

von Proff, Sidonia

**Working Paper**

How individual characteristics and attitudes shape the job search process of graduates.

Working Papers on Innovation and Space, No. 02.15

**Provided in Cooperation with:**

Philipps University Marburg, Department of Geography

*Suggested Citation:* von Proff, Sidonia (2015) : How individual characteristics and attitudes shape the job search process of graduates., Working Papers on Innovation and Space, No. 02.15, Philipps-University Marburg, Department of Geography, Marburg

This Version is available at:

<https://hdl.handle.net/10419/111907>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

## How individual characteristics and attitudes shape the job search process of graduates

# 02.15

Sidonia von Proff

***Impressum:***

Working Papers on Innovation and Space  
Philipps-Universität Marburg

Herausgeber:

Prof. Dr. Dr. Thomas Brenner  
Deutschhausstraße 10  
35032 Marburg  
E-Mail: [thomas.brenner@staff.uni-marburg.de](mailto:thomas.brenner@staff.uni-marburg.de)

Erschienen: 2015

# How individual characteristics and attitudes shape the job search process of graduates.

**Sidonia von Proff<sup>1</sup>**

<sup>1</sup> Department of Geography, Philipps University of Marburg, Germany,  
vonproff@staff.uni-marburg.de

## **Abstract:**

Economic factors and individual attitudes have an impact on the mobility of university graduates. At this point of the life, mobility is highest, but still little is known about the process leading to actually starting a job at a certain place. The paper at hand investigates the job search process by means of a graduate survey at two points in time: prior to graduation and one year later. We asked for individual characteristics and attitudes during the job search, ex ante preferred places, and actual locations of the first job. Hence, we are able to show that a spatial focus or certain attitudes during the search do not have an influence on finding a job, but on the duration of the job search. Furthermore, searching at a familiar place does not necessarily lead to a job actually at a familiar place.

**Keywords:** graduate mobility, regional labour mobility, universities, Germany

**JEL Classifications:** J61, I23

## 1. Introduction

Each graduate has his or her own strategy to find a job. Different media are available for the search for job openings if not private contacts are used for the search. It is possible to search completely independent of the location of the job, to constrain to a country, or to search at specific places of interest, e.g. places where the own family lives or where the quality of life is known to be high. Others take only the job and firm characteristics into account. The paper at hand will investigate what impact these individual characteristics and attitudes have on employment success and location of the first job. This topic contributes to the research on graduate mobility. Most studies in this field analyse performed moves and investigate the impact of various external factors and personal characteristics on the decision to move. The most important factors influencing migration are income and employment opportunities in regions (see e.g. Greenwood 1973, Falk and Kratz 2009) as well as proximity to family and friends (see e.g. Buenstorf et al. 2014, Dahl and Sorenson 2010). Winners of this inter-regional competition for graduates are central, prospering regions while peripheral areas usually lose graduates (Venhorst 2013, Haapanen and Tervo 2012, Flöther and Kooij 2012). However, even non-metropolitan university regions sometimes attract more students than they are losing after graduation - at the expense of non-university regions (see Flöther and Kooij 2012 for Germany and Winters 2011 for the US). These ex-post studies do not take into account the spatial preferences of graduates for certain places which probably guides their job search process, as do further individual characteristics and attitudes.

Von Proff et al. (2014) made a first step to take individual attitudes of the prospective graduates into account and investigated how these characteristics influence the geographic scope of the job search. In particular, working near to home or university region was an option for almost all graduates, even though many had preferred places where they had not lived before. Graduates who had moved to come to the university region were more likely wanting to move again. However, the paper of von Proff et al. (2014) evaluates the preferences of the graduates at the beginning of their job search. This neglects the actual decision for a job and the place of the job. The paper at hand fills this research gap. It takes the whole job search process into account by investigating data from two surveys of the same graduates: prior to graduation and one year later. Thus, the contribution of the paper to the literature is that we include attitudes and preferences of the graduates (as revealed by the individuals themselves) and analyse how the attitudes prior to graduation influenced the success of the job search as well as the place of the first job. In particular, our research questions are: (1) who has found a job? (2) who needed longer for the job search? And (3) who has found a job at a familiar place?

The data come from a survey among graduates from three universities in Middle Hesse, which was conducted twice: prior to graduation and one year later. Middle Hesse is an economically average strong, urbanized German region without large cities (the both largest cities, Giessen and Marburg, have both around 80,000 inhabitants and host the three universities under observation). The constraint on two proximate cities helps to get consistent results, because the regional characteristics of the university region are the same for all survey participants. Since characteristics of the university region have an impact on mobility decisions (Falk and Kratz 2009), we have homogenous data in this respect.

The remainder of the paper is structured as follows. Section two contains findings from earlier studies on graduate mobility and the job search process. Hypotheses are derived from these findings and from own considerations on the influence of job search process characteristics. In the third section the dataset is described and some statistics are provided. Results for each of the three research questions are presented and discussed in section four. Section five concludes.

## 2. Literature review and theory

The literatures on characteristics that increase the probability for graduates to find a job is extensive. Since the focus of the paper at hand lies on attitudes during the job search, only the most important insights for the objective characteristics are presented shortly. Section 2.3 then focuses on the attitudes and preferences.

### 2.1 Studies on factors influencing employability

Krabel and Flöther (2014) distinguished between four types of arguments related to the job search process: the human capital endowment, social capital endowments, and demographic characteristics of job seekers, as well as regional economic conditions.

Human capital theory focuses on the optimisation of income and job satisfaction (Sjaastad 1962). A better education is related to career advances (Baruch and Leeming 2001). University graduates are all highly educated, nevertheless, there are differences in the certificates (Bachelor, Master etc.) and the grades (as a measure of the studies' success) vary. The best students, i.e. those with the best grades can be assumed to find a job especially quickly after or even before graduation. However, they have the possibility to be selective in order to find the optimal job. Hence, in the study of Krabel and Flöther (2014), the grade has no significant impact on the probability to be employed one year after graduation.

