

# Motivation Patterns of student Employment<sup>1</sup>

Paper draft

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## Introduction

An increasing share of students is employed during their studies. This may be a reaction on increased pressure to gain competitive advantages in the light of educational expansion and the big recession of the last decades (Haak/Rasner 2009). At the same time, being employed also means earning money, which is a vital aspect in the lives of young adults and their way to independent living. Some studies report of adverse consequences for the quality of the university degree if too much time is spent for purchasing income (Manthei/Gilmore 2005). Little is known about the meaning students ascribe to their current jobs. Is it mainly the financial necessity that strives them to work and study at the same time? Or do they emphasize career benefits when thinking of their employment motives? Which students exhibit motivational patterns that may lead to the selection of student jobs which not only mean financial support, but also increase later employability? I primarily discuss differences by subject of study and socio-economic background.

## Theoretical considerations

Based on the principal concept of bounded rationality (Lindenberg 2001) and drawing on the ideas from economic tournament (Rosenbaum 1976) and signaling (Spence 1973) theory, I assume that students that expect and are aware of high benefits for their later employment career, are more likely to show motivational patterns that include not only financial motives, but also motives regarding professional qualification. As less specialized subjects of study

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involve a higher potential of necessary specialisation and thereby qualification, I assume that students of such studies are more likely to be employed due to qualification reasons than students of subjects with definite occupational field (Hypotheses 1). Secondly, I assume that students with less economic protection put more emphasize on financial motives, which finally may lead to a less professionally promotive job selection. I distinguish between the amount of (more protective) parental alimony and the amount of (less protective) financial support from other sources as for example student credits, governmental payments (BAföG) or stipends, which usually are bound to conditions (e.g. regarding payment duration, or re-funding). Thirdly, parental education may influence students' motivation to be employed aside studying. Parents with higher school education are more aware of the career benefits subject relevant job experience may have and thus may promote respective motives and selection processes. Students with parents with lower school education in contrast may have internalized values that emphasize the current financial output of being employed (Hypotheses 3).

## **Empirical Investigations**

### **Data and Method**

Based on data of the first scientific use file of the German Social Survey (Apolinarski et al. 2014), which was conducted in 2012, I apply descriptive as well as multivariate approaches. In order to identify motive groups of students and their determinants, I conduct cluster and multinomial regression analyses.

The dependent variables are six items which report students' consent to six employment motives on a five point likert scale. The question is posed as follows: How much do the following statements display the reasons to earn money while studying:

I earn money while studying, ...

- 1) ...as this is absolutely necessary to finance my living.
- 2) ...to be able to afford a higher standard of living.
- 3) ...in order to collect practical experience, which is of use for my later job life.
- 4) ...in order to build connections for a possible later job.
- 5) ...in order to be financially independent of my parents.
- 6) ...in order to possibly have a later occupation independent of my degree.

As central independent variables I examine subject of study as well as financial support and parental educational background. I distinguish eight subjects of study, with medicine (1), engineering (2), natural sciences (3) and law (4) as subjects with *specific fields of occupation* and sciences of language, culture and arts (5) as well as social sciences (6) and psychology, educational and health sciences (7) and economics (8) as subjects with *less specific fields of occupation*. The two income variables (parental alimony and financial support from all other sources excluding income from own employment) have the following categories: 0 Euros, 1- <150 euros, 150-<400 Euros, 400-<600 Euros and 600 Euros and more. Highest paternal and maternal education is aggregated as low (no or lower secondary degree), middle (intermediate secondary degree), high (high school diploma) and academic (university degree). Further, I control for influences of student's age, type of university (technical college vs. university) and progress of studies (Bachelor versus Master studies).

My analyses are based on the subsample of so called "normal students" which are full time students in their first studies (including Master students) that do not live together with their parents. I only analyze students that worked during summer term 2012. I further exclude students with children as well as those that work in jobs that are related to a possible pres-

tudy vocational training. In addition, cases with incomplete information in one of the central dependent or independent variables are excluded. This results in an analytical sample of 4109 students. Their distribution with respect to the analysed variables is displayed in Table 1. Moreover, Table 1 gives insight into the selection of students into employment as the right column refers to the (here not analysed) group of students that did not work during term. With respect to selectivity, the numbers illustrate that young aged students, Bachelor students, students of Natural Sciences and Medicine and those with a higher income show lower shares of working during term. For these groups I have to consider a higher selectivity into employment than for other students.

