

BESCHRIJVING DOCTORAAL ONDERZOEKSPROJECT “AANWERVINGSDISCRIMINATIE: MODERATOREN EN MECHANISMEN” (ENGELS)

CAVEAT: THIS PROJECT DESCRIPTION IS TENTATIVE, I.E. IT CAN BE ADAPTED BASED ON THE INSIGHTS OF SUPERVISOR AND DOCTORAL RESEARCHER. IN PARTICULAR, THE TIME TABLE BELOW HAS TO BE REVISED.

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MOTIVATION

The lack of labour market integration of vulnerable groups, such as refugees and other individuals with a migration background, the elderly and people with a mental or physical health impairment, receives much attention in both policy and academic circles (OECD, 2008a; OECD, 2010). Academics have suggested discrimination in hiring as a key factor contributing to the poor labour market integration of these individuals (OECD, 2008b). During the past decade, scholars have turned to so-called correspondence experiments to measure this hiring discrimination (Bertrand and Mullainathan, 2004; Neumark, In press; Rich, 2014). In these experiments, fictitious job applications, differing only in a randomly assigned discrimination ground, are sent in response to real job openings. By monitoring the subsequent call-back from employers, unequal treatment based on this single characteristic is identified and can be given a causal interpretation. Based on this gold standard method, for instance, age discrimination was reported in a number of jobs in countries as Belgium, Spain and the United States (Albert et al., 2011; Baert et al., 2016c; Lahey, 2008), ethnic discrimination was identified in various occupations in Australia, Canada and Sweden (Booth et al., 2010; Carlsson, 2010; Oreopoulos, 2011), gender discrimination was measured in several jobs in Belgium, China and France (Baert et al., 2016a; Petit, 2007; Zhou et al., 2013) and sexual orientation discrimination was found in particular positions in Cyprus, Greece and India (Banerjee et al., 2004; Drydakis, 2014, 2015).

However, measuring discrimination is one thing, tackling it is another. To effectively combat hiring discrimination one needs to understand its driving factors. In other words, to design adequate policy actions, targeted to the right employers in the right way, one has to gain insight into when individuals are discriminated in particular (moderators) and why employers discriminate against them (mechanisms). Very recently scholars have started to conduct studies that try to combine the causal measurement of discrimination with the investigation of its moderators and mechanisms. Table 1 summarises the most important studies in this respect. In what follows, I first review these studies and then highlight the gaps in this recent literature.

Moderators of discrimination have been studied at five levels: the individual candidate level, the vacancy level, the occupation level, the firm level and the sector level. Firstly, ethnic discrimination is higher among the low-educated in Belgium, Sweden and the United Kingdom (Baert et al., 2015, Carlsson and Rooth, 2007; Wood et al., 2009) while discrimination based on physical attractiveness is higher among the high-educated in Belgium (Baert, In press a). Secondly, no heterogeneity in discrimination by factors at the vacancy level (e.g., whether the vacancy is handled by an employment agency or by the firm itself) is identified yet. Thirdly, hiring discrimination against ethnic minorities in Belgium and against

less attractive people in Israel is higher when labour market tightness at the occupation level is lower and relevant work experience at the vacancy level is more important, respectively (Baert et al., 2015; Baert et al., In press; Ruffle and Shtudiner, 2015). Fourthly, ethnic discrimination is found to be higher in smaller firms in Sweden, Germany and the United Kingdom (Carlsson and Rooth, 2007; Kaas and Manger, 2012; Wood et al., 2009) and when recruiters are male in Sweden (Carlsson and Rooth, 2007). Finally, Baert and Omey (2015) show that discrimination against Belgian union members is higher in highly-unionised sectors.