Regarding the social capital one can assume that having a large network helps to find a job. Krabel and Flöther (2014) do not find a positive impact of the help of relatives or friends during the job search on the likelihood of being employed. However, in a direct comparison of job applications via contacts with other forms of applications, Obukhova and Lan (2013) find a much higher success probability of applications via contacts. Furthermore, business internships help to find a job, because internships are a form of work experience. In addition, internships lead to a certain probability to be employed later by the respective firm, because the firm has good information how well the graduate matches for a job (Krabel and Flöther 2014; Obukhova and Lan 2013).

Demographic factors influencing employability are age, gender, family obligations, and more. Employability often decreases with age, but when focusing on graduates, the effect should hardly be observable, since most university graduates are of similar age somewhere in the twenties. The findings for gender reveal that women are disadvantaged on the labour market and it is more difficult for them to find a job (Krabel and Flöther 2014). They find in addition, that having children has a negative impact on finding a job only for female graduates.

Graduates in more peripheral regions could be disadvantaged because there are fewer jobs in the university region. If, however, they are mobile within the country or even abroad, this should not be

a problem for finding a job. Indeed, Krabel and Flöther (2014) found that graduates in more peripheral German regions do not have a disadvantage for finding a job, even though they have to be more mobile.

## 2.2 Studies on factors influencing mobility

Higher education graduates are more mobile than other groups of the population (Miller 1977). However, the majority of them do not move from their region of studies (Di Cintio and Grassi 2013, Gottlieb and Joseph 2006, Haapanen and Tervo 2012, Marinelli 2013, Venhorst et al. 2011), and if they move, they often move to neighboured regions (Hansen et al. 2003). There are strong pull factors keeping them at familiar places (see also the next subsection below). Nevertheless, there are some factors having a positive influence on mobility which will be discussed in the following. For example, prior moves have a large impact on the propensity to move again (Haapanen and Tervo 2012, von Proff et al. 2014). We will focus on within-country mobility, because between-country mobility is strongly connected with immigration policy issues, language, and other factors which are out of the scope of this study.

Sophisticated jobs for highly educated persons are not evenly distributed in space and tertiary educated people move disproportionally often to innovative and growing cities and leave rural regions (Faggian et al. 2013, Haapanen and Tervo 2012, Krabel and Flöther 2014). The best students have more choices for the first job, whether these are located at a familiar place or somewhere else is not determined from the outset. Empirically, Krabel and Flöther (2014) found the students with higher grades to be significantly less mobile, while Faggian et al. (2007a) found better Scottish graduates to move over larger distances than those with lower grades. The evidence for internships is mixed as well: while the German graduates who completed internships are less mobile in the study of Krabel and Flöther, the respective Dutch graduates in the study of Venhorst et al. (2011) are more mobile. This certainly depends on the location of the internships, which were not reported in both studies. According to von Proff et al. (2014) graduates having done an internship are less often spatially open during job search and have preferred places which are on average farther away. This hints at a bonding influence of internships, but the place of the internship plays a larger role than the fact of having done one.

Demographic factors influencing mobility are largely the same as for employability. Mobility is highest for individuals at the age of labour force entrance and lower for younger and older ones. Venhorst et al. (2011) do not find an influence of age on within-country mobility for college graduates but an inverted-u relationship for university graduates, Faggian et al. (2007a) do not find a significant relationship for Scottish and Welsh graduates. The findings for gender are inconclusive. While the respective dummies are insignificant in some studies (e.g. Belfield and Morris 1999), Faggian et al. (2007b) found some evidence for larger mobility of British female graduates, Venhorst et al. (2011) the same for Dutch female graduates. In contrast, Abreu et al. (2014) find larger mobility of British male graduates. More clearly is the influence of marriage and own children on mobility: family obligations decrease the propensity to move (Busch and Weigert 2010, Haapanen and Tervo 2012, Krabel and Flöther 2014).

The regional environment has an impact on mobility decisions as well. For example, university regions in the Netherlands with higher regional GDP growth rate retain more local graduates than those regions which are doing economically worse (Venhorst et al. 2011). Similarly, regions with a higher share of highly qualified employees can retain more graduates while graduates from less attractive regions have to be more mobile (Krael and Flöther 2014). Economic cycles have a rather small impact on mobility in the study of Venhorst et al. (2011): economically favourable situations increase mobility modestly. Since in the paper at hand, data from one region and one graduation cohort are used, the regional and economic circumstances are the same for all survey respondents. Which findings are specific to Middle Hesse will be discussed.

To the author's knowledge, next to the studies on applications via social contacts, there are no studies investigating individual preferences during the job search and their influence on the job search outcome. The next subsection presents our own considerations into this topic.

## 2.3 Theory on individual attitudes and preferred places

### Use of different channels for job vacancies

Several channels are available for searching information about firms and job vacancies. Graduates relying on social networks during the job search are more likely to find a job (Obukhova and Lan 2013). Focusing on print media could result in a disadvantage (compared to searching in the internet, which is kind of the "standard channel"), because some firms abstain from announcing job vacancies in print media due to low coverage compared to ads in the internet.

*H1a: Graduates searching a job predominantly with the help of contacts will find a job more easily and within shorter time, while the opposite is true for graduates using predominantly print media.*

Furthermore, social networks tend to coincide with familiar places, i.e. social ties are centered at familiar places (Breschi and Lissoni 2009). Hence, graduates who rely on friends and acquaintances during the job search will most likely find jobs at familiar places.

