What works for whom? What theories may predict about the effectiveness of measures against employment discrimination

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Abstract

Approach The paper assesses the potential effectiveness of commonly used policy measures in tackling the types of discrimination described in the theoretical literature. The assessment is based on the underlying incentive structure of particular policies, which is matched with the behaviour of employers predicted by particular theories. **Purpose** Employment discrimination persists across global labour markets inflicting considerable social and economic costs. The existing literature tends to focus on explaining and measuring discrimination or on the measures to tackle it, overlooking the links between these areas. The paper contributes to filling this gap in order to inform policy design and empirical research on the impact of anti-discrimination policies. **Findings** The potential effectiveness of commonly used anti-discrimination policies varies greatly depending on the source of discrimination and the target group. Some commonly used tools, such as wage subsidies are likely to have modest effects for several target groups, while employer counselling may be a more effective and cheaper alternative in many cases. Quotas may be effective against various types of discrimination, but setting them is challenging and they may yield adverse effects. **Practical implications** The findings call for more research on and consideration of the motives behind employment discrimination in the targeting and design of anti-discrimination measures. **Originality** We propose a framework to link discrimination types with measures against discrimination and potential target groups, which allows for systematically linking the literature on theories of discrimination and research on anti-discrimination.

Keywords: employment discrimination, anti-discrimination policies, theories of discrimination

1   Introduction

Over the course of the past decades, curbing employment discrimination has gained increasing attention in the European Union (EU). In 2000, the Commission approved two ground-breaking directives banning workplace discrimination on the grounds of religion or belief, age, sexual orientation, disability, racial and ethnic origin.[1] Member states have also

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[1] Cf Directive 2000/43/EC and 78/EC, which have been reinforced and extended by a series of legal and policy documents.

implemented various measures to curb discrimination (Directorate-General for Justice and Consumers *et al.*, 2020). In spite of these efforts, discrimination remains a challenge. Recent cross-national empirical studies (Lancee, 2021; Thijssen *et al.*, 2021) and meta-analyses (Lippens *et al.*, 2023; Neumark, 2018; Zschirnt and Ruedin, 2016) have confirmed the prevalence of employment discrimination against various groups in the EU and beyond. Employment discrimination not only hurts the victims but also induces severe social and economic consequences by discouraging human capital investment, distorting the allocation of the labour force and generating social tensions.

Several theories have been proposed to explain employment discrimination. These theories – which are rather complementary than competing in that they seek to explain different types of discrimination – identify different driving forces and mechanisms. The applicability of policy measures aimed at curbing discrimination largely depends on the nature of discrimination addressed, and the driving forces and underlying mechanisms thereof (Lippens *et al.,* 2022; Neumark, 2018; Zschirnt and Ruedin, 2016).

Although an extensive body of research has sought to analyse and evaluate policy measures aimed at curbing employment discrimination, research linking theories of discrimination with policy measures aimed at curbing discrimination is scarce. To the best of our knowledge, the only contribution in a similar vein is a review of the effectiveness of anti-discrimination policy interventions classified by the type of discrimination addressed (Valfort, 2018). The present study aims to contribute to filling this gap and to derive some lessons for the design of effective anti-discrimination policies.

Based on an extensive literature review, we distinguish five types of employment discrimination stemming from the most influential theories of discrimination, and eight types of policy measures that may curb discrimination. We describe the attributes of these discrimination types and policies using the same analytical aspects, which enables us to determine which measure may effectively tackle particular types of discrimination. Further, we also assess which policy measures may be relevant for particular target groups and discuss their potential pitfalls and limitations.

We argue that this exercise is relevant for at least two reasons. On the one hand, the article connects two highly related, but relatively distinct streams of research: the empirical and theoretical literature on different types of discrimination, and the (mainly empirical) research on policy measures potentially reducing discrimination. This enables a more precise understanding of the impact mechanisms of anti-discrimination measures, and how they may

(or may not) address different types of discrimination. On the other hand, the paper may also guide practitioners and policymakers in designing and refining policies for particular groups subjected to employment discrimination.

The paper is structured as follows. In the subsequent section, we briefly discuss the concept of discrimination. Then, based on a theoretical review, we present five types of employment discrimination and the analytical aspects we use to determine the applicability of policy measures to particular sources of discrimination and target groups. Next, we present the most commonly used anti-discrimination policy measures and classify them using the same analytical aspects. This enables us to match policy measures with discrimination types and target groups, which are discussed along with specific design considerations that arise from the theoretical discussion. The last section offers conclusions and policy pointers.

