Abstract

This article uses data from the British Household Panel Survey and the German Socio-Economic Panel to explore the impact of voluntary mobility on earnings growth. The article compares the effects of quits and promotions on wages, against remaining in the same job with the same employer (for both countries). Results show that internal promotions have the strongest effect on earnings growth, but are especially important in Germany. We will argue that country institutions shape not only the likelihood of mobility (through employment protection legislation, or collective job matching) but also its consequences.

1 Introduction:

Countries differ in their rates of job mobility. Researchers often cite employment protection legislation and other institutional characteristics as the main reason for these differences; however, differences in rewards from mobility may also play a role, which are likely shaped by institutions. A review of the literature suggests that articles exploring the consequences of mobility are rare, and that studies comparing these consequences in different institutional settings, are even less common. This article considers the idea by pursuing two aims. First, I compare the effects of quits and promotions on earnings growth. Second, I consider their effects in two different labour markets (Germany and the UK) (Hall and Soskice 2003, Thelen 2014, Ebbinghaus and Manow 2004).

Exploring the effects of job mobility on earnings growth is useful for two reasons. First, studies have overwhelmingly focused on predicting the likelihood of mobility, treating quits and promotions as "life chances". This avenue has brought important findings regarding group differences in the likelihood of mobility, and the importance of push factors like dissatisfaction with work and pay (Jackofsky and Peters 1983). However, this approach implicitly assumes that quitting is “good” for

workers, without acknowledging that large rates of quitting may be disruptive to workers' lives and may signal precarity and turbulence. Second, and linked to the first point, when we assume that mobility leads workers to better positions, we implicitly suggest that country differences in mobility rates resemble differences in life chances or opportunities. In other words, if quitting provides a net benefit to workers but quitting is more common in the UK than Germany, we imply that German workers are held back from potential gains through mobility. Instead, country differences may mean that the nature of quitting is different in both countries. Only when we look at differences in the consequences of mobility do we find useful institutional characteristics that could explain differences in movement.

The aims laid out previously stem from three wrinkles in the job mobility literature. First, authors tend to focus on the mobility itself and not the effects of mobility. Second, authors rarely treat promotions as forms of voluntary mobility, focusing instead on quits. Third, authors exploring the impact of mobility often use single country examples, despite distinct differences between European labour markets.

The article draws on two longitudinal datasets to answer the research questions; the BHPS and G-SOEP. The approach has two strengths. First, both panels contain detailed job history files and earnings information. Since authors often operationalise job mobility in complex ways, surveys that explicitly measure mobility within and between firms are useful. Second, by taking a longitudinal approach, models are able to compare the effects of moving instead of comparing movers to non-movers. Specifically, I avoid issues of individual heterogeneity by using fixed effects estimates of mobility on earnings; this issue stems from the non-random nature of job mobility.

I present two findings throughout. First, quits and promotions differ in their effects on earnings growth despite both being "voluntary" mobility types. Quits have no significant effect in on earnings, whereas promotions have a significant and positive effect that remains even when controlling for industry and occupational mobility (the effect is "pure", as argued by Le Grand and Tahlin 2002).

Second, the effect, or premium, of promotion is larger in Germany than in the UK. This suggests that workers are rewarded more in Germany than the UK. Although models are parallel case studies from two separate panels, the difference in effects warrants further attention from authors. This premium likely acts as an incentive to commit to the firm instead of the market, hence the lower rate of quitting in Germany compared to the UK. I propose that the relationship between quits and earnings growth is insignificant in both countries since voluntary external mobility may be closer tied to *job-matching* processes than the *job-searching* processes.

Results help to understand processes of inequality in both countries; workers who are best able to pursue promotion are most likely to see earnings growth. The decline of career ladders and the "death" of careers (Cappelli 1999; Jacoby 1999) prompted researchers and policy advisors to focus on flexible and mobile labour markets (Arthur and Rousseau, 2001, Tolbert, 1996; Brown et al 2008). This narrative suggests that workers can gain through quits what was previously on offer through promotions. The findings presented here will show that promotions and quits are distinctly different mechanisms for improving earnings, and although quits may be a strategy to place oneself near "better" career ladders, access to promotion is a key mechanism of inequality, especially in Germany.

The article is structured as follows; section one summarises the theoretical literature on job mobility and earnings. Section 2 considers the institutional differences between the UK and Germany, while section 3 summarises the main findings in the literature and introduces two hypotheses. Section 4 summarises the methodology, and section 5 presents the results; a brief discussion concludes the article.

2 Theoretical approaches to institutions, mobility, and earnings

2.1 Predicting mobility

Authors typically use two theoretical approaches to make sense of quits and promotions; they are the *job-search* approach and the *job-match* approach. Both predict that voluntary mobility stems from a mismatch between expected conditions or earnings, and existing conditions or earnings.