*H1b: Graduates searching a job predominantly with the help of contacts will find a job disproportionately often at familiar places.*

### Focus on job-related issues, proximity to family and friends, or amenities

As said above, the university graduates often prefer staying in the region they are living in. Flöther and Kooij (2013), who have data from graduates from 54 German universities and find that 63% of the graduates stay in the federal state of the university. A NUTS1 retention of around 60% was measured for the Netherlands as well and seems to be no German specificity (Venhorst 2013). In the UK, 64% stay within the region when taking a job (Belfield and Morris 1999). Furthermore, mobile people (not only graduates) often like to return to regions where they have lived before (DaVanzo 1983, Venhorst 2013, von Proff et al. 2014). Nevertheless, many graduates are spatially open during the job search process, i.e. they do not have preferred places but focus on job-related issues (von Proff et al. 2014). Those having preferred places may prefer them because they are proximate to family or friends, because they offer good job opportunities or amenities like possibilities for leisure activities and good infrastructure, or because of low costs of living. According to the human capital theory, those focusing on job-related factors and those who are spatially open during the job search



process can be expected to find a job more easily and within shorter time. All graduates with stronger focus on proximity to family and friends or amenities may constrain the search and thus have it more difficult to find a job. Hence we state:

*H2a: Graduates focusing on job-related issues and those spatially open will find a job more easily and within shorter time*

There has been a long discussion about the strength of the influence of job opportunities and amenities. Gottlieb and Joseph (2006) find that amenities play a role for the decision to move to a place, but only for people with a PhD this effect is stronger than the pull-effect of economic factors. In a study of Dahl and Sorenson (2010), Danish technical workers placed very high weights on social factors when considering where to work. Hence, we expect graduates who focus on job-related issues to go to an unfamiliar place more likely than those focusing on proximity to family and friends. Regarding the focus on amenities, these are perceived very differently by each individual and hence, we cannot state a hypothesis on the resulting influence on mobility.

*H2b: Graduates focusing on job-related issues and those spatially open will more likely move to an unfamiliar work place.*

### Preference for familiar places

As explained in section 2.2, the majority of the graduates stay in the university region or return to the home region. Proximity to friends and family, social engagement, the costs of finding a new home, and moving costs all are pull factors. Nevertheless, there are graduates who explicitly want to leave the university region and indicate preferred places at a distance to any familiar place and who do not include the university region into the job search (Von Proff et al. 2014). These graduates should be disadvantaged for finding a job, because they both restrict their search to certain places and forego the chance to search at well-known places. Of course, the spatially open graduates have a completely unrestricted job search (see H1a), but if restricted to certain places, the preference for familiar places should be an advantage. Hence, we expect:

*H3a: Graduates with preferred places coinciding with the home or university region have a higher probability to find a job and a shorter duration of the job search.*

Regarding mobility, it is intuitive to expect that graduates searching in the university region or preferring other familiar places are more likely to stay in a familiar region.

*H3b: graduates with preferred places coinciding with the home or university region will more likely find a job at a familiar place.*

## 3. Data and Method

### 3.1 The survey

The data was collected in a survey among all graduates of three German universities located in Middle Hesse (Justus-Liebig-Universität Giessen, Philipps-Universität Marburg, Technische Hochschule Mittelhessen) in 2012 and 2013. The first online survey was conducted in the year prior

to graduation. Around 10,000 students graduate at the three universities in total every year and we received 1396 completed surveys, of which 1022 indicated that they approved to be contacted for the follow-up survey. The second survey one year later resulted in 371 answers, of which 178 complete observations can be used for the analysis below. The rather low number can be explained with the fact that the majority of Bachelor graduates (which are also the majority of the respondent of the first survey) did not search a job after graduation but continued studying a Master's degree or made some kind of sabbatical.

The survey asked the prospective graduates about up to five places where they search for the first job after graduation and the reasons why these places are attractive for them, the reason for their spatial limitation or openness, their home domicile (where they grew up, not the place of birth), whether they have made internships, whether they wrote/are writing the thesis in collaboration with a company, which media they used for searching job vacancies, and person-related information. The follow-up survey asked for the grade of the exam, whether they found a job, how long they searched for this job, and where it is located.

The question for preferred places was formulated very openly, i.e. respondents could type anything into the field for preferred places. Some of them named cities (e.g. Frankfurt), others regions (e.g. South Hesse), federal states (e.g. Bavaria), or even countries (e.g. USA). The international cases were excluded, since in many cases the graduates want to work there only temporarily (e.g. "work and travel") which makes the job search not comparable to a search for traditional jobs in Germany. In addition, the coding of places would not be comparable to that one for Germany (explained below). The preferred places were coded according to the official coding of administrative spatial units, where the first two digits are the state, followed by one digit for "*Regierungsbezirke*" or comparable large sub-state units, two digits for counties or cities (depending on city size, so called "*kreisfreie Städte*" do not belong to counties) and three digits for the municipality. As an example, Berlin is a city and a state at the same time, hence, the last 6 digits are zeros. The city of Marburg has the code 06534014, the county to which Marburg belongs ("*Landkreis Marburg-Biedenkopf*") has the code 0654000, Middle Hesse the code 06500000, and Hesse 06000000. For each named place, the smallest possible unit was taken and the further digits were filled with zeros. Concurrence on the county level means that the first five digits are the same, concurrence on the state level refers to the same first two digits.

From all ticks the respondents made regarding reasons for preferred places or spatial openness we calculated the share of ticks related to job characteristics, those related to family and friends' location, and other reasons. This results in an indicator for the job-focus versus the family/friends-focus and the amenity focus of the individuals during the job search. Similarly, indicators were calculated for the preferred media during the job search measuring how strong the respondents relied on the web, print media, personal contacts, intermediaries like professional associations and alumni networks, or tried to contact certain firms directly (application independently of job vacancies). Since we asked very detailed on the ways of the job search, we added the individual answers up to these five categories and calculated the shares. Tables 1 to 3 give an overview over the variables.

