all entrants with temporary jobs.

Thus, country differences exist in the career effects of temporary employment. German entrants with temporary contracts suffer from higher wage penalties and higher risks of repeated temporary employment. This finding supports the segmentation perspective (Hypothesis **1**). However, one should reject the extreme view of temporary jobs as permanent scars with long-lasting damaging career effects because the negative effects fade after five years. In contrast, wage discounts and repeated temporary employment are less pronounced in the UK, supporting the integration perspective (Hypothesis **2**). Subsequent employment losses are similar across borders but are more enduring in the UK. The more enduring employment losses in the UK is due to the higher and more persistent phenomenon of education activities, which fits the integration idea. While those who start in temporary jobs have higher inactivity rates in Germany, differences in inactivity rates do not exist in the UK, but there is a non-negligible unemployment gap. Overall, evidence exists for Hypothesis **5**, which expected the dominance of the integration perspective in the UK and of the segmentation perspective in Germany.

Subgroup-specific career effects

In this last empirical section, the question of whether career effects differ between subgroups (see the remaining columns of Table 2) is investigated. The analyses were restricted to three broad education groups and two gender groups in order to guarantee the matching balancing quality and to maintain clarity. Moreover, employment patterns were analysed only on a yearly basis and the fifth year comparison was omitted due to its small sample size. For both German and British tertiary graduates, who already have a high risk of starting their career in temporary jobs, the initial wage penalty is more pronounced than for other education groups. However, they are able to recoup this disadvantage within two years, while other education groups suffer from persistent wage reductions, which supports Hypothesis **3**. German tertiary graduates do not suffer from higher subsequent unemployment or inactivity risks. In the UK, employment losses among tertiary graduates are primarily related to further education, which is in line with the integration perspective. The better employment chances of tertiary graduates who started in temporary jobs bring with them higher risks of temporary contract cycles as assumed in Hypothesis **3**. Obviously, employers opt for renewals of temporary contracts instead of conversion to permanent jobs in the high-skill labour market segment. This situation applies especially to German tertiary graduates, where restrictions on the temporary contracts are weaker for scientific personnel.

Stronger wage effects and higher repeated temporary employment risks (but not higher unemployment or inactivity rates) are found for young German men with temporary contracts. As anticipated, female entrants with permanent contracts have fewer opportunities to secure any advantages compared to their temporarily employed counterparts in Germany, which supports previous results (Gash and McGinnity, 2007). In contrast, gender differences in the UK show a mixed pattern.

The less pronounced disadvantages for German women might be related to the stronger and still prevailing gender segregation that exists in Germany. Although day care and kindergarten facilities are in short supply in both countries, the male breadwinner and intermittent female employment model is more dominant in Germany because it is supported by Germany's social and tax policies (Kim and Kurz, 2001). Furthermore, parental leave legislation is quite generous and has higher coverage in Germany, providing women the option of long employment interruption with a subsequent job guarantee.

These country differences are also prevalent when investigating employment chances. Contrary to Hypothesis **4**, subsequent unemployment and inactivity rates do not differ between sexes in the UK. However, Hypothesis **4** is supported for the case of Germany, where inactivity rates among temporarily employed women are higher. Such inactivity rates apply especially in the second and third year, but the effect reverses its sign in the fourth year, supporting the former speculation that this is induced by women.

Finally, the analyses show that higher education return rates among entrants with temporary contracts are driven by secondary school graduates in Germany, who obviously enter the labour market for a while before pursuing tertiary education. Returning to education is a popular option for young men who started in insecure positions and who are in a more disadvantaged position than their female counterparts are. In the UK, these are both secondary and tertiary graduates with temporary contracts opting for further education. Due to the low signalling value of initial education, further education plays an important role at all levels in the UK.

Conclusion

This article sought to reveal the career effects of entering a temporary versus a permanent contract at labour market entry in Germany and the UK. In general, the initial incidence of temporary contracts is high in both countries. This article relates this finding to lower educational signalling and non-existent restrictions on the use of temporary contracts in the UK, while in Germany the partial deregulation process has paved the way for increasing reliance on temporary jobs. In both countries, a sharp decrease in temporary employment occurs during the first career years, revealing enormous mobility processes.

Overall, the results are more supportive of the integration perspective in the UK and a (transitory) segmentation perspective in Germany. Specifically, wage penalties and risks of repeated temporary employment are higher for German entrants with temporary contracts. The extreme view of temporary jobs as permanent scars should be abandoned because the effects vanish after five years, which supports previous findings (McGinnity et al., 2005; Scherer, 2004). Nevertheless, the observed catching-up processes cannot compensate for the initial disadvantages, so that there is a welfare loss for those who started in temporary jobs. Subsequent employment losses are similar across borders but

are more enduring in the UK. This outcome is due to further education activities in the UK as a result of low education signalling, which supports the integration perspective. However, there are non-negligible unemployment shares among British entrants with temporary contracts, revealing that the integration perspective does not work well for all entrants.

Across borders, tertiary graduates do not register higher unemployment or inactivity risks, but they do suffer most from temporary employment in terms of high initial wage losses and cycles of temporary work. However, tertiary graduates are able to recoup this disadvantage within three years, which is in line with the integration idea. With regard to gender, this study finds weaker disadvantages of initial temporary employment for women in Germany, which is in line with previous findings (Gash and McGinnity, 2007), while gender differences are less pronounced in the UK. Moreover, inactivity rates among temporarily employed women are higher in Germany because the male breadwinner model is more dominant in Germany. These heterogeneous effects of temporary employment across education groups and gender show how important it is to take socio-demographic differences between groups into account. Future analyses could extend these findings by analysing the consequences of entering temporary jobs for more differentiated subgroups.

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Endnotes

1 While GSOEP started in 1984, BHPS started in 1991. In order to assure comparability, the analysis is limited to the period when both data sets are available.
2 German apprentices are counted as part of the training system and not as an employment contract (Shavit and Müller, 1998). Because GSOEP allows for parallel activity status, a status hierarchy was defined with education as the highest priority and employment as a secondary priority.
3 The average time span between labour market entry and the interview is 5.5 months in the German sample (6.1 months in the British sample). Due to this short gap, the number of misclassifications should be rather low. Furthermore, there is a state dependence in the contract status, making initial contract changes less probable.

4 In the few cases when data is available on specific temporary contract types, seasonal/casual workers, fixed-term temporary agency workers and state-subsidised temporary jobs represent negligible shares.
5 For Germany, this analysis of the probability of holding a temporary job is limited to the years after 1995 because the contract information is only available for new jobs in the years prior.
6 Mean comparisons show that missing cases do not substantially differ from the sample. Furthermore, matching flexibly controls for selection processes based on observable characteristics.
7 The Stata ado 'psmatch2' is used to implement matching.
8 The estimated log wage difference of -0.21 implies a wage loss of -18.9 percent. To convert log wage differentials to percentage points, exponentiate, subtract 1 and multiply by 100.
9 This pattern might be induced by attrition bias because not all individuals are observed and remain in employment five years after labour market entry. However, restricting the sample to those entrants who are observed during the full five-year interval produces a similar convergence.

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Michael Gebel

Michael Gebel is a assistant lecturer at the University of Mannheim, Germany. His main research interests include sociology of education and labour market sociology, especially the dynamics of school-to-work transition and international comparative social research.

Address: University of Mannheim, A5,6, 68159 Mannheim, Germany.

Email: mgebel@mail.uni-mannheim.de

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