The *job-search* model suggests workers move between positions seeking *Reservation Wages*. Burdette (1978) proposes two such wages, X and Y (where X < Y). Reservation wage X draws workers out of unemployment and represents the minimum pay a worker will accept before taking a job. However, once in employment, workers may continue to search for *Reservation Wage Y*, which represents the minimum pay a worker will accept for taking a new position *despite already receiving reservation wage x*. If the initial offering is greater than R*eservation Wage Y,* workers are assumed to work until retirement. Workers search for *Wage Y* on the job, which gives them more information about their industry or occupation, and a wider network with which to secure new positions (whether within a firm or between firms). Schmelzer (2011) summarises the process as "*compared to the stayers, the income of voluntary direct movers should increase*". Overall, mobility differences between countries may stem from variance in wages. Countries with standardised wages for similar jobs (like Germany) likely see less mobility than countries with varied wages for similar jobs (like the UK).

The second approach, the *job-match* approach, predicts that mobility occurs when a mismatch exists between a worker's skills and her conditions (Jovanovic 1979). Since work is an "experience good", workers take time to evaluate whether their productivity fits with their environment. If a mismatch exists, workers correct this by pursuing new positions (Kalleberg and Sorensen 1979; Jovanovic 1979). Here too, mobility is (assumedly) the best way to improve conditions and the subjective match between a worker's skills and her defined job. Countries with occupational licensing and a close match between worker skills and job design (like Germany) typically have less mobility, since the onus of job matching lies with wider institutions, and not the individual. Countries where the

onus for job matching lies with the individual (like the UK) will typically see more mobility. Again, Germany is famous for its occupational licensing and its close links between skill producers (educators and tutors) and skill consumers (managers and employers) (Thelen 2014, Hall and Soskice 2003, Marsden 1999). No such relationships exist in the UK, where workers are responsible for matching their skills to their conditions themselves, often through informal networks.

Both approaches frame mobility as a mechanism that leads workers to better positions. On one hand, mobility should lead to higher pay premiums due to a reservation wage. On the other, mobility could stem from a need to correct working conditions to better match a worker's skill. A weakness in both approaches is that neither mentions institutional or country differences in rates of mobility. How should institutions in Germany and the UK handle the *job-search* and *job-match* process?

2.2 Predicting mobility across institutions

While the approaches above offer clues regarding country differences in mobility, they do not consider these explicitly. Authors from the field of comparative political economy, industrial relations, and comparative sociology offer additional insight as to why countries differ in their rates of mobility. Across a range of typologies, Germany and the UK routinely sit opposite each other regarding firms (Hall and Soskice 2003), labour markets (Mills et al. 2008, Sorensen 1983), and welfare states (Esping-Anderssen 2009). This section briefly summarises these theoretical differences, and presents three relevant examples.

The varieties of capitalism approach compares firms and employers in both countries (Hall and Soskice 2003, Thelen 2014, Ebbinghaus and Manow 2004). The typology claims firms in Liberal Market Economies (where the UK is cited as a key case) are reluctant to invest in firm-specific skills. Such an investment is risky due to the high turnover of workers at all levels. If firms invest in skills, there is no guarantee employers will benefit from this investment. Managers see poaching as a cost-

efficient alternative to training, and see wage-premiums (within poaching) as a cheaper alternative to untrained workers, provided these premiums fall below the cost of the training needed. Further, since government intervention is limited, bargains for wages, working time, and conditions are individualised. As a result, wage inequality between and within occupations is high. Coordinated Labour Markets (where Germany is cited as a key example) are the near opposite of this. Such markets routinely invest in training, knowing that workers are committed to the firm. Turnover is low and career ladders are shorter than those of Liberal Market Economies (DiPrete et al 1997, Tilly and Tilly 1998). Poaching is ineffective since wage inequality is low and determined by firm or occupational tenure. In this way commitment to the firm will likely lead to greater earnings growth than mobility to a new employer. Wage inequality within occupations is minor, although wage inequality between them is wide due to occupation-based stratification. This view sees differences in mobility as one that stems from wage inequality. In short, the varieties of capitalism approach sees Coordinated Germany as a set of institutions that limit wage inequality. In a similar vein, it sees Liberal UK as one that exacerbates wage inequality, which in turn leads to greater mobility.

In Esping-Anderssen's discussion of welfare capitalism, Liberal welfare states (like the UK) support market solutions and market-based institutions to welfare; by contrast, Corporatist welfare states (like Germany), support occupational licensing and welfare provision on a means-tested basis. In this way, Liberal welfare states tend to be *"unregulated, leading to higher turnover, social insecurity, and wage inequality"* (Esping-Andersen and Myles 2009) while corporatist welfare states contain strong employment protection legislation which minimises mobility into new positions. Welfare, as seen in corporatist countries, is the responsibility of the state, the employer, and the employee, collectively. Since unemployment benefits are generous and costly, employment protection and other regulations try to limit unemployment as much as possible. On the other hand, welfare in liberal states is the responsibility of the individual, and so no long term relationship is fostered by the employer and the employee, at least not in the form of employment protection legislation.

