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Hiring Discrimination in the Labor Market

A Teaching Case in Human Resources Management

Marc Piazzolo¹

Abstract

Human resource (HR) managers are often prone to discriminate against individuals within a hiring process. In this teaching case, we implemented an experiment on the hiring process in a controlled setting with master students at a German university. We were interested in hiring discrimination against individuals on the basis of ethnical background as well as on gender. As HR managers, the students had to rank twelve applicants for an international trainee program based on their academic and personal qualifications as well as on their job experience. The findings of our laboratory experiment resemble previous results: Women seem to clearly benefit in terms of receiving an invitation to job interviews when anonymous application procedures are used, while immigrants or ethnic minorities do not appear to benefit. Therefore, HR managers should be aware of possible stereotyping and implicit biases. These can be overcome by introducing anonymous application procedures.

Introduction to Hiring Discrimination

Nobody likes to admit the uncomfortable truth that we all face certain biases concerning race or ethnic background, sex, age and obscurity (Economist 2009). These biases or prejudice can lead to open or hidden discrimination against individuals on labor market outcomes, including job opportunities, promotions and eventually earnings. Professional human resource managers are also often prone to implicitly to discriminate against individuals within a hiring process for their

¹ Professor in International and Monetary Economics, University of Applied Sciences Kaiserslautern, Germany.

company. Due to discrimination they might pick a candidate who is less qualified for the job, or they might miss to invite a candidate with exceptional qualifications. In both instances, the outcome for the employing company – may it be a multinational or a small and medium-sized enterprise (SME) – could have detrimental effects concerning its productivity (e.g. when hiring an engineer) or its financial position (e.g. when hiring a business manager). In Germany, ethnic discrimination for student internships based on Turkish versus German sounding name was particularly strong and significant in smaller firms. In companies with less than 50 employees, there are fewer vacancies and a less standardized recruitment process. Discrimination seems less prominent in larger firms, as their recruitment processes follow pre-defined rules (Kaas | Manger 2012 p. 11-13).

But how does one unveil discriminatory practices in the hiring process? Empirical studies based on *field data* can deliver measures for earning inequality (e.g. in Germany, women and East Germans seem to earn less - Granados | Geyer 2013). Though, as field data are not collected in a controlled environment, researchers would not have the same information on workers characteristics than is available to the employing firm. Hence it is hard to disentangle the effect of actual productivity differences from employer discrimination. *Laboratory experiments* on discrimination, on the other hand, can be conducted in fully controlled, though sterile, environments. *Field experiments* combine the advantages of controlled experiments with a field context (see examples in Harrison | List 2004; Kaas | Manger 2012; Weichselbaumer 2017).

For our teaching case, we implemented an experiment on the hiring process in a controlled setting with students of a course on strategic personnel management in the Master of Arts program Management of SMEs² at the University of Applied Sciences Kaiserslautern, Germany.

² M.A. in Management of SMEs or „Mittelstandsmanagement“ is a three semester full-time study program conducted in German by the Management Department.

For several characteristics it resembles the features of field experiments e.g. conducted by Aslund | Skans (2007), Kaas | Manger (2012) and Krause et al. (2012a). We were especially interested in hiring discrimination against individuals on the basis of ethnical background as well as on gender in the German setting. In the industrialized world, men continue to earn a premium over women and ethnic minorities often exhibit significantly lower employment rates than the native population.³ By blindfolding the employer – their human resource managers respectively – through an anonymous job application procedure we might reduce the implicit hiring discrimination substantially. Field experiments showed that the main hurdle of the hiring process is to receive an invitation to the job interview (Krause et al. 2012b p. 11). Therefore, we are focusing on the hurdle of getting invited.

Experimental Design

The job advertisement for a trainee program in project management of Robert Bosch (main supplier to the automotive sector)⁴ looked for young professionals, who would be trained on 4-6 projects in IT, SAP and software engineering in various international locations of Robert Bosch. Besides a first degree of higher education (Bachelor) in Information Management, Management or Mathematics, some first-hand job experience, a good command in at least one foreign language, intercultural competence and flexibility were requested. Our Master students (n = 27) started with the anonymous application procedure. In their role as human resource officers, they had to rank twelve applicants for an invitation to a job interview in a blindfolded process. In the first setting, they only received Curriculum Vitae (CV) information except for the applicants' name, gender, age and nationality. Also, no photograph, no letter of motivation as well as letters

³ See references of field as well as laboratory experiments in Aslund | Skans (2007) p. 3f. and Krause et al. (2012a/b).