2   What is discrimination?

Widely used definitions (Arrow, 1971; Levin and Levin, 1982) describe discrimination as the unequal treatment of individuals based on characteristics/group membership unrelated to productivity or merit. These approaches imply that hiring and wages may be influenced not only by productivity and skills but other characteristics unrelated to these factors. The latter case can be regarded as discrimination. However, this definition is not well suited for measuring discrimination as it fails to address the problem of endogeneity, since discrimination itself can influence productivity. Firstly, discrimination may also be prevalent in the education system (as well as in other areas, such as housing or welfare services), limiting access by discriminated groups, and reducing their opportunities for acquiring skills. Secondly, potential employees – knowing that they will be judged based on characteristics such as race, gender, or disabilities – may be less motivated to invest in their education and will as a result tend to be less productive.

To address these theoretical considerations, some researchers expand the scope of the definition to differential treatment across groups not explained by *initial* (at-birth or pre-school) traits (Lundberg and Startz, 1983). Whilst this approach may account for the large inequality of opportunities during childhood and adolescence, in practice, it may be too broad. For instance, differential treatment of jobseekers who obtained a college degree as opposed to those who did not (all having had similar pre-school qualities) also falls within this definition of discrimination.

Legal definitions usually list the characteristics based on which people should not be treated differently, reflecting prevalent social norms. While there is variation between legal definitions across countries, these so-called 'protected' characteristics most often include gender, ethnicity, age, sexual orientation, and religion. EU anti-discrimination directives outlined in the previous section are fairly comprehensive regarding the explicit mention of grounds of discrimination, listing sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation. Although legal definitions may be less universal, we argue that for our purposes – for the sake of unambiguity – this approach is the best suited.

3   Types of employment discrimination – theory and evidence

Since the late 1950s, both theoretical and empirical research has sought to explain the causes of labour market discrimination. In the following, we briefly discuss the five most influential theories: Becker's theory of taste-based discrimination and the theory of statistical discrimination, unconscious (or implicit) bias theory, dual (or segmented) labour markets theory; and social interactions and network theories. Whilst other theories have been advanced to explain discrimination (primarily in the field of psychology), most of them may be related to one of the theories above (Lippens *et al.*, 2022, pp. 4266–4248), therefore, we do not discuss them separately. We argue that although these theories adopt distinctly different approaches to studying discrimination, they need not necessarily be regarded as competing. Rather, they focus on and seek to explain different types of discrimination. Moreover, discriminatory decisions in practice often have more than one underlying motivation. In this sense, the following discrimination types (stemming from different theories) may be considered ideal-typical.

According to the taste-based model (Becker, 1971), employers have a preference to employ certain groups more than others. This preference (or taste) may be attributed to them, other employees and/or customers. Thus, there is an additional, "emotional" cost to employing "people outside preferred groups", while the discriminatory practice itself involves financial costs. Employers measure these costs, and 'indulge' in discrimination when the former outweighs the latter. According to the theory, in a competitive market, employers applying discriminatory practices are eventually eliminated, which implies that discrimination can only persist in imperfect markets (in particular, if there are barriers to entry and monopolies or oligopolies). As for the underlying reasons for "tastes", psychological and sociological research has developed different explanations (Lippens *et al.*, 2022; Thijssen,

2016) that refer to the role of early socialization experiences or intergroup relations that result in prejudices (Fiske, 1998, (Thijssen, 2016).

Rooted in rational choice theory, statistical discrimination theory (Arrow, 1971; Phelps, 1972) is based on the idea that, lacking perfect individual-specific information on the productivity of job candidates, employers consider group-specific information (potentially based on actual statistical data but in practice rather on personal experience or perceptions) in the selection process. For instance, from this perspective, it is often reasonable for employers to assume that women are more likely to drop out of the labour market due to maternity leave, and therefore prefer promoting/hiring men with similar skills or offering higher wages to them. Statistical discrimination is very similar to hiring practices based on education (e.g., degrees awarded) since both are based on group averages rather than individual characteristics. It is important to point out that productivity assumptions based upon judgements of jobseekers' observable characteristics, such as. gender, or ethnic origin, hinder incentives to invest in their human capital, which creates a self-fulfilling prophecy (Glover *et al.*, 2017).

