Does Work Experience Mitigate Discrimination?*

Stijn Baert,[i] Andrea Albanese,[ii] Sofie du Gardein,[iii] Jolien Ovaere,[iv] and Jarno Stappers[v]

Abstract

We test whether ethnic discrimination is heterogeneous by job candidates' work experience. Fictitious applications are sent to vacancies. We find significant discrimination when candidates have no or little experience but no unequal treatment when they have twenty years of experience.

Keywords: hiring discrimination; statistical discrimination; ethnicity; experience; human capital.

JEL-codes: C93; J15; J24; J71.

i **Corresponding author**. Ghent University, Research Foundation – Flanders, University of Antwerp, Université catholique de Louvain and IZA. Sint-Pietersplein 6, B-9000 Ghent, Belgium. Stijn.Baert@UGent.be. +32486492752.

ii Luxembourg Institute of Socio-Economic Research (LISER), Ghent University.

iii Ghent University.

iv Ghent University.

v Ghent University.

1   Introduction

Employing extensive field experiments, during the past decade, scholars have shown that discrimination is still a barrier for ethnic minorities in the labour market (Baert et al., 2015; Baert & Vujić, 2016; Booth et al., 2012; Carlsson & Rooth, 2007; Kaas & Manger, 2012; Neumark, In press). Identifying ethnic discrimination is, however, one thing; tackling it is another. To effectively combat labour market discrimination against ethnic minorities, one needs to understand its driving factors. In other words, to design adequate policy actions, targeted to the right employers in the proper way, one has to gain insight into when in particular (and why) employers discriminate. One such key factor by which discrimination might be heterogeneous is job candidates' work experience.

Arrow's (1973) seminal model of statistical discrimination predicts a negative association between hiring discrimination and work experience. Statistical discrimination occurs as a time-efficient and profit-maximising response to low information (and, *ipso facto*, uncertainty) about the actual productivity of individual job candidates. Under asymmetric information, employers take into account their perception about the relative productivity-related characteristics of minorities *as a group* to predict a particular minority applicant's productivity. If this kind of discrimination is indeed underlying the unfavourable treatment of ethnic minorities, it is expected to be lower among experienced job candidates. Successful work experience might be used as an uncertainty-reducing device (or, stated otherwise, as a signal of the true level of productivity of the individual) and, therefore, mitigate discrimination.[1,2]

This study is the first to focus on the empirical association between hiring

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[1] Conversely, work experience may also be affected by discrimination. Due to unfavourable treatment it might be harder for minority workers to acquire the same amount of experience as majority workers. This means that the same years of experience might signal different abilities and engagement in otherwise equal candidates.

[2] In addition, as argued by a reviewer of a former version of this article, employers might also perceive work experience as a signal of adaptation to the labour market and – by extension – as a signal of assimilation to the (mainstream) society. This signal might buffer the negative signals – and, thereby, statistical discrimination – related to belonging to an ethnic minority (Baert et al., 2016; Bisin et al., 2011; Constant & Zimmermann, 2008).

discrimination and job candidates' work experience. To this end, we conduct a correspondence experiment. In this experiment, ethnic origin and work experience are randomly assigned to fictitious job candidates who apply for genuine vacancies. We then compare the callback from employers by ethnic minority status and years of work experience. In addition, the design of our experiment allows us to look into heterogeneity in discrimination by other candidate and vacancy characteristics such as specific ethnic origin, gender, education level, firm size and labour market tightness.

2   Data

We conducted our experiment between December 2015 and May 2016 in Flanders (Belgium). To this end, we created two templates ("Type A" and "Type B") of curricula vitae for 10 middle-educated and 10 high-educated profiles of job candidates. Middle-educated (high-educated) pairs held a secondary education degree (bachelor's degree) in one out of 10 popular fields of study.[3] Type A and Type B applications were different in layout and inessential details but identical in all job-relevant characteristics, conditional on education level. They were born and living in Ghent, the second largest city of Flanders.