Variable	Explanation	Descriptive statistics
married	dummy for married respondents (at the time of the first survey)	0: 166 / 1: 12
partner	dummy for respondents living in a partnership but not married (at the time of the first survey)	0: 60 / 1: 118
kids	dummy for persons having child(ren)	0: 170 / 1: 8
female (reference)	dummy for female persons and persons with no gender statement (3 cases)	0: 129 / 1: 49
male	dummy for male persons	0: 49 / 1: 129
age24 (reference)	dummy for respondents aged 24 or younger (at the time of the first survey)	0: 127 / 1: 51
age25-27	dummy for respondents aged 25-27 (at the time of the first survey)	0: 92 / 1: 86
age28-30	dummy for respondents aged 28-30 (at the time of the first survey)	0: 152 / 1: 26
age31	dummy for respondents aged 31 and older (at the time of the first survey)	0: 163 / 1: 15
grade	numeric variable measuring the grade from 1.0 (best) to 4.0 (passed)	min: 1.0 / max: 3.5 / mean: 1.84
internship	number of internships made during studies (up to "5 or more")	min: 1 / max: 5 / mean: 2.47
thesis	dummy for having cooperated with a firm while writing the thesis	0: 147 / 1: 31
intens	count variable for the number of applications (each five applications count for one point)	min: 1 / max: 8 / mean: 3.47 / sd: 2.29
vintage	number of months between graduation and second survey	min: 2 / max: 14 / mean: 8.75 / sd: 3.34
JLU (reference)	dummy for graduates from Justus-Liebig-Universität Gießen	0: 80 / 1: 98
PUM	dummy for graduates from Philipps-Universität Marburg	0: 116 / 1: 62
THM	dummy for graduates from Technische Hochschule Mittelhessen	0: 160 / 1: 18

*Table 1: Descriptive statistics for the control variables.*

Age was measured by dummies in order to include the few older survey respondents sensibly and to allow a non-linear impact. Males are underrepresented and the allocation of fields of study are not representative (agricultural sciences: 15 / economics, sociology, law: 32 / engineers (THM): 8 / humanities: 62 / medical sciences: 14 / natural sciences: 29 / other subjects at THM: 10 / other subjects at PUM and JLU: 7). Hence, our findings for these variables may not be meaningful. Nevertheless, the variables will be included as controls. The search for a job via the web and contacts prevails, as could be expected. About two thirds of the respondents had preferred places at the time of the first survey. Forty-one of them had to broaden the geographical scope during the job search. Also roughly two thirds included Middle Hesse into the spatial scope of the job search, which means that one third really wants to leave the university region, especially often graduates from Marburg. Around 80% of the students have familiar places among the preferred places (note that those respondents who are spatially open have by definition NO preferred place and hence these variables are zero for them).

Variable	Explanation	Descriptive statistics
contacts (reference)	share of search mechanisms related to personal contacts (at the time of the first survey)	min: 0 / max: 1 / mean: 0.23
print media	share of print media as search mechanisms	min: 0 / max: 0.5 / mean: 0.10
web	share of web sources as search mechanisms	min: 0 / max: 1 / mean: 0.34
intermediaries	share of search mechanisms related to professional associations, alumni clubs etc.	min: 0 / max: 0.6 / mean: 0.09
direct	share of direct search mechanisms (application independently of job vacancies)	min: 0 / max: 1 / mean: 0.12
open	dummy for being spatially open during the job search (asked at the time of the first survey)	0: 119 / 1: 59
geo_scope_inc	dummy for having broadened the geographical scope during the job search process	0: 137 / 1: 41
other_focus (reference)	share of reasons for preferred places/spatial openness <b>not</b> related to job or family and friends, e.g. leisure time possibilities or costs of living (at the time of the first survey)	min: 0 / max: 1 / mean: 0.44 / sd: 0.29
job_focus	share of reasons for preferred places/spatial openness related to job characteristics (at the time of the first survey)	min: 0 / max: 1 / mean: 0.28 / sd: 0.28
ff_focus	share of reasons for preferred places related to family and friends (at the time of the first survey)	min: 0 / max: 1 / mean: 0.28 / sd: 0.31
univ_reg	dummy indicating that a person takes the university region (i.e. Middle Hesse) into account during job search (this question was asked independently of the questions for preferred places in order to investigate whether there is potential to retain graduates in the university region)	0: 69 / 1: 109
ppu1	dummy indicating whether any of the preferred places is identical to the university region, measured on the level of the county	0: 150 / 1: 28
ppu2	dummy indicating whether any of the preferred places is identical to the university region, measured on the level of the state	0: 95 / 1: 83
pph1	dummy indicating whether any of the preferred places is identical to the home region (= where the person grew up), measured on the level of the county	0: 142 / 1: 36
pph2	dummy indicating whether any of the preferred places is identical to the home region (= where the person grew up), measured on the level of the state	0: 84 / 1: 94

Table 2: Descriptive statistics for job search related variables.

Variable	Explanation	Descriptive statistics
jobfound	dummy indicating whether a job was found	0: 41 / 1: 137
duration	duration of the job search in months (only those respondents who said they have found a job)	n = 137 / min: 1 / max: 19 / mean: 3.0 / sd: 2.97 / NA: 23
jobfamplace1	dummy indicating whether a job was found at a familiar place (measured on the level of the county)	n = 137 / 0: 94 / 1: 41 / NA: 2
jobfamplace2	dummy indicating whether a job was found at a familiar place (measured on the level of the state)	n = 137 / 0: 39 / 1: 96 / NA: 2

Table 2: Descriptive statistics for the dependent variables

The majority of the respondents who filled out the survey completely have found a job. The duration of the job search is rather short with on average 3 month. This is in line with the respective data from

another German graduate survey (Wolf 2012). Hence, truncation problems arising from the time of the second survey one year after the first survey seem to be limited.