Regarding labour markets, Mills et al (2008) suggest work councils, wage bargaining, labour legislation, and other measures of industrial relations will lead to distinct national differences in labour markets, which can be broadly summarised as “open” or “closed”. Open employment systems are described as decentralised, and individualised, with workers largely bargaining with employers on their own behalf. Union desnity is low and the prospect of “patchwork careers” is high. Mills et al (2008) propose that mobility is higher in open employment systems, but do not speculate which type of mobility; quits, promotions, or both. If workers in these labour markets quit regularly, does this mean that they are at a disadvantage with little to gain? Or do they quit because the rewards tied to such movements are better than the positions they leave behind? Overall, they hypothesis that such patterns destabilise long-term employment relationships, which are implied to bring their own earnings growth.

Industry stakeholders closely coordinate “closed” employment systems. Here, the labour market is centralised, with strong unions, strong employment protection and a strong link between position and reward. Such labour markets protect “insiders” and so tend to create external markets of precarious positions. Mills et al (2008) also suggest that these markets have significant mobility, but this mobility is confied to a group of workers who are “outsiders”. Once respondents find core positions, they remain in the position as long as possible, it would seem. Here too, there is a strong suggestion that workers make significant gains through long-term employment relationships. In the next section we summarise previous research on mobility and earnings growth.

3 Mobility and earnings:

Papers that explore the effect of mobility on earnings are rare. Authors have been more pro-active in predicting forms of voluntary mobility, and the gender, race, and class differences between movers and non-movers. In sociology, authors see mobility as a *life-chance*, which offers the opportunity to correct a poor-fit, or to change positions in a social-hierarchy (Sorensen 1975). In

economics, mobility is seen as a process of labour churn in a market that determines competitiveness and efficiency (Brown et al 2008). In personnel psychology, mobility is studied as an interaction between "desire and opportunity" (Jacofsky and Peters 1983). Yet few of these authors above explicitly ask “what do workers get from mobility?”

In this section, I split articles exploring mobility and earnings growth into two groups. First, are those who consider external quits alone. Generally, these authors find a positive link between earnings and quitting; they then frame mobility as a life-chance where quits improve working conditions and earnings (Keith and Williams 1997, 1999; Brown et al. 2006; Latzke et al., 2016). The second group contains articles that control for internal promotion as well as external quits. Here, authors typically find that internal changes reward workers better than quits (Gesthuizen and Dagevos, 2008, Le Grand and Tåhlin, 2002).

The majority of the papers above use single country examples; and so they often arrive at different conclusions about the effect of quits and promotions on earnings growth. However, a number of papers sample several countries in an effort to compare and contrast the effects of mobility under separate institutions (Pavlopoulos et al 2014, Fasang et al 2012). The lest section considers these papers and patterns.

3.1 External mobility

Authors typically find a positive relationship between quitting and earnings growth. Workers who quit, move to more favourable positions; even when remaining in the same occupation (Schmelzer 2010, Kronberg 2013; Cha 2014). The effect is significant over the long-term, and is increasing for some workers (Latzke et al. 2016). Even when models correct for individual heterogeneity (where certain workers are more likely to quit than others), “economic” quits lead to better paid positions with new employers (Fuller 2008; Keith and McWilliams 1995). These papers offer strong support for the job-search approach; workers who use mobility, reach a certain reservation wage, which they supposedly cannot secure by remaining with the same employer.

There are some caveats to the effect. First, Latzke et al. (2016), Schmelzer (2010), and Schmelzer and Ramos (2015) find that the premium of quits depends largely on "direct" mobility; where workers avoid unemployment and move from one position directly to another. Second, there are significant differences between workers in the mobility-outcomes relationship. The positive effect of quitting may be mitigated by worker characteristics, where men benefit from mobility more than women, and white workers gain more from mobility more than black workers do (Kronberg 2013). Although these differences are not always replicated in other studies, generally, authors agree that core workers benefit from external mobility more than periphery workers (Cha 2014; Fuller 2008).

None of the authors above see promotions as having the potential to improve earnings. As a result, the articles take a limited view of "voluntary" mobility. Despite a decline in firm tenure and career opportunities (Jacoby 1999), internal careers are the hope for most workers. It is also the *"most desired type of job mobility, because promotions increase status, esteem, responsibilities, and financial rewards"* (Ng et al. 2007). How does this mobility type compare to quits?

3.2 Internal and external mobility

Studies comparing quits and promotions in their effects on earnings are rare. However, when compared and contrasted, two wrinkles typically emerge. First, promotions lead to stronger and more significant earnings growth than quits (Le Grand and Tåhlin 2002; Gesthuizen and Dagevos 2008). Second, promotions are associated with a mix of positive and negative consequences for workers (Lup 2018; Rigotti, Korek, and Otto 2014).