With respect to the mechanisms underlying discrimination, the leading economic models theorising discrimination are still Becker's (1957) model of taste-based discrimination and Arrow's (1973) model of statistical discrimination (Baert, 2014; Neumark, In press). Taste-based discrimination blinds employers to the (true) monetary costs associated with hiring a minority worker. Following this theory, employers who discriminate will, due to the disutility they experience by interacting with a minority worker, act as if the costs of hiring this worker exceed the actual costs. Becker's (1957) "discrimination coefficient" provides the mark-up on the costs of hiring a minority worker attributable to employers' prejudice. Analogously, prejudiced co-workers may act as if the wage they obtain from their employer is lower by a fraction equal to their discrimination coefficient if they have to interact with a minority worker. Finally, customers might act as if the price of the good they want to buy is higher by a fraction equal to their discrimination coefficient in that case. Therefore, even when they are not prejudiced themselves, profit-maximising employers will take the prejudices of their employees and customers into account when deciding on whether or not to hire a minority worker. As a consequence, regardless of whether the source of the prejudice is the employer herself/himself ("employer discrimination"), her/his employees ("employee discrimination") or her/his customers ("customer discrimination"), taste-based unequal treatment will decrease the likelihood of being hired for the minority worker (Baert, 2014; Baert, In press b; Becker, 1957; Drydakis, 2014). Statistical discrimination occurs when, as a time-efficient and profit-maximising response to low information and uncertainty about the actual productivity of individual job candidates, employers take into account their perception about the relative productivity-related characteristics of minorities as a group (based on information that might be imperfect) to predict a particular minority applicant's productivity (Arrow, 1973; Baert, 2014). Initially, scholars focussed on first-order statistical discrimination, i.e. unequal treatment based on (perceived) group differences in their average productivity-related characteristics. More recent contributions, however, have focussed on second-order statistical discrimination, i.e. unequal treatment based on (perceived) group differences in the variance of their productivity-related characteristics (Dickinson and Oaxaca, 2009; Neumark, 2012). This perceived variance is usually assumed – and empirically found – to be higher among minority workers, potentially because (majority dominated) employers are less familiar with these workers (Baert et al., 2015; Carlsson et al., 2014; Dickinson and Oaxaca, 2009; Neumark, 2012).

As argued by Neumark (In press), testing the empirical validity of the economic theories of taste-based and statistical discrimination is important for policy. If taste-based discrimination is driving unequal treatment in the labour market, the most adequate policy response is to increase the costs to the employer of engaging in this unequal treatment in view of restoring equal prices for labour that is equally productive from different groups. In contrast, interventions increasing (reliability of the) information about (minority) workers should reduce statistical discrimination. I am aware of three recent approaches to empirically assess these two leading economic theories underlying discrimination based on field experimental data on hiring discrimination. They all focus on testing observable implications (direct predictions) of the theories of taste-based and statistical discrimination. Firstly, a few studies have tried to test the former theory by comparing discrimination rates across jobs with different degrees of customer contact. If distaste to collaborate with minority groups in respect of customers drives discrimination, this will yield higher levels of discrimination in occupations with high levels of customer contact. However, Baert (In press a) as well as Baert et al. (2015), Lahey (2008) and Ruffle and Shtudiner (2015) find no evidence for this pattern with respect to discrimination based on ethnicity (in Belgium), attractiveness (in Belgium and Israel) and age (in the United States). A second approach has been to use both extensive and limited resumes within one experiment. If measured discrimination is lower when using extensive resumes (i.e. when uncertainty about individual candidates' productivity is lower) this evidence is consistent with statistical discrimination. Empirical evidence in this respect is mixed. On the one hand, Kaas and Manger (2012) find that ethnic minorities are only discriminated when candidates do not include a reference letter and Lahey (2008) shows that older workers are less discriminated when candidates signal relevant computer experience. On the other hand, both Bertrand and Mullainathan (2004) and Drydakis (2014) find that ethnic minorities in the United States and sexual minorities in Cyprus gain to a lesser

and comparable extent, respectively, from more extensive resumes compared to their majority counterparts. Thirdly and finally, Neumark (2012) proposed a path-breaking empirical strategy to disentangle second-order statistical discrimination from other components (sources) of measured unequal treatment. This strategy boils down to the estimation of heteroskedastic probabilistic regression models that allow the variance of the error term to vary by minority status. Neumark (2012) applied his strategy to the data of Bertrand and Mullainathan (2004) on ethnic discrimination. His approach was used by Baert (2015), Baert et al. (2015), Carlsson et al. (2014) in their studies on ethnic and gender discrimination in Belgium and Sweden. Consistent with second-order statistical discrimination, most of these studies found a higher variance of the unobservable for unfavourable treated groups.