We submitted two applications, one of Type A and one of Type B, to 384 genuine vacancies for which one of our profiles was an adequate match. These were vacancies of employers on a list of 3751 firms operating in the region, as provided by the city of Ghent. They were randomly selected from the employers' homepages or from the database of the Public Employment Agency of Flanders. One member of each candidate pair had a Flemish-sounding name ("native identity") and the other one had a foreign sounding name ("immigrant identity"). To eliminate any application-type effects on callbacks, for

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[3] The middle-educated fields of study were social and technical sciences, electromechanics, electrics, nursing, health and wellbeing, tourism, reception and recreation, accountancy-informatics, administration, and public relations. The high-educated fields of study were building, logistics, applied informatics, electromechanics, electronics, nursing, social work, finance and assurance, accountancy and tax, and marketing.

each vacancy, we alternately assigned the native and immigrant identity to the Type A and Type B applications ("within-pair randomisation").

Concerning the foreign sounding name used within the pair, we did not stick to one foreign background – as the aforementioned field experiments on ethnic discrimination except for Booth et al. (2012) did – but alternated over typically Turkish, Moroccan, Slovakian and Ghanaian names.[4] These names were provided by the administration of the city of Ghent as being frequently used but non-stereotypical names among these ethnic minorities. All the pairs had the Belgian nationality to avoid unequal treatment due to administrative reasons.[5]

Importantly, we alternated over three kinds of pairs with respect to work experience: pairs in which both members (native and non-native members) had 0, 10 or 20 years of labour market experience (in an occupation comparable to the job mentioned in the vacancy).[6] This "between-pair randomisation" of work experience allows us to investigate whether hiring discrimination against candidates with a foreign background is, indeed, heterogeneous by their work experience. In addition, we alternated the gender of the candidate pairs.

We submitted the resulting combinations to employers in an alternating order, with approximately 24 hours in between the pair members. Callbacks were received by telephone voicemail or email. In line with the aforementioned literature, we define

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[4] Testing discrimination against multiple ethnic minorities enables us to avoid the danger inherent to many earlier correspondence studies in which researchers selected only one minority suffering, potentially, from an unrepresentatively high (or low) level of discrimination.

[5] The Belgian nationality can be obtained relatively easily after some years of residence in Belgium (OECD, 2008).

[6] As our candidates did not mention any unemployment spells, the candidates without experience were graduates (being 18 years old when middle-educated and 21 years old when high-educated), while the candidates with 10 and 20 years of experience were 10 and 20 years older, respectively. When interpreting our results as evidence for the relation between hiring discrimination and work experience, we implicitly assume that ethnic discrimination is homogeneous by age. If one is not willing to make this assumption, the empirical pattern discussed in Section 3 should be interpreted as the combined effect of work experience and (older) age. Alternatively, we could have fixed the age of our candidates and varied the years of inactivity or unemployment between the pairs to create variation in years of experience. However, we believe that it is more tenable to assume that ethnic discrimination is homogeneous by age than to assume that it is homogeneous by years of unemployment (likely signalling different skill level).

positive callback as getting an invitation for a job interview concerning the job announced in the vacancy.

3   Results

Table 1 summarises our experimentally gathered data. Overall, the native identity within our experiment received an invitation to a job interview in 11.2% of his applications,[7] while his immigrant counterpart got an invitation in only 7.8% of the cases.[8] In line with the literature, we calculate the positive callback ratio (PCR) by dividing the invitation rate of the immigrant candidate by the corresponding rate of the native candidate. This yields a PCR of 0.698: the immigrant candidate received about 30.2% fewer invitations. This PCR is significantly different from 1 at the 1% level.

TABLE 1 ABOUT HERE.

When we break down the data by the years of relevant work experience mentioned by the candidate pair, we find that the PCR varies with this experience in the expected direction. Immigrant graduates and immigrants with 10 years of experience received 50.0% and 35.7% fewer invitations, respectively, than native graduates with the same experience. The related PCRs are significantly different from 1 at the 5% level. In sharp contrast, the PCR is slightly higher than (but not statistically significantly different from) 1 when comparing immigrants and natives with 20 years of experience. So, we cannot reject equal treatment of natives and immigrants when they are really experienced.

As we assigned foreign origin and work experience to the applications in a random (alternating) way, regressing positive callback on interaction terms between these two candidate aspects should lead to exactly the same statistical results, at least for a sample

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[7] 11.2% = (24+19)/384.