⁴ As of December 31, 2016, Bosch Group employed roughly 390.000 associates worldwide. The company generated sales of 73 bn Euros (2016) in four business sectors: Mobility Solutions (60%), Industrial Technology (9%), Consumer Goods (24%), and Energy and Building Technology (7%) (Bosch 2017).

of reference were attached (see examples in *appendix 1*). In Germany, it is still common to provide photographs with the application papers. Especially for SMEs it is expected to include this evidence “voluntarily” to the future employer. Besides having to rank the applicants, the students should also recommend on how many of the applicants they would invite to the interview. In addition, they had to estimate the applicants their fellow personnel managers would invite on average (*appendix 2*).

After handing in their decision sheets of the first part of our experiment, they had to take the same decisions based on full-information CVs with photographs attached (see examples in *appendix 1*). Of our twelve applicants to the international trainee program, three were substantially older in age, two were of Turkish ethnicity, one was Algerian and half of them were female. In *figure 1* we find the average rank number of the twelve applicants based on both the anonymous as well as the full-information CVs. There seems to be quite a different ranking for the top half of the applicants only. On average five applicants were recommended to be invited to the job interview.

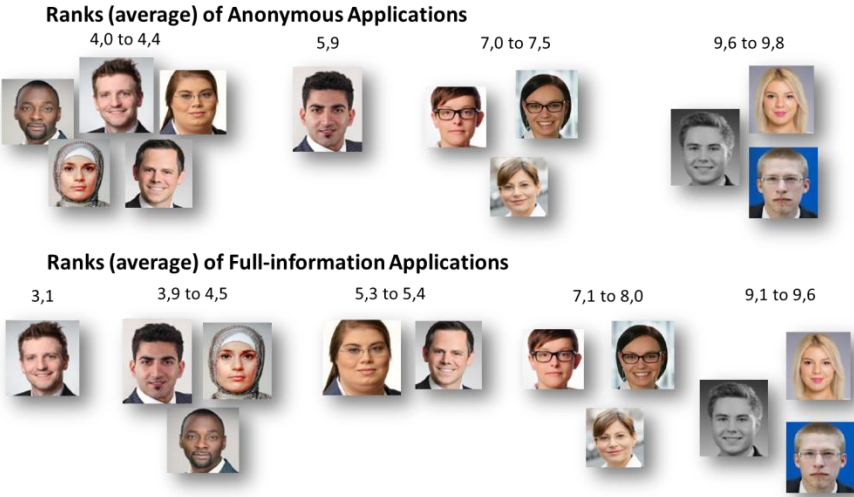


Figure 1: Average rank number for each applicant based on anonymous vs. full-information CVs

Field experiments show that hiring discrimination seems to be an international problem: In the *United States*, the response rate on applications to employers or housing officials is about 50 percent higher for “white” names than for “black” names like Lkisha and Jamal, after controlling for quality of the applicants (Bertrand | Mullainathan (2004) p. 1008). In *Sweden*, implementing a pilot on anonymous job application procedures (AAP) proved that women and ethnic minorities did not experience a penalty in the interview selection stage. They received substantially higher probabilities of being interviewed under AAP than where normal hiring procedures were employed (Alsund et al. 2007 p. 29). In *Germany*, applicants with Turkish surnames experienced a significantly lower callback rate (Kaas | Manger 2012 p. 16). In a more general setting, applicants with a non-German family background and women were less likely to be invited to a job interview (Krause et al. 2012 p. 11).⁵ Discrimination was also evident in *Austria* – another German speaking country – in a field experiment for office jobs as well as in the hotel and restaurant business. For migrants of Turkish and Nigerian descent the callback rates were significantly lower. Though, if advertisements explicitly “required proficiency in the German language, chances for callback were reduced only for applicants *with no* migration history.”⁶ Employers in the Austrian hotel and restaurant industry seem to be looking for applicants with migration background and good German language skills. For office jobs, there was no apparent reverse discrimination (Weichselbaumer 2017 p. 255).

Empirical Analysis

For our laboratory (classroom) experiment, we therefore expect *negative* effects for applicants with Turkish or foreign-born background, for females, for Bachelor vs. Master’s degrees as well

⁵ For the gender pay gap of German women as well as for regional differences (East vs. West) in Germany see Granados | Geyer (2013).