A large body of empirical literature has examined both tase-based and statistical discrimination, but methodological issues hinder the discernment of distinct theories and underlying sources of discrimination (Neumark, 2018). Nonetheless, some key takeaways emerge from recent literature reviews and cross-national studies. Whilst both theories have received empirical support, the evidence tends to vary across discriminated groups. The balance is slightly in favour of taste-based discrimination in the case of ethnic minorities (Thijssen, 2016; Thijssen *et al*., 2021; Zschirnt and Ruedin, 2016; Neumark 2018; Lippens *et al.,* 2022). In contrast, discrimination against women of childbearing age, LGBTQ people, and elderly people seem to be better explained by statistical discrimination theory (Neumark, 2018). In the case of people with disabilities, the existing, very thin evidence suggests that taste-based and statistical discrimination may both be present and may also play a different role depending on the type of impairment (Neumark, 2018; Rodríguez *et al.*, 2012).

Both prejudices and statistical assumptions may be implicit, that is, negative attitudes and behaviours towards certain groups are not necessarily conscious and intentional (referred to as the unconscious bias theory, or implicit prejudice) (Blanton and Jaccard, 2008; and Agerström and Rooth, 2009, respectively). Whilst unconscious biases may also stem from widely shared cultural stereotypes, from a policy perspective it is important to discern unconscious discrimination (either if it is rooted in shared tastes or statistical assumptions). In

the remainder of the article, for the sake of conceptual clarity, we use the terms taste-based and statistical discrimination to refer to conscious instances of discrimination only.

Both taste-based and statistical discrimination theories fall short of explaining the prevalent phenomenon of occupational segregation (Arrow, 1998). Rooted in institutionalist thinking, labour market segmentation theory (Wilkinson, 2013) proposes that there are distinct segments of the labour market. The theory stems from the dual labour market theory, which claims that there are two segments, the primary and the secondary (Doeringer and Piore, 1970). The first one is characterised by highly paid, stable jobs and good working conditions, while jobs in the secondary market tend to have low wages, poor working conditions, and little job security (ibid., p.165). The theory posits that some disadvantaged groups are excluded from primary jobs, due to the prevailing culture or social norms (i.e. structural forces outside the labour market) and that institutional norms, rather than market forces determine cross-group variation in wages, promotion, and recruitment decisions. In contrast to the dichotomy of the dual labour market theory, labour market segmentation theory states that there are more than two segments. Whilst empirical evidence supporting the existence of two distinct segments is limited (Hudson, 2007), recent scholarship confirms the presence of (more than two) segments in the labour market (Seo, 2021; Yoon and Chung, 2016). Furthermore, segmentation may also occur within large firms, where certain primary occupations are restricted to privileged groups.

Other researchers (Arrow, 1998; Granovetter, 2018) argue that non-market-based explanations – in particular, social interactions and network theories – may also explain certain instances of labour market discrimination. These theories build upon the presumption that beliefs and preferences are the product of social interactions unmediated by prices and markets. Proponents of this view argue that hiring, promotion and termination decisions and, in general, labour market outcomes are largely a function of networks of friends and acquaintances that tend to exclude disadvantaged groups. We refer to this type as "network-based discrimination".

4   Analytical framework and classification of types of discrimination

Although the various types of discrimination may inflict similar labour market outcomes, their underlying causes and mechanisms are largely different, yielding different implications regarding anti-discrimination measures (Lippens *et al.,* 2022; Neumark, 2018; Zschirnt and Ruedin, 2016). In this section, we present an analytical framework which seeks

to grasp these key differences. The framework is based on four analytical aspects: returns of discrimination, possibility to reduce discrimination (by the employer), the resistance of underlying institutions, and potentially affected target groups. Anti-discrimination policy measures (discussed in the next section) can be assessed on these aspects, which allows for "matching" them with discrimination types they may address.

First, *"returns"* capture the fact that some types of discrimination are costly for employers, whereas others are economically beneficial as they reduce the information costs of the hiring process. Taste-based discrimination falls within the former category, as employers select employees based on their subjective "tastes" rather than their skills and productivity. Likewise, labour market segmentation theory implies that prevailing social norms and institutions limit access to privileged (high value-added) segments of the labour market, resulting in an inefficient allocation of the labour force. Put simply, talented individuals may not live up to their potential due to this type of discrimination, which is not only harmful to the economy as a whole but also reduces affected firms' profitability. On the other hand, statistical discrimination (if based on valid presumptions of average risks and productivity), and network-based discrimination may reduce information costs, therefore may be profitable. While – given that it may stem both from shared social prejudices and "statistical" presumptions regarding average group productivity – the classification of unconscious discrimination is somewhat less straightforward, we argue that it is highly unlikely that these unconscious attitudes are reliable predictors of individual productivity. Therefore, we classify this type as costly.