Table 1: Description of sample of analysis (employed students) and non-working students

	<b>Working during semester (Sample of analysis)</b>	<i>Not working during semester</i>	<i>Total</i>
	%	%	
<b>Sex</b>			
Male	41.3	44.2	42.6
Female	58.7	55.8	57.4
<b>Age</b>			
<21	18.1	36.1	26.1
22-24	57.7	50.5	54.5
25-27	13.6	8.0	11.1
28+	10.5	5.3	8.2
<b>Kind of University</b>			
University	74.8	76.8	75.7
Technical college	24.2	21.9	23.2
No Answer	1.0	1.3	1.2
<b>Expected Degree</b>			
Bachelor	63.6	77.5	69.7
Master	36.1	22.3	30.0
No Answer	0.3	0.2	0.3
<b>Subject of study</b>			
Engineering	19.6	21.6	20.5
Language and Arts	17.8	10.7	14.6
Natural Sciences	12.6	19.4	15.6
Medicine	6.4	11.8	8.8
Economics	15.6	14.2	14.9
Social Sciences	10.4	6.8	8.8
Maths	5.2	4.3	4.8
Law	5.4	6.6	5.9
Psychology/educ./health sciences	7.2	4.7	6.1
<b>Educational qualif. father</b>			
Low	16.3	15.9	16.1
Middle	26.2	25.5	25.9
High	9.5	8.8	9.2
Academic	44.6	46.2	45.3

No answer	3.5	3.7	3.6
<b>Educational qualif. mother</b>			
Low	12.7	11.9	12.4
Middle	38.1	38.8	38.4
High	14.4	12.6	13.6
Academic	33.4	34.8	34.0
No answer	1.5	1.9	1.7
<b>Income (all sources except parents and income from own employment)</b>			
0	34.6	27.0	31.3
1-<150	21.3	20.7	21.1
150-<400	19.5	19.2	19.4
400-<600	14.1	19.3	16.4
600+	10.4	13.8	11.9
<b>Parental alimony</b>			
0	21.6	15.7	19
1-<150	11.5	9.8	10.7
150-<400	34.6	36.0	35.3
400-<600	18.9	19.3	19.0
600+	13.4	19.3	16.0
<b>Prestudy vocational training</b>			
No	81.7	82.2	81.9
Yes	18.0	17.6	17.8
No answer	0.3	0.3	0.3
Total number of observations	4109	3269	7383

**Source:**

### Cluster analysis

Based on ward clustering (Backhaus et al. 2006) and the Duda Hart index seven distinct groups of employment motivation are identified. Figure 1 displays the means of the considered motivation items in each cluster as well as the number of observations in each cluster. Differentiating between the two main dimensions of financial and qualification motivation, results in the following labelling of the seven clusters:

Cluster 1: high financial, no qualification motivation

Cluster 2: high financial, high subject unrelated qualification motivation

Cluster 3: high financial, intermediate subject unrelated qualification motivation