### 3.2 Models

The estimation technique used for investigating the first research question is a logit model, since the dependent variable (jobfound) is dichotomous. Regarding the other two research questions, only such graduates can be included who have found a job. Hence, there may be a sample selection problem. However, a Heckman two step regression reveals that having a job and the duration and place familiarity respectively are independent, i.e. the inverse Mill's ratio is insignificant in both cases (results available from the author on request). Therefore, it is possible to estimate the models for the second and the third research question with the subset of graduates having found a job. For the duration of job search a Poisson model is used since we have count data there. A test for over-dispersion of the duration variable is negative, hence we do not need a negative binomial model. An OLS model would also be possible since the hypothesis of residuals being normally distributed cannot be rejected by a KS test. The results of both estimation models do not differ in the significance of the independent variables and the results of the Poisson model are displayed below. The variable for having found a job at a familiar place is dichotomous and will be investigated by a logit model. Since the reasons for having found a job at the university region may differ from those for a job at the home domicile region, three version of the model were estimated: (1) found a job at a familiar place (2) found a job at the university place (3) found a job at the home domicile. Note that job at familiar place = job at university place U job at home domicile. The instances of jobs found in a familiar county are very few, the whole analysis was done on the level of the federal state.

Dummies for the type of certificate (Master, Bachelor, diploma, state exam) were found to be insignificant and correlated with age and grade, hence, they were excluded in the final models. There were only 8 instances of children and, in addition, this variable is highly correlated with being married. Hence, it had to be excluded.

For the first model, all 178 observations can be used. For the other two models, only the graduates were included who had found a job at the time of the second survey (137 observations). Since the variable for graduates from THM is identical with the sum of the dummies for the field of studies ing and othTHM, it cannot be included in the regressions. The variance inflation factors were calculated in each regression and revealed that the remaining variables are not highly correlated.

## 4. Results and discussion

The following subsections contain the results for each research question, i.e. who found a job, who needed longer for the job search, and who found a job at a familiar place.

### 4.1 Who found a job?

Our first model shows that job search success is not determined by the use of certain media for the job search and the respective part of Hypothesis 1a is not supported (see Table 4). However, a stronger focus on job characteristics makes it more likely to have found a job compared to focusing on amenities (reference category), while a stronger focus on friends and family does not matter. This

finding supports Hypothesis 2a: the more important non-job-related issues are for the graduates, the more difficult is it to find a job. The spatial preferences do not show an influence on the likelihood to find a job except when the graduate increased the geographical scope during the search process, which has a negative impact. Most likely, the scope was broadened due to the unsuccessful job search and this larger scope did not lead to success until the time of the survey. Hence, we do not find support for Hypothesis 3a.

There are several control variables significant: graduates with medium ages in our survey (ages 25-27 and 28-30) have less often found a job compared to the ones younger than 25 years. Those ages 28-30 years have probably needed longer for their study and thus may be viewed from employers as less high-flying. For this age group the coefficient is stronger negatively and the significance is higher (0.1% level). Since the model controls for field of study, the higher success of males in finding a job can at maximum partly be explained by having studied fields which are more requested. Males are underrepresented in the data but are disproportionally often aged 28-30 (40% of the males are in this age group compared to 10% of the women), which is the age group with the lowest job success. Hence, it seems that males have indeed a higher probability for finding a job soon after graduation. A possible explanation would be that women prefer relaxing (instead of job search) directly after graduation while males want to earn money as soon as possible. Another explanation is that women are more selectively, i.e. want to find the perfect job while males rather prefer to start gaining work experience, even though the job might not be optimal.

As expected, a significant – at 5% level of significance – positive influence on the likelihood to have a job is given by having done more internships, and by having written the thesis with a firm partner. Both findings are in line with our expectations. The control variable “vintage” is highly significant: of course, those who have finished earlier are more likely to have succeeded in finding a job.

Graduates from PUM had less often found a job at the time of the second survey compared to their colleagues from JLU (note, that there is no THM dummy, since the graduates of the THM are included via two fields of study dummies which are both insignificant as all other fields of study, too). We know that at PUM, only around 36% of the students come from Hesse while this value is around 71% for THM and 52% for JLU. Similarly, only 32% of the survey respondents from PUM indicated to have a preferred place in Hesse, while these values are 47% and 57% for JLU and THM respectively. The greater propensity to move may make the job search for these individuals more longsome. Since the time between the two surveys was limited, these persons had not yet found a job at the time of the second survey.

As a robustness check, we estimated the same model with the ppu2/pph2 variables instead of ppu1/pph1, i.e. we measured the concurrence of familiar regions and preferred places on the level of the federal state (see Table 6 in the appendix). There are no changes in the significances and hardly any changes in the coefficients. Hence, the model is confirmed by the second estimation.

Model 1: dep.var: job found			Model 2: dep.var: duration		
	coeff.	st.err.		coeff.	st.err.
intercept	0.669	2.214	intercept	0.253	0.442
male	2.703 **	1.006	male	-0.251	0.202
married	-0.102	1.362	married	-0.025	0.416
partner	-0.207	0.814	partner	0.080	0.157
age2527	-1.979 *	0.946	age2527	0.077	0.147
age2830	-4.616 ***	1.381	age2830	0.243	0.285
age31	-3.084	1.601	age31	-0.308	0.379
internship	0.844 *	0.328	internship	0.029	0.051
thesis	2.178	1.304	thesis	0.062	0.208
grade	-1.024	0.628	grade	0.147	0.125
pum	-2.319 **	0.829	pum	0.272	0.142
intens	-0.391 *	0.167	intens	0.186 ***	0.038
vintage	0.440 ***	0.115	vintage	0.042	0.023
web	3.973	2.201	web	-0.221	0.268
intermediary	3.346	2.780	intermediary	-0.118	0.547
direct	0.373	1.910	direct	-0.522	0.407
printmedia	-5.428	2.883	printmedia	0.476	0.501
jobfocus	3.405 *	1.705	jobfocus	-0.503	0.336
ff_focus	2.113	1.513	ff_focus	-0.675 *	0.272
open	-0.457	0.934	open	-0.253	0.204
geo_sco_inc	-1.597 *	0.703	geo_sco_inc	-0.246	0.168
univ_reg	0.118	0.742	univ_reg	0.066	0.153
ppu1 (county)	-0.338	1.036	ppu1 (county)	-0.102	0.247
pph1 (county)	-0.262	0.871	pph1 (county)	-0.475 *	0.192
n = 178			n = 114		
sign. at */**/***: 5%/1%/0.1%			sign. at */**/***: 5%/1%/0.1%		
field of study included			field of study included		

