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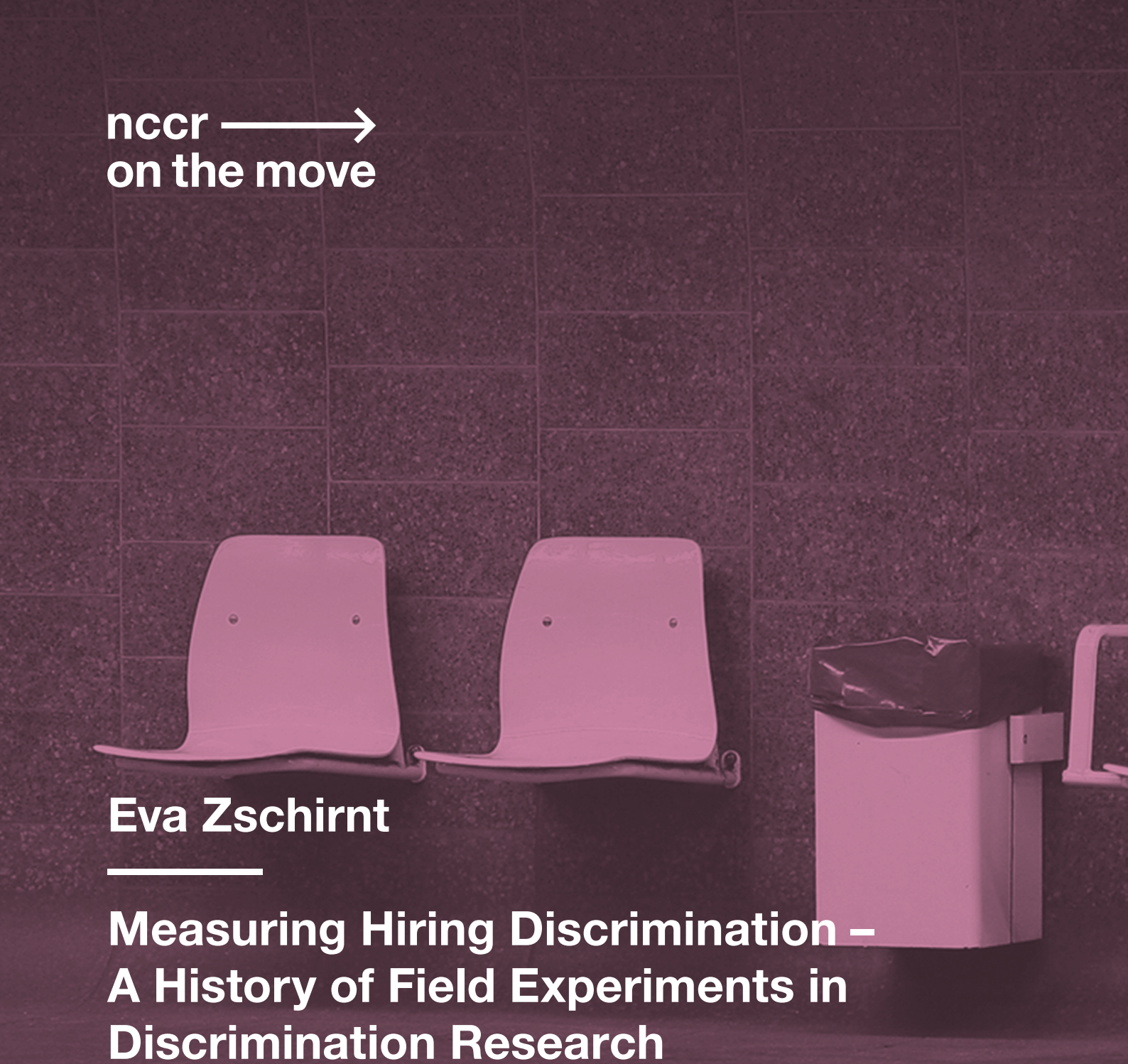

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Measuring Hiring Discrimination – A History of Field Experiments in Discrimination Research

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Measuring Hiring Discrimination – A History of Field Experiments in Discrimination Research

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Abstract

Ethnic and racial discrimination in the hiring process is a common and documented problem. Scientists from different backgrounds and numerous countries have tried to measure the extent of this form of discrimination, mostly by using field experiments such as audit or correspondence tests. This paper will provide an overview of the literature on measuring discrimination in more general terms as well as reviewing the studies already conducted that focus on ethnic or racial discrimination in hiring. It will focus on how discrimination is defined in different disciplines, on the historical political context in which field experiments have emerged once anti-discrimination legislation was adopted in the US and the UK and how the technique was developed further over time. Methodological issues such as the difference between audit (i.e. in-person) and correspondence test (i.e. CV-based) will be addressed as well as the ethical and legal stumbling blocks researchers can encounter when conducting field experiments. It will be shown that today's field experiments not only cover a wider group of countries, professions or minority groups, but also increasingly add more variables to the testing. Despite this variety in the research designs, this paper concludes that certain trends can be observed in all tests and that discrimination in hiring can be found in all countries where field experiments were conducted.

Keywords

Ethnic discrimination, hiring, measuring, field experiments, literature review

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1. Introduction

Due to the increased mobility of migrants, modern Western societies have diversified considerably. As the labour market holds a key position in the integration of migrants and their children, discrimination in this social sphere has far reaching consequences. While wage disparities between natives, immigrants and the second generation can be quantified using available economic data, measuring discrimination in hiring is more difficult. Since the late 1960s researchers have used field experiments in which two candidates with interchangeable qualifications that differ only in the characteristic to be analysed apply for the same job. While a substantial amount of literature exists which addresses the discrimination of minorities in their access to credit, products, or accommodation (e.g. Riach & Rich, 2002; Rich, 2014), this article will focus on field experiments that address the discrimination of racial or ethnic minorities in the hiring process.

Concentrating on discrimination in hiring and the use of field experiments, three grand strands of literature can be identified. The first is methodological as it addresses the use of field experiments and their development in measuring discrimination in hiring. It focuses on the differences between in-person audit tests and written CV-based correspondence tests, discusses their merits and limitations, and addresses ethical and legal issues regarding testing situations. The second strand of literature is result-focused and consists of the in-person audit and correspondence studies. A wide range of studies has been published with great variations in survey design. While early studies focused on showing that ethnic or racial discrimination in hiring exists, more recent studies use field experiments as a basis but then add new variables or combine these findings with further research on the underlying reasons of discrimination. Thus, a third strand of literature has emerged more recently which tries to address the limits of current testing methods by offering a combination of mixed and interdisciplinary methods to study not only *whether* but also *why* discrimination exists in today's hiring decisions. These methods include interviews with employers and draw on disciplines such as social psychology to conduct psychological tests with human resource managers on their implicit attitudes or stereotypes.

This paper will start by defining discrimination, before addressing the methodological literature on testing and focusing on the studies already published. Finally, the last section of this paper will turn towards the recent developments in field experiments that have started to use more complex research designs with a greater number of variables tested.

2. Ethnic and Racial Discrimination: Definition and Delimitation of the Field

When discussing ethnic or racial discrimination in the labour market, it is necessary to define the notion of race and ethnicity first. Blank, Dabady and Citro (2004) argue that "recent behavioral and social science evidence supports the social-cognitive notion that race is a construct based on observable physical characteristics (e.g., skin color) that have acquired socially significant meaning" (p.27). Furthermore, they point out that "Cultural factors, such as language, religion, and nationality, have more often been used to refer to ethnicity", while pointing out that the distinction between race and ethnicity is not clear cut. It can, however, be observed that the US debate focuses

on racial minorities (e.g. African-Americans or Hispanics), while Canadians speak of visible minorities[1], and European countries (except for the UK) have focused on ethnic minorities. The EU even addresses this in the Directive 2000/43/EC saying that "The European Union rejects theories which attempt to determine the existence of separate human races. The use of the term 'racial origin' in this Directive does not imply an acceptance of such theories" (Preamble (6)). No matter which term is used, both ethnic and racial origins are prohibited grounds of discrimination. Looking at ethnic or racial discrimination, several definitions of discrimination exist, depending on the scholarly background. Thus definitions from the fields of economics, sociology and law will be compared as to how these disciplines address discrimination in the labour market.

