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Job access after leaving education:

A comparative analysis of young women and men in rural Germany[1]

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Abstract

Rural labour markets for youth are an interesting research area for labour force transition studies because gender differences begin to appear with the out-migration that leads to a shortage of young women in Europe. While existing studies provide insight into this migration flow, little is known about the young women and men who remain in the labour force in rural areas. The aim of this study is to provide insight into the determinants of job access after leaving education in Germany among the young population aged 15-29 based on the Labour Force Survey of 2002-09. First, an empirical analysis of student to employment flow in rural areas with respect to social position (degree discipline, age, and socio-professional category) has been conducted. Second, gender-specific multinomial logit models are used to estimate the determinants of access to a first job without a long-term unemployment spell. The results suggest that there are substantive differences in student to employment flow between female and male samples for the variables urbanisation degree of residence (rural, urban, and peri-urbain) and marital status. Contrary to our expectations, living in rural areas does not suggest a significant negative effect in accessing a job within a year. In line with previous studies, being married has a negative influence on female graduates but is positive for their male counterparts.

Keywords: school-to-work transition; rural labour force; transitional labour market approach; gender; Labour Force Survey; rural areas, Germany

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1. Introduction

Young adults beginning their careers are typically in a turbulent and uncertain period: first jobs generally entail a long transition period, and these positions are typically unstable and short term. Therefore, at the beginning of their working lives, graduates transitioning from education to employment often experience difficulties finding adequate employment within a short time. Data from European Union (EU) member states indicate that one year after leaving school, a high percentage of young people experience difficulties obtaining a job, especially in Greece, Poland, and Italy, where only 50 % of youths obtain employment within one year (Quintini, Martin, and Martin, 2007). In the economically successful European countries, such as the Netherlands and Switzerland, approximately 20 % of young persons did not have a job one year after completing their education. In Germany, the expected length of the school-to-work transition is above the EU average. In 2005, while the average transition period in Germany was 39.2 months, the average of this period in the EU-20 countries was 29.4 months (Quintini, Martin, and Martin, 2007; Eurostat 2012). EU Labour Force Survey (LFS) estimates suggest that it takes a long time (one or two years) for young population in many EU countries to find a first job after graduation

Young people at the beginning of their careers generally face three challenges when entering the labour market: (i) they lack job-specific work experience, meaning that many new workers have difficulty accessing their first jobs; (ii) they face uncertain employment status (e.g., temporary jobs); and (iii) they generally need to work and study to acquire work experience (Caroleo and Pastore 2007; Lauerová and Terrel 2002). Studies exploring the dynamics of youth transitions from unemployment to employment highlight the importance of personal characteristics, such as gender, age, parental status and education, and the individual's past economic characteristics, such as previous work experience and the duration of unemployment after leaving school (Russell and O'Connell 2001; Garrouste and Rodrigue 2013).

Nevertheless, substantial regional differences are observed with respect to the degree of urbanisation. Youths' risk of unemployment after leaving school and accessing a job within one year (without enduring months of unemployment) differ considerably between urban and rural areas. Previous research on disadvantages in rural areas (Philip and Shucksmith 2003; Shucksmith 2012) has identified social exclusion problems in rural Europe, focusing on relational issues such

as individual detachment from labour markets, low participation rates and social isolation. Labour markets represent an important determinant of the inequality and exclusion that tend to limit employment options for younger, older and female workers (Shucksmith 2004). The challenges faced by young people in rural labour markets include limited job offers with potential for career advancement; relatively abundant low-skilled jobs (De Hoyos and Green 2011); limited opportunities to develop broad work experience (Lindsay, McCracken, and McQuaid 2003); accessibility factors, including mobility and commuting issues (Hodge et al. 2002); and spatial concentration of jobs in non-rural regions (Schindegger and Krajasits 1997).

Migration studies have primarily analysed youths' access to jobs after leaving education in rural labour markets. Research on this subject has addressed the migration of young graduates from rural regions to begin their careers in urban areas (Jamieson 2000; Rérat 2014). While most studies provide insight into the factors influencing migration flows, very little is known about the labour force characteristics of young people who remain in rural areas. Therefore, rural labour markets represent an interesting area of research in labour force transition studies. As studies demonstrate that sex-selective migration has induced shortage of young women in parts of rural Europe, which may culminate in a "masculinisation of the rural population", gender differences in the labour market are of particular interest (EU 2008).

Studies on the youth labour force transition in Germany show that economic conditions (Stevens 2009), institutional constraints (e.g., the vocational specificity of the educational system), and employment protection legislation (Franz et al. 1997; Margolis, Simonnet, and Vilhuber 2002; Gangl 2003; Schmelzer 2011) play important roles in early careers. Although these findings are persistent, in the majority of OECD countries, access to one's first permanent job is strongly influenced by the length and quality of the transition from student to employed status (OECD 2011). Further, youth unemployment and labour market outcomes can have "scarring effects": long-term unemployment in searching for one's first job has a long-term impact on one's future career (Arulampalam, Gregg, and Gregory (2001).

According to the above-mentioned findings and within the broad perspective of the transitional labour market concept and life course theory, this study argues that graduates' job access differs

by socio-familial position, socio-economic characteristics and relationships with labour market institutions. The aim of this study is to provide insight into the determinants of job access after leaving education in the German rural labour market among the population aged 15-29 based on the Labour Force Survey (LFS) of 2002-09. We provide two types of evidence. First, an empirical analysis of the student to employment flow in rural areas with respect to social positions (discipline, age, and socio-professional category) has been conducted. Second, gender-specific multinomial logit model is used to estimate the determinants of access to a first-time job without a long-term unemployment spell.

This study is organised into six sections. The following section establishes the study's framework by outlining the transitional labour market approach and the life course perspective. The third section discusses the features of the LFS and presents the methodology. The fourth and the fifth sections present the results of the empirical analysis and the gender-specific multinomial logit estimates, respectively. The final section discusses the findings and provides concluding remarks.

2. Theoretical discussion

2.1. The transitional labour market approach and life course concept

This study has two theoretical bases: the transitional labour market approach and the concept of the life course. While the transitional labour market approach has been used to analyse the determinants of labour market transitions, the time dimension of life course theory has been used as a sociological framework to guide our findings on the entering of a labour market after leaving education.

The transitional labour market approach lays the groundwork and provides the conceptual openness to link labour market transitions within life course theory (Brzinsky-Fay 2010; Anxo 2007). Based on situational analysis (Popper 1972), the transitional labour market approach focuses on actors' choices among different economic statuses in the labour market. According to Popper's (1972) principle of rationality, situational analysis predicts that actors respond "adequately" or "appropriately" to their situation based on their historical and institutional context (Popper 1994). Additionally, the transitional labour market approach focuses on the political dimension and provides a framework for a policy-oriented analysis of labour markets (Schmid and

Schömann 2004; Schmid 2008), including the investigation of the institutional determinants (such as regulations that protect both employers and employees) of interrelations among various working statuses.

In our study, the underlying hypothesis to be tested is that the school-to work transition is a question of the match between supply and demand in the labour market, but this transition is also related to the life course of the individual. In the literature, there are several principles used to characterize the life course approach. Some of these include: (i) heterogeneity; (ii) timing of lives; (iii) geographical location; (iv) social ties (Alwin, 2012).

Heterogeneity. Generations (cohorts) are heterogeneous collections of individuals, and they differ in terms of social and socio-economic factors (e.g., gender, social class, family structure, and religion). Studies by Riley (1987) and Mitchell (2006) highlight the important role of heterogeneity in age stratification regarding the ability to adapt to individual life course changes. Considering similar life paths, the resources inherent in social and socio-economic factors could influence individuals' decisions differently.