Second, types of discrimination differ in terms of the extent to which the employer has the possibility to reduce them. In general, the possibility to influence instances of discrimination depends on their locus: discrimination may occur via practices determined by the organisation (that is, during the hiring process, and in promotion and termination decisions). or elsewhere. Taste-based, statistical, unconscious and network-based discrimination, fall within the former category, and – once they are aware of it and willing to take action – employers may also effectively combat these types of discrimination. By contrast, discrimination stemming from the segmentation of the labour market is driven by forces outside of the organisation, hence individual employers have limited means to tackle it.

Third, discrimination types also vary in terms of resistance to change, that is, the extent to which actors (mainly employers) may be incentivized to abandon discriminatory practices in the short run. Taste-based discrimination and structural discrimination stem from

highly resistant norms and institutions. Likewise, unconscious discrimination also stems from resistant shared beliefs and conditionings. Williamson (2000) refers to these as institutions of embeddedness and argues that they are largely resistant to change in the short run (i.e. in less than 100 years). On the other hand – while the roots of statistical discrimination and network-based discrimination are also deeply embedded – these types are driven by convenience and economic considerations and hence may be easier to change.

Forth, different types of discrimination may affect different target groups. In line with Directive 2000/78/EC and Directive 2000/43/EC, the following grounds for discrimination are distinguished: gender[2], racial or ethnic origin, belief and orientation[3], disabilities, and age. We argue that in contrast to the previous three analytical aspects, potential target groups of discrimination types may be assessed more aptly based on empirical evidence than theoretical arguments. Therefore, we carried out a literature review to ascertain which target groups different discrimination types may typically affect. Although our article focuses on employment discrimination, we also included contributions that assess other discrimination in other areas (e.g., wage discrimination, discrimination in education). We argue that if empirical evidence supports that a specific type of discrimination may affect a specific target group in any given area, it is assumable that the target group may also be affected by the same discrimination type in other areas (including in employment).

Table I. summarizes our classification based on the analytical aspects outlined above and presents a (contestable) description of which groups are assumed to be most affected by particular types of discrimination.

Analytical aspects	Taste-based	Statistical	Unconscious	Segmented LM	Networks
Discrimination is beneficial for the employer (returns)	✕	✓	✕	✕	✓
The employer has a possibility to reduce discrimination	✓	✓	✓	✕	✓

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[2] We note that for the sake of simplicity, we do not distinguish (potential) mothers and women in the analytical framework, even though the underlying mechanisms and patterns slightly differ.

[3] As belief and orientation are not directly observable, instances of discrimination based on these traits have identical properties in the analytical framework. In effect, these target groups are sorted into one category in the analytical framework.

Discrimination stems from resistant norms	✓	✕	✓	✓	✕
Typically affected target groups (grounds for discrimination)					
Gender	✓[a]	✓[f]	✓[j]	✓[m]	✕
Racial or ethnic origin	✓[b]	✓[g]	✓[k]	✓[n]	✓[+]
Belief and orientation	✓[c]	✕	✓[l]	✕	✕
Disability	✓[d]	✓[h]	✓[+]	✕	✕
Age	✓[e]	✓[i]	✓[+]	✕	✕

Table I: Classification of discrimination types based on the analytical framework.

References underpinning target group classifications: a: Fanfani (2022); b: Lippens *et al.* (2022), Neumark (2018), Thijssen (2016); c: Van Borm *et al.* (2020); d: Neumark (2018); e: Drydakis *et al.* (2022); f: Keng (2020); g: Horr *et al.* (2018); h: Rodríguez *et al.* (2012); i: Neumark (2018); j: Leon (2022), Williamson and Foley (2018); k: Rooth (2010); l: Agerström and Rooth (2009); m: Neumark (2018); n: Neumark (2018), Ndomo *et al.* (2022); +: we found no empirical evidence, but it is assumable that the given discrimination type*target group combination is prevalent.
Source: Created by authors.

We note that even though – as we discussed earlier – the prevalence of distinct sources (stemming from different theories) of discrimination varies significantly across target groups, we assign „✓" to any target group*theory combination where discrimination is plausible, even if it is not very prevalent.