Table 1 – Summary of the relevant literature.

(1) Study	(2) Country of analysis	(3) Discrimination ground	(4) Main results with respect to moderators	(5) Main results with respect to mechanisms
A. Baert (In press a)	Belgium	Beauty	Discrimination is higher for high-educated candidates	Inconsistent with taste-based discrimination
B. Baert (2015)	Belgium	Gender	-	Inconsistent with statistical discrimination
C. Baert et al. (2015)	Belgium	Ethnicity	Discrimination is higher for low-educated candidates and in occupations where labour market tightness is lower	Inconsistent with taste-based discrimination and consistent with statistical discrimination
D. Baert et al. (In press)	Belgium	Ethnicity	Discrimination is lower for experienced candidates	
E. Baert and Omeij (2015)	Belgium	Union affiliation	Discrimination does not vary with firm size and is higher in sectors where union density is higher	-
F. Bertrand and Mullainathan (2004)	United States	Ethnicity	-	Inconsistent with statistical discrimination
G. Carlsson and Rooth (2007)	Sweden	Ethnicity	Discrimination is higher in smaller firms, in firms where recruiters are male and for low-educated candidates	-
H. Carlsson et al. (2014)	Sweden	Ethnicity and gender	-	Mixed evidence with respect to consistency with statistical discrimination
I. Drydakis (2014)	Cyprus	Sexual orientation	-	Inconsistent with statistical discrimination
J. Kaas and Manger (2012)	Germany	Ethnicity	Discrimination is higher in smaller firms	Consistent with statistical discrimination
K. Lahey (2008)	United States	Age	-	Inconsistent with taste-based discrimination and consistent with statistical discrimination
L. Neumark (2012)	United States	Ethnicity	-	Consistent with statistical discrimination
M. Ruffle and Shtudiner (2015)	Israel	Beauty	Discrimination is higher in vacancies requiring experience and does not vary with the job posting agent (employment agency or firm itself)	Inconsistent with taste-based discrimination
N. Wood et al. (2009)	United Kingdom	Ethnicity	Discrimination is higher for low-educated candidates and in smaller firms	-

In what follows, I will highlight the four major gaps which I observe in the aforementioned literature on the moderators of and mechanisms underlying discrimination. First and foremost, except for Carlsson et al. (2014), studying second-order statistical discrimination with respect to both ethnic and gender discrimination, all mentioned studies investigated moderators and mechanisms within the context of (one experiment focussed on) one discrimination ground. Thereby, it remains unsure whether the significant moderators and mechanisms found with respect to, for instance, ethnic discrimination are also relevant with respect to other forms of hiring discrimination. As a consequence, these studies' results are not very informative to policy makers aiming to tackle hiring discrimination in general in their region. Therefore, there is need for research comparing the relevant moderators and mechanisms with respect to discrimination based on different grounds, within one statistical framework. Second, most of the studies in Table 1 are still mainly focussed on the causal measurement of the prevalence of discrimination and only in second order on its moderators and mechanisms. As

a consequence, the secondary analyses they conduct to shed light on the drivers of hiring discrimination are limited by their *ad hoc* nature. Often driven by ex post observed sources of variation in the gathered experimental data, particular dimensions of heterogeneity in unequal treatment are studied without arguing why other dimensions at the same level are not taken into account (Rich, 2014). Thirdly, but related, the results from these secondary analyses are only suggestive as the controls included to correct for correlation with other dimensions of heterogeneity at the same level or at another level are not convincing (Neumark, In press). Finally, while customer discrimination is already analysed by means of field data on unequal treatment in hiring based on particular grounds, the empirical validity of the two other forms of taste-based discrimination (employer and employee discrimination) has not been focussed on yet (Rich, 2014; Neumark, In press).