Timing of lives. Aside from the definition of time in terms of chronological age, or age groups (cohorts), Elder (1985) observes that time can be considered as a sequence of transitions that are enacted over time. A transition is a discrete life change within a trajectory (e.g., marital status of individual in life course: transition from a single to married state). Transitions represent a change in the status and social identity of an individual, and affect individuals and families.

Geographical location. An individual's behaviour and decision are shaped by conditions of the geographical location in which they live. Geopolitical events (e.g., war), economic conjuncture (e.g., financial crises), cultural and social systems can influence people's perceptions and choices.

Social ties. Social relationships and institutional involvements have an impact on awareness of individuals as choice makers and agents of their own lives. Social forces shape the course of life and its development (Elder 1985). Our approach is in line with an understanding of youth as social actors who operate in a dynamic environment across time and social space, and are influenced by other factors, including socio-familial position, socio-economic differences (James 1995; McGrath

2001; Rérat 2014) and interrelation with labour market institutions. In that respect, our study tests the hypothesis that involvements in labour market institutions (e.g., registration in public employment services) could help unemployed individuals traverse the life course event of school-to-work transition more easily.

Even though our research does not deny the role of economic factors, we argue that individuals, even when they are attached to a homogeneous group (in our case, youth aged between 15-29), they do not all display the same behaviours in the labour market after graduation. At the centre of the life course paradigm, gender, age group, marital status, education level, degree of urbanisation of residence and institutional involvements can be viewed as multilevel factors that shape individuals' life patterns: in our case, these factors assumed to influence individuals' access to a first time job after graduation.

2.2. Socio-familial position

Gender

Research into young people and differences in labour force behaviour often show a gender dimension. A recent study conducted by Jacob, Kleinert, and Kühhirt (2013) examines trends in the school-to-work transitions of young men and women with lower and higher secondary education in West Germany for 1984-2005 period. The authors found that women access their first job faster than men. They argue that this pattern results from deteriorating employment prospects within unskilled occupations, especially for unskilled men. Dorsett and Lucchin (2014) show that gender is a strong predictor of future labour market trajectories among groups of young people who are similar with regard to their experiences beyond school leaving age in the United Kingdom (UK). In Germany, young males are more likely than young females to work below their skill level (OECD 2010). Dietrich (2012) found that during the economic recession, the male youth unemployment rate increased more than the female rate in most EU member states. In Germany, the female youth unemployment rate decreased more than the male rate during the 2007-2010 recession period (Dietrich 2012). Based on these results, we expect that the determinants of transition probabilities to employment will differ between young women and men.

Age

Even among young people, findings vary among studies, with majority of scholars agreeing that the behaviour of young people in the labour market differs from that of older age groups. Quintini, Martin, and Martin (2007) conclude that the 15-19 age group is more likely to be unemployed than the 20-24 age group in all EU member states, although they do not face lower employment prospects. The gap in the employment rate widens for those between 25 and 54 years old, although the situation varies considerably across OECD countries (OECD 2002). Moreover, Kretsos (2011) highlights behavioural differences between age groups towards labour market institutions: young people below 25 year-old do not exhibit a stance against labour unions. To address these discussions, the following age groups are considered: teenagers (15-19 age group) and young adults (20-24 and 25-29 age groups).

Marital status

The life course position regarding marital status (e.g., single, married, or widowed) influences labour force behaviour due to changes in household size and structure. Differences in labour market participation by marital status and gender are documented in previous studies and have changed over time. The decision to enter the labour market or transition between labour force statuses is closely tied to marital status (Unay-Gailhard and Kataria 2013; Jacob and Kleinert 2014). In a recent study by Garrouste and Rodrigue (2013) of European countries,[2] being a single woman and/or a mother without childcare support negatively affected the speed of transition to permanent employment.

2.3. Socio-economic characteristics

Education[3]

Over the life cycle, investments in education or training (e.g., direct costs of tuition) generate returns through increased earnings or more certain employment, which are associated with higher levels of human capital. However, there is no definitive link between education levels and finding a job without long unemployment spell. Research in OECD countries has found that youths with low levels of human capital, less experience and low skills face a greater risk of long-term

[2] Austria, Belgium, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Lithuania, Luxemburg, Latvia, Malta, Netherlands, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia, and United Kingdom.

[3] For detailed information on the German education system and approaches to labour market transition, see Stevens (2009) and Soro-Bonmati (2000).

unemployment and low-quality employment outcomes (OECD, 2005). However, a recent study by Baert et al. (2013) investigates young graduates in Belgium and finds that over-education can be a trap at the beginning of one's career rather than a means of career advancement. This trap is particularly important during the early stages of an individual's career when it generates long-term unemployment spells. Based on German Socio-Economic Panel (SOEP) data, Prasad (2003) finds that higher education increases reservation wages in Western Germany, which decreases the probability of reemployment and thus prolongs the duration of unemployment.

Urbanisation degree of residence (rural, urban and peri-urbain areas)

Following Culliney (2014), we consider the rural disadvantage studies concerning the youth labour market and note the importance of location as a form of social capital for young rural jobseekers. A study by Cartmel and Furlong (2000) offers arguments on the relationship between location and youth employment outcomes: social capital theory assumes that the influence of social networks results from how social contacts affect the productivity of individuals and groups. Previous studies consider social capital a significant predictor of the future employment potential of youths (Porfeli et al. 2009). Given the previous findings, we expect that young people in rural areas – who face a disadvantage with respect to social capital and networking – are in an unfavourable position from which to access their first job within a year of graduation. Following previous studies (Unay Gailhard and Kataria 2014; Unay-Gailhard and Baqueiro-Espinosa, 2015), the variable of "urbanisation degree of residence" distinguishes among rural, urban and peri-urbain areas that are based on the Labour Force Survey definitions provided in Appendix A.

2.4. Interrelations with labour market institutions

Registration for public employment services

In Germany, between 2009 and 2010, there were decreases in the total numbers of registered unemployed and registered job seekers at public employment services (EJML, 2013). However, based on survey conducted by the International Social Survey Program (ISSP) in 2011, the share of employed individuals who heard about their job through public employment services was approximately 12 % in West Germany, while the corresponding figures were 6 % in Italy, 5 % in Denmark, and 3 % in Switzerland (Romani and Larsen 2010; Larsen and Versan, 2012). Regarding the youth population, these individuals are often not yet eligible for financial benefits from public

employment services (an individual lacking the necessary work experience is ineligible for unemployment benefits). Prior studies report that family resources (specifically financial assistance from one's parents) have a positive effect on the transition from education to the labour market (Schioppa and Lupi 2002, Jacob 2008). This particularity of youth gives us the opportunity to contribute to this literature by examining the influence of public employment services provided to registered youth.

3. Data and methodology

3.1. German Labour Force Survey (LFS)

This study used German LFS data for the 2002-09 period, which are representative at the country level and contain German labour market records. The LFS is included in the Eurostat online database and is conducted as part of an annual micro-census, following Germany's micro-census law. Demographic, social and economic variables for the population are collected for an average week in each quarter by sampling the population in all weeks of the quarter. Approximately two-thirds of the individuals surveyed in the first quarter of the current year are interviewed in the first quarter of the following year. The primary statistical objective of the LFS is to divide the working-age population (those aged 15 years and above) into three labour market working statuses, (i) employed, (ii) unemployed, and (iii) inactive persons, and to provide explanatory data on each of these categories. This classification accords with that of the International Labour Office (ILO) and is often applied in labour market transition studies (Garibaldi and Wasmer 2005; Deschryvere 2005; Gesthuizen and Wolbers 2010; Iannelli and Smyth 2008). Detailed descriptions of the LFS variables used in this study are provided in Appendix A.