In Sweden Le Grand and Tåhlin (2002) compare internal and external mobility, controlling for a variety of biases. They find internal promotions have the strongest effect on earnings growth, although external movement also carries a premium. The effect is "pure", in that it remains even when controlling for occupational change. In the Netherlands Gesthuizen and Dagevos (2008) report a similar finding, internal promotion has the strongest effect on earnings growth and socio-economic status when compared to external quits to a new employer. As with Le Grand and Tahlin's work,

quits contain a premium in terms of earnings; but this premium is weaker and less significant than the premium tied to promotions. In Canada, Javdani and McGee (2019) find that promotions contain significant pay premiums for both men and women without children. Women with children however are penalised with lower returns on promotion, a finding similar to Cha (2014).

On the second point, promotions may lead to higher earnings, but those who experience internal mobility often report trading higher earnings for poorer conditions and work-life balance. Respondents who experience promotion report both positive and negative changes in outcomes (Lup 2017; Rigotti, Korek, and Otto 2014). In the UK Lup (2017) finds that women who are promoted often report poorer working conditions after the transition, despite seeing minor positive changes in satisfaction with work. In Germany Rigotti, Korek, and Otto (2014) show that promotions lead workers to a mix of both positive and negative outcomes. Here, higher career satisfaction is balanced with increased strain and increased demands. It makes sense that promotions would yield stronger earnings growth (outlined by the job-search approach) but negative effects on subjective job-fit; promoted workers transition to positions with new responsibilities and pressures. These pressures are often greater than the objective rewards and resources given to those promoted, and so internal mobility moves workers to "better" jobs in some outcomes, but compromises in others. For this reason, it is possible that internal promotions are mostly motivated by reservation wages, while external mobility, may be motivated by job-fit with possible earnings premiums attached under specific conditions.

3.3 Country differences

Another caveat to both sets of findings above is that they rely on single country settings and examples. Pavlopoulos et al. (2007) analyse panel data from the UK and Germany. Results from Britain confirm Le Grand and Tahlin's (2006) findings, promotions have the strongest effect on British earnings growth. However, results from Germany are the reverse; quits have the strongest effect on German workers' earnings. Elsewhere, Fasang et al (2012) compare the effects of internal

and external mobility on satisfaction across a range of countries, finding that mobility has a particularly positive effect in Corporatist (where Germany ,France, and Belgium feature among others) and Post-socialist countries (were Estonia, and Hungary feature among others), compared to Social Democratic states (Denmark and Sweden).

In general, the papers above agree; Germany and the UK feature in both analyses and appear to offer similar results for movers. In Pavlopulos et al (2014) both Germany and the UK reward voluntary mobility, but differences emerge in the type of mobility and its effect. In Fasang et al (2012) mobility in Germany rewards workers better than mobility in Liberal countries (like the UK). Yet, two limitations should be noted. First, Pavlopoulos et al (2014) have a unique definition of job mobility, one that considers all direct changes as "voluntary" and all indirect changes as "involuntary". In this way direct changes that occurred because of dismissal, say, are coded as voluntary. In this paper, we will consider what they refer to as "subjective definitions of voluntary change"; worker-perceived quits and promotions. We will see these as distinct channels for changing jobs and not simply subjective evaluations of change. Second, Fasang et al (2012) use cross sectional data when evaluating the effects of mobility, and so may be overstating the effect mobility has on satisfaction (as summarised by Le Grand and Tahlin (2002)). With this review in mind we propose three hypotheses.

- *H1: Internal promotions will have a greater positive effect on earnings growth in Germany*
- *H2: External quits will have a greater positive effect on earnings growth in the UK*

4. Institutional differences between Germany and the UK

Before presenting the methodology, we briefly outline the institutional differences between both countries using measures of wage setting and mobility. How are Germany and UK labour markets different and how could these differences affect mobility? How different could two capitalist economies really be?

4.1 Institutional differences in wages setting

If mobility stems from wage inequality, or differences in reservation wages, there should be variance not only in wages but also in the way that wages are organised (Hall and Soskice 2003, Mills et al 2008). Table 1 summarises the major differences between Germany and the UK between 2001 and 2008 in terms of earnings and wage setting.

[TABLE 1 HERE]

Generally, these measures do not change over time within countries. The differences are largely between countries, with Germany being more equal and the UK being less equal. This is shown by the Gini coefficient, where Germany has a lower inequality score than the UK for both years. Income inequality between quintiles is also lower in Germany than the UK, although Germany sees an increase in the measure in 2008. Despite the increase, the UK's divisions between quintiles is still larger than Germany's.

Union coverage, in terms of the portion of the population covered by union agreements, is greater in Germany than the UK, suggesting a larger portion of the wage bargaining process sits with unions and is applicable to a wider base of workers. Lastly, we turn to Visser's (2011) measure of wage bargaining, which considers wage agreements and how they are secured at an individual (1) or a

collective (5) level. Here too, Germany's wage bargaining process is coordinated while the UK's is individualised. Although the measure is simplistic and ignores wider variance in wage setting between contract types, it captures the major country-differences in wage-setting for permanent full-time workers.