OBJECTIVES

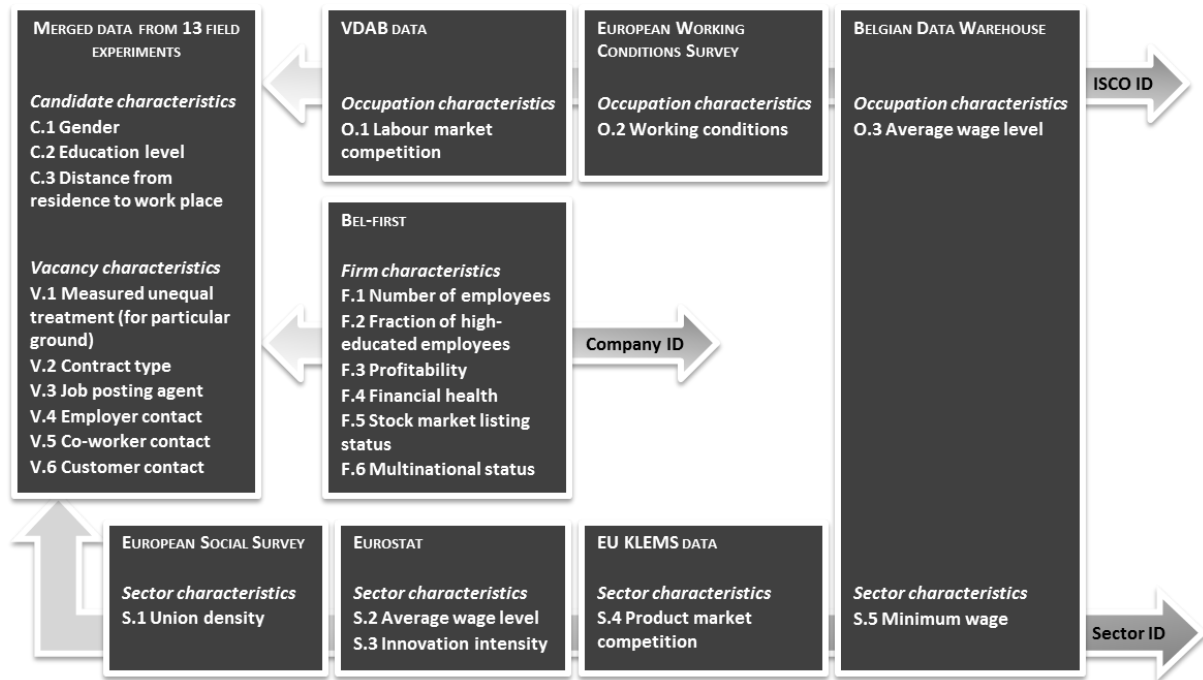
The objective of the research is to gain a deeper understanding in the moderators of and mechanisms underlying hiring discrimination. To this end, a worldwide unique database combining data from 13 field experiments on hiring discrimination with external occupation, firm and sector data will be constructed. These data will be analysed with respect to the heterogeneity of hiring discrimination by occupation, firm and sector characteristics on the one hand and with respect to the empirical validity of the main economic discrimination theories on the other hand. Thereby, the proposed research will set out to bridge the substantial gaps identified in the related literature and is believed to have great potential in terms of academic and societal impact.

METHODS

Making abstraction of the framing and defence of the doctoral thesis at the end of the trajectory – to which I return in the next section – the project comprises four work packages. Central in [Work Package 1](#) (WP1) is the construction of the database to be analysed in this research project. Figure 1 visualises the data integration process. In a first step, 13 datasets gathered by means of correspondence experiments will be integrated. These data were gathered in Flanders between October 2011 and May 2016 in the context of Baert (2014), Baert (2015), Baert (2016a), Baert (2016b), Baert et al. (2015), Baert et al. (2016a), Baert et al. (2016b), Baert et al. (2016c), Baert et al. (In press), Baert and Jong-A-Pin (2015), Baert and Omey (2015) and Rich et al. (2017) who studied dynamics in discrimination based on the following grounds listed in the Belgian anti-discrimination acts of 2007: age, sexual orientation, political ideology, health status, disability (two experiments), physical characteristics, union affiliation (two experiments), gender (two experiments) and ethnicity (two experiments). The pooled data will comprise 11696 observations (fictitious applications) for 5752 vacancies. The 13 datasets will be made uniform in terms of candidate and vacancy characteristics (besides the candidate's status with respect to the studied discrimination ground). Variables C.1, C.2 and V.1 mentioned in Figure 1 are already registered in all cases but the other variables (C.3 and V.2 to V.6) should still be derived from the saved experimental information. In particular, it will be important to construct measures for employer, co-worker and customer contact which are credible and consistent with peer reviewed literature (e.g., by following Combes et al., 2016).