In the school-to-work transition literature, the SOEP data, Research into Employment and Professional Flexibility (REFLEX), and European Community Household Panel (ECHP) have become increasingly used by researchers in addition to the LFS, depending on the study focus (Betti et al., 2005; Quintini, Martin, and Martin 2007; Iannelli and Smyth 2008; Jacob, Kleinert, and Kühhirt 2013). In our study, the LFS gives provides information on relevant labour market aspects across all sectors of the economy and allows the conceptualisation of a "student to employment" flow population. In the LFS, the "previous year working status" variable codes for "student" status, which permit us to analyse the labour force transitions of the previous year's

students continuously over the following year. For example, we can observe whether an individual who was a student in the previous year flows into a job or into unemployment/inactivity in the current year. Further, the broader perspective on the individual's socio-familiar position and the socio-economic characteristics associated with labour force surveys allows the assessment of the effect of these characteristics on labour market outcomes. While the LFS can be used to compile estimates of labour force flows at the country level, it allows reliable analysis at the sub-national level, such as rural and urban regions that can be defined from the urbanisation degree of residence. This aspect is of considerable importance in the context of EU rural labour market studies. A brief presentation of the sample and key variables is provided in Appendix B.

One limitation of the LFS is that student status was not coded in the "current year working status" variable. Therefore, in the student to inactivity flow, current year students are coded as inactive. Interpreting and drawing conclusions from the student to inactivity flow was therefore avoided in this study.

3.2. Gender-specific multinomial logit estimation

Labour force flow analysis describes the movement of labour into and out of a labour market and is used as a tool in studies that focus on labour mobility and adjustment (Schettkat, 1996). In statistics, there is a set of assumptions that are potentially useful for flow analysis. One of the most commonly used flow analysis assumptions is based on the Markov process due to its adequate approximation of random utility discrete choice models and its simple flow model. In a Markov process, present state (t) provides information about the future state (t+1). In our study, the life course is modelled as a continuous time Markov process between the years 2002-09. Estimations used data by tracing the probability of the occurrence of an event in the current year. In our case, current year data (t+1) represents the labour market state (employed, unemployed, or inactive) of the individual. To determine the probability of a current year state, an individual's status from the previous year has been taken into consideration using continuous time-based calculations. In the model, (t) represents individuals' life course status from the previous year (socio-familiar position, socio-economic characteristics, institutional involvement).

In a discrete choice model, the labour force flows within a parametric form where the parameters are estimated from the data. The tractability of the parameter estimation that is based on probability theory is an important factor in the model selection. For this tractability reason, the multinomial logit model is one of the most widely used discrete choice models with Markov process assumptions in choice modelling (Blanchet et al., 2013). Studies such as Bellmann et al., (1995) for East Germany, Gustafsson et al., (2002) for Germany, Britain, and the Netherlands, Lauerová and Terrell (2002) for Czech Republic, and Chiara and Enrico (2014) for Italy and Spain apply Markov transition probabilities in multinomial logit models of the European labour market.

This study estimates a multinomial logit model of transition probabilities (based on Markovian assumptions) to assess the determinants of job access after leaving education. Youth labour force transition probabilities are examined within three flows: (1) student to employment, (2) student to unemployment, and (3) student to inactivity. The transition probabilities are expressed as a transition matrix that depicts the flow of a labour force into and out of these three states between time t and $t + 1$. In addition, gender-specific multinomial logit models are introduced because we assume that student's gender differences would allow us to test the hypothesis that discrete transitions between labour market statuses depend on the roles and responsibilities of gender itself as well as on individual characteristics. The overall aim is to develop new insights into the German rural labour market and to reflect on the factors that influence the student to employment transition without a long-term unemployment spell.

Interpreting the coefficients of a multinomial logit model is not straightforward (Greene 1994). Therefore, following previous studies that apply multinomial logit estimation to the youth labour market (Lauerová and Terrell 2002; Tasci and Tansel 2005; Deschryvere 2005), we present the marginal effects evaluated at the sample mean transition probabilities (Baum 2006).

4. Empirical results

4.1. An overview of job access after leaving education in rural Germany

The empirical analysis provides an overview of labour force flows and allows us to focus on rural youths' job access after leaving education in Germany. Table 1 summarises the previous year

student labour flows into employment, unemployment and inactivity over the 2002-2009 period. It reports each flow for German rural, peri-urban and urban regions.

Table 1. Labour force flows for rural, peri-urban and urban Germany.

	Rural	Peri-urban	Urban
(1) Student → Employment	2,762	5,070	9,498
	(17.15)	(17.48)	(19.7)
(2) Student → Unemployment	441	734	1,374
	(2.74)	(2.53)	(2.85)
(3) Student → Inactivity	12,899	23,197	37,346
	(80.11)	(79.99)	(77)
Total	16,102	29,001	48,218
	(100)	(100)	(100)

Source: German Labour Force Survey. Note: Labour flows from student to employment, unemployment and inactivity are given for rural, peri-urban and urban areas in Germany. Each flow is expressed as total number of individuals (the first rows) and as a percentage of the previous year's students (in parentheses). The statistics are for the 2002-2009 period. N=17,330 for (1) Student → Employment; N=2,549 for (2) Student → Unemployment; N= 93,321 for Student → Inactivity.

Looking at the rural sample, 2,762 individual moved out of student status into employment, that is, 17 % of the previous year's students. Additionally, 441 individuals residing in rural areas moved into unemployment, which is approximately 3 % of the previous year's students. If we interpret the percentage of students who flow into employment as a proxy for labour market flexibility in accessing a first-time job, then rural and peri-urban labour markets are much less flexible than urban markets. While 17 % of the previous year's student population flows into employment in rural and peri-urban regions, approximately 20 % do so in urban areas. The percentage flowing into unemployment is similar across all study areas (approximately 3 %).

In recent labour market studies, the percentage flowing into inactivity is a commonly used measure of the difficulties faced by youths in the labour market (Bassani, 2006; Quintini and Manfredi, 2009; Scarpett et al., 2010). It captures inactive young people who are not engaged in education or training due to the risks of social and economic exclusion. The share of youths neither in