Based on Arrow (1998), Bendick summarises that "Economists define employment discrimination as valuation in the labor market of workers' characteristics which are not related to the workers' productivity" (2007, p.18). Furthermore, economists distinguish between discrimination at the individual and at the group level. Looking at the context of ethnic discrimination in hiring, discrimination is defined as "a causal effect defined by a hypothetical *ceteris paribus* conceptual experiment – varying race but keeping all else constant" (Heckman, 1998, p.102).

Within the social sciences definitions of discrimination range from a very broad understanding of discrimination, which "take[s] all inequality among racial groups as discrimination, assuming all inequality that exists among groups must be the result of current or past discriminatory practices" (Quillian, 2006, p.300), to a more narrow definition, where discrimination is understood "only [as] acts that are intended to harm the target group" (p.300). According to Quillian, most definitions of discrimination used by social scientists fall within the scope of the US National Research Council's definition that discrimination is understood as "(1) differential treatment on the basis of race that disadvantages a racial group and (2) treatment on the basis of inadequately justified factors other than race that disadvantages a racial group" (Blank et al., 2004, p.39).

Legal definitions of discrimination can be found in national and international anti-discrimination legislation, such as the EU's Directive 2000/43/EC or the EU Directive 2000/78/EC, better known respectively as the "Race Directive" implementing the principle of equal treatment between persons irrespective of racial or ethnic origin and the "Employment Equality Directive" establishing a framework for equal treatment in employment and occupation. In the Race Directive the concept of discrimination is defined in Article 3 (2):

> (a) Direct discrimination shall be taken to occur where one person is treated less favourably than another is, has been or would be treated in a comparable situation on grounds of racial or ethnic origin;
> (b) Indirect discrimination shall be taken to occur where an apparently neutral provision, criterion or practice would put persons of a racial or ethnic origin at a particular disadvantage compared with other persons, unless that provision, criterion or practice is objectively justified by a legitimate aim and the means of achieving that aim are appropriate and necessary.

Despite the differences between the economic, sociological and legal definitions, what they all have in common is the notion that one person is treated less favourably than another because of a certain characteristic that cannot be changed (e.g. being female, young, handicapped, or having an ethnic minority background) and that this differential treatment is not based on any other differences that

[1] According to Statistics Canada, visible minorities are non-Caucasian in race or non-white in colour and are not Aboriginal.

influence productivity. Especially in the field of hiring discrimination the (expected) productivity of an applicant is a key factor for decision makers.

While discrimination can occur in almost every interaction between individuals, it has been mostly addressed in relation to the housing, labour and product markets[2]. Figure 1 provides an overview of the spheres in which discrimination occurs with a special focus on the labour market. As shown by the shaded fields, the focus of this paper will be on ethnic discrimination in the labour market and more specifically on ethnic discrimination in the hiring process. Hiring is only a small part of the labour market, while discrimination can occur before and after the entry into the work force, yet the focus on this specific point is important as it can prevent candidates from entering the labour market at all or can push them into more unfavourable positions that will impact their future career chances. In many cases discrimination is not a phenomenon that only happens at one point in time, but may become cumulative, starting with education and continuing in hiring, wages or promotion or termination decisions. Thus small incidences of discrimination, for example in the hiring process, can have "substantial effects on aggregate outcomes" (Pager, Western & Bonowski, 2009, p. 778).

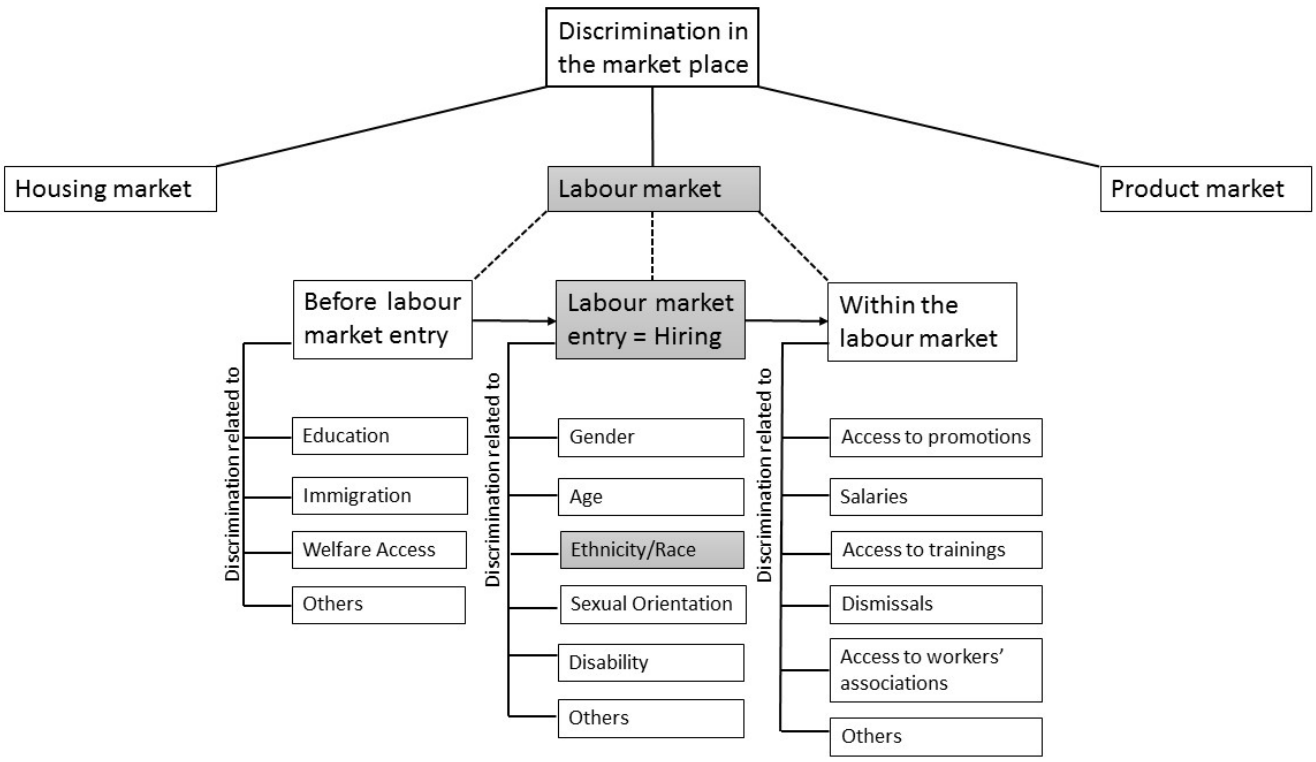

Figure 1: Fields of discrimination in the market place, emphasis on ethnic and racial discrimination in hiring decisions.

Thus, in order to study the impact of discrimination, the following section will focus on the early developments of testing if and to what extent discrimination in hiring decisions exists.

[2] Product markets include for example access to mortgages, markets for (used) cars or insurances. For a comprehensive overview see e.g. Riach and Rich (2002) or Rich (2014).