Table 3: Results of model 1 (logit, dependent variable: dummy for “job found”) and model 2 (Poisson, dependent variable: duration of job search in months)

## 4.2 Who needed longer for the job search?

Table 4 shows on the right side the results of the second model. Again, the search channel variables are insignificant. Perhaps the differences between the variables are too low to induce significant results because many graduates use multiple channels in parallel with only slightly different emphasis. This fact is good to know for graduates: there is no one best way for finding a job. Hypothesis 1a is not supported. In contrast to Hypothesis 2a, neither being spatially open nor having a focus on job related issues (compared to a focus on amenities) does lead to a shorter duration. Instead, graduates who prefer certain places because they are proximate to their family and friends (and those who prefer to work in the home region, what often, but not always, coincides) do find a job faster. This supports Hypothesis 3a partly – having the university region among the preferred places does not have an effect. Note that having a preference for the home region does not coincide with searching via contacts which was measured separately. Most likely, the respective graduates

have a better overview over the job market at the respective places, because they have spent more time in the region. In addition, most likely, they had known for some time already that they want to search a job in this region and thus have kept the eyes open for interesting firms and positions prior to actively starting the job search.

From the control variables, the search intensity is the only significant variable. Those with more applications need longer for the job search. The underlying third variable influencing both duration and the number of applications is certainly the matching on the job market: graduates with qualifications low in demand on the market will need longer and have to send more applications.

Model 2 applies concurrence of familiar places and preferred places at the level of the counties or (larger) cities. As a robustness check, the concurrence on the level of the federal states was used in a further model (see Table 6 in the appendix). Only two variables change their significance. Firstly, the preference for the home region gets insignificant. The better knowledge about the local job market does apply only on a very local level and not on the larger level of the federal state. Secondly, the variable for an increase in the geographical scope of the job search becomes significant. These people became more flexible and hence, they needed shorter time for the job search.

#### 4.3 Who found a job at a familiar place?

Let us start with some descriptive statistics: Of the 135 survey respondents who found a job and gave information on domicile and job location, 15 (11%) found a job in their home county/city and 73 (54%) in the home state. This shows that there is a strong trend to go back home. Regarding the university region, 32 of 137 (23%) stayed in the counties of Marburg or Gießen, 87 of 137 (63.5%) stayed in Hesse. There are six persons (4%) whose home domicile, university, and job location is Marburg/Giessen (26 additional individuals did not grow up there but stayed for the first job). Sixty-three persons (47%) who grew up, studied, and now work in Hesse (the average for all German states is 53% according to Fabian and Minks, 2008). Additional 23 respondents (17%) did not grow up in Hesse, but stayed there for the first job. Added up, this value is comparable to the results of other European studies as mentioned above in section 2. Hence, overall mobility is on the level of the German average as the economic strength of Marburg and Giessen is average. Nevertheless, we will investigate in the following which factors strengthen the tendency to stay in a familiar region particularly.

Table 5 shows that university region and home region coincide in many cases. Hence, the dependent variables in the versions of model 3 (Table 6 middle and right panel) are similar and the effects for the home and the university region cannot completely be distinguished. The left panel of Table 6 therefore takes both familiar regions together.

	job at university region	job not at university region
job at home domicile region	63	10
job not at home domicile region	23	39

Table 4: coincidence of home and university region



Only few variables have a significant influence on the chance to find a job at a familiar place (left panel in Table 5). Those including the university region (Middle Hesse) into their job search find a job there more often. This variable is highly significant in all three models. In the versions for home and university region individually, we can clearly see that preferring home or university region leads to a higher probability to find a job there. Hypothesis 3b is supported. However, in the model for all familiar places, these significances vanish. Graduates who broadened the geographical scope during the search have more often found a job in Hesse. Probably, they initially wanted to leave the university region but then found a job there.

As in the first two models, the search channel does not have a significant influence. As said above, the differences between the uses of these channels are probably too low. Hypothesis 1b is not supported. Regarding hypothesis 2b, we find that graduates focusing on job related issues are more likely to work in Hesse. A possible explanation is the knowledge about jobs in the region which was acquired during the studies, e.g. by internships, firm presentations, excursions, or part-time jobs next to the studies.

Most control variables are insignificant. A higher application intensity increases the likelihood to leave the university region/any familiar region. Furthermore, graduates from PUM more often leave Hesse. This is in line with the descriptive findings that there are more students at PUM coming from other federal states than at JLU and THM and leaving/preferring to leave Hesse afterwards (see also Von Proff et al. 2014).