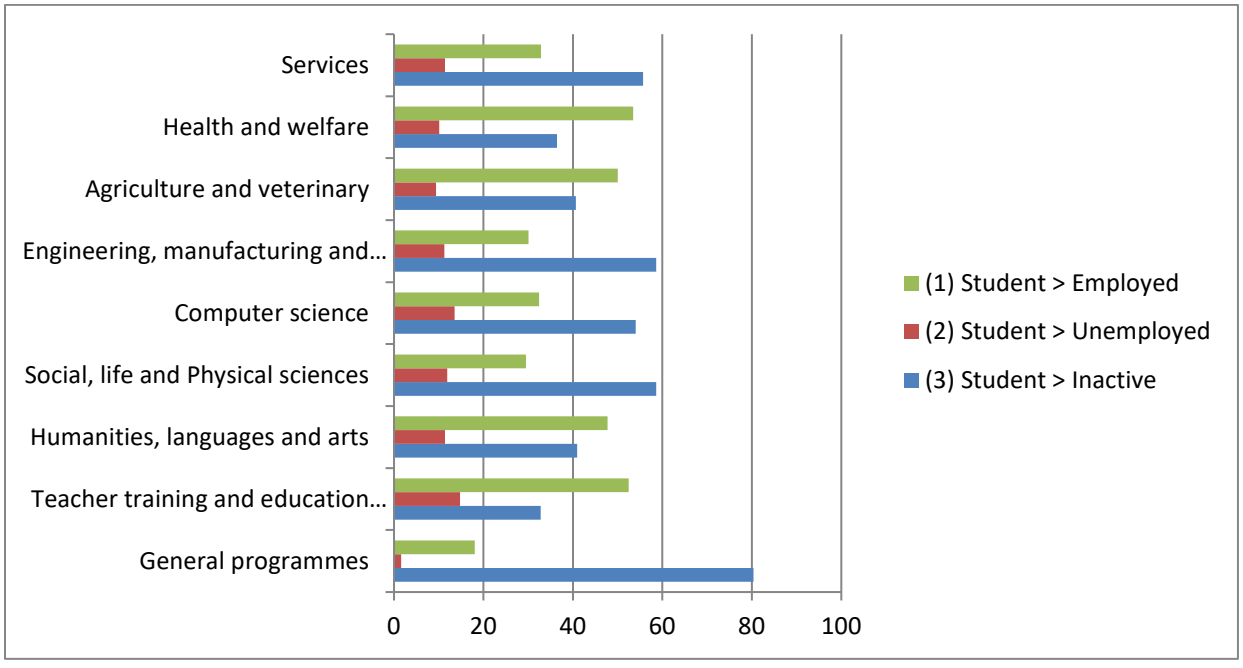
employment nor in education and training[4] provides further details on discouragement and marginalisation, which reflects social exclusion. The statistics for the 2007-11 period for Germany indicate that the NEET rate is below 10% (OECD 2012), which lower than the majority of other G20 countries.

In Table 1, the percentage flowing into inactivity is high across all three urbanisation degrees. More than one-half of the previous year's students flow into inactivity in the current year. This overestimated result can be explained by both the LFS dataset coding of the "current year working status" variable (as mentioned in the data section) and the peculiarity of the transition into the labour market just after graduation. The time gap between graduation and starting a job search could affect the current year working status of an individual, which could easily count as inactive, that is, not seeking employment during the previous four weeks.

4.2. The role of the discipline studied in first-job access

Figure 1 gives the percentage of employed, unemployed and inactive population among graduates by discipline.

Figure 1. Percentage employed (1), unemployed (2) and inactive (3) among previous-year graduates by nine disciplines, rural Germany.



[4] This measure, called the NEET rate, is studied using concepts such as "problematic transitions" (Furlong, 2006) and/or "disconnected youth" (Fernandes and Gabe 2009; Pfeiffer and Seiberlich 2010).

Source: German Labour Force Survey. Note: The statistics are for the 2002-2009 period, N= 15,427 (n=2,614 for Student → Employed sample; n=423 for Student → Unemployed sample; n=12,390 for Student → Inactive sample).

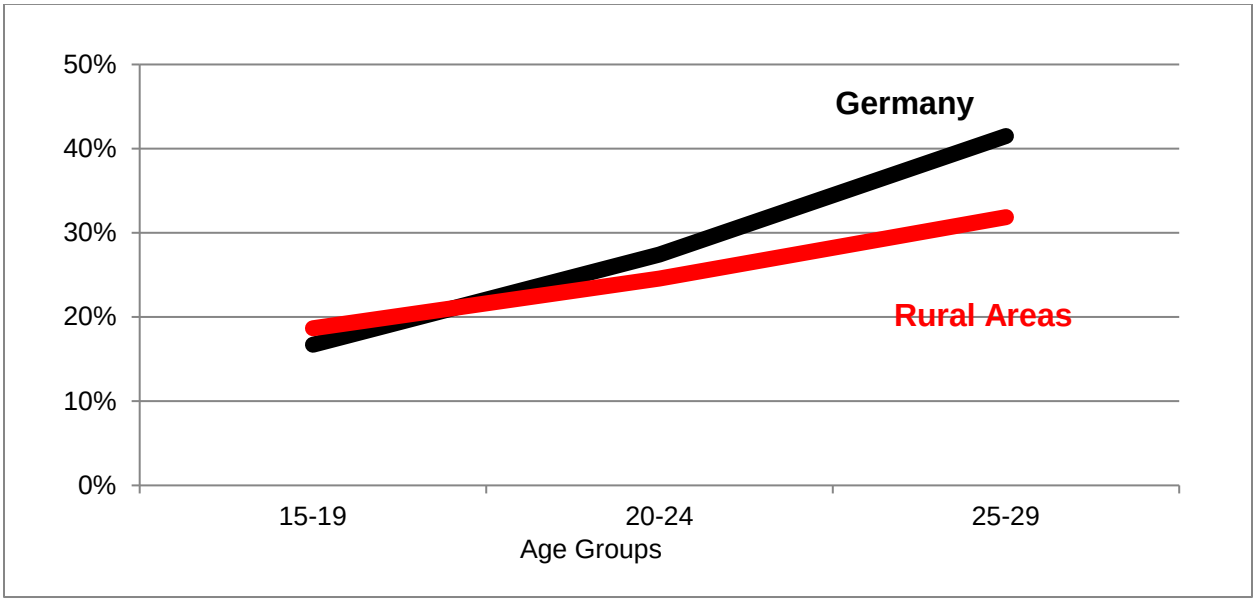
There are substantial differences in the transition probabilities to employment among disciplines. In rural Germany the probability of finding a job during the one-year period is between 18 % and 53 % (on average), depending on the discipline studied. The probability of flowing into employment is more than 50 % for graduates in health and welfare (53 %) and teacher training and education science (52 %). As expected, for students graduating in fields such as agriculture and veterinary (including market-oriented, skilled agricultural workers, farmers, and fishers), a high percentage (48 %) is employed relative to other disciplines.

Overall, Figure 1 allows us to capture the important role of the discipline studied in first job access for graduates of the health and welfare, agriculture and veterinary, and education science fields. Graduates in these disciplines have higher probabilities of flowing into employment relative to other disciplines, and accordingly, these fields exhibit lower probabilities of flowing into unemployment. The high percentage flowing into employment among graduates of health and education science may be explained by the standing role of public services in rural regions. In many rural areas of Germany, the proportion of very old and very young individuals within the demographic structure creates the highest demand for public services (OECD, 2007). Specifically, the importance of having graduated from the health and welfare fields to accessing a job within a year is probably due to the increased demand for healthcare in rural regions due to ageing and decreasing workforce availability (e.g., graduates not settling in rural areas) (Holst 2015; OECD, 2007). The development of the German health care system and rehabilitative care services in rural areas may allow health and welfare graduates to access jobs without an intervening long-term unemployment spell. In the area of rehabilitative care, services are provided primarily at inpatient facilities located in rural areas (Busse and Blümel, 2014). These health services are provided by health resorts, which also offer spa treatments that have become important in physical therapy in the German health sector (Busse and Blümel, 2014).

4.3. Age groups and trends in the student to employment flow

In Germany, rural regions face challenges in terms of employment, skilled worker availability, and land productivity (OECD 2007). Additionally, demographic trends are important due to the high level of out-migration from rural regions (Becker and Moser, 2013). Regarding migration balance by the degree of urbanisation, the percentage of youths (18-29 age group) migrating from German rural regions increased fivefold between 1995 and 2004 (as quoted in OECD 2007). To explore the role of age in youth access to jobs, Figure 2 compares the percentages flowing from student to employment at the national level and in rural areas for three age groups: 15-19, 20-24, and 25-29.

Figure 2. Percentage of the previous year's students who are employed in the current year (Student → Employment) by age group, average for the 2002-09 period.



Source: German Labour Force Survey.