Cluster 4: high financial, high subject related qualification motivation

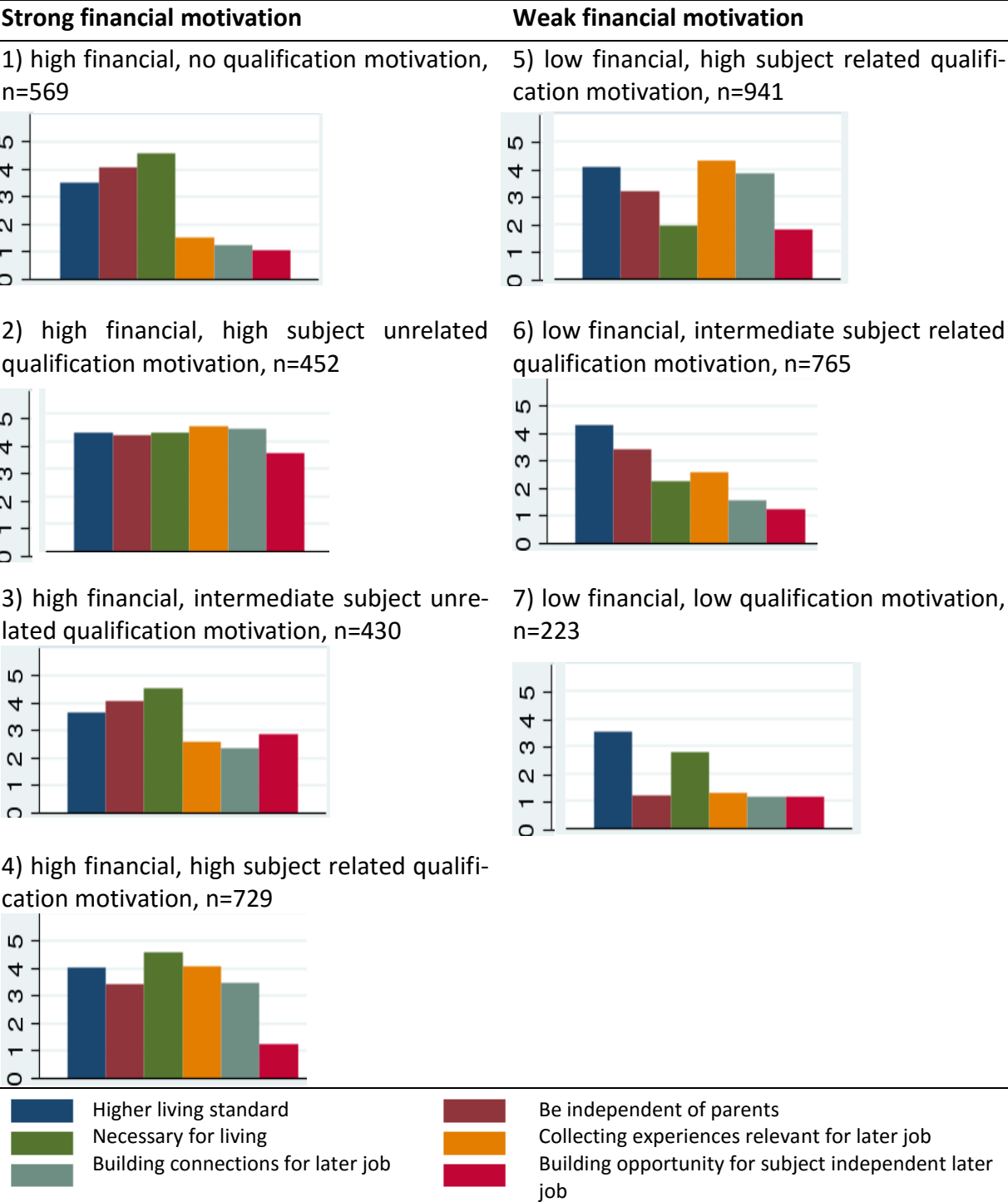
Cluster 5: low financial, high subject related qualification motivation

Cluster 6: low financial, intermediate subject related qualification motivation

Cluster 7: low financial, low qualification motivation

The identified distinct groups underline that students' employment motives are highly heterogeneous regarding the two here considered main dimensions of financial necessity and occupational qualification.

Figure 1: Description of clusters (means of included motivation items), based on seven cluster solution from ward-clustering



Source: DZHW/DSW, 20<sup>th</sup> Social Survey 2012, own estimations

## **Multinomial logistic regression**

By means of multinomial regression models, I investigate which students are more likely to belong to motivational groups with or without professional qualification motivation. This sheds light on the question which students are more likely to perform jobs which may be of value for their later labour market entrance. A special interest lies on differences by subject of study and socio-economic background. Table 2 displays the results of the multinomial regression model. Effects are presented as relative risk ratios and the reference category is Cluster 1 “high financial, no qualification motivation”. The (preliminary) main findings are as follows: Firstly, higher income (parental as well as income from other sources) increases the chances of exhibiting low financial employment motivation. Secondly, especially parental alimony increases the chances of exhibiting qualification motivation next to financial motivation. This may indicate that parental alimony means more financial security than other income sources. Thirdly, students of subjects with unspecific fields of occupation much more often include intentions of job qualification into their employment motivation. This applies to qualification intentions regarding jobs that relate to the subject of study and even more so to later jobs which are independent from the current subject of study.