[8] Both callback rates are comparable to those measured in former correspondence experiments. In particular, these numbers corroborate with those of the recent Flemish correspondence experiment discussed in Baert and Vujić (2016). The Flemish (Turkish) candidate in their experiment got an invitation in 9.7% (6.4%) of his applications.

size going to infinity. However, our sample is finite. Therefore, the work experience of our candidates may correlate with observable and unobservable vacancy characteristics.[9] Therefore, we present a regression analysis controlling for various sets of observables at the vacancy level and for vacancy fixed effects.[10]

Table 2 presents the estimates for four regression models. In model (1), the invitation outcome is regressed on an indicator of having a foreign name and two interactions between this dummy and indicators for 10 and 20 years of work experience.[11,12] In line with the discussed PCRs in Table 1,[13] we find that a foreign name lowers the invitation probability with 7.0 percentage points for the reference category of graduates. For candidates with 10 years of experience this penalty shrimps to 3.9 percentage points,[14] while for candidates with 20 years of experience, this penalty even becomes insignificantly negative (-0.8 percentage points).

TABLE 2 ABOUT HERE.

As the estimates of model (1) point, to some extent, in the direction of a linear relationship between ethnic discrimination and years of experience, in model (2) we replace the interaction terms of model (1) with an interaction between the immigrant dummy and a continuous variable capturing the years of work experience. By doing this, we find that the immigrant penalty in the invitation chance decreases for each year of work experience by 0.4 percentage points (or about 5.5 percent).[15]

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[9] These vacancy characteristics may affect hiring chances. As a consequence, not controlling for them might yield biased measures of the heterogeneity of ethnic discrimination by the candidates' work experience.

[10] Regression analyses including random effects at the vacancy level and logistic regressions yield the same conclusions (and are available upon request).

[11] As a consequence, the reference category (for which the effect is captured by the immigrant dummy) is being an immigrant with no work experience.

[12] As we control for vacancy fixed effects, any impact of experience (which is constant within the pair) without interaction with immigrant status is controlled.

[13] As the vacancy fixed effect does not matter much, our between-pair randomisation of work experience seems to have been successful.

[14] As can be seen from Table 2, however, the interaction between the indicators of immigrant status and 10 years of experience is not statistically significant from the reference category (i.e., an immigrant with no work experience).

[15] 0.055 = 0.004/-0.073. In other words, given the estimated parameters, the immigration penalty becomes zero after about

Finally, in models (3) and (4), interactions between being an immigrant and other candidate characteristics (dummies indicating Turkish, Moroccan or Ghanaian origin, female gender and being high-educated) and vacancy characteristics (customer contact in the job,[16] bottleneck status of the occupation,[17] being posted by a medium or big firm,[18] selected from the primary, secondary or tertiary sector[19] and selected from a sector with a high fraction of immigrants[20]) are included, respectively. However, the introduction of these variables hardly affects the regression coefficients of main interest. In addition, in line with Booth et al. (2012), we find that hiring discrimination fundamentally varies across ethnic minorities: our invitation outcome is significantly more adverse for Turkish and Ghanaian candidates compared to the reference category of Slovakians. Moreover, we find, in line with Carlsson and Rooth (2007) and Kaas and Manger (2012), more discriminatory behaviour by smaller firms.

4 Conclusion

We contributed to the literature on labour market discrimination by investigating the

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18 years of work experience (18.3 = -0.073/0.004).

[16] This variable is 1 when being customer-oriented is mentioned as a required skill in the vacancy (and 0 otherwise).

[17] A bottleneck occupation is an occupation in which the labour market tightness is high. Following Baert et al. (2015), we first matched each vacancy with an occupation in the classification list of the Public Employment Agency of Flanders. For each of the occupations in this list, we then looked up their bottleneck status, which is each year assigned by the Public Employment Agency of Flanders by combining three statistical criteria with respect to tightness in the occupation, for 2015.

[18] We follow the European Commission's division of firms in micro and small firms (less than 50 workers) and (middle-)large firms (50 or more workers). A proxy of the number of workers of each firm tested was obtained in two steps. First, we looked up the company number of each firm in the database of the Flemish business magazine "Trends". Second, the average number of workers in the firm in 2010 was searched for in the Bel-first database (Bureau Van Dijk).

[19] For this variable, we used the Statistical Classification of Economic Activities in the European Community ("NACE") at the 2-digit-level. This sector code was found in the database of the Flemish business magazine "Trends". Subsequently, we clustered the sectors in the (i) primary or secondary sector, (ii) tertiary sector and (iii) quaternary sector.