For the 15-19 and 20-24 age groups, the probability of flowing from student to employment is approximately 20-30 % and does not differ much between the two samples (national level and rural areas). In line with our findings, a study by Culliney (2014) identified no difference in the shares of rural and urban respondents (under age 25) who access part- or full-time jobs in Britain.

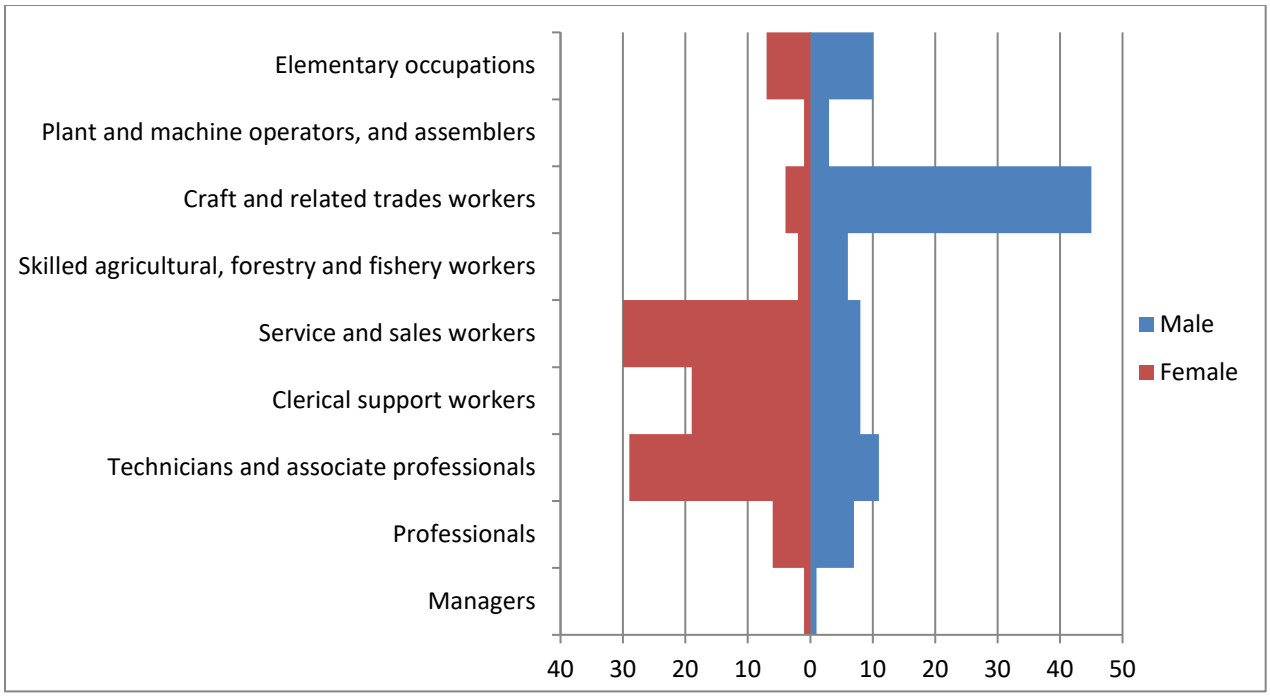
We do observe a gap between the rural areas and the national sample for individuals in the 25-29 age group. The lower likelihood of transitioning from student to employed status among rural residents highlights the challenges faced by youths in accessing a first job in rural areas.

The results indicate that beginning around age 25, youths have greater difficulty accessing jobs in rural labour markets relative to the national level. The difference in access to a job between age groups is due to factors such as a greater chance of finishing a high level of education in the 24-29 age group, not looking for seasonal jobs and/or the higher skill level required compared to the younger age groups. Unlike at the national level, a lower probability of flowing into employment among the 25-29 age group may be explained by restricted opportunities in rural regions, such as shortages of affordable housing and poor or costly transport. This is one of the common features of European rural labour markets identified in a study by Cartmel and Furlong (2000) and observed by Unay-Gailhard and Baqueiro-Espinosa (2015).

4.4. Gender in the student to employment flow by socio-professional category

Figure 3 compares the male and female populations and depicts the socio-professional distribution of individuals in the student to employment flow.

Figure 3. Percentage of the previous year's students who are employed in the current year (Student →Employment) by socio-professional category, rural Germany.



Source: German Labour Force Survey. Note: N= 8,117 for the female sample and N= 7,499 for the male sample, average for the 2002-09 period.

The results indicate that there are striking gender differences by the fields in which individuals are employed in their first jobs. Of the males in our sample, 45 % are employed as crafts and related trade workers. This category includes metal, machinery, handicraft, electrical and food-processing workers. In contrast to the male sample, half of the female socio-professional distribution is not concentrated in a single profession. While 30 % of rural females work in the services sector (includes personal services workers, sales workers, and personal care workers) 29 % of women work as technicians and associate professionals and 19 % as clerical support workers. Very few males work in these three categories (below 8 %). The next highest share for females is in the elementary occupations (7 %), which is similar to the 10 % observed for males.

These patterns are consistent with those found in other studies on Western European countries. As summarised in studies by Smyth, (2002) and Russell et al (2010), there are certain regularities in discipline and profession by gender. While females have dominant roles in health and welfare (covers mainly service workers), teaching and education (covers mainly professionals) and the arts, males dominate among engineering professionals.

In Figure 3, gender differences in employment by socio-professional category are greater when we interpret the distribution taking the corresponding skill level of each profession[5] into account (see Appendix A for the mapping of skill levels). It appears that rural females are more able to access higher-skilled occupations as a first job relative to rural men (while technicians and associate professionals are equivalent to skill level 3, crafts and related trade workers represent skill level 2). A further gender-specific analysis of the socio-professional category distribution for urban areas indicates that, relative to rural areas, there is higher percentage of females than males in high-skill occupations.

That a high proportion of females obtain their first jobs in the service sector corresponds to the finding that a small percentage of females whose degrees were related to services are unemployed. Without gender division, a study by Jacob et al., 2015 provides a complementary overview, presenting evidence for Germany using the International Socio-Economic Index of Occupational Status (ISEI) and finding that a higher proportion of graduates obtain service positions as their first job.

5. Econometric model: determinants of job access after leaving education

The econometric model aims to estimate the impact of each individual's socio-familiar position, socio-economic characteristics and interrelations with labour market institutions on job access after leaving education. Table 2 presents the average marginal effects of the multinomial logit model evaluated at the sample mean transition probabilities. The three labour force flows are modelled as employment, unemployment, and inactivity with a base category of employment. Based on our main research question, the interpretation focuses on the determinants of the transition to employment. The complete multinomial logit model results with the three transition flows are given in Appendix C.

[5] In the LFS, the skill level is defined as "A function of the complexity and a range of tasks and duties to perform in an occupation" (ILO, 2008). While managers and professionals represent high skill levels, elementary occupations, plant and machine operators represent low skill levels.

Table 2. Results of the gender-specific multinomial logit models: determinants of the student to employment flow, 2002-09.