3. Historical Context: Early Developments of Discrimination Research

Before the rise of social rights movements, discrimination was overtly practiced in many countries. Using the example of the US, Arrow points out that discrimination "existed in perfectly open form, with no need for subtle economic analysis" (1998, p.92). Furthermore, segregation and discrimination were also promoted by the law, especially in the Southern States of the US, where interracial marriages were often illegal and where blacks were excluded from many positions, for example in the military. Thus, the "fact of discrimination would not have needed testing" since "the presence of racial discrimination throughout American society was […] a fact 'too evident for detection and too gross for aggravation'" (Arrow, 1998, p.92). While racial discourses had been avoided in the UK prior to the 1940s, the issue featured increasingly in the political debate of the 1940s and 1950s (Small & Solomos, 2006, p.239). Thus it took the development of a notion of equality irrespective of a racial or ethnic background to prompt legislation in this field and to enable studies on discrimination to emerge.

Therefore, it is not surprising that racial discrimination was first studied in the UK and the US following Civil Rights movements, where in the beginning these experiments were mostly used to monitor compliance with the law and new anti-discrimination legislation. It is, however, remarkable that despite a lack of contact between US and UK researchers the methodology of field experiments, also known as situation testing, both written and in-person, was developed independently on both sites of the Atlantic (Bovenkerk, 1992, p.11). Yet differences persist in the methodological developments on both continents.

3.1 The Race Relations Act(s) and the Emergence of Testing in the UK

Field experiments were first developed in the United Kingdom in the 1960s. Following the large influx of Commonwealth citizens to the UK after the War, the issue of immigration control arose (Karapin, 1999, p.115). During the 1940s racial issues rose to the forefront of public debates and the issue became "even more politicized and racialized after the riots in Nottingham and Notting Hill in 1958" (Small & Solomos, 2006, p.239). While labour politicians tried, unsuccessfully, to introduce a race relations bill in parliament already in the 1950s, the ruling Conservatives decided to deal with the aftermath of the riots by pursuing stricter immigration controls which led to the 1962 Commonwealth Immigrants Act (Bleich, 2003, p.44). It was only following the election of the Labour Party into office that the 1965 Race Relations Act, prohibiting discrimination in public places, was adopted: Stricter immigration controls were counterbalanced by a new anti-discrimination policy. Still, this Act was considered rather weak because it did not include provisions on transactions taking place in the spheres of housing or employment (Rich, 2010, p.48) and had very weak enforcement procedures. Due to criticism by the UN and first studies providing proof of discrimination (Daniel, 1968), in 1968 the Act was extended to also cover discrimination in the provision of goods, facilities and services, employment, or housing accommodation. It specifically addressed the issue of employment making it "unlawful for an employer or any other person concerned with employment of others to discriminate against any other person" (Art.3) in their search for employment, in their terms of employment, such as "the like conditions of work and the like opportunities for training and promotion", or in their dismissal. Given the close link

between immigration and race relation policies "Labour's policy in the 1960s was that of the 'balancing act', stressing the mutual relationship between immigration controls on the one hand and measures to tackle racial discrimination on the other" (Sooben, 1990, p.8).

In the 1970s the shortcomings of the 1965 and 1968 Race Relations Acts became obvious, as was shown by reports on discrimination published by Political and Economic Planning (PEP) and the lack of power to enforce existing race relations legislation. When the Labour government returned to power in 1974, it focused mainly on sex discrimination, resulting in the 1975 Sex Discrimination Act. Using this Act as a model for a further Race Relations Act, "the Government publicly stated its intention to 'harmonise' the law in these two fields as far as possible" (Sooben, 1990, p.3). Furthermore, the introduction of the concept of indirect discrimination[3] in the 1976 Race Relations Act can be traced back to the influence of the United States anti-discrimination law, where, even though it was not enshrined in the law, the courts had introduced the notion of indirect discrimination (p.29). The 1976 Race Relations Act was adopted almost without opposition from the Conservatives and "indicat[ed] a new approach to race relations, equal opportunities and tackling discrimination" (Sooben, 1990, p.6). The Act also devoted its whole Part II on Discrimination in the Employment Field and established the Commission for Racial Equality that was also given the power to investigate and prosecute.

With the emergence of anti-discrimination legislation in the 1960s and 1970s researchers began to study discrimination and started to develop techniques to measure its extent. The first research based on situation testing, in this case an in-person audit study, was conducted in 1967 by the Political and Economic Planning (PEP) research office (Daniel, 1968). Testing discrimination against West Indian British and Hungarian naturalised British citizens in the housing, labour and product markets, testers were sent to firms against which complaints of discrimination had been lodged previously and substantive discrimination was proven (Bovenkerk, 1992, p.8). However, criticism of these tests was issued, regarding the small number of only 40 cases, the difficulty to closely match testers, or the influence testers' motivations might have on the outcomes of the tests (Riach & Rich, 1991b, p.145). Addressing these criticisms, Jowell and Prescott-Clarke (1970) modified the test design and introduced written correspondence tests showing discrimination against black job-seekers in white-collar jobs. McIntosh and Smith (1974) subsequently combined in-person audit and correspondence tests depending on the level of qualification, using actors for unskilled jobs and written applications for skilled jobs. In the beginning of the 1980s Hubbock and Carter conducted a situation test in Nottingham showing discrimination against young blacks. In 1981 Firth published the results of his correspondence test in the market for accounting and financial management jobs on different qualification levels and tested not only for one or two ethnic minorities, but sent out seven applications per employer tested. He tested discrimination against Australians, French, Africans, Indian, Pakistanis and West Indians, showing that race had a greater impact than nationality, yet, in a short accompanying questionnaire, employers claimed that they treated all applicants equally. Brown and Gay (1985) used the testing methodology to study the impact of anti-discrimination legislation and its enforcement, but despite indications that the

[3] In Part 1, Article 1 (b) of the 1976 Race Relations Act, it is defined that discrimination occurs if a person "applies to that other a requirement or condition which he applies or would apply equally to persons not of the same racial group as that other but (i) which is such that the proportion of persons of the same racial group as that other who can comply with it is considerably smaller than the proportion of persons not of that racial group who can comply with it; and (ii) which he cannot show to be justifiable irrespective of the colour, race, nationality or ethnic or national origins of the person to whom it is applied; and (iii) which is to the detriment of that other because he cannot comply with it."

legislation had positive effects, discrimination levels were still high (Bovenkerk, 1992). Thus, all early studies in the UK showed discrimination against minority candidates, despite the entry into force of anti-discrimination legislation. Brown and Gay explain the continued presence of discrimination in the labour market by the low risk of detection for discriminatory employers claiming that "the heart of the problem is that employers know that cases rarely get as far as legal action because the victim is very unlikely to be aware that he or she has been discriminated against" (1985, p. 32). Rich and Rich (1991a) also emphasise that rejected applicants are usually not aware of discriminatory decision making, and even if they suspected it, they would in most cases not be able to prove it.

3.2 Influence of the British Approach in Europe and Overseas

Like in the UK, similar studies using this methodology were also conducted in other countries. For the Netherlands, Bovenkerk (1977) and Bovenkerk & Breuning-van Leeuwen (1978) employed a modified version of McIntosh and Smith's research design, a combination of in-person audit and correspondence testing, which allowed testing both unskilled as well as skilled positions, to measure discrimination in hiring against black Surinamese Dutch citizens due to their colonial ties, and naturalised Spaniards in the Amsterdam labour market. Similarly, Raveau and Kilbourne (in Bovenkerk et al., 1979) tested for discrimination against black Antillean French citizens in a correspondence test in France.

The British approach was also employed in Canada by Henry and Ginzberg (1985), who focused on black and white candidates in the Toronto labour market. Secondly, in a telephone test using non-Canadian accents and ethnic sounding names discrimination against the different minority groups was tested (Bovenkerk 1992, p.10). A second and almost identical study, although on a much smaller scale, was conducted by Henry in 1989 during a phase characterised by a very high demand for labour and a shortage of applicants at the time of testing.