In a second step, all vacancies in the pooled experimental data will be linked with (i) an occupation in the ISCO-08 classification system (as done already for 4 of the 13 experimental datasets in the context of the aforementioned studies), (ii) a Belgian company number (“ondernemingsnummer”; via the company database of the Flemish financial-economic magazine Trends, as done already for 5 of the 13 experimental datasets) and (iii) a NACE sector code (also via Trends' database). By means of (i), the field data can be merged with occupational characteristics mentioned in Figure 1 from the Public Employment Agency of Flanders (“VDAB”), the European Working Conditions Survey and the Belgian Data Warehouse. By means of (ii) and (iii), the data can be merged with firm and sector characteristics, respectively, from Bel-first, the European Social Survey, Eurostat, EU KLEMS and the Belgian Data Warehouse. Information from all these sources was already in the past merged with at least one of the 13 experimental datasets. This experience allows me to assess the time needed for this integration in a reliable way (see below). The data to be integrated mentioned in Figure 1 will be extended and refined based on a further literature review with which the project will take off.

Figure 1 – Data integration.



After the construction of this database, a correlation analysis will be conducted to explore associations between hiring discrimination and characteristics at the candidate, vacancy, occupation, firm and sector level. These associations will be studied both for the pooled data and, in a systematic way, for each discrimination ground separately. Notwithstanding its exploratory nature, I am convinced that this study will find its way to a decent economic journal given that never before these associations were studied based on gold standard discrimination data for multiple discrimination grounds jointly. In addition, this explanatory analysis will serve as an input for Work Package 2 (WP2).

The impact of the construction of the database goes beyond the present research project. On the one hand, based on the aforementioned correlation analysis, these data may be valorised further by other studies conducted on them. This might be done together with the colleagues at the interdisciplinary research centre CESSMIR (Centre of the Social Study of Migration and Refugees; Ghent University) with whom I collaborate on a research agenda in which we measure ethnic discrimination in education, work, housing and health. For instance, we might study in depth the link between competition on the product and labour market and hiring discrimination. On the other hand, the ownership of these data may further highlight the rising position of our research group in the literature on labour market discrimination (as indicated, for instance, by the top number of references to our work in recent review studies; Neumark, In press; Rich, 2014). At least, the access to these unique “multi-ground” data may compensate our competitive disadvantage to researchers from the United States who gathered (“mono-ground”) datasets which are, compared to our 13 individual field datasets for Belgium, (i) larger and (ii) about a more dominant country.

Work Package 2 focusses on the in-depth study of a particular set of occupation, firm and sector characteristics by which discrimination might be heterogeneous, i.e. working conditions. The dual labour market theory divides the labour market into two parts with little mobility between them: the “primary segment” and the “secondary segment” (Dickens and Lang, 1985; Reich et al., 1973). The former (latter) segment is characterised by relatively better (worse) working conditions in terms of, for instance, prospects, intrinsic job quality, working time quality and wages. Minority group members are massively represented in the latter segment (Bosanquet and Doeringer, 1973). Besides explanations related to lower human and social capital, this finding is often explained by the potentially lower hiring discrimination in the secondary segment. However, to the best of my knowledge, an empirical investigation of the relationship between working conditions and labour market discrimination is to be done. WP2 takes up this challenge. Within this work package, the variation in hiring discrimination in the constructed data (both at the pooled level and for all discrimination grounds separately) will be explained by several dimensions of working conditions. This analysis will subsequently focus on working