	(1) Student → Employment	
	Female	**Male**
	Coef.	Coef.
	(Std.)	(Std.)
Socio-familiar position		
Age groups		
20-24	0,038***	0,038***
	(0,006)	(0,007)
25-29	0,067***	0,073***
	(0,008)	(0,008)
Marital status		
Married	-0,029**	0,069***
	(0,012)	(0,015)
Socio-economic characteristics		
Education level		
Medium	0,095***	0,026***
	(0,006)	(0,007)
High	0,301***	0,286***

	(0,010)	(0,010)
Urbanisation degree of residence		
Rural	0,003	0,022***
	(0,005)	(0,005)
Peri-urban	0,001	0,014***
	(0,004)	(0,004)
Interrelations with labour market institutions		
Registration status to public employment services		
Registered	0,105***	0,080***
	(0,012)	(0,012)

*Source: German Labour Force Survey. Note: Standard errors of average marginal effects are presented in parentheses, * significant at 10 %; ** significant at 5 %; *** significant at 1 %. In the model, the variables the 15-19 for age group (teenagers), low education level, single, living in an urban area and not having registered for public employment services were used as the base (reference) categories for the explanatory variable groups.*

As expected, the older the individual, the higher the likelihood of being employed within a year of graduation for both females and males. The positive effect of ageing suggests that the 25-29 age group faces higher probabilities of flowing into employment without a long-term unemployment spell relative to teenagers and young adults aged 20-24. This may be explained by the higher probability of labour supply in the 25-29 age group (achieving higher skills and/or educational attainment) than those younger than 24. Recent statistics for Germany support this argument. Glancing at youth education and employment, on average, one-half of 15-25 year-old students' earnings come from employment, whilst this proportion is higher (approximately 65-70 %) among 25-29 year-old students (OECD 2013).

The findings concerning marital status indicate that for women, the marginal effect of being married is negative and significant. This may be interpreted as follows: among youths, married women are less likely to transition to employment from student status. In contrast, the marginal effect of being married is positive and statistically significant for men. Overall, while marriage increases the probability of obtaining one's first job within a one-year period for males, it decreases the likelihood for females, possibly due to different gender roles, responsibilities or strong spousal peer effects on labour market outcomes. This difference may be explained by the concept of work-

life balance, the relationship between work and the commitments in the rest of the individual's life. Although in the previous literature (Hardy and Adnett, 2002; Panisoara and Serban, 2013), work-life balance has been predominantly viewed as a female problem (mainly due to childcare responsibilities), this study demonstrates that being married decreases the employment probability early in the careers of young females. This finding seems to be in accordance with a socio-economic study by Eveans (2002) on labour market participation equality in German society from a young adult perspective (18-25 age group). As the author mentions, "although women were generally seen as having the same chances as men at work, this view was often expressed that women must at some point choose between work and family".

Regarding the three main levels of education, in the female and male models, the marginal effects of medium and high levels of education on the student to employment flow are positive and significant. Considering the average marginal effect of each education level, youths who leave education at a high level (bachelor's, master's and doctoral degrees or equivalent programmes) are more likely to access employment within a year than their counterparts who leave at the medium level (second stage of secondary education and non-tertiary education). This is consistent with the social capital literature, which sees the education level as an important predictor of positive outcomes in the labour market for young people (Putnam 2000; Porfeli et al. 2009) because more educated individuals are more likely to achieve higher qualifications. Our findings support this view for both genders, with slight differences in coefficient of the average marginal effects. Whilst these may be considered small differences, they further demonstrate that the positive effect of high level of education on employment access within a year is higher for female relative to male graduates.

The study by Iannelli and Smyth (2008) provides broader evidence of gender differences in the highly educated youth labour force's transitions across 12 European countries[6], and countries vary in the extent to which gender affects early labour market outcomes. In France and Belgium, young female are found to be at a disadvantage in accessing employment relative to their male counterparts, even if they have high educational qualifications, whereas the reverse is the case in Slovenia and Romania (in post-communist countries). The authors explain this gender

[6] Austria, Belgium, Spain, Finland, France, Greece, Hungary, Italy, Romania, Sweden, Slovenia and Slovakia.

differentiation across countries based on the nature of the countries' welfare regimes, with the difference being more pronounced in familial and conservative systems.

Contrary to our expectations, living in rural locations does not suggest an unfavourable influence on accessing a job within a one-year period. When we consider the role of urbanisation on the student to employment flow, the results indicate that the effect differs by gender. While the marginal effects of the variables for rural and peri-urban areas are statistically insignificant for females, they are positive and significant for males. Males who live in rural and peri-urban areas are more likely flow into employment from student status relative to those in urban areas. However, this positive sign must be interpreted with caution. The results related to access to employment opportunities in rural and peri-urban locations do not provide a link between the residence of an individual and the occupation entered or the place of employment. Although there are few studies of rural youth employment prospects, previous literature has noted that rural youths are more dependent on temporary jobs and/or occupations without promotion opportunities (Hodge et al. 2002; Midgley and Bradshaw 2006; Culliney 2014). Additionally, commuting between rural places of residence and urban places of employment is commonly observed among most European countries (Eliasson et al., 2003; Moss et al., 2004; Unay-Gailhard, and Baqueiro-Espinosa, 2015).

The estimation results for being registered for public employment services indicate that the marginal effects on employment flows are statistically significant and positive for both genders. This suggests that, relative to the non-registered youth population, registered individuals are more likely to obtain their first job within one year. The findings indicate that, in the year immediately following graduation, registering for public employment services is an effective job search strategy for obtaining an occupational match. Our results are in line with studies considering this issue from the employee perspective. Unemployment benefits are seen as a "search subsidy", and there are positive effects of unemployment benefits on flows into employment and unemployment durations (Gangl 2003). However, benefit receipts concern a notable number of young people in Germany (Brigitte, 2013), and the important role of public employment services besides unemployment benefits for young graduates concerns active job search support.

6. Discussion and Conclusion

The aim of this paper is to investigate the labour market transitions of young people attempting to access jobs after leaving education and to explore differences in these transitions between women and men in rural Germany. The labour market transitions experienced at the beginning of one's career can be influenced by both the supply and demand sides of the labour market. The supply side refers to potential employees and their characteristics, whereas the demand side refers to employers' requirements.

Our study applied a transitional labour market approach and focused on potential employee characteristics, such as socio-familial characteristics (age, marital status), socio-economic characteristics (education, urbanisation degree of residence) and interrelations with labour market institutions. The empirical analyses provided insights into whether living in rural areas must be considered an obstacle to accessing to a first job within a one-year period relative to those living in urban areas. The gender-specific multinomial model focused on the student to employment flow during the one-year period after graduation.

Age and education variables that are widely used in previous studies linking human capital theory and labour markets were included in the student to employment flow analysis. Consistent with the results reported by Lauerová and Terrel (2002), our study indicated that age and education are important in explaining the transitions of both females and males to employment. Furthermore, our study highlights that the probability of a school-to-work transition without a long unemployment spell increases considerably with age. Despite these results, our interpretation is made in light of Dietrich (2012), which provides valuable insights. This author mentioned that in EU member states, 50 per cent of unemployed people below 25 years of age could have been in a period of short-term unemployment that lasted less than six months.

The conclusion that highly educated individuals are more likely to find a job within a one-year period contrasts with the findings of Baert et al., (2013). They observed that over-education may be a trap at the beginning of one's career. This different conclusion can be easily explained by the definition of a "high education level". In our study, the high level of education includes bachelor's, master's and doctoral degrees or equivalent programmes, while in Baert, et al. (2013), a worker is

considered overeducated if her/his education is higher than the level that is typically required to perform a job adequately. Based on their analysis of the role of a low education level in flows into employment, Bottrell and Armstrong (2007) highlight changing labour market conditions for youth and suggest that working class school resistance is becoming increasingly difficult due to diminishing unskilled labour trends and increasing competition for unskilled work. On the demand side of the labour market, as the fixed costs of hiring highly educated workers and training them are higher than those associated with less educated workers, unskilled individuals are more likely to be hired by employers (Lauerová and Terrel 2002). Although we have seen that individuals with a medium level of education are less likely to flow into employment within a one-year period than their highly educated counterparts, it remains clear that a high education level is seen as a means to prevent the risks of long-term unemployment after graduation without considering earnings, type of contract or job satisfaction.