5   Policy measures to tackle employment discrimination

In this section, based on a broad review of the literature, we present the main (types of) policy measures that are aimed at curbing employment discrimination. The selection of the measures was based on the following considerations. Firstly, whilst a large number of policy measures may have spillover effects on discrimination (such as educational and social policies seeking to enhance equal opportunities, and work-family policies), we delimited this inquiry to measures that may have a direct effect on, and are primarily aimed at, curbing employment discrimination. Secondly, for the sake of perspicuity, we sought to delimit types of measures at a relatively high level of abstraction, while also ensuring that specific measures that fall within a type operate through similar mechanisms, and are hence classified identically in the analytical framework. Thirdly, we included measures that are relatively prevalent both in practice and in the literature. We distinguish the following broad categories of measures :

- *Regulation and monitoring measures* consist of creating rules that prohibit discrimination and/or monitoring compliance.
- *Financial incentives and service provision* include the implementation of services and provision of financial aid and incentives to job seekers or employers.
- *Information provision measures* refer to providing stakeholders with information on discrimination, the legal aspects, the costs thereof, and tools to reduce discrimination.

In the following, we briefly present policy measures and classify them based on the analytical framework presented in the previous section. Based on the impact mechanism of the measures, the classification captures the applicability conditions under which measures may be effective and enables us to link them with discrimination types.

5.1   Regulation and monitoring measures

Checking and sanctioning discrimination. Discrimination may occur at different stages of the hiring process (Hajnal and Scharle, 2022; Neumark, 2018), and may also prevail in promotion and termination decisions. If laws clearly define and prohibit employer discrimination, some of these discriminatory decisions may be identified and sanctioned by employment services or other competent authorities. Authorities may screen job ads and check if they contain discriminatory wording (such as "young and dynamic environment") that discourages or excludes certain applicants. Authorities may also monitor hiring practices by using correspondence tests[4]. These are rarely used in Europe but are not without precedence: in France, the Ministry of Labour carried out correspondence tests and used naming and shaming to discipline defaulting employers (Valfort, 2018). Whilst discriminatory promotion and termination decisions are harder to detect, reporting mechanisms (ensuring the protection of the whistle-blowers from employers' retaliation) may also be applied. Importantly, legal procedures may be shortened and simplified by providing and advocating alternative dispute resolution options.

Checking and sanctioning discrimination may be effective regardless of any returns to discrimination and resistance by employers and for all affected target groups. The only

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[4] In such tests the CVs of fictitious applicants are sent to real job advertisements. The constructed CVs are identical in all aspects, except for some protected characteristics (e.g. ethnic background). Discrimination is identified by comparing call-back rates across the different applicants.

applicability restriction concerns the possibility to influence discrimination by the employer: this measure may only be effective in cases where the individual employer may be able to influence discrimination.

Quotas and monitoring. Authorities may set quotas – that is, target values of the share of certain groups with protected characteristics in the labour force – and prescribe penalties for firms that fall short of the targets. For instance, Austrian firms that fail to hire at least one person with disabilities in 25 employees are subject to an additional tax, and there is some evidence that this has a positive effect on employment (Lalive *et al.*, 2013). A quota system implemented in the US in 1965, incentivizing federal contractors to employ minorities at rates proportional to their share in the local workforce was found to increase the share of black employees (Miller, 2017).[5] In a similar vein, a gender quota in the Italian banking sector was also found to be effective (DeVita and Magliocco, 2018). Board quotas may also be applied to curb discrimination in promotion decisions, although evidence of their effectiveness is mixed (Bertrand *et al.*, 2019; Ferreira *et al.*, 2017).

Quotas and monitoring only have applicability conditions concerning potential target groups: quotas may be applied to curb discrimination on the grounds of gender, racial or ethnic origin, and disability, but are seldom applied to age groups[6], religious communities, and LGBTQ people[7].

5.2   *Financial incentives and service provision*

Financial incentives for employers (such as hiring incentives and targeted wage subsidies) are widely used labour market policy measures. Empirical evidence shows that

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[5] Quotas may also be applied in a binding manner, as in political institutions. There is some evidence that gender quotas have a positive effect on the number of women elected (Oñate, 2014) and on parties' attention to social justice issues (Catalano Weeks, 2019).

[6] The application of youth quotas are mainly limited to national parliaments (Belschner and Garcia de Paredes, 2021).

[7] LGBTQ quotas are applied for executive boards in a few countries (Rosenblum, 2020). However such personal information are considered highly sensitive and rarely collected by national authorities.

such measures are also effective against discrimination. For instance, wage subsidies have been reported to improve the re-employment chances of job seekers with disabilities (Holland *et al.,* 2011), but are not always effective (Baert, 2016). Evidence shows that wage subsidies may also be effective in promoting the employment of youth (for a review, see O'Higgins *et al.,* 2017).

Financial incentives are not applicable if the employer has no possibility to reduce discrimination. Further, if discrimination is rooted in resistant social norms, financial incentives are not likely to work either. As for potential target groups, financial incentives may be used for all target groups, except for discrimination on the grounds of belief and orientation, due to the sensitivity of this information.