In 1991 Riach and Rich published the results of their correspondence test on discrimination in the Australian labour market (1991b). Over a period of 4 years applications were sent out to test discrimination against Greek and Vietnamese immigrants. They emphasised that "what is quite remarkable and disturbing is the similarity between our results and those of British researchers testing for discrimination against 'non-white' job applicants" (p.247). Another similarity to the British case was the observation that despite the existence of federal and state legislation prohibiting discrimination, discrimination still existed in the Australian labour market and especially against Vietnamese applicants. Riach and Rich also take Brown and Gays' argument of the minimal cost of discrimination to employers even further by stating that "even where an applicant suspects he/she has been the victim of discrimination, current labour market practices make it extremely difficult to present a *prima facie* case to the courts" (Riach & Rich, 1991b, p.256).

3.3 Civil Rights Movements and the Testing of Racial Discrimination in the US

Parallel to the developments in the UK, the Civil Rights movement in the US had drawn attention to the issue of racial discrimination. Common, open, and daily discrimination was even enforced by state legislation, the so-called Jim Crow laws, and ended with the Civil Rights movement when "many blatant discriminatory practices were prohibited, and whites increasingly repudiated discrimination and overt forms of prejudice" (Quillian, 2006, p.299.). Several landmark acts of US Civil Rights legislation were adopted in the 1960s, such as the Civil Rights Act of 1964, which contained provisions on voting rights, public accommodation (encompassing in fact all public places) and education, the Voting Rights Act of 1965, which prohibits any "prerequisites to voting … [that] deny or abridge the right of any citizen of the United States for vote on account of race or color" (sec 2) or the Civil Rights Act of 1968, which was signed during the riots following the assassination of Martin Luther King Jr. Its Title VIII became soon known as the Fair Housing Act as it extended the provisions of the Civil Rights Act of 1964, and addressed discrimination in the sale or rental of housing, the financing of housing, or the provision of brokerage services and includes provisions on the enforcement of these rights. While overt discrimination declined sharply after the introduction of these acts, great racial disparities could still be observed, especially in housing, employment, or in the criminal justice system.

Simultaneously, given the prominent position of the "Fair Housing Act" and the problems with racial segregation encountered in everyday life, researchers in the US started to use situation tests in the field of housing discrimination by conducting in-person audit studies with matched pairs of testers who applied for the same property (e.g. Blank et al., 2004, pp.106). Evidence from these in-person audit tests on the application of fair housing laws was even admitted in courts in order to prove discrimination. At the end of the 1970s Newman (1978) first applied situation tests to the US labour market in order to study the effect of affirmative action programs, finding that "firms under the obligation to set up affirmative action programs did, in fact, give black applicants a more favourable response than their white counterparts" (Bovenkerk, 1992, p.11).

However, contrary to the situation in the UK, studies on employment discrimination were not very common in the US of the 1980s. As Bendick points out, with the election of Ronald Reagan in 1981 "political support for vigorous action against employment discrimination began to falter [… and] under his administration, enforcement of anti-discrimination laws by the federal Equal Employment Opportunity Commission dramatically weakened" (2007, p.19). To combat the conservative belief that the problem of racial discrimination had been eliminated, advocates of further anti-discrimination policies used situation tests to "generat[e] additional knowledge through research, influenc[e] public opinion through dramatic findings, and provid[e] evidence for enforcement litigation" (Bendick, 1996, p.10).

Summarising these early experiences with field experiments, it is interesting to note that in the UK and the countries influenced by the British approach the focus quickly turned to testing discrimination in employment predominantly by using correspondence testing (sometimes combined with smaller in-person audit studies), while US researchers rather looked at the issue of discrimination in housing and employed the in-person test design.

4. Studying Discrimination across Disciplines: Methodological Issues

While the previous sections provided an overview of the contextual development of field experiments, it has not yet addressed the methodology itself and the different approaches employed across disciplines to study racial or ethnic discrimination. Since discrimination today is a more subtle phenomenon which is not as easily observed as during the middle of the 20th century, researchers are confronted with questions such as: "How can we measure discrimination when it is an often illegal and hidden practice?" (Quillian, 2006, p.299), "What is the actual *extent* of discrimination in different spheres of social life? And what are the *causes* of discriminatory treatment?" (emphasis in the original, Midtbøen & Rogstad, 2012, p. 203), and closely linked to this last question, "Is ethnic discrimination due to distaste or statistics?" (Baert & de Pauw, 2014). Different academic disciplines, in particular economists, legal scholars and sociologists, have addressed the issue of discrimination using a variety of methods.

While economists assume that employers act in a profit-maximising manner, this assumption is challenged by the existence of discrimination (Arrow, 1998). Economic theories focusing on taste-based discrimination (Becker, 1957) or statistical discrimination (Phelps, 1972, Arrow 1973) have been predominantly employed in this field, the discussion of which, however, is beyond the scope of this paper[4]. More important is the fact that, according to Ashenfelter and Oaxaca, "for economists evidence of discrimination merely requires the presence of 'unexplained' differences in compensation or employment" (Ashenfelter & Oaxaca, in Riach & Rich 1991b, p.143). These differences are often addressed by analysing available statistical data using regression analysis to study if discrimination in the labour market exists (Riach & Rich 1991a), for example, with respect to differences in wages, employment rates, or unemployment duration. This indirect approach to measuring discrimination in the labour market is, however, unsatisfying, as it does not provide clear information about discrimination in hiring or the reasons thereof, but only about the residuals that had not been explained by the variables included in the studies and for which discrimination might only be one possible explanation.

From a legal point of view, the existence of discrimination can be measured by analysing case files, court proceedings and the number of complaints that focus on discriminatory treatment. However, legal scholars are confined to cases that have actually been reported and only a very small number of discrimination cases are brought before the courts. Since discrimination today is such a subtle phenomenon, it is often difficult to identify whether behaviour has been discriminatory and victims usually do not have the necessary information or proof to claim that not being hired has been due to discrimination (Pager & Western, 2012, p.222). Thus, it can be assumed that this measure severely underestimates the extent of discrimination.

Next to economic or legal analysis, sociologists focus on studying discrimination using both qualitative and more direct approaches that focus on the victims of discrimination, attitude surveys and field experiments. By studying the experiences of (potential) victims of discrimination using surveys and interviews, researchers try to gather information on whether or not minority groups feel

[4] For a recent discussion on the theories of taste-based and statistical discrimination see e.g. Guryan and Charles (2013).

discriminated against in their daily life. An example of a large-scale study on perceived discrimination has been carried out in the Netherlands (Andriessen et al., 2014). However, these approaches also face limitations specific to the hiring process, especially when it comes to documenting the extent of discrimination in a society, since their focus is on the effects of discrimination on the individual. Interviews and surveys depend on subjective experiences of discrimination on the side of the victim, and victim surveys have been shown to underestimate the extent of discrimination that exists on the labour market (Bovenkerk, 1992, p.7).

Another direct approach employed in the study of discrimination in the hiring process is the use of attitude surveys (Fibbi et al., 2003, p.19). Using surveys or interviews these studies usually focus on the attitudes of employers, HR personnel or the general public towards foreigners. A recent example of employer interviews has been conducted in Norway (Midtbøen, 2014). While these tests give a good indication about the general climate towards immigrants, they also face severe limitations. Attitudes reported in the interviews and questionnaires cannot be equated with actual behaviour. Test subjects are aware that there are socially desired answers and legal implications when it comes to the issue of discrimination. Thus "there is no one-to-one correspondence between attitude and behaviour" (Bovenkerk, 1992, p.5).