From a life course perspective, marriage represents a personal-level transition, and attachment to the construct of marriage can change an individual's trajectory. Our study indicated that being married decreases female graduates' likelihood of transitioning from student to employment relative to their single peers. These results are in line with previous studies on normative expectations in German society; the withdrawal of women from the labour market is socially and culturally accepted (Gottschall and Bird 2004; Eveans, 2002). From our perspective, this is especially true for married women younger than 30 years old. However, being married has a positive influence on flows into employment for male graduates. The opposite effects of being married on flows into employment by gender may be explained by both job search theory and the traditional division of labour supported by existing tax rules for married couples. Although further research is needed to shed more light on the actual reasons for this pattern, our findings are line with job search theory (Devine et a., 1991), that is, a partner with financial resources is seen as providing a "search subsidy" to the other partner, causing a long-term unemployment period. Further, as Wrede (2003) remarks, the German income tax system subjecting the major earner to lower taxation and the minor earner to higher taxation may promote the division of labour inside a family and might harm the marriage partner who is more efficient in household production.

From the transitional labour market approach, the negative relationship between marriage and entering the labour market for female graduates may create both a barrier to employability and a potential social risk that may increase the difficulty of integration into the labour market over the long run. In the politics of transitional labour markets, it is important to know the perception of risk at specific phases of an individual's life. To avoid social risks, our findings call for equal opportunity policies in terms of affirmative action early during married women's careers.

The higher probability of unemployment in rural areas relative to urban regions has been cited as a significant explanatory factor for social exclusion problems among youths residing in certain rural areas (Shucksmith, 2004). This issue has been analysed in depth in immigration studies (Rérat 2014). In our labour force transition study, living in rural locations does not suggest a significant negative effect in accessing a job within one year among graduates. Our approach revealed that living in rural areas has a positive effect on the likelihood of becoming employed within a one-year period for the previous year's male graduates, whereas this effect does not explain the employment transitions of females. However, this positive labour force transition pattern for the male population should be interpreted with caution due to the complex nature of rural labour markets in which we more frequently observe short-term or part-time employment (Cartmel and Furlong 2000). Further, the location individuals turn to in realising their job preferences and the extent to which these job opportunities are seen as traces of rural-urban integration through commuting ties between rural places of residence and urban places of employment remains unclear. From another point of view, if the positive effect of the urbanisation degree on male employment crowds out female employment via decreased female hires, then one would expect female rates of transition to be negative in rural and peri-urban areas. This crowing-out effect could be clarified through further analysis of the relationship between male and female transition rates over time.

Living in rural regions is not found to be a significant determinant of the likelihood of transitioning to employment among young females. The absence of a significant effect for rural areas suggests that it has no or little influence on access to employment among young female graduates (although it is important to access employment in previous studies). These findings further illustrate that a

rural location should not be treated as a single concept that produces similar effects in the early careers of graduates of both genders; indeed, gender differentiation needs to be considered.

Although individuals who registered for public employment services after graduation are more likely to flow into employment within a one-year period, our empirical results indicated that the youth sample faces strong incentives to not register. Prior studies demonstrate that the limited number of individuals registering for such services do so to avoid matching with the worst occupations (Larsen and Vesan 2012). Although our results did not reveal the level of satisfaction the previous year's graduates with their occupations in the current year, the findings indicate that public employment services are beneficial for addressing unemployment among youths, even early in their careers.

From an institutional labour economics perspective, our results confirm that providing institutional services to graduates increases the speed of transitions to employment. Consistent with a recent study by Wunch (2013), the service type and period in which it is provided by the public employment services agency (e.g., duration of job search assistance) is important for accessing a job. This author provides evidence from West Germany (over the 2000-2002 period), suggesting that, in line with existing policies, job search assistance programmes are more effective if provided to individuals for short durations at the beginning of an unemployment period. Overall, the findings related to the positive effect of public employment services means for policy discourses on the strengths and weaknesses of youth activation policies in Europe (Quintini, Martin, and Martin, 2007; Martin and Grubb, 2001; Wilkinson, 2003; Blundell et al., 2003) over the school-to-work transition period.

Although the labour flow analysis yields a clear picture of the movement of the youth labour force into and out of the labour market, the use of extant frameworks could offer deeper insights into the institutional basis of the job market by considering contract type and job satisfaction. Due to the limitations of the dataset, the authors do not provide further evaluations of differences in the structure of the labour market between East and West Germany. As highlighted by previous studies (Brakman and Garretsen, 1993; Kluve et al., 2009; Schmitt, 2012), in addition to our focus on rural-urban differences, the East-West divisions in the labour market are observed in many areas

(e.g., wage structure, labour productivity, labour force participation rate, childcare facilities, and long-term unemployment rates). Further research on the school-to-work transition should consider both the institutional basis of first-time contracts and the spatial structure of East and West Germany using an economic geography framework.

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Appendix A. German Labour Force Survey (LFS), list of used LFS variables with definitions.

Previous year working status: WSTAT1Y: Situation with respect to activity one year before the survey:

1= Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship, paid traineeship, etc.

2= Unemployed

3= Pupil, student, further training, unpaid work experience

4= In retirement or early retirement or has exited the labour force

5= Permanently disabled

6= In compulsory military service

7= Fulfilling domestic tasks

8= Other inactive person

9= Not applicable (child of fewer than 15 years)

Current year working status: ILOSTAT: International Labour Office (ILO) working status

1= Employed: *A person is considered as having employment if he or she did any work for pay or profit during the reference week. "Work" means any work for pay or profit during the reference week, even for as little as one hour.*

2= Unemployed: *comprises persons aged 15 to 74 who were:*

(a) without work during the reference week, i.e., neither had a job nor were at work (for one hour or more) in paid employment or self-employment;

(b) currently available for work, i.e., were available for paid employment or self-employment before the end of the two weeks following the reference week;

(c) actively seeking work, i.e., had taken specific steps in the four-week period ending with the reference week to seek paid employment or self-employment or who found a job to start later, i.e., within a period of at most three months.

3= Inactive: *Those who are neither classified as employed nor unemployed*[7]*. As reflected in the LFS, examples of inactive individuals would be: individuals who are not seeking any employment, discouraged workers who believe that there is no work available, and the individuals caring for children or incapacitated adults (Eurostat, 2006).*

4= Compulsory military service

9= Persons fewer than 15 year-old

This study dropped individuals in Compulsory military service and those fewer than 15 years of age from the model.

Socio Professional Categories: ISCO1D: International Standard Classification of Occupations (ISCO)

Skill levels	Socio Professional Categories (SPC)

[7] As inactive status in the Labour Force Survey may be assigned, a more detailed analysis was conducted to obtain an unambiguous definition of the status. As reflected in Guinea and Betts (2003), classifying an individual as inactive is subject to the responses provided to the following questions in the Labour Force Survey: (i) were you looking for any kind of paid work?, (ii) are you available to work?, and (iii) would you like to have a regular paid job at the moment?

3+4	100=Managers
4	200=Professionals
3	300=Technicians and associate professionals
2	400=Clerical support workers
2	500=Service and sales workers
2	600=Skilled agricultural, forestry and fishery workers
2	700=Craft and related trades workers
2	800=Plant and machine operators and assemblers
1	900=Elementary occupations

In ISCO, while skill is defined as the ability to perform the tasks and duties of given job, skill level is defined as a function of the complexity and range of tasks and duties to be performed in an occupation.