⁶ Weichselbaumer (2017) p. 260 and Table 9. In *Austria*, approximately 22% of the residents are first- or second-generation immigrants (2016); for *Germany*, this ratio stands at 21% (2015) (Statistik Austria 2017; Statistisches Bundesamt 2016).

as higher grade score in their academic qualification.⁷ For IT-qualifications, language skills, job experience as well as age (= life experience), we expect a *positive* effect on the rate of invitation.

For our empirical analysis OLS-regression models we used the rate of invitation as dependent variable. If 22 out of 27 of our total number of Junior Human Resource managers invite the applicant, the invitation ratio is $22/27 = 0.81$. We estimate two models based on anonymous applications and one based on the full-information Curriculum Vitae.

n = 12 CVs	Anonymous CV <i>model 1</i>	Anonymous CV <i>model 2</i>	Full-information CV <i>model 3</i>
Constant	-1.11	106.96	64.49
Job experience (years)	10.44 **	9.09 *	6.93 *
IT-skills / experience (years)	11.93 *		
Bachelor's degree (only)	-29.22 **	-41.96 ***	-7.55 *
Grade point average (German)		-32.21 *	
Female (1)			-13.47 *
r ²	0.84	0.86	0.93
F-α	0.001***	0.0008***	0.0000***

Significance level: * 10 percent; ** 5 percent; *** 1 percent; data of 27 students.

Table 1: Influencing factors of the invitation ratio based on CVs (OLS-models)

When the participants of our HR experiment only had information on academic qualifications, experiences as well as on individual skill profiles of the twelve applicants, they did not discriminate on the basis of gender and ethnical background. Also, the age of the applicants had no significant impact. Academic qualification – a post-graduate degree and a superior grade point average, job experience as well as IT-skills were valued highly (*model 1 & model 2*). All of which increased the probability of being invited to the job interview. The moment our participants were fully informed on the sex, name and ethnical background of the applicants, job experience and academic qualification still mattered, but gender became a significant deterrent –

⁷ In *Germany*, the grading system is from grade 1.0 to grade 4.0 - whereas the top grade is 1.0 (A⁺) while 4.0 is just the minimum passing grade (D).

if the applicant turned out to be female. Ethnical background (Turkish or Algerian) did not seem to influence the invitation ratio.

Findings and Final Remarks

The findings of our laboratory experiment resemble the results of Aslund et al. (2007 p. 29).

Women seem to clearly benefit in terms of receiving an invitation to job interviews when anonymous application procedures are used, while *immigrants or ethnic minorities* do not appear to benefit. As we wanted to undertake a classroom experiment, we offered only twelve applicants to be ranked. Therefore, the variation in CVs was quite limited. Perhaps our two Turkish applicants had just too good credentials? Both of them are being well-above graduates in the relevant field of Information Systems or Informatics.⁸ Interestingly, even in the field experiment of Kaas | Manger (2012 p. 1) ethnic discrimination disappeared when they restricted their sample to applications including reference letters which contained favorable information about a candidate's personality. Job and IT-experience, above average grades and an academic Master's degree all had the expected positive effects on the invitation ratio.

If one wants to make use of our teaching case, it should be adopted to their respective cultural setting (e.g. which ethnic minority is the relevant one?). Though, the experiment clearly shows students are influenced by stereotyping and implicit biases. Our students were quite surprised by their own biases.

Based on the results of field experiments as well as on our own laboratory findings, should we recommend anonymous application procedures in general? Well, be aware of the disadvantages of anonymization also: e.g. companies planning to increase the representation of underrepresented & disadvantaged groups might consider anonymity an obstacle. In addition,

⁸ Kaas | Manger (2012 p. 18) also mention that net discrimination on ethnical background is substantially larger for candidates with mediocre grades.

some managers might not like the increased administrative burden. On the other hand, picking a superior, more experienced, highly skilled candidate, who one wouldn't have considered being invited in the first place, should outweigh the additional short-run costs by far.

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Appendix 1

Examples of an applicants' anonymous as well as full-information Curriculum Vitae

Lebenslauf 1	Lebenslauf Florian Seidel								
									
<u>Persönliche Angaben</u>									
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Java	Grundkenntnisse								
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Appendix 2

Answering sheet of human resource managers for anonymous as well as full-information Curriculum Vitae

<u>Anonymous Application</u> <u>Full-information Application</u>	
1. Please rank the twelve applicants according to your assessment of their qualification for an international trainee program in project management of Bosch Group.	
Rank 1	# of applicant
...	
Rank 12	# of applicant
2. How many of the applicants would you invite to the job interview (45 min.)?	