Faced with these limitations in existing research designs that attempt to study and eventually measure discrimination in hiring, researchers have increasingly turned to field experiments, also known as situation tests, either in-person audit or correspondence tests. Using these field experiments allows the researcher to measure the effect of ethnicity or race in the application process and to draw statistically significant results on the extent of discrimination in the labour market (Quillian, 2006; Pager, 2007, Midtbøen & Rogstad 2012). In over 40 years, field experiments have become an important means to show and quantify the extent of discrimination in several countries, at different points in time and for numerous groups of minorities. Comprehensive overviews of studies already carried out have been published for instance by Riach and Rich (2002), Pager (2007), Pager and Sheperd (2008) or Rich (2014). Yet, while these articles offer a great overview of studies conducted in the labour, product and housing markets, on ethnic and racial discrimination, sex discrimination, disability discrimination, age discrimination or discrimination by sexual orientation, they provide only a systematic review of the existing field experiments, but stop short of analysing the data they compiled in a further analysis. Looking at field experiments on ethnic and racial discrimination in hiring decisions, this gap has recently been addressed in a meta-analysis by Zschirnt and Ruedin (2016) which systematically analysed 43 correspondence tests that were conducted in OECD countries between 1990 and 2015.

4.1 Types of Field Experiments: In-Person Audit Studies and Correspondence Tests

One of the most comprehensive guides on how to conduct a field experiment on discrimination is Bovenkerk's "Manual for International Comparative Research on Discrimination on the Grounds of 'Race' and 'Ethnicity'" (1992) in which he lays out the guidelines for comparative research conducted by the International Labour Office (ILO) in the 1990s. Pager (2007) also includes detailed guidelines on how to set up an in-person audit study and addresses the strengths and weaknesses of this approach. Furthermore, most studies conducted include a detailed methodology section (e.g. Wood et al., 2009, Weichselbaumer, 2015).

Field experiments vary in how employers are contacted, either in-person or with written applications. All these approaches share the idea that two applicants who are as closely matched as possible regarding their qualification and presentation and only differ in the characteristic to be studied apply to the same vacancies. The results are carefully recorded and then allow the researcher to isolate the effect of racial or ethnic differences on labour market access. Thus it is possible to observe the actual behaviour of employers and how they treat minority applicants (Midtbøen & Rogstad, 2012, p.205).

In-person Audit Studies

In in-person audit tests applications are made in person at the employer's place of business or by phone and two testers are matched and trained before applying for the same vacancies. There are several advantages of conducting in-person audits. First, when testing for racial or ethnic discrimination testers are chosen from the respective groups and race is easily signalled by the physical characteristics of the applicants (Pager, 2007, pp.111). Second, in-person audits allow testing for ethnic discrimination in low qualified or entry-level jobs where written applications are not common. Third, in-person audits may cover the whole application process since candidates are able to attend job interviews. And finally, by attending interviews, in-person audits enable researchers to also collect qualitative data on how both applicants were treated during the interview (Midtbøen, 2012, p.205). In the ILO studies and in US in-person audits cases of "equal but different treatment" (e.g. Bovenkerk et al., 1995, p.20) have been reported. Pager shows how durations of interviews differ or how minority applicants are channelled into lower paying jobs than those they initially applied for, while the opposite might occur for majority candidates – yet both would be counted as job offers (cf. Pager et al., 2009, pp. 787).

However, as for instance Midtbøen (2012, pp.205) shows, critics of in-person audit tests are quite vocal in listing the problems inherent with this approach, since it is very time consuming, requires extensive supervision of the testers and is expensive to carry out. Focusing on in-person audit studies conducted in the US, Heckman, one of the most frequently cited critics, identifies three main limitations with this test design. First, the small number of tests carried out and the limited sample of occupations tested do not allow for generalisation of the results as the studies are not representative for the US labour market. Second, Heckman criticises that leaving out the cases in which both applicants were rejected when calculating the net discrimination rate distorts the results significantly, an argument which not only applies to in-person audit studies, but also to correspondence tests discussed below[5]. Third, he objects that there are unobservable variables in the selection of candidates, which may impact the selection procedure. Furthermore, there is a danger of experimenter effects, since the testers might try to achieve a certain outcome thus affecting the study in non-random ways (Heckman, 1998). Heckman also criticises that by presenting two almost identical candidates, employers "may be forced to privilege relatively minor characteristics simply out of necessity of breaking the tie" (Pager, 2007, p.116). Thus, summarising Heckman's arguments, different degrees of success in the hiring process should be attributed to the "failure by the researchers to match the testers on some subtle productivity-related characteristics" (Bendick &

[5] For a detailed discussion on the calculation of discrimination rates see Riach and Rich, 2002 and in particular pp. F486.

Nunes, 2012, p. 248). A detailed discussion of Heckman's criticism can be found in Neumark (2012).

Written correspondence studies

Correspondence studies address several of these key concerns. While they also present employers with two equally qualified candidates that differ only in terms of race or ethnicity, indicated by distinct names, they give the researcher complete control over the content of the application. By forgoing actual testers, researchers are able to apply to a much greater number of vacancies as the process is much less time and resource-intensive. The increased sample size, the opportunity to apply for a wider range of jobs (e.g. by occupation, level of qualifications or location) and the possibility to assign names randomly to the applications increases the representativeness of the studies and meets most of Heckman's concerns (Mitbøen & Rogstad, 2012, p.207).

Still, there are also limitations to this approach. Most importantly it is only possible to measure discrimination in the first phase of the hiring process, that is, the response to written applications. Yet, "it does highlight one quite decisive form of discrimination – that of denying the applicant the chance to even compete for a job" (Riach & Rich, 1991b, p.241). It is this first step of the hiring process that accounts for almost 90% of the level of discrimination measured in each country, with the exception of Germany (Riach & Rich, 2002, p.F494). While correspondence tests thus present a minimum rate of discrimination based on the results of this first contact they are already a good indicator of the level of discrimination faced by minority applicants. Secondly, all information about race or ethnicity has to be conveyed by the name, or in some cases memberships in specific organisations. Here, a problem arises, as in the US "more distinctive African-American names are also associated with lower socioeconomic status, thus confounding the effects of race and class" (Pager, 2007, p.111). Thirdly, correspondence tests are typically reserved for occupations in which applications are accepted in writing, thus excluding most entry-level or unskilled jobs where applications are usually made in-person.

While both in-person audit tests as well as correspondence tests have some limitations, they are, so far, the best way to measure the existence of discrimination in hiring (e.g. Schneider et al., 2014, p.14). One of the greatest advantages of field experiments is that this "innovative research technique of matched-pair testing offers laboratory-like controlled conditions in quasi-experiments in real-world hiring situations" (Bendick & Nunes, 2012, p.238). By using a systematic procedure in which two candidates, who are equally qualified and well-matched on their physical and behavioural characteristics and differ only in race, act as testers, researchers are able to analyse employers' behaviour in a very controlled setting.

Interestingly, in-person audit tests are hardly employed in Europe. Apart from the ILO studies in the 1990s and the later studies in the 2000s that used the in-person audit approach in combination with correspondence tests, there is only one European study by Andriessen et al. (2014) in the Netherlands that uses an in-person audit approach with applications by telephone as a small addition to the larger correspondence test. While in the US the use of in-person audit tests is still frequent, especially in the low-qualified sector, correspondence tests are also growing in importance, the first example being the often-cited study by Bertrand and Mullainathan (2004), but

also more recent studies on ethnic discrimination for college graduates (Gaddis, 2014; Nunley et al., 2014).

4.2 Stumbling Blocks in Conducting Field Experiments

Apart from the criticism on the methodology of in-person audits or correspondence test, important concerns when it comes to field experiments are questions about ethics and legal problems.