Model 3: dep.var: job at fam.state			Model 3: dep.var: job at univ_reg			Model 3: dep.var: job at home_reg		
	coeff.	st.err.		coeff.	st.err.		coeff.	st.err.
intercept	0.611	2.438	intercept	-2.584	2.297	intercept	-1.423	1.629
male	0.573	1.005	male	-0.023	0.906	male	1.018	0.682
married	1.638	1.567	married	1.492	1.617	married	0.880	1.172
partner	0.746	0.751	partner	0.992	0.747	partner	0.786	0.552
age2527	0.283	0.858	age2527	0.503	0.776	age2527	-0.347	0.596
age2830	0.337	1.209	age2830	1.094	1.171	age2830	-1.095	0.901
age31	-1.947	1.491	age31	-0.004	1.397	age31	-0.855	1.211
internship	0.002	0.240	internship	-0.063	0.250	internship	-0.210	0.185
thesis	0.749	1.064	thesis	0.514	0.921	thesis	0.679	0.628
grade	0.318	0.674	grade	0.910	0.612	grade	0.017	0.486
pum	-1.912 *	0.878	pum	-1.874 *	0.800	pum	-1.084	0.565
intens	-0.776 **	0.258	intens	-0.940 ***	0.260	intens	-0.003	0.164
vintage	0.119	0.108	vintage	0.220	0.114	vintage	0.008	0.073
web	-1.576	1.173	web	-0.877	1.177	web	-0.051	0.947
intermediary	-5.911	3.079	intermediary	-5.240	2.919	intermediary	-4.499	2.323
direct	0.362	1.633	direct	1.405	1.605	direct	-0.103	1.315
printmedia	1.377	2.533	printmedia	1.440	2.861	printmedia	-0.387	1.858
jobfocus	2.568	1.577	jobfocus	3.829 *	1.663	jobfocus	0.432	1.090
ff_focus	0.511	1.409	ff_focus	-0.216	1.455	ff_focus	0.267	1.115
open	-0.209	1.195	open	-1.086	1.191	open	0.751	0.902
geo_sco_inc	1.156	0.957	geo_sco_inc	1.801 *	0.876	geo_sco_inc	-0.740	0.745
univ_reg	2.218 **	0.780	univ_reg	2.003 **	0.777	univ_reg	1.493 **	0.564
ppu2 (state)	1.225	0.886	ppu2 (state)	2.935 **	1.011	ppu2 (state)	-0.429	0.733
pph2 (state)	1.371	1.085	pph2 (state)	0.038	1.028	pph2 (state)	2.353 **	0.893
n = 135			n = 135			n = 135		
sign. at */**/***: 5%/1%/0.1%			sign. at */**/***: 5%/1%/0.1%			sign. at */**/***: 5%/1%/0.1%		
field of study included			field of study included			field of study included		

Table 5: Results for model 3 (logit; dependent variables: location of the job concurs with a familiar federal state, the state of the university, and the state of the home domicile respectively)

## Conclusion

The paper at hand contributes to the literature on graduate mobility by investigating the influence of individual preferences and attitudes during the job search on the job search outcome. While using certain channels more than others does not have an effect on finding a job, the duration of the job search as well as the mobility to unfamiliar places, we do find effects of the orientation towards job related issues compared to amenities or proximity to friends and family and effects of the geographical scope of the search.

Focusing on job-related issues during the search helps to find a job and is related to a higher probability to end up in the university region. Focusing more on proximity to family and friends is related to a shorter duration of the job search. Focusing on amenities (reference category in the models) does not give an advantage. Having the home domicile region among the preferred places helps to find faster a job and to find a job in the home domicile region. Similarly, a focus on the university region leads to a higher probability to find a job in the university region. Those who

explicitly do not include the university region in the job search will most likely find a job at an unfamiliar place, i.e. neither the university nor the home region.

Furthermore, students from Philipps-Universität Marburg had less often found a job at the time of the second survey and leave more often Hesse. Since at this university, more students have grown up outside Hesse than at the other two universities, this finding supports earlier findings that prior mobility is strongly related to graduate mobility.

The findings may be of interest for graduates and universities: luckily, the channels for the job search do not matter for finding a job, nor does the existence of preferred places. The job search is too complex to be influenced significantly by these characteristics. Furthermore, the findings are of relevance for firms and policy makers: if they can persuade graduates to include the university region into the job search, the graduates have a higher probability of staying in the university region. Together with findings from other studies that social ties are rather local and help to make the job search particularly successful, we see that there is good potential to retain graduates in the university region.

Of course, the paper at hand is not without limitations. Since the data comes from three German universities and contains only 178 graduates, the robustness of the findings have to be checked in further studies. In addition, the measures for the intensity of the use of the different channels could be improved, which will maybe lead to more precise findings regarding the channels.

## Appendix

Model 1: dep.var: job found			Model 2: dep.var: duration		
	coeff.	st.err.			
intercept	0.317	2.228	intercept	0.078	0.435
male	3.040 **	1.097	male	-0.241	0.199
married	-0.089	1.393	married	-0.110	0.417
partner	-0.249	0.805	partner	0.105	0.159
age2527	-1.958 *	0.940	age2527	0.100	0.145
age2830	-4.897 ***	1.468	age2830	0.245	0.287
age31	-2.946	1.602	age31	-0.168	0.383
internship	0.939 **	0.353	internship	0.032	0.052
thesis	2.155	1.316	thesis	0.063	0.210
grade	-1.043	0.623	grade	0.123	0.125
pum	-2.465 **	0.859	pum	0.256	0.144
intens	-0.415 *	0.173	intens	0.203 ***	0.038
vintage	0.461 ***	0.123	vintage	0.043	0.022
web	4.594	2.431	web	-0.191	0.269
intermediary	2.791	2.894	intermediary	-0.102	0.551
direct	1.019	2.092	direct	-0.502	0.408
printmedia	-5.260	2.782	printmedia	0.418	0.501
jobfocus	3.734 *	1.840	jobfocus	-0.492	0.339
ff_focus	2.159	1.687	ff_focus	-0.614 *	0.290
open	-0.513	1.057	open	-0.143	0.227
geo_sco_inc	-1.638 *	0.711	geo_sco_inc	-0.352 *	0.165
univ_reg	-0.161	0.755	univ_reg	0.047	0.149
ppu2 (state)	1.003	1.028	ppu2 (state)	0.356	0.229
pph2 (state)	-1.025	1.071	pph2 (state)	-0.461	0.237
n = 178			n = 114		
sign. at */**/***: 5%/1%/0.1%			sign. at */**/***: 5%/1%/0.1%		
field of study included			field of study included		

Table 6: Robustness checks for models 1 and 2 with concurrence of preferred places with university/home region on the level of the federal states instead of counties.