4.2 Institutional differences in mobility

Country differences in mobility rates and job churning may have nothing to do with wage inequality, or differences in working conditions. If British workers have more positions to choose from than German workers do, then mobility is simply the result of workers reacting to more opportunity or more vacancies in a market. In this way, German workers may be just as motivated to change jobs, but are limited by fewer employers and fewer vacant positions than UK workers. Table 2 summarises the major differences between Germany and the UK between 2001 and 2008 in terms of mobility. Results suggest that there are more employers and more vacancies in Germany than in the UK.

[TABLE 2 HERE]

Here too, measures change little over time within countries, suggesting institutional consistency. Starting with employment protection legislation[1], the UK contains minimal protection for individuals and groups with permanent contracts, while Germany contains stronger protections that limit the frequency of dismissals. This measure suggests hiring and firing should be easier in the UK than in Germany, and this ease has not changed over time.

However, regarding employment options between firms, there are more vacancies per 1,000 workers in Germany than there are in the UK, although both countries have seen a minor decline between 2001 and 2008. There are also more active firms per 1,000 active workers in Germany than there are in the UK. This suggests that despite wider inequality in income and earnings, Germany has

[1] Data taken from Visser (2011), measure of employment protection legislation (EPRC_v1) focusing on dismissal of individuals and groups with permanent contracts.

more firms per worker and more vacancies per worker than the UK does. If Germany has lower rates of mobility than the UK, it is not because Germany has few opportunities for mobility. We return to country differences in these rates when presenting the results.

5. Data and sample:

Both samples are drawn from the British Household Panel Survey, and the German Socio-Economic Panel, both are representative of British and German workers. I focus on the period 2000-2008 since both panels cover these years. I omit the years covering the European Debt Crisis, which are not representational of either country. Each panel contains socio-economic variables, detailed job history files, household composition details, employment details and measures of earnings growth (gross and net).

Both samples are defined as follows, respondents with at least 8 observations between 2000 and 2008; respondents employed at each interview; respondents not in self employment, unemployment or inactivity; respondents without missing values for questions related to job mobility. I consider each available region in both countries together; for the UK this is England, Scotland, Wales and Northern Ireland, for Germany this is both East and West. The final data-frame is a person-year file that ignores household composition in favour of individual responses. As a result, the models rely on a semi-balanced panel of the core workforce (Rabe-Hesketh and Skrondal 2008), who remain employed at every year over the nine years.

The UK data draws from year-specific individual-response files “INDRESP”, and individual job history files “JOBHIST” which contain person-specific job-spell information for the given year. This dataset is used to measure mobility. The German data draws from the SOEP-Long file, a longitudinal version of the individual response files. The resulting UK sample is made up of 3,782 respondents with 32,560

person-year observations. The German sample is made up of 4,444 individuals and 36,687 person-year observations.

The outcome used throughout the article is gross monthly wages. The measure features in the SOEP-Long file (plc0013) and the BHPS's individual response file (paygu). Although net income would give a closer estimate of workers earnings after mobility, we want to avoid income tax differences between the UK and Germany, which limit the post-change earnings in Germany more than the UK. Further, since both countries differ by currencies, both sets of values are converted to US dollars ($) as valued in January 2008. In the UK, 1 British pound was worth 0.507 dollars. In Germany 1 euro was worth 0.680 dollars. Lastly, since wages are not normally distributed, each model considers the natural log of these.

I define mobility using three measures. The first determines whether a job change occurred since the previous survey wave. In the UK, movement and non-movement are captured by changes in spell (jspno). In Germany, basic mobility is captured using the survey question "new job since last year?" (plb0031). The second measure determines if the change took place in the same firm, or whether respondents moved to a new firm. In the UK, this is captured using the variable "JHSTAT", which asks whether respondents found a new employer or whether they changed jobs with an existing employer. In Germany, the variable "plb0284" measures a similar change. The final measure determines the "subjective" nature of change, either voluntary or involuntary. The variable "JHSTPY" is used in the UK, and the variable "plb0304" is used in Germany. Observations listing promotions, better jobs, and own resignations are assumed voluntary. Those listing redundancies, firm closures and dismissals are assumed involuntary. Those leaving for reasons tied to childcare or retirement are marked "other". As an aside, the SOEP-long file cannot distinguish between voluntary and involuntary changes within the firm, for this reason, all intra-firm changes are considered together, similar to Pavlopoulos et al. (2014); this is a limitation of the data. Combining all internal mobility into one category likely underestimates the effect of German promotions.

Estimating the impact of mobility on earnings without considering other measures, would give an untrue estimate. Previous authors control for occupation and industry when predicting the effect of mobility (Le Grand and Tåhlin 2002). Others cite the importance of age and the number of children in the home, which are strong predictors of earnings (Cha 2014; Keith and McWilliams 1997; Fuller 2008). Contract type and the size of the firm are standard controls for the economic sector (Schmelzer 2010). Lastly, we include the survey year in an effort to control for macro changes that may affect wages, such as changes in economic growth and unemployment (Gesthuizen and Dagevos 2008).