conditions determined at the vacancy level, the occupation level, the firm level and the sector level, keeping a rich set of other potential drivers of discrimination at the same level and at other levels (as explored in WP1) constant. To this end, logit models with clustered standard errors at various levels and fixed effects regression models will be estimated. Relevant working condition variables by which hiring discrimination, based on various grounds, may be heterogeneous are the following: contract type (fixed term or permanent; full-time or part-time), prospects, intrinsic job quality and working time quality at the occupation level, fraction of high-educated co-workers at the firm level, (minimum) wages at the occupation and/or sector level and sectoral union density. All of these variables will be available in the integrated data mentioned in Figure 1. It is expected – and will be hypothesised – that discrimination is lower for values of the aforementioned variables linked to worse working conditions. Comparing this hypothesis for each variable with the empirical reality will provide an insight with respect to the level (if any) at which the link between working conditions and hiring discrimination is the strongest.

Work Package 3 (WP3) and **Work Package 4** (WP4) focus on the empirical validity of the taste-based and statistical discrimination theories, respectively. WP3 aims to fill the fourth (and last) research gap in the literature on (moderators of and mechanisms underlying) hiring discrimination mentioned earlier. More concretely, in WP3 employee contact, co-worker contact and customer contact will be studied jointly as drivers of hiring discrimination. Again, logit models with clustered standard errors at various levels and fixed effects regression models will be used to control for the correlation between the contact variables and other dimensions of variation at the candidate, vacancy, occupation, firm and sector level. In addition, specific models in the sense of Bound et al. (2001) aimed to deal with the potential measurement error in the contact variables will be explored.

In **Work Package 4** the aforementioned Neumark (2012) approach will be followed to measure and compare the level of second-order statistical discrimination with respect to all discrimination grounds captured in the constructed data. Besides the fact that this study will be the first to do this for other grounds than ethnicity and gender discrimination, it will innovate from a methodological point of view. Identification of second-order statistical discrimination within Neumark's (2012) heteroskedastic probit framework requires experimental data with variation in observable job-relevant characteristics that affect the (minority and majority) groups' propensities of call-back from employers in the same way. Variables used by Baert et al. (2015), Carlsson et al. (2014) and Neumark (2012) in their application of this framework were education level, international mobility, personality traits, work experience and application quality. This choice can be criticised as all these variables result from variation in choices and outcomes at the employee side and may *ipso facto* correlate with minority status (Baert, 2015). The variable that will be assumed in WP4 to have the same return across groups is the distance between the candidate's residence and the workplace. On the one hand, it is clear that this variable may affect hiring decisions because employers might prefer workers with a social network in the neighbourhood of the firm and because they may expect a higher commitment from workers living close to the firm (and, therefore, losing not much time by commuting). On the other hand, by using this variable we actually exploit employer variation instead of employee variation as the residence of the employee is constant. As a result, there is no reason why this variable would be more rewarded for members of a particular group. Both considerations were explored (and confirmed) empirically based on the data of Baert et al. (2016a).

One important risk inherent to the proposed research has to be acknowledged. This limitation relates to the third major gap in the literature mentioned in the first section of this proposal. The variables used to capture moderators (and mechanisms) of hiring discrimination in WP2 and WP3 are not experimentally manipulated. As a consequence, it cannot be ruled out that these variables correlate with unobservables (also) driving the discrimination. Therefore, we will need to be modest with respect to the (causal) interpretation of our findings. However, the set of variables for which we will be able to control will be much richer in general and situated at more levels in particular compared to all contributions mentioned in Table 1. Moreover, they will be based on a thoughtful data construction (WP1) focussed at evaluating moderators and mechanisms of hiring discrimination and, thereby, transcend the *ad hoc* nature of the related analyses in former contributions. As a consequence, taking also account that the experimental manipulation of these moderators and mechanisms would be very difficult anyhow, I am convinced that the proposed research will be welcomed by the field as a huge step forward.

In line with a tendency in modern economics using experimental data, the intended research methods and detailed

theoretical hypotheses for each work package will be registered at the RCT Registry of the American Economic Association before starting the data work within that package.

WORK PLAN

Table 2 provides a schedule of the planned activities in the context of this project.