Compensating services include services and financial provisions that are aimed at the supply side of the labour market, such as mentoring and training support for people at risk of discrimination. Mentoring offered to people at risk of discrimination may help them in the hiring process, for example by assisting them in writing a CV, applying, and handling the job interview. While we are not aware of any substantive research examining the effectiveness of mentoring as a tool to curb discrimination, a recent study (Hajnal and Scharle, 2022) revealed that the majority of public employment services provide mentoring to support people at risk of discrimination. Training support may consist of partial or full funding of training programmes. Evidence from Argentina and the United States underpins that training supports enhance the hiring chances of people at risk of discrimination (Galasso *et al.*, 2004; Heinrich *et al.*, 2013).

We identified only one applicability condition: compensating services are not likely to work when discrimination stems from resistant norms. With regard to target groups, such services are not typically applied to curb discrimination on the grounds of beliefs and orientation.

5.3   Information provision measures

Informational measures for employers. Some informational policy measures aimed at the demand side (i.e. at employers) may also be effective in curbing employment discrimination. Some employers may be willing to curb discrimination in their hiring process but do not know how to do it effectively. In such cases, providing them with information on anti-discrimination tools (such as blind recruitment techniques, training for employees on how to avoid unintended discriminatory wording, tools to change the organizational culture,

diversity training, equality monitoring, etc.) and ways to reduce structural discrimination may be effective. An evaluation of two cognitive training interventions (a culture-general assimilator and a structured free recall intervention to reduce discrimination in the screening stage) in the Netherlands yielded positive short-term effects (Derous *et al.*, 2021). Rather than providing employers with information on discrimination and anti-discrimination measures directly, authorities may also require employers to raise awareness within the company.[8] Informing employers about the "true" characteristics of a particular group may be effective if discrimination is based on misperceptions of the average productivity of the group (e.g. in the case of some forms of disability that have no effect on productivity in most occupations).

Informational measures for employers are not applicable if discrimination is economically beneficial to the employer, and if the employer cannot influence discrimination. Whilst informational measures (e.g. diversity training) are not likely to be effective in cases where participants have deeply entrenched prejudices either, such measures may still alter social norms regarding unfounded beliefs about certain minorities in the case of participants with less solid convictions.

Legal counselling. Finally, public employment services (or other similar organizations) may provide people at risk of discrimination with legal counselling, including information provision on the legal aspects of discrimination, alternative conflict resolution, litigation options, and reporting mechanisms.

Whilst legal counselling measures are beyond doubt useful and widely applicable (the only applicability condition concerns the employer's possibility to curb discrimination), it only has an indirect effect: in practice, legal counselling may assist people to take (legal) action once they have been discriminated. The classification of the policy measures is summarized in Table II.

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[8] Whilst from a policy perspective, these measures would better fit into the „regulation and monitoring" category, as they operate through similar meachanisms as conventional informational measures, we discuss them within this category.

| Analytical aspects | Policy measures | | | | | |
| | Regulation and monitoring | | Financial incentives and service provision | | Informational measures | |
	Checking and sanctioning discrimination	Quotas and monitoring	Financial incentives for employers	Compensating services	Informational measures for employers	Legal counselling
Discrimination is beneficial for the employer (returns)	-	-	-	-	×	-
The employer has a possibility to reduce discrimination	✓	-	✓	-	✓	✓
Discrimination stems from resistant norms	-	-	×	×	-	-
Potentially affected target groups (grounds for discrimination)						
Gender	✓	✓	✓	✓	✓	✓
Racial or ethnic origin	✓	✓	✓	✓	✓	✓
Belief and orientation	✓	×	×	✓	✓	✓
Disability	✓	✓	✓	✓	✓	✓
Age	✓	×	✓	✓	✓	✓

Table II: Applicability conditions on policy measures' applicability regarding the analytical aspects and potential target groups

„×" and „✓' means that a given measure may be applicable to curb discrimination types that are also classified „×" or „✓' (respectively) in the same analytical aspect (e.g. informational measures may curb only those discrimination types that are not beneficial for the employer). „-" means that the given measure has no applicability condition with regard to the analytical aspect (e.g. checking and sanctioning may be applied to curb those discrimination types that are beneficial for the employer as well as those that are not).

Source: Created by authors.