## References

- Abreu, M., Faggian, A., & McCann, P. (2014). Migration and inter-industry mobility of UK graduates. *Journal of Economic Geography*.
- Baruch, Y., & Leeming, A. (2001). The added value of MBA studies - graduates' perceptions. *Personnel Review*, 30(5), 589-602.
- Belfield, C., & Morris, Z. (1999). Regional Migration to and from Higher Education Institutions: Scale, Determinants and Outcomes. *Higher Education Quarterly*, 53(3), 240-263.
- Breschi, S., & Lissoni, F. (2009). Mobility of skilled workers and co-invention networks: an anatomy of localized knowledge flows. *Journal of Economic Geography*, 9(4), 439-468.
- Buenstorf, G., Geissler, M., & Krabel, S. (2014). Mobility of German university graduates: is (regions) beauty in the eye of the beholder? *Paper presented at the DRUID Society Conference*.
- Busch, O., & Weigert, B. (2010). Where have all the graduates gone? Internal cross-state migration of graduates in Germany 1984-2004. *The Annals of Regional Science*, 44(3), 559-572.
- Dahl, M. S., & Sorenson, O. (2010). The migration of technical workers. *Journal of Urban Economics*, 67(1), 33-45.
- DaVanzo, J. (1983). Repeat Migration in the United States: Who Moves Back and Who Moves On? *The Review of Economics and Statistics*, 65(4), 552-559.
- Di Cintio, M., & Grassi, E. (2013). Internal migration and wages of Italian university graduates. *Papers in Regional Science*, 92(1), 119-140.
- Faggian, A., Corcoran, J., & McCann, P. (2013). Modelling geographical graduate job search using circular statistics. *Papers in Regional Science*, 92(2), 329-343.
- Faggian, A., McCann, P., & Sheppard, S. (2007a). Human Capital, Higher Education and Graduate Migration: An Analysis of Scottish and Welsh Students. *Urban Studies*, 44(13), 2511-2528.
- Faggian, A., McCann, P., & Sheppard, S. (2007b). Some evidence that women are more mobile than men: gender differences in U.K. graduate migration behavior. *Journal of Regional Science*, 47(3), 517-539.
- Falk, S., & Kratz, F. (2009). Regionale Mobilität von Hochschulabsolventen beim Berufseinstieg. *Beiträge zur Hochschulforschung*, 31(3), 52-67.
- Flöther, C., & Kooij, R. (2012). Hochschulen als Faktoren im regionalen Standortwettbewerb. *Die Hochschule*, 2/2012, 65-81.
- Gottlieb, P. D., & Joseph, G. (2006). College-to-work migration of technology graduates and holders of doctorates within the United States. *Journal of Regional Science*, 46(4), 627-659.
- Greenwood, M. J. (1973). The geographic mobility of college graduates. *Journal of Human Resources*, 8(4), 506-515.
- Haapanen, M., & Tervo, H. (2012). Migration of the highly educated: evidence from residence spells of university graduates. *Journal of Regional Science*, 52(4), 587-605.
- Hansen, S. B., Ban, C., & Huggins, L. (2003). Explaining the 'Brain Drain' from Older Industrial Cities: The Pittsburgh Region. *Economic Development Quarterly*, 17(2), 132-147.
- Krabel, S., & Flöther, C. (2014). Here Today, Gone Tomorrow? Regional Labour Mobility of German University Graduates. *Regional Studies*, 48(10), 1609-1627.
- Marinelli, E. (2013). Sub-national Graduate Mobility and Knowledge Flows: An Exploratory Analysis of Onward- and Return-Migrants in Italy. *Regional Studies*, 47(10), 1618-1633.

- Miller, A. (1977). Interstate migrants in the United States: Some social-economic differences by type of move. *Demography*, 14(1), 1-17.
- Obukhova, E., & Lan, G. (2013). Do Job Seekers Benefit from Contacts? A Direct Test with Contemporaneous Searches. *MANAGEMENT SCIENCE*, 59(10), 2204-2216.
- Sjaastad, L. A. (1962). The Costs and Returns of Human Migration. *Journal of Political Economy*, 70(5), 80-93.
- Venhorst, V. A. (2013). Graduate Migration and Regional Familiarity. *Tijdschrift voor Economische en Sociale Geografie*, 104(1), 109-119.
- Venhorst, V. A., Van Dijk, J., & Van Wissen, L. (2011). An Analysis of Trends in Spatial Mobility of Dutch Graduates. *Spatial Economic Analysis*, 6(1), 57-82.
- Von Proff, S., Duschl, M., & Brenner, T. (2014). Motives behind the mobility of university graduates – A study of three German universities. *Marburg Working Papers on Innovation and Space Vol. 08.14*.
- Winters, J. V. (2011). Why are smart cities growing? Who moves and who stays. *Journal of Regional Science*, 51(2), 253-270.
- Wolf, A.-R. (2012). Die Erwerbssituation der Kieler Universitätsabsolventen. *Beiträge aus dem Institut für Regionalforschung der Universität Kiel Nr. 43*.

## How individual characteristics and attitudes shape the job search process of graduates

# 02.15

Sidonia von Proff

***Impressum:***

Working Papers on Innovation and Space  
Philipps-Universität Marburg

Herausgeber:

Prof. Dr. Dr. Thomas Brenner  
Deutschhausstraße 10  
35032 Marburg  
E-Mail: [thomas.brenner@staff.uni-marburg.de](mailto:thomas.brenner@staff.uni-marburg.de)

Erschienen: 2015



# How individual characteristics and attitudes shape the job search process of graduates.

**Sidonia von Proff<sup>1</sup>**

<sup>1</sup> Department of Geography, Philipps University of Marburg, Germany,  
vonproff@staff.uni-marburg.de

## **Abstract:**

Economic factors and individual attitudes have an impact on the mobility of university graduates. At this point of the life, mobility is highest, but still little is known about the process leading to actually starting a job at a certain place. The paper at hand investigates the job search process by means of a graduate survey at two points in time: prior to graduation and one year later. We asked for individual characteristics and attitudes during the job search, ex ante preferred places, and actual locations of the first job. Hence, we are able to show that a spatial focus or certain attitudes during the search do not have an influence on finding a job, but on the duration of the job search. Furthermore, searching at a familiar place does not necessarily lead to a job actually at a familiar place.

**Keywords:** graduate mobility, regional labour mobility, universities, Germany

**JEL Classifications:** J61, I23