This schedule is constrained by the need for having the data construction and exploratory analyses of WP1 at the start of the project. Then, priority is given to WP2 as it is the most closely related to WP1. As estimating heteroskedastic probit models asks the highest level of maturity, WP4 is kept to the end of the project. For each of these work packages, 12–20 weeks are used for the empirical work and 12–16 weeks for the writing of the article. As mentioned earlier, WP1 takes off with a further review of the literature to map all vacancy, occupation, firm and sector level factors that may affect the prevalence of discrimination and can be integrated into the data. Based on the insights provided by the exploratory analyses conducted in WP1, at the start of WP2 time is taken to decide about the factors on which will be focussed in this second work package. This decision will be based on a presentation and discussion at the start of WP2 within the aforementioned interdisciplinary research centre CESSMIR – it is also intended that for WP2 we will collaborate with the team of CESSMIR-colleague Eva Deros.

The concerned doctoral student will be stimulated to collaborate on WP4 with the team of Magnus Carlsson during a research stay at Linnaeus University somewhere between April 2020 and March 2021. At the end of the schedule, time is reserved for the framing of the doctoral thesis comprising the writing of a general introduction, discussion and conclusion. In this respect, the concerned doctoral student will need to focus on links, relevant to both academic peers and policy makers, between the four work packages on the one hand and directions for future research, which may further valorise the constructed data.

Table 2 – Timetable.

	Time (weeks)	2018				2019				2020				2021			
		01-03	04-06	07-09	10-12	01-03	04-06	07-09	10-12	01-03	04-06	07-09	10-12	01-03	04-06	07-09	10-12
WP1	68																
WP1.1 Literature review	8	■															
WP1.2 Data construction	28	■	■	■	■												
WP1.3 Exploratory analyses	16		■	■	■	■											
WP1.4 Writing article	16					■	■	■									
WP2	34																
WP2.1 Refinement of scope	4						■										
WP2.2 Data analysis	12						■	■	■								
WP2.3 Writing article	16						■	■	■	■							
WP3	24																
WP3.1 Data analysis	12									■	■						
WP3.2 Writing article	12									■	■	■					
WP4	36																
WP4.1 Data analysis	20												■	■	■		
WP4.2 Writing article	16												■	■	■	■	
Thesis preparation	32																
Framing of PhD	20															■	■
Defence of PhD	12															■	■

Notes. The boxes shaded in dark (light) grey indicate the primary (secondary) focus during the related time window. "WP" stands for "work package".

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SOCIETAL IMPACT

I am convinced that the results of the proposed research have the potential to be well received by a broad non-expert audience because of the project's profound societal relevance and the research group's experience in and devotion to communicating academic research to a non-expert audience.

As mentioned earlier, the integration of minorities in the labour market is a key ambition for many OECD countries and discrimination in hiring is a key struggle in this respect. To effectively combat hiring discrimination one needs to understand its driving factors. The results of the proposed research will inform policy makers about (i) to which particular occupations, firms and sectors anti-discrimination policies should be targeted to be effective and (ii) whether these policies should focus on increasing the costs of discrimination to employers (to tackle particular forms of taste-based discrimination) or on increasing the (reliability of the) information about minority workers (to tackle statistical discrimination).

The research findings will be communicated to a non-expert audience in three ways. Firstly, the concerned doctoral student will be stimulated to write accessible articles with insights and extensive policy recommendations derived from the proposed research, targeted at policy-oriented journals such as *Economisch Statistische Berichten* and *Over.werk*. Secondly, at least the research results from WP2 and WP3 will be communicated by means of press releases in collaboration with Ghent University's press officer. Thirdly, in addition to academic seminar and conference presentations, the concerned

doctoral student will be stimulated to present the research results in the form of seminars to a broad audience, for instance, at the Flemish administration of Work and Social Economy and on the Flemish Science Day. In the past years, our research group has already gained some experience in delivering research results (on hiring discrimination) to a wider audience, resulting in more than 250 mentions in the national and international written and audio-visual press, 12 publications in policy-oriented journals and 7 lectures for a broad (non-expert) audience. For these efforts in science communication and popularisation, in 2015 I was awarded the 'Academy prize for science outreach' by the Royal Flemish Academy of Belgium for Science and the Arts.