6   The applicability of policy measures

The results of the matching are presented in Table III

| Discrimination types | Policy measures | | | |
| | Regulation and monitoring | | Financial incentives and service provisio | |
	Checking and sanctioning discrimination	Quotas and monitoring	Financial incentives for employers	Compensating services (mentorin training support)
Taste-based	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, disability	-	-
Statistical	gender, racial or ethnic origin, disability, age	gender, racial or ethnic origin, disability	gender, racial or ethnic origin, disability, age	gender, racial or ethnic origin, disability, age
Unconscious	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, disability	-	-
Segmented LM	-	gender, racial or ethnic origin	-	-
Network-based	racial or ethnic origin	racial or ethnic origin	racial or ethnic origin	racial or ethnic origin

Table. Overall, the results seem to strengthen the case for quotas, as the only tool that may work for most types of discrimination, even in segmented labour markets. However, given the difficulties of setting quotas right, other policy measures (such as counselling employers or monitoring job ads) may offer a superior alternative where discrimination stems from other causes. We also show that financial incentives, despite their widespread use for some target groups, are only likely to be effective in a limited set of cases, when discrimination is generated by unequal access to networks or is based on employers' (mis)perception of average productivity of the target group. Employer counselling, which is less commonly used by public employment services across the EU, may be an effective (and cheaper) alternative to financial incentives when discrimination is rooted in tastes and especially when it is practised unconsciously, via ingrained routines.

Discrimination types	Policy measures					
	Regulation and monitoring		*Financial incentives and service provision*		*Informational measures*	
	Checking and sanctioning discrimination	Quotas and monitoring	Financial incentives for employers	Compensating services (mentoring, training support)	Informational measures for employers	Legal counselling
Taste-based	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, disability	-	-	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, belief and orientation, disability, age
Statistical	gender, racial or ethnic origin, disability, age	gender, racial or ethnic origin, disability	gender, racial or ethnic origin, disability, age	gender, racial or ethnic origin, disability, age	-	gender, racial or ethnic origin, disability, age
Unconscious	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, disability	-	-	gender, racial or ethnic origin, belief and orientation, disability, age	gender, racial or ethnic origin, belief and orientation, disability, age
Segmented LM	-	gender, racial or ethnic origin	-	-	-	-
Network-based	racial or ethnic origin	racial or ethnic origin	racial or ethnic origin	racial or ethnic origin	-	racial or ethnic origin

Table III: Discrimination types and target groups that the analysed measures may address

Source: Created by authors.

In the following, we discuss these findings in more detail, and also examine some critical design considerations and potential pitfalls of the policy measures.

6.1   Regulation and monitoring measures

The results suggest that regulation and monitoring measures (checking and sanctioning discrimination, and quotas and monitoring) are relatively widely applicable. Importantly, discrimination arising from segmentation of the labour market may only be addressed by quotas: this is because quotas apply to the whole economy and fees imposed on non-compliers offset the potential competitive disadvantage of employers deciding to change their hiring practices. Yet, several limitations and potential pitfalls apply.

Firstly, job ads may be screened by employment services only if published in the public domain (rather than informally or within the company), especially if submitted to a matching portal maintained by public employment services. Secondly, quotas constitute a form of "positive discrimination", and limit the maximum share of employees who do not belong to any discriminated group. Whilst this may be justified to counterbalance the disadvantages that jobseekers with protected characteristics suffer at the societal level, it also implies that some otherwise fitting candidates do not get some jobs, which may cause severe hardship at the individual level. Such dismissed jobseekers bear the costs of quotas and may feel frustration that feeds into resentment against groups with protected characteristics (Valfort, 2018). Thirdly, setting the quotas is challenging. To set the target values, policymakers should know what the proportion of different groups would be in a discrimination-free world, which is not possible in practice. Quotas set too low are ineffective, while high quotas may generate severe adverse effects (as noted above). An additional problem is that the "ideal" value of quotas may vary by sector, and potentially by employer as well. Such differentiation, however, is not possible and is not applied in practice. It is also important to note that quotas are futile in the absence of sanctions assigned to employers failing to reach them.

6.2   Financial incentives and service provision

Financial incentives and compensating services are assumed to be less effective in altering resistant embedded institutions, therefore may not be applied to reduce taste-based

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discrimination[9], unconscious discrimination and discrimination arising from segmentation in the labour market. By contrast, these measures may be largely effective in tackling statistical discrimination. On the one hand, hiring incentives encourage employers not to rely on group averages to reduce information costs during the selection process, while wage subsidies compensate them for the (assumed) lower productivity of the target group. On the other hand, compensating services tackle the roots of statistical discrimination by enhancing the employability of affected groups. Likewise, these measures may also discourage employers from hiring through networks of friends and acquaintances.