4.2.1 Ethics

Bovenkerk (1992) already anticipated ethical concerns being raised and addressed the issue in his ILO testing manual. He lists three main arguments why researchers are justified to break the principle of informed consent. First, as hiring is not an entirely private matter, "there is no question of breaking legitimate expectations of privacy" (p. 33), and governments themselves seek to ensure equal opportunities. His second argument stresses that "situation testing has almost no harmful effects on the individual subjects if appropriate precautions are taken" (p.33). Researchers do not aim to identify employers who use discriminatory practices to take legal action, information on employers are strictly confidential, and by swiftly declining any job or interview offers the inconvenience to employers is minimised. Thirdly, researchers should not worry too much about legal implications of their research design being considered as entrapment. According to Bovenkerk

> "this concern is ill-conceived as discriminating employers break the legal rules probably more than the researcher does. But more importantly: testers observe only conventional practices; they do not lure employers into a situation in which they are enticed to deviate from their normal course of action" (1992, p.34).

Pager and Western (2012) show that the question of ethics in field experiments on discrimination does not only concern scholars conducting such experiments, but also has political implications. Using the example of the US Equal Employment Opportunity Commission (EEOC) that planned to take a more proactive role to enforce anti-discrimination law across the country, they show that conservative politicians objected strongly to the use of field experiments in the labour market. In 1998, the conservative house speaker Newt Gingrich argued that:

> "The government should not sanction applicants' misrepresentation of their credentials to prospective employers. The use of testers not only causes innocent business to waste resources […], but also puts a government agency in the business of entrapment. It assumes guilt where there has been no indication of discriminatory behaviour" (Gingrich, 1998).

Following this opposition by conservatives, the budget for the EEOC was only approved on the condition that the Commission would not carry out testing in the field of employment (Pager & Western, 2012, p.233). The US conservatives were not the only opponents to testing in the labour market as the case of the Swedish ILO proposals illustrates.

Swedish researchers encountered problems when applying for funding to conduct a field experiment on discrimination in the labour market for the Swedish contribution to the ILO project in 1993. Two research proposals were submitted and in a first review of both proposals no doubts about the ethical aspects were expressed (Banton, 1997, p.415). However, in a further assessment

by law professor Rolf Nygren, a member of the Swedish Council for Social Research's committee on research ethics, ethical approval was denied. While Nygren acknowledged that studying discrimination would be of public interest and that field experiments were the most advanced method to research discrimination in hiring, he still raised doubts about the ethical dimension of such research. His main argument focused on the position of employers:

> "The central thought in the proposal is that an employer, without knowing what is going on, shall be exposed to the possibility of becoming a law-breaker. […] The employer runs both a risk of injury to reputation and a financial risk. It is these risks of injury which so clearly make the proposed experiment ethically unacceptable" (in Banton, 1997, p.415)

Furthermore, Nygren argued that situation testing also had implications in criminal and civil law and that the fact that no informed consent had been obtained could harm the researcher on whom the liability for damages suffered would fall upon (Banton, 1997, p.415). Thus, following Nygren's recommendation, both applications for funding were rejected. However, the Swedish Council for Social Research finally granted the approval to conduct field experiments in the Swedish Labour Market, which led to a number of studies conducted from 2007 onwards.

Banton also addresses a question briefly raised by Nygren, which concerns the effect testing could have on the testers. Despite attempts to counterbalance the negative experiences testers encountered by debriefings, minority testers were often shocked by the extent of discriminatory treatment they were confronted with, while majority testers reported feeling guilty and ashamed when realising how they were favoured in the application process. Furthermore, as shown in the Dutch ILO study, the constant "stream of pretentions and excuses was the most difficult part of the research for the testers" (in Banton, 1997, p.416).

Riach and Rich (2004) also published a comprehensive article addressing the ethics of field experiments. First of all, they take into consideration the possible use of field experiments to provide evidence of discrimination in courts. As discriminatory treatment is extremely hard to prove for victims, US courts have been known to accept the results of field experiments as evidence. Concerning the problem of deceiving the test subjects in housing discrimination tests it is argued that

> "[…] we have long recognized that this requirement of deception was a relatively small price to pay to defeat discrimination. The evidence provided by testers both benefits unbiased landlords by quickly dispelling false claims of discrimination and is a major resource in society's continuing struggle to eliminate the subtle but deadly poison of racial discrimination" (Boggs, Sellers & Bendick, 1993, p. 366-367).

Riach and Rich continue to address the issue of deception of both employers, as well as testers. Following Bovenkerk's arguments cited above, they summarise that deception of employers can be justified because

> "a lack of veracity is endemic in these markets; […] great harm is done to the social fabric by discriminatory practices; […] minimal inconvenience is imposed on the entrepreneurs in the experiment, and […] the technique provides evidence with a degree of accuracy and transparency which is not available from any other procedure" (2004, p. 463).

Concerning the deception of the testers, Riach and Rich address the recommendation by Heckman and Siegelmann, according to whom testers themselves should be kept ignorant of their role in the

experiment to avoid experimenter effects. However, in contrast to their verdict on deceiving employers Riach and Rich conclude that it is not ethically justifiable to mislead the testers on the content of the experiment they are involved in. They argue that testers are not lying to gain profit, their role could be played by actors as well to avoid experimenter effects and finally, and also most importantly, they are likely to find out the real purpose of the experiment once it has been terminated. Deceiving the testers would thus breach ethical codes in social research (2004, p.465).

4.2.2 Legal Aspects

Ethical questions are not the only stumbling block researchers can encounter. As was already briefly mentioned above in the concerns raised by Nygren, legal questions can arise. While Nygren addressed the question of liability of researchers if employers suffered damages pursuant to their unknown participation in the experiment, a study ordered by the Expert Council of German Foundations on Integration and Migration (SVR) includes a detailed legal analysis on the use of correspondence testing conducted by Kühn, Liebscher and Klose (2013). It is not surprising that such an analysis was conducted in Germany, because in German applications it is customary to include not only a cover letter and CV, but a complete application is expected to include copies of any degrees, certificates or transcripts already obtained. The expertise addresses issues of criminal law concerning the forging of documents necessary to compile complete applications as well as questions of civil law, which also includes questions of liability. In the end, Kühn et al. come to the conclusion that the freedom of the researchers is protected by the law and that very carefully designed correspondence tests would not infringe on personal rights of concerned enterprises (2014, p. 9). Based on this legal expertise the SVR conducted its own correspondence test on the German apprenticeship market (Schneider et al., 2014).

As has been demonstrated in this section, setting up a study on ethnic discrimination in hiring requires much thought and careful planning. A conscious choice has to be made, which methodology or combination of methodologies to employ. Furthermore, it is important to bear in mind the potential stumbling blocks that ethical and legal concerns might pose. However, given the number of studies carried out in numerous countries with different legal systems and application practices, it seems that good preparation will be able to meet most concerns. Despite the challenges that setting up a study on ethnic discrimination in the hiring process might pose, it is in the public interest to study this phenomenon more closely.

4.3 The Establishment of a Systematic Comparative Approach to Testing: the ILO and Urban Institute in the 1990s

While articles using situation testing had started to appear in international economic journals in the 1980s, it was in the 1990s that economists became more interested in field experiments on discrimination. Riach and Rich (2002) show how field experiments on race, sex, age, or disability discrimination were increasingly conducted in the labour, housing, or product market. Besides greater attention given to the topic of employment discrimination in academic journals, numerous studies were conducted under the auspices of the International Labour Office (ILO) in the European context and the Urban Institute (UI) based in Washington, DC, for the US. Thus, by the end of the

1990s a considerable body of literature existed on labour discrimination on the ground of ethnicity and race in Europe and the US.