5.1 Estimation:

Original models considered the relationship between mobility and earnings using random-effects estimation. This method contained correlations between controls and person-level errors, which a Haussmann test confirmed. In these models individual heterogeneity affected mobility estimates; meaning those who received promotions or other job offers were different to average workers in unobserved ways. By ignoring individual heterogeneity, the estimates for promotion, would be inflated by person specific errors (Allison, 2009, Rabe-Hesketh and Skrondal, 2008). As a result, we will model the relationship between mobility and earnings growth using fixed effects linear estimation that excludes person specific errors.

Previous authors have used similar methods, Gesthuizen and Dagevos (2008) estimate the effect of inter and intra-firm mobility using a difference in difference approach, similar to a within-estimator, for several waves of data. Latzke et al. (2016) use propensity score matching to avoid the issue using German data. Pavlopoulos et al. (2007) also use fixed-effects regression when estimating the relationship.

6. Results:

This section is split into three parts. First, I present the frequency of mobility in the sample (between and within respondents). Second, I present descriptive statistics on the earnings of movers and non-movers. Third, I list the fixed effects estimates of mobility in both countries and compare countries.

[TABLE 3 HERE]

The top half lists mobility rates for the UK. Columns one and two show that voluntary mobility is much more common than other mobility types, with quits (5.7%) being more common than promotions (5%). Columns three and four, which show mobility within respondents, suggest that 33% of workers quit at least once during the nine-year period, while 30% of respondents gain a promotion at least once during the nine-year period. Germany's results are listed in the bottom half of the table. Once again, columns one and two show that mobility is less common in Germany than in the UK; although voluntary types of movement remain the most prevalent, with quits (2.3%) being more common than promotions (0.7%). Columns three and four capture mobility within respondents, and suggest 14% of workers quit at least once during the nine-year period, while 5% of respondents gain a promotion at least once during the nine-year period.

Thinking of the previous discussion, Germany has less earnings inequality and less mobility despite having more active firms per worker, and more vacancies per worker, when compared to the UK. The UK, in turn, has higher inequality with higher mobility, which is mostly voluntary. This is despite having fewer firms and fewer vacancies per 1,000 workers than Germany. Overall, the most important difference between both countries is that a majority of UK workers move at least once, leaving a minority who never move; while a majority of German workers never move, leaving a minority who change jobs at least once. The next section briefly compares the net earnings of movers and on-movers.

[TABLE 4 HERE]

Starting with the UK, respondents who change positions for any reason ($2,809) earn more than respondents who stay in the same position for the nine-year period ($2,357). Those who remain in the same position have a more predictable wage (+/-$1,608), than those who move between positions for voluntary and involuntary reasons (+/-$2,073). In Germany, respondents who change position for any reason ($4,105) earn slightly more than those who have never moved jobs ($4,068). The variance in earnings between movers (+/-$2,535) and non-movers (+/-$2,266) is similar. Surprisingly, the results above suggest that earnings in Germany are less predictable than earnings in the UK. This could stem from differences in sample size, or the tendency of German earnings to be stratified by occupational categories.

Regarding promotion. In the UK, those who never receive a promotion earn less overall ($2,427) than those who receive a promotion if only once ($3,196). Further, the wages of those who never receive a promotion are more predictable (+/-$1,774) than the wages of those who are promoted (+/-$2,197). In Germany, those who never receive a promotion earn less on average ($4,026) than those who receive a promotion ($5,037). Further those who never receive a promotion report a much more predictable wage (+/-$2.235) than those who receive a promotion (+/-$3,569).

Lastly, regarding job quits, British workers who never quit their job earn less ($2,612) than British workers who quit their job at least once ($2,757). Further, wages are more predictable among British workers who never quit their job (+/-$1,857), than they are among British workers who do (+/-$2,105). This result is flipped in Germany, where workers who never quit their job earn more ($4,089) than German workers who quit their job at least once ($4,006). Further, workers who never quit have a more predictable wage (+/-$2343), than workers who quit their job even once (+/-$2,250). Although these differences are minor, they warrant further attention. We will now explore the effects of mobility on earnings.

The estimates of a fixed effects linear regression predicting earnings is listed below. German models rely on 30,000+ observations from 4,000+ respondents, while the British estimates rely on 26,000+

observations from 3,500+ respondents. In each model, the R-squared figure is consistently higher in Germany than the UK, despite using identical controls. This also makes sense due to the lower levels of pay inequality in Germany when compared to the UK.

[TABLE 5]

The estimates above consider both countries. We will focus on the effects of voluntary mobility; however, it is worth noting the constant in both models and the standard errors in both constants in both models. Since earnings are converted to US dollars, they are somewhat comparable; controlling for a range of measures the average monthly pay in the UK is 6.379, or $589; the average monthly pay Germany is 6.037 or $418. British workers on average earn more than German workers, after occupation, industry, working time and the other factors are considered. Further, British earnings at the baseline appear less predictable (0.272) than German earnings (0.078), suggesting earnings inequality is higher in the UK than Germany, as expected.