Table 2: Multinomial logistic regression model after ward clustering

	Cluster 1: high financial, no qualification motivation Ref. Category	Cluster 2: high financial, high subject unrelated qualification motivation Coef.	Cluster 3: high financial, intermediate subject unrelated qualific. motivation Coef.	Cluster 4: high financial, high subject related qualification motivation Coef.	Cluster 5: low financial, high subject related qualification motivation Coef.	Cluster 6: low financial, intermediate subject related qualification motivation Coef.	Cluster 7: low financial, low qualification motivation Coef.					
<b>Sex</b>												
Male	1		1	1	1	1	1					
Female	0.73	**	0.80	0.78	*	0.76	**	0.85	0.82			
<b>Age</b>												
<21	1		1	1	1	1	1	1				
22-24	1.34		1.21	1.45	*	0.78		0.69	**	0.76		
25-27	0.95		1.16	1.30		0.35	***	0.37	***	0.55	*	
28+	0.77		1.09	0.68		0.18	***	0.13	***	0.74		
<b>Kind of University</b>												
University	1		1	1	1	1	1	1				
Technical college	1.39	*	1.12	1.13	1.09	1.00		1.26				
No answer	1.90		1.30	0.87	0.81	0.23	*	1.52				
<b>Expected Degree</b>												
Bachelor	1		1	1	1	1	1	1				
Master	2.22	***	1.47	**	2.60	***	2.69	***	1.42	**	1.07	
No answer	6.58		(--)		5.40		6.80		1.57		(--)	
<b>Subject of study</b>												
Ingeneering	0.54	**	0.74		1.36		1.41	*	1.31		1.41	
Language and Arts	1		1		1		1		1		1	
Natural Sciences	0.25	***	0.70		0.80		0.96		1.27		1.59	
Medicine	0.05	***	0.23	***	0.79		0.67		2.12	***	1.86	*
Economics	0.94		1.36		1.97	***	1.76	**	1.44		1.27	
Social Sciences	0.73		0.99		1.28		1.28		1.08		1.18	
Maths	0.29	***	0.58	*	1.04		1.03		0.98		1.08	
Law	0.15	***	0.54	**	0.58	**	0.60	*	0.65		1.01	
Psychology/educ./health	0.95		0.90		1.42		1.52	*	1.24		0.90	
<b>Educational qualification father</b>												
Low	0.95		0.86		0.88		0.96		1.04		1.22	
Middle	1		1		1		1		1		1	
High	1.07		1.00		0.94		1.19		0.89		0.53	*
Academic	1.08		0.93		1.03		1.84	***	1.35	*	1.22	
No answer	1.09		1.00		1.29		1.02		0.45	*	1.40	
<b>Educational qualification mother</b>												
Low	0.81		0.63	**	0.92		0.79		0.79		0.93	
Middle	1		1		1		1		1		1	
High	0.95		1.03		1.35	*	1.26		1.15		1.20	
Academic	1.09		0.99		1.23		1.38	**	1.29	*	1.08	
No answer	0.41		1.10		0.65		0.31	*	0.82		1.06	



<b>Income (all sources except parents and inc. from own employment)</b>												
0	1.52	**	1.58	**	1.46	**	1.30		1.23		1.25	
1-<150	1		1		1		1		1		1	
150-<400	1.04		1.28		1.33		1.22		0.96		0.70	
400-<600	0.98		1.17		1.22		1.49	**	1.29		1.41	
600+	1.06		1.02		1.50	*	2.76	***	2.43	***	2.95	***
<b>Parental alimony</b>												
0	1.52	*	1.58	**	1.44	*	1.09		0.85		1.37	
1-<150	1		1		1		1		1		1	
150-<400	1.29		1.21		1.42	*	1.69	***	1.73	***	2.40	**
400-<600	1.43		1.49		2.93	***	4.43	***	3.23	***	6.75	***
600+	2.53	***	1.06		3.15	***	9.28	***	5.40	***	15.28	***
<b>Prestudy vocational training</b>												
No	1		1		1		1		1		1	
Yes	0.93		0.78		0.85		0.55	***	0.54	***	0.70	*
No answer	0.80		(--)		(--)		(--)		(--)		0.96	
<b>Pseudo R<sup>2</sup></b>							0.084					

Notes: Source: DZHW/DSW, 20<sup>th</sup> Social Survey 2012, own estimations, (--) <=10 Observations, \* p < .10. \*\* p < .05. \*\*\* p < .01.

### **Intermediate conclusion and next steps**

By means of cluster and multinomial regression analyses on the basis of the German Social Survey from 2012, this study illustrates and describes the heterogeneity of student employment motivation. The identified motivation patterns range between exclusively financially focused and mainly qualificationally focused with several mixed groups ranging in between. The multinomial regression identifies economic situation as well as subject of study as strong predictors of motivation group affiliation. Thus, students with unspecific envisaged professional fields are much more likely to find themselves in motive groups that contain professional qualification intentions. This illustrates a high pressure for this group of students to purchase extracurricular human capital. As they explicitly show higher rates of expressing intentions to gain job qualifications independent of their subject of study, we may further conclude that this group of students often is skeptical whether their subject of study is a reliable foundation for their future employment life. Further, these preliminary results suggest that especially high parental alimony, which can be regarded as highly reliable income, as well as high parental school education, promote motives of professional qualification and thereby possibly a selection of respective students into student jobs that improve later job entrance prospects. Consequently, this implies a so far widely neglected source of competitive disadvantage for students from lower socioeconomic background. As next step this study aims to investigate in which way factors of economic security and subject of study interact with respect to employment motivation formation. Furthermore, qualitative results promise to validate the present quantitative analyses.

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