Financial incentives have similar potential disadvantages and pitfalls as quotas although to a lesser extent: they yield adverse effects for non-discriminated applicants, and setting their actual value is challenging.

6.3   Information provision measures

Information provision measures are relatively cheap and may be applicable against most discrimination types and for various target groups. However, their effectiveness is limited. Information provision for employers (i.e. diversity training and information on anti-discrimination tools) may be effective only in case the employer is both committed to combating discrimination, and able/willing to commit adequate resources. Requiring employers to implement internal provisions to enhance equal treatment may contribute to addressing this problem, although the effectiveness of such, not wholeheartedly implemented measures is questionable at best. Second, there are many high-quality sources about anti-discrimination tools available already, which employers may consult. Legal counselling for people at risk of discrimination is also useful and contributes to curbing discrimination indirectly and over the long run, however, it is unlikely to have immediate effects.

7   Conclusion

Despite extensive efforts, employment discrimination continues to prevail around the world and inflicts severe adverse effects. Existing research has tended to focus on measuring

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[9] In theory, wage subsidies may exert some effect by compensating the employer for the disutility of employing a member of the discriminated group (lasting for the duration of the subsidy), while hiring subsidies and compensating services have no effect on taste-based discrimination.

employment discrimination, explaining its underlying causes or on the impact of policy measures that may contribute to curbing it. Analytical work linking these two streams is scarce: this paper contributes to filling this gap. Focusing on five main types of employment discrimination, we constructed a simple typology of the policy measures that may curb them and assessed the models and the measures on the same applicability criteria. This was then used to determine which discrimination types and target groups may be best addressed by each type of policy measure.

The analysis has confirmed the conventional expectation that the potential effectiveness of policy measures traditionally applied to tackle discrimination varies according to the causes of discrimination. Further, as the dominant cause of discrimination varies across discriminated groups, the effectiveness of particular measures will vary across target groups. These conclusions have implications both for policymaking and future directions of research.

The most concrete policy implications may follow from variations in the cause of discrimination across target groups. Thus, to illustrate the potential use of the above analysis, we derive some cautious policy pointers using the existing limited evidence on such variations (Neumark, 2018). Thus, if discrimination against ethnic minorities is indeed mainly taste-based or unconscious (Lippens *et al.*, 2022; Neumark, 2018), public employment services should not only seek to improve the employability of ethnic minority job seekers (which may not reduce discrimination but still increase reemployment by raising their productivity) but also offer counselling to employers. Statistical discrimination against mothers (and childless women of childbearing age) may best be supported by hiring subsidies, while quotas may be the only effective tool against occupational segregation based on gender (or race). As age-related discrimination tends to be rooted in the observed average productivity of younger and older workers (ibid.), hiring subsidies and compensating services are more likely to be effective than information provision except in the case where employers' views are outdated. For jobseekers with disabilities, the cause of discrimination may vary and may also be combined (ibid.), which calls for the joint provision of information, compensating services and financial incentives, adjusted to the form of disability.

More generally, the above analysis underlines the importance of considering the source of discrimination in policy design, and also calls for caution in transferring anti-discrimination policies across target groups and countries. The fact that each policy measure has limitations suggests that in some cases combining policies may be the most effective

approach. For instance, combining punitive and informational measures by requiring discriminating employers to participate in diversity counselling and implement internal remedial measures is likely to generate synergies and also to improve the targeting (and hence the effectiveness) of the informational component.

If the potential effectiveness of anti-discrimination measures, as we have shown, is likely to vary across target groups, this should be considered in the interpretation of impact evaluations of active labour market policies. For example, the (often unobserved or unreported) share of ethnic minorities in wage subsidy programmes targeting a broader group of jobseekers will influence the estimated effects, which reduces the comparability of estimates in cross-national meta-analyses.

Our analysis also highlights the dire need for further research already noted by Neumark (2018). There is a need for more evidence on the causes of discrimination in the different groups subjected to discrimination in various country contexts, and also on the cost-effectiveness of alternative measures against discrimination.

Our approach has some potential limitations. Firstly, we have restricted our inquiry to measures that (may) have a direct effect on, and are primarily aimed at, curbing employment discrimination, thus excluding policy domains which may yield significant spillover effects on employment discrimination (e.g. education, housing, social policies, etc.). Future contributions may explore the extent to which policies in such related domains may be effective in tackling different types of discrimination. Secondly, in some instances, the assigned attributes of discrimination types and policy measures are somewhat contestable due to the scarcity of evidence, and thus may need updating in view of new empirical research.

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