SEX: Sex of interviewed person

1= Male

2= Female

AGE: Age of interviewed person.

This study divided the LFS age groups into three main categories as follows:

15-29= youth population

30-54= prime age groups

55-64= old workers

Our analysis considered respondents aged 15-29 and dropped the other two age categories. In the LFS while age 15 represents the average of ages 13-17, age 29 reflects the average of ages 24-29.

Marital Status: MARSTAT: Marital status of respondents

1= Single

2= Married

3= Widowed

4= Divorced or legally separated

In the multinomial logit model, the marital status groups were coded as MARITAL STATUS= 1 and 3 and 4 for single individuals and MARITAL STATUS=2 for married individuals.

Education : HATLEVEL: Highest level of education or training successfully completed

1= Low education level (Early childhood education, Primary education, and First stage of secondary education)

2= Medium education level (Second stage of secondary education and post-secondary, non-tertiary education)

3= High education level (Bachelor's, master's and doctoral or equivalent programmes)

The classification of the levels contains 8 levels of the International Standard Classification of Education (ISCED) statistical framework.

Graduated disciplines: HATFIELD: Field of highest level of education or training successfully completed: general programmes; teacher training and education science; humanities, languages and arts; foreign languages; social sciences, business and law; life science; physical science; computer science and computer use; engineering, manufacturing and construction; agriculture and veterinary; health and welfare; and services

Urbanisation Degree of Residence: DEGURBA: The level of urbanisation in the respondents' areas of residence

1= Densely populated area: *This is a contiguous set of local areas, each of which has a density of greater than 500 inhabitants per square kilometre, where the total population of the set is at least 50,000 inhabitants.*

2= Intermediate area: *This is a contiguous set of local areas, not belonging to a densely populated area, each of which has a density greater than 100 inhabitants per square kilometre and either with a total population for the set of at least 50,000 inhabitants or located adjacent to a densely populated area.*

3= Thinly populated area: *This is a contiguous set of local areas belonging neither to a densely populated nor to an intermediate area. A set of local areas totalling fewer than 100 square kilometres, and failing to achieve the required density, but entirely enclosed within a densely populated or intermediate area, is considered to form part of that area. If it is enclosed within a densely populated area and an intermediate area, it is considered to form part of the intermediate area.*

The analysis considers these three categories urban, peri-urban and rural areas, respectively. This concept is based on the population size, density and contiguity of local administrative units (LAUs[8]) level 2. This typology is based on the OECD method, which defines rural regions within the share of population in rural LAU2s by population density (Eurostat 2011).

Registration Status to Public Employment Service : REGISTER: The individual's registration status at a public employment office (PEO) to receive unemployment benefits, be entitled to other benefits (e.g., community assistance; health insurance) and/or to receive assistance with job search tasks.

1= Person is registered at a (PEO) and receives benefits or assistance

2= Person is registered at a (PEO) but does not receive benefits or assistance

3= Person is not registered at a (PEO) but receives benefits or assistance

[8] The intention of LAUs is to divide the economic territory of the EU for statistical purposes at the local level. Two levels of LAU have been defined: (i) the upper level (LAU1, formerly NUTS level 4) is defined for most, but not all, EU countries. (ii) The lower level (LAU2, formerly NUTS level 5) consists of municipalities or equivalent units in the 27 EU Member States.

4= Person is not registered at a (PEO) and does not receive benefits or assistance

In the multinomial logit model, this variable was operationalised by transforming the four categories into dummy variables, specifically, REGISTER=1 and 2 for registered status and REGISTER= 3 and 4 indicate non-registered status.

COEFF: Yearly weighting factor: *Each person in the survey sample may be considered "representative" of a certain number of other persons not in the sample. The record for each responding individual is therefore assigned a weight indicating how many persons are "represented" by this individual in this sense. To ensure consistency between individual and household statistics, the same weighting factor should be allocated to all members of the household.*

Source: Eurostat, 2010; ILO, 2012; EU, 2003.

Appendix B. Study sample as a percentage (%) of the population (average of 2002-09).

	Female N= 47,217			Male N=46,104		
	(1) Student → Employment N=8,919	**(2) Student → Unemployment N=1,226**	**(3) Student → Inactivity N=37,072**	**(1) Student → Employment N=8,411**	**(2) Student → Unemployment N=1,323**	**(3) Student → Inactivity N=36,370**
Socio-familiar position						
Age groups						
15-19	43.01	50.98	68.19	48.48	50.79	66.38
20-24	36.95	30.26	24.67	27.10	28.50	22.82
25-29	20.04	18.76	7.14	24.42	20.71	10.80
Marital status						
Married	2.61	3.92	1.36	2.15	2.49	0.65
Socio-economic characteristics						
Education level						
Low	43.72	57.01	70.60	52.23	59.33	69.99
Medium	44.18	28.22	27.91	35.83	29.71	28.78
High	12.11	14.76	1.49	11.94	10.96	1.22
Urbanisation degree of residence						
Urban	15.17	18.35	17.89	16.75	16.33	17.23
Peri-urban	27.55	28.55	31.34	31.07	29.02	31.83
Rural	57.28	53.10	50.77	52.18	54.65	50.94
Interrelations with labour market institutions						
Registration status to Public Employment Service						
Registered	2.48	70.15	1.01	2.28	73.92	1.09

Source: German Labour Force Survey.

Appendix C. Results of the gender-specific multinomial logit models, 2002-09.

	(1) Student → Employment		(2) Student → Unemployment		(3) Student → Inactivity	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**
	Coef. (Std.)	Coef. (Std.)	Coef. (Std.)	Coef. (Std.)	Coef. (Std.)	Coef. (Std.)
Socio-familiar position						
Age groups						
20-24	0,038***	0,038***	0,003*	0,004*	-0,041***	-0,042***
	(0,006)	(0,007)	(0,002)	(0,002)	(0,006)	(0,007)
25-29	0,067***	0,073***	0,003	0,001	-0,069***	-0,075***
	(0,008)	(0,008)	(0,002)	(0,003)	(0,008)	(0,008)
Marital status						
Married	-0,029**	0,069***	0,003	0,000	0,026**	-0,069***
	(0,012)	(0,015)	(0,003)	(0,004)	(0,013)	(0,016)
Socio-economic characteristics						
Education level						
Middle	0,095***	0,026***	0,001	0,005**	-0,096***	-0,031***
	(0,006)	(0,007)	(0,002)	(0,002)	(0,006)	(0,007)
High	0,301***	0,286***	0,020***	0,022***	-0,321***	-0,309***
	(0,010)	(0,010)	(0,003)	(0,003)	(0,010)	(0,011)
Urbanisation degree of residence						
Rural	0,003	0,022***	-0,001	-0,003	-0,002	-0,019***
	(0,005)	(0,005)	(0,002)	(0,002)	(0,005)	(0,005)
Peri-urban	0,001	0,014***	0,001	-0,002	-0,002	-0,012***
	(0,004)	(0,004)	(0,001)	(0,001)	(0,004)	(0,004)
Interrelations with labour market institutions						
Registration status with public employment services						
Registered	0,105***	0,080***	0,077***	0,082***	-0,182***	-0,162***
	(0,012)	(0,012)	(0,001)	(0,001)	(0,012)	(0,012)

*Source: German Labour Force Survey. Note: standard errors of average marginal effects are presented in parentheses, * significant at 10 %; ** significant at 5 %; *** significant at 1 %. In the model, the variables for the 15-19 age group, low education level, single, living in an urban area and not having registered for public employment services were used as the base (reference) categories for the explanatory variable groups. N=47,217 for the female sample and N=46,104 for the male sample.*