Voluntary mobility has a positive but minor effect in both countries; the only exception is job quitting in Germany, which has a negative and insignificant effect on earnings. Generally, respondents who move voluntarily experience an increase in pay. However, only internal promotions produce statistically significant results in both countries. Thus only promotions lead to workers to significant earnings growth. The effect in Germany (4% increase in pay) is also greater than it is in the UK (2.5% increase in pay). Using the findings above, we confirm hypothesis 1, but reject hypothesis 2. Despite the UK's larger rate of mobility, and its larger measures of income inequality, external quits do not produce higher earnings premiums than promotions.

It's possible that the UK's increased rates of mobility stem from a job-matching process where workers are more concerned with their conditions and the match between pay and responsibilities at work. In this way, UK workers may gain more from mobility in terms of subjective evaluations of work, than from objective measures like pay.

The findings above run counter to several authors. First, results find no positive effect for inter-firm mobility in either country. A positive link between changing employers and increasing earnings is often reported. In Germany, Latzke et al. (2016), Schmelzer (2010) and Pavlopoulos et al. (2007) report as much using SOEP data. Each finds a positive link between inter-firm mobility and pay, and controls for working hours. It's possible that our sample, which contains only the economic core, is unique to the other papers. However, the findings presented above resemble those of Gesthuizen and Dagevos' (2008) Dutch sample, where inter-firm mobility brought only a 1% increase in pay after the move, but intra-firm mobility brought significant gains in terms of pay. Our contribution would suggest that both UK and Germany are similar in that both produce positive estimates.

7. Discussion

This article explored worker return on mobility in two institutional settings. It challenges the idea that individual workers benefit from mobile markets, showing that internal career ladders reward workers best in terms of earnings. Authors have proposed mobile markets, labour market turnover, and worker reallocation are good for firms, the economy, and workers (Brown et al 2008, Jacoby 1999, Arthur and Rousseau 2001). When considering the reasons for job mobility, they cite *job-matching* theories, where workers move to avoid a mismatch between their skills and their positions. However, authors often find that the workers non-moversr report the highest earnings. In the case of Brown et al (2008), those who are best off in the US market are those who do not move, or those who remain in the same firm with the same employer. Further, Brown et al (2008) find that the firms with the lowest labour market turnover are also firms with the best working conditions and pay, suggesting that internal markets, with good conditions and good opportunities reward workers best.

The findings in the paper challenge the idea that workers can make short-term gains by moving between employers. Instead, it appears that the best rewards stem from internal mobility and

internal career ladders. If mobility is to increase and careers are to become scattered across multiple employers, we should be realistic about the prospects tied to such changes. As Germany shows, alternative labour markets exist.

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9. Tables

Table 1: Institutional differences in wage setting (2001 & 2009, Germany & The UK)

	UK 2001	UK 2008	Germany 2001	Germany 2008
Gini coefficient (a)	36.0	34.1	30.3	31.3
Income inequality (b)	5.4	5.7	3.5	4.9
Union coverage (c)	36%	36%	68%	64%
Coordination of wage setting (d)	1	1	3	4

Source: Authors' Calculations. Gini data sourced from World Banks, Income inequality sourced from Eurostat, Union Coverage and Coordination of wage sourced from Visser (2011) ICTWSS.

Note: a. World bank gini coefficient. Data for Germany only available for 2001 and 2007. Data for the UK is only available in 2008 and 2004.
https://data.worldbank.org/indicator/SI.POV.GINI?end=2010&locations=DE-GB&start=2000

b. Data for UK 2001 is not available using UK 2000. Using Eurostat inequality of income distribution (income quintile share ratio).
http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

c. Data taken from Visser (2011) measure of collective bargaining coverage (coord)

d. Visser measure of wage coordination ranging from 1 (individualised) to 5 (collectively set).

Table 2: Institutional differences in mobility (2001 & 2008, Germany and the UK)

	UK 2001	UK 2008	Germany 2001	Germany 2008
Employment protection legislation	1	1	2.8	2.8
Vacancy rates	2.4	2.2	3.8	3.1
Active firms per 1,000 workers	-	70.59	-	72.4

Source: Authors' Calculations. Employment protection legislation sourced from Visser (2011) ICTWSS. Vacancy rates and active firms per 1,000 workers sourced from Eurostat

Table 3: Mobility frequencies (Germany and the UK 2000-2008)

UK Mobility	**UK Overall**		**UK Between**	
	Freq.	Percent	Freq.	Percent
Same job, same employer	27,091	83.2	3,781	99.97
Changed employer, voluntary	1,872	5.75	1,238	32.73
Changed employer, involuntary	468	1.44	418	11.05
Changed employer, other reasons	873	2.68	726	19.2
Changed job, kept employer, voluntary	1,630	5.01	1,120	29.61
Changed job, kept employer, involuntary	96	0.29	84	2.22
Changed job kept employer, other	530	1.63	436	11.53
Total	32,560	100	7,803	206.32
German Mobility	Germany Overall		Germany Between	
	Freq.	Percent	Freq.	Percent
Same job, same employer	37,148	96.02	4,444	100.00
Changed employer, voluntary	893	2.31	638	14.36
Changed employer, involuntary	370	0.96	312	7.02
Changed employer, other reasons	4	0.01	4	0.09
Changed job, kept employer	272	0.70	222	5.00
	38,687	100	5,620	126.46