The ILO studies are based on the methodology developed in Bovenkerk's manual on "Testing Discrimination in Natural Experiments" (1992). He clearly outlines the testing procedure to be followed to ensure comparability of the results and includes all phases of the hiring process. Following these guidelines, tests were conducted both written and in-person for several minority groups, in selected countries and regions, on a variety of occupations. The first tests were carried out in Germany (Goldberg et al., 1994), the Netherlands (Bovenkerk et al., 1995), Spain (de Prada et al., 1995) and Belgium (Arrijn et al., 1998). Testing in Sweden was initially not possible following the rejection by the Swedish Social Research Council, as described above. The US contribution to the project (Bendick, 1996) consisted of a discussion of tests conducted by the Urban Institute which followed a similar research design, and the Italian (Allasino et al., 2006), French (Cediey, Foroni, 2008) and – eventually – the Swedish (Attström, 2007) studies were only conducted more than a decade after the start of the project.

The Urban Institute research, that was subsequently used as the basis for the US contribution to the ILO project, was already conducted around 1990, using multiple pairs of applicants to test discrimination against Hispanics (in San Diego and Chicago, Cross et al., 1990) and blacks (in Washington DC and Chicago, Turner et al., 1991). In addition to these Urban Institute studies, Bendick (1996) also includes two of his studies for the Fair Employment Council, which also measured discrimination against blacks and Hispanics in Washington, DC (Bendick et al., 1991 and 1994). These tests focused on the in-person audit approach by using matched testers who continued as far in the application process as possible, even if their matched partner had already been rejected, thus differing from the ILO approach. As Bovenkerk points out, it is interesting to note that despite the lack of contact between European and US researchers, Cross et al. (1990) took almost the same methodological decisions as European scholars (1992, p.11).

Taking into account all studies mentioned since the first testing was conducted by the PEP in the UK, a similar trend can be observed in all countries. As Riach and Rich put it:

> "The results of the racial discrimination tests have extended over a period of thirty years and nine countries, in Europe, North America and the Pacific; all are members of the OECD. The minority groups include black, Asian, Arab, Turkish and other white non-nationals. The extent of discrimination varies temporally, spatially and between the various minority groups." (Riach & Rich, 2002, p.F499)

All of these studies showed that discrimination against the tested minority, the minority being black, Asians, Arabs or other ethnic groups, does occur at statistically significant rates (Riach & Rich, 2002, F499).

5. Recent Developments in Field Experiments

After the wave of studies conducted in the 1990s, the topic of discrimination received renewed attention. While most studies since the turn of the century were conducted in Europe, the US, Canada and Australia, the methodology of testing was even employed in countries such as Chile (Bravo, Sanhueza & Urzúa, 2008), India (Namjaree, Bertrand, Datta & Mullainathan, 2009), China (Maurer-Fazio, 2012), and Mexico (Arceo-Gomez & Campos-Vazquez, 2013).

It is not only possible to observe a wider geographical use of field experiments on discrimination in hiring, but also, increasingly, research designs have become more complex trying to go beyond showing the mere existence of discrimination in the hiring process, but attempting to narrow down underlying reasons. There are two main strands of literature in this respect. The first focuses on adding more explanatory variables in the research design, such as the level of education, while the second focuses on the use of mixed-methods to combine field experiments with other research methods such as social psychology.

5.1. Introducing New Variables in the Research Design

In the US the emphasis has been on in-person audits that no longer only focused on race but added further variables or very specific segments of the labour market ,as can be seen in studies by Pager (2003) examining the influence of a criminal record on the employment opportunities of white or African-American former prisoners; Pager, Western and Bonowski (2009) on discrimination in the low wage labour market; or by Bendick, Rodriguez and Jayaraman (2010) on waiters in up-scale restaurants. In the US it is also possible to observe the increasing use of written correspondence tests, since Bertrand and Mullainathan published their much-cited first correspondence test in the US on discrimination against African-Americans in the labour markets of Boston and Chicago in 2004, in response to criticism of the in-person audit method. They also included variables on the quality of the resumes or the residential area of an applicant. They found that a higher resume quality increased the call-back rates for white applicants, while the effect was negligible for African-Americans. Jacquemet and Yannelis (2011) repeated this experiment in the same cities with an almost identical research design and confirmed the results Bertrand and Mullainathan had reported. However, they also included a group of resumes with foreign names[6] whose origins were not easily recognised by Americans as having a specific ethnic connotation and found similar rates of discrimination thus indicating high rates of ethnic homophily in the Chicago labour market. Next to field experiments on rather low-skilled positions, correspondence tests have also been conducted for US university graduates. Nunley et al. (2014) employed a correspondence test for recent university graduates adding productivity variables, while a correspondence test by Gaddis (2014) added the attendance at an elite or less selective US university as a variable to test for ethnic discrimination.

In Canada, Oreopoulus (2011) conducted one of the most compressive and complex field experiments with almost 13,000 resumes on the Toronto labour market. He linked his research to the Canadian immigration policy that favours highly skilled migrants. By differentiating the CVs sent out by name, place of education and place of work experience, he was able to show that Canadian employers discriminate by name and that Canadian work experience was more important than Canadian education. Thus, he not only focused on ethnicity but conducted the first correspondence study that included the whole educational and work experience of a candidate and

[6] Names were constructed by using Albanian, Armenian and Georgian first names, groups which are relatively unknown in the area of Chicago. These first names were combined with male last names from the same groups. Reasoning that these names cannot be attributed to a specific ethnic group, Jacquement and Yannelis expected them to be just categorised as foreign and unfamiliar by employers (2011, p.826)

on the place it was obtained. This experiment, too, was repeated by Oreopoulus and Dechief (2012) with a greater regional scope, but overall similar results.

Research on discrimination in hiring was also conducted in Australia. Booth, Leigh and Varganova (2012) applied to over 4,000 jobs and included five ethnic groups in their study. It was also the first study to include applicants from the indigenous population.

In Europe, the issue of racial and ethnic discrimination featured prominently on the political agenda of the European Union at the beginning of the 2000s and the success of Jörg Haider's far right party in the Austrian election was a main incentive for the other member states to quickly establish their opposition to this anti-immigrant right wing party (Guiraudon, 2004). Thus, the Council Directive 2000/43/EC on equal treatment for persons irrespective of racial or ethnic origin in June 2000 was adopted in record time (Geddes, 2006), and the member states had to implement the Directive and transpose its provisions on anti-discrimination in national law. Following the adoption of this so-called "Race Directive", in November 2000 a second Directive addressing the equal treatment in employment and occupation (Council Directive 2000/78/EC) was also adopted, at the same time as a Council Decision to establish a Community action programme to combat discrimination (Council Decision 2000/750/EC). Thus, "[t]his flurry of legislative activity […] suggests that these are indeed exiting times for discrimination lawyers" (Skidmore, 2001, p.127), not only for lawyers but also for scientists studying the issue of discrimination as well.

The renewed interest in testing the effect of anti-discrimination legislation in European member states is thus not surprising. In the 2000s the last three ILO studies on discrimination in the labour market were published for Italy (Allasino et al., 2006), France (Cediey & Foroni, 2008) and Sweden (Attström, 2007). Interestingly, six studies on racial discrimination in hiring were conducted in Sweden from 2007 onwards. Due to the introduction of a new bill on racially motivated crime and ethnic discrimination in the work-place in 1994 that declared combating discrimination as its main goal (Banton, 1997, p.417) and the renewed interest in studying ethnic discrimination following the adoption of the EU directive, the way was cleared for a new proposal for a field experiment on ethnic discrimination in the labour market. Once the Swedish ethical approval to join the ILO project was granted, numerous researchers conducted field experiments on discrimination in the Swedish labour market. Furthermore, Norwegian researchers also started to propose research projects, having previously assumed that their research would not be approved either (Midtbøen, 2013, p.52). Next to Sweden and Norway, studies were, amongst others, also conducted in the UK (Wood et al., 2009), France (Duguet et al., 2010), Greece (Drydakis & Vlassis, 2010), Ireland (McGinnity & Lunn, 2011), Germany (Kaas & Manger, 2012), the Netherlands (Andriessen et al., 2012) or Austria (Weichselbaumer, 2015). Some of these studies will now be discussed in detail specifically due to their enhanced survey design, as they introduced additional variables to their surveys and thus added aspects beyond the sole measurement of discrimination.