[20] Following Baert et al. (2015), a sector with a high fraction of immigrants was defined as a NACE-sector with at least 3% workers with a non-Western nationality on 31 December 2009 (data provided by the Datawarehouse of the Belgian federal public service of social security).

relationship between unequal treatment in hiring and work experience. To this end, we sent out fictitious job applications in which foreign origin and relevant experience were randomly mentioned. Based on our analysis of the tested employers' callback, and in line with our theoretical expectations, we conclude that work experience substantially mitigates ethnic discrimination in hiring, at least in Belgium. In addition, our analyses suggest that ethnic discrimination varies across ethnic groups and that small firms discriminate more than larger ones. Based on our main result, and in line with the recommendations in OECD (2008),[21] we are in favour of anti-discrimination policies (such as assisting individuals who feel discriminated against in filing a complaint) targeted at *graduates* from (ethnic) minorities. They do not only have to cope with higher levels of discrimination *per se* but hiring discrimination at young age might also stand in the way the acquisition of work experience which is an asset to avoid discrimination (and be successful in the labour market) later.

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Table 1. Invitation Probability by Ethnic Origin and Experience: Descriptive Analysis.

	(1) Vacancies (Applications)	(2) Neither candidate invitation	(3) Both candidates invitation	(4) Only native invitation	(5) Only immigrant invitation	(6) PCR	(7) t
Data selection							
Full sample	384 (768)	335	24	19	6	0.698***	2.620
Pairs without work experience	128 (256)	108	7	11	2	0.500**	2.549
Pairs with 10 years of experience	128 (256)	114	9	5	0	0.643**	2.272
Pairs with 20 years of experience	128 (256)	113	8	3	4	1.091	0.377

In line with the literature, we calculate the positive callback ratio (PCR) by dividing the percentage of applications for which immigrant candidates received an invitation by the corresponding percentage for the native candidates. The t-test for the PCR tests the null hypothesis that these percentages are the same for the candidates from both groups. Standard errors are corrected for clustering of the observations at the vacancy level. *** (**; *) indicates significance at the 1% (5%; 10%) level.

Table 2. Invitation Probability by Ethnic Origin and Experience: Regression Analysis.

	(1)	(2)	(3)	(4)
(a) Immigrant	-0.070** (0.028)	-0.073*** (0.024)	-0.073*** (0.024)	-0.071*** (0.024)
(b) Immigrant x 10 years of experience	0.031 (0.032)			
(c) Immigrant x 20 years of experience	0.078** (0.034)			
(d) Immigrant x Years of experience		0.004** (0.002)	0.004** (0.002)	0.004** (0.002)
(e) Immigrant x Turkish (normalised)			-0.073** (0.031)	-0.079** (0.033)
(f) Immigrant x Moroccan (normalised)			-0.042 (0.033)	-0.045 (0.034)
(g) Immigrant x Ghanaian (normalised)			-0.062* (0.036)	-0.061* (0.036)
(h) Immigrant x Female (normalised)			0.015 (0.025)	0.018 (0.024)
(i) Immigrant x High-educated (normalised)			0.001 (0.033)	-0.001 (0.033)
(j) Immigrant x Vacancy with customer contact (normalised)				0.002 (0.029)
(k) Immigrant x Vacancy for bottleneck occupation (normalised)				0.031 (0.029)
(l) Immigrant x Vacancy in medium or big firm (normalised)				0.052** (0.025)
(l) Immigrant x Vacancy in primary or secondary sector (normalised)				0.023 (0.046)
(l) Immigrant x Vacancy in tertiary sector (normalised)				0.002 (0.042)
(o) Immigrant x Vacancy in sector with high fraction of immigrants (normalised)				-0.010 (0.029)
(p) Constant	0.112*** (0.006)	0.112*** (0.006)	0.112*** (0.006)	0.112*** (0.006)
Vacancy fixed effects	Yes	Yes	Yes	Yes
Observations	768	768	768	768

The presented statistics are linear probability model estimates. The dependent variable is getting an invitation to a job interview. Variables (e) – (o) are normalised by subtracting their mean among the subpopulation of immigrants. As we control for vacancy fixed effects, any impact of the mentioned variables without interaction with immigrant status is controlled. Standard errors, corrected for clustering at the vacancy level, are between parentheses. *** (**; *) indicates significance at the 1% (5%; 10%) level.