Source: Authors' Calculations. UK data sourced from BHPS. German data sourced from G-SOEP

Table 4: Net earnings by movers and non-movers (Germany and the UK 2000-2008)

Has respondent ever changed jobs?	UK mean ($)	UK SD ($)	Germany mean ($)	Germany SD ($)
Yes, change occurred	2,809.60	2,073.84	4,105.93	2,535.26
No, same job always	2,357.44	1,608.71	4,068.65	2,266.12
Total	2,660.26	1,944.28	4,077.15	2,330.25
Has respondent ever been promoted?	UK mean ($)	UK SD ($)	Germany mean ($)	Germany SD ($)
No, never registered a promotion	2,427.81	1,774.07	4,026.95	2,235.48
Yes, promotion23 happened at least once	3,196.58	2,197.39	5,037.34	3,569.73
Total	2,660.26	1,944.28	4,077.15	2,330.25
Has respondent ever quit their job?	UK mean ($)	UK SD ($)	Germany mean ($)	Germany SD ($)
No, never quit voluntarily	2,612.23	1,857.32	4,089.16	2,343.36
Yes, quit job at least once	2,757.19	2,105.63	4,006.12	2,250.04
Total	2,660.26	1,944.28	4,077.15	2,330.25

Source: Authors' Calculations. UK data sourced from BHPS. German data sourced from G-SOEP

Table 5: Estimated fixed-effect predicting net earnings (2000-2008 Germany and the UK)

		UK	Germany
		Log gross pay	Log gross pay
VARIABLE	LABEL	$	$
Ref: Same job same employer			
2.M_event	Changed employer- voluntary	0.013	-0.010
3.M_event	Changed employer- involuntary	-0.052***	0.009
4.M_event	Changed employer- other reason	-0.088***	0.153
5.M_event	Changed job, kept employer- voluntary	0.026***	0.041**
6.M_event	Changed job, kept employer- involuntary	-0.078*	-
7.M_event	Changed job, kept employer- other	-0.023*	-
jbhrs	Hours worked	0.014***	0.004***
age	age at date of interview	0.049***	0.062***
c.age#c.age	interaction	-0.001***	-0.000***
Ref: No children	Ref: No children		
1.nchild	children in the home = 1, one	-0.032***	0.000
2.nchild	children in the home = 2, two	-0.059***	0.000
3.nchild	children in the home = 3, three or more	-0.057***	-0.007
Ref: temporary contract			
1.permanent	Job contract is permanent = 1, Permanent	0.070***	0.049***
Ref: firm size 1-200			
2.jbsize1	no. employed at workplace: 200-499	0.025***	0.033***
3.jbsize1	no. employed at workplace: 500+	0.049***	0.038***
Ref: Managers	Ref: Managers		
2.isco10	professionals	-0.045***	-0.009
3.isco10	technicians and associate professionals	-0.066***	-0.024**
4.isco10	clerical support workers	-0.095***	-0.048***
5.isco10	services and sales workers	-0.140***	-0.045**
6.isco10	skilled agriculture	-0.101***	-0.059
7.isco10	craft and related work	-0.054***	-0.029**
8.isco10	plant and machinery workers	-0.068***	-0.032**
9.isco10	elementary work	-0.150***	-0.052***
Ref: Agriculture 1	Ref: Agriculture		
1.e11106	No answer	0.018	-
2.e11106	Energy 2	0.104**	0.040
3.e11106	Mining 3	0.029	0.050
4.e11106	Manufacturing 4	0.026	0.040
5.e11106	Construction 5	0.051	0.025
6.e11106	Trade 6	-0.013	0.016
7.e11106	Transport 7	0.016	0.023

8.e11106	Bank/Insurance 8	0.037	0.000
9.e11106	Services 9	0.033	0.010
Ref: wave 10	Ref: wave 10		
11.wave	wave = 11	0.064***	0.006*
12.wave	wave = 12	0.123***	0.022***
13.wave	wave = 13	0.173***	0.038***
14.wave	wave = 14	0.232***	0.041***
15.wave	wave = 15	0.286***	0.028***
16.wave	wave = 16	0.334***	0.008**
17.wave	wave = 17	0.380***	0.004
18.wave	wave = 18	0.425***	omitted
Constant	Constant	6.379***	6.037***
	SE of Constant	0.272	0.078
	Observations	26,215	30,972
	R-squared	0.34	0.21
	Number of pid	3,724	4,161
	Weights	Clustered SE	Clustered SE

Source: Authors' Calculations. UK data sourced from BHPS. German data sourced from G-SOEP
Note: *** p < 0.001, ** p< 0.01, * p<0.05.