Like Booth et al. (2012) in Australia, Wood et al. (2009) conducted a field experiment with multiple ethnic groups in the major cities of the UK. Remarkable in this study is the fact that they distinguished between public and private employers and also recorded if applications had been submitted as a CV or if application forms provided by the employer had been filled out. They found that public employers and those using application forms instead of CVs had much lower rates of discrimination. In Sweden, Carlsson (2010) conducted a field experiment using first generation

immigrants and second generation youths of Middle Eastern origin as minority groups and found that employers hardly make a distinction between the two. Furthermore, ethnic minority candidates had a lower probability of being invited for an interview if a man was responsible for recruitment decisions. In a Greek study by Drydakis and Vlassis (2010), the correspondence test on Albanians' chances to receive invitations to interviews was complemented by information on the wage and insurance coverage offered. In 2011 McGinnity and Lunn published the first Irish field experiment, testing for discrimination against Africans, Asians and German minorities in Ireland, thus testing for race as well as nationality. Kaas and Manger (2012) conducted a correspondence test for student internships in Germany and also constructed a letter of reference from a previous employer which was included in one set of their applications to test for statistical or taste based discrimination. In Belgium, Baert et al. (2013) focused on different segments of the labour market and showed that employers were less likely to discriminate if the labour supply is limited. Blommaert and Coenders (2014) conducted a field experiment on hiring discrimination in the Netherlands, in which they posted resumes on online job search websites and measured response rates from employers, by counting the number of times the profile was viewed as well as the times candidates were contacted by potential employers. While this is not a classical correspondence test, the reported results of discrimination were rather similar.

5.2. Introducing mixed-methods

As well as the added variables in the research design, mixed-methods and interdisciplinary approaches have gained importance in the last years. Midtbøen (2014) combines his Norwegian correspondence test with employer interviews, thus combining different research designs. In a more inter-disciplinary approach that leans strongly on the discipline of psychology, other researchers focus on unconsciously working stereotypes, implicit attitudes and automatically activated associations focusing mainly on recruiters to study the reasons of discriminatory behaviour in depths. Examples of these studies include Quillian (2006) who studies implicit prejudices and behaviour, Agerström and Rooth (2009) who use Implicit Association Tests (IAT) to test whether employers in Sweden discriminate automatically against Arab Muslim applicants, or Rooth (2010) who also focuses on Swedish recruiters and automatically activated associations that influence their behaviour and cause discriminatory treatment.

6. Discussion

Looking at these more recent studies that have evolved considerably since the 1960s, it is possible to observe certain trends in the recent field experiment literature. First of all, most recent studies chose written correspondence tests over the in-person audit tests. This is especially true in European studies, while in the US several well-known in-person audit tests have still been conducted, especially for low-skilled positions (Pager, 2003; Pager et al., 2009; Bendick et al., 2010).

Secondly, almost all studies have a regional focus and are conducted in a specific region, the biggest cities, the biggest labour markets or in regions with a high percentage of immigrants. Exceptions are the studies conducted in Austria by Weichselbaumer (2015), Germany by Kaas and Manger (2012) and Schneider et al. (2014), the Netherlands by Andriessen et al. (2012) or Sweden

by Agerström et al. (2012). Still, despite their national focus, these studies are often heavily weighted towards certain regions.

Thirdly, some trends in the choice of minority groups can be observed. Trends comparing different groups of nationalities can be witnessed especially in countries with a colonial history, such as the Netherlands (Bovenkerk et al., 1995) and the UK (Firth, 1981; Wood et al., 2009). In recent European studies the groups most frequently chosen are Moroccans and Turks, or in more general terms immigrants with a Middle Eastern background. They often constitute the biggest minorities in the country and also, according to surveys, encounter the biggest amount of prejudice and negative experiences when looking for jobs (e.g. Pakistanis in Norway (Mitboen, 2012), Middle Eastern immigrants in Sweden (Bursell, 2007; Carlsson, 2010 ; Carlsson & Rooth, 2007), or Turks in Germany (Kaas & Manger, 2012; Schneider et al., 2014)). Furthermore, it can be observed that while European studies usually focus on ethnic minorities, it can still be observed that US studies test for discrimination for racial minorities, while Canadian studies focus on visible minorities.

Fourthly, testing has become more complex as more variables and ethnic or racial groups have been included in the experiments. While early studies – with the exception of Firth (1981) – usually focused on one group in one segment of the labour market, recent studies use several groups[7], numerous qualifications and jobs[8], address differences between private and public employers[9], or focus on gender differences for ethnic minority applicants[10].

Fifthly, in European studies a focus on children of immigrants, the so-called second generation, has emerged. Fibbi et al. (2003) or Midtbøen (2012) chose these members of ethnic minority groups as they have been educated in their host country and are fluent in the language. However, differences in treatment still occur, which, all other things being equal, can be attributed to their ethnic names. A study by Carlsson (2010) in Sweden emphasises this point. He compares the differences in hiring for majority candidates, first-generation immigrants and second-generation youths, and finds almost no differences between the first and second generation. Thus, he concludes, that the "the factor driving discrimination seems to be ethnicity *per se*" (Carlsson, 2010, p.272).

Sixthly, there is an emerging trend to combine field experiments with multi-method research that also studies the behaviour of employers. While early studies have already included some employer interviews (Firth, 1981), especially Scandinavian researchers have placed an emphasis on trying to explain discriminatory behaviour of employers. Researchers such as Midtbøen (2013 and 2014) have included interviews or collected comprehensive data on the businesses and recruiters involved in the testing (Carlsson & Rooth, 2007). Furthermore, Agerström and Rooth (2009) combined the results from correspondence tests with Implicit Association Tests to examine the attitudes of HR decision makers. Thus, field experiments are not only becoming more complex in their research design on the actual testing conducted, but also encompass multi-method and interdisciplinary approaches to tackle the complex phenomenon of discrimination.

[7] e.g. Wood et al., 2009; McGinity & Lunn, 2011; Booth et al., 2012; Hofer et al., 2013
[8] e.g. Bursell, 2007; Carlsson & Rooth, 2007; Midtbøen 2012
[9] e.g. Wood et al., 2009; Midtbøen 2012
[10] e.g. Bursell, 2007; Arai, Bursell & Nekby, 2011; Andriessen et al., 2012

Finally, it can be observed that all studies conducted on discrimination in the labour market, despite differences in survey designs, minority groups selected for the study, segment of the labour market, country or point in time, reported significant discrimination of the minority candidates. These results have been confirmed and analysed more closely in the recent meta-analysis by Zschirnt and Ruedin (2016).

7. Conclusion

Given the substantial body of literature that focuses on field experiments on racial or ethnic discrimination in the hiring process that have been conducted for almost fifty years and in numerous OECD countries, several trends can be observed against numerous ethnic groups. Although there is a great variation by ethnic or racial group chosen, the geographic location of the studies, the time points and the occupations tested, it is striking that the results found in all studies prove that discrimination is a problem that minority applicants have to face, despite the development of anti-discrimination legislation in these almost 50 years. The persistently high rates of discrimination and the low number of official complaints or court cases dealing with the issue support the argument that discrimination in the hiring process has become much subtler, but still has significant effects. While there are differences between the countries where testing was conducted, minority applicants are 50 percent less likely to be invited for a job interview than applicants belonging to the majority, although variations between occupations, degree of qualification or sometimes between minorities can exist. However, as Midtbøen summarised it: “[d]espite these variations, the vast amount of field experiment research clearly demonstrates that discrimination continues to represent a significant barrier to the inclusion of minority groups in the labour market” (2013, p.42).

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