Schotte, Simone; Gisselquist, Rachel M.; Leone, Tharcisio

Working Paper

Does affirmative action address ethnic inequality? A systematic review of the literature

WIDER Working Paper, No. 2023/14

Provided in Cooperation with:
United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Schotte, Simone; Gisselquist, Rachel M.; Leone, Tharcisio (2023) : Does affirmative action address ethnic inequality? A systematic review of the literature, WIDER Working Paper, No. 2023/14, ISBN 978-92-9267-322-2, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki, https://doi.org/10.35188/UNU-WIDER/2023/322-2

This Version is available at:
https://hdl.handle.net/10419/283710

UNITED NATIONS UNIVERSITY
UNU-WIDER

WIDER Working Paper 2023/14

Does affirmative action address ethnic inequality?

A systematic review of the literature

Simone Schotte,[1,2] Rachel Gisselquist,[1] and Tharcisio Leone[1]

January 2023

United Nations University World Institute for Development Economics Research
wider.unu.edu

Abstract: Despite the good intentions behind affirmative action (AA) policies to mediate 'horizontal inequalities' between ethnic groups, the evidence on their effectiveness remains open to debate. In this study, we conduct a systematic review of the literature with global scope, to add new clarity on whether positive or negative effects prevail according to the available quantitative evidence and the strength and generalizability of this evidence. Overall, close to two-thirds of the 194 reviewed studies find a dominantly positive effect. However, three limiting factors condition this aggregate assessment. First, while AA generally improves the numerical representation of target groups, the qualitative implications of these policies are more ambiguous. Second, the concentration of the evidence on a limited set of country cases may distort our perception of the effectiveness of AA. Third, causal evidence on the impact of AA is generally scarce and studies applying quasi-experimental research methods generally arrive at a more positive assessment than studies applying less rigorous methods.

Keywords: affirmative action, systematic review, horizontal inequalities, ethnic groups

JEL classification: I38, J15

Acknowledgments: This paper was prepared within the 'Affirmative action around the world' workstream under the UNU-WIDER project 'Addressing group-based inequalities'. The authors are indebted to Melissa Samarin, who conducted the literature search for this study, and Satu Kuitunen, who provided excellent research assistance.

Supplementary material: lists of studies available as online appendix here (https://www.wider.unu.edu/publication/does-affirmative-action-address-ethnic-inequality)

[1] UNU-WIDER, Helsinki; [2] Finnish Overseas Consultants (FinnOC) Ltd., Helsinki; corresponding author: simone.schotte@finnoc.fi

This study has been prepared within the UNU-WIDER project Addressing group-based inequalities.

Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9267-322-2

https://doi.org/10.35188/UNU-WIDER/2023/322-2

Typescript prepared by Joseph Laredo.

United Nations University World Institute for Development Economics Research provides economic analysis and policy advice with the aim of promoting sustainable and equitable development. The Institute began operations in 1985 in Helsinki, Finland, as the first research and training centre of the United Nations University. Today it is a unique blend of think tank, research institute, and UN agency—providing a range of services from policy advice to governments as well as freely available original research.

The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland and Sweden, as well as earmarked contributions for specific projects from a variety of donors.

Katajanokanlaituri 6 B, 00160 Helsinki, Finland

1 Introduction

Many countries around the world—from high-income countries like the United States, to middle-income countries like Brazil, India, Malaysia, Nigeria, and South Africa, to low-income countries like Burundi—face the challenge of managing diverse societies in which particular ethnic, racial, or culturally defined groups have been historically disadvantaged and discriminated against (Kabeer 2016; Stewart 2000). These groups suffer a double burden of lower socio-economic status and constrained access to scarce resources, which limits their opportunities for upward social mobility and places them at risk of being left behind in a country's development process (Funjika and Gisselquist 2020).

'Horizontal inequalities'—reflecting systematic differences across groups defined by ascriptive attributes generally inherited at birth, such as gender or ethnicity—are not only unjust (Premdas 2016) but also highly persistent (Langer et al. 2016; Stewart and Langer 2008). Moreover, ethnic horizontal inequalities are associated with negative implications for growth and macro-economic stability (Dabla-Norris et al. 2015), poverty reduction (Ncube et al. 2014), the provision of public goods and services (Baldwin and Huber 2010; Uzochukwu et al. 2020), and the risk of violent conflict (Hillesund et al. 2018; Mancini 2008; Stewart 2000). A fundamental question is thus how public interventions can improve the inclusion of disadvantaged groups and foster positive societal change in such situations.

Affirmative action (AA) is one potential answer. As a corrective policy measure, it affects access to scarce positions and opportunities—commonly in the areas of education, employment or business, and political influence—to increase the representation of social groups that have been marginalized within the national historic context (Fryer and Loury 2005). Both the preferential treatment to increase representation and the intention to correct for historical injustice distinguish AA from other anti-discrimination measures that intend to give all citizens equal opportunities.

Despite the good intentions behind AA policies, however, their effectiveness has been controversially debated, both advocates and opponents basing their arguments on the ideal of equality. Whilst supporters argue for AA as an important mechanism to break the persistent process of marginalization on the basis of ethnic group identity, opponents claim that AA draws on those same group distinctions. Thereby, critics argue, AA policies risk cementing social categorizations, rewarding ascriptive characteristics at the expense of merit, and reinforcing stereotypes, which may exacerbate social tensions (Fryer and Loury 2005; Harrison et al. 2006; Koggel 1994). It is also frequently argued that AA policies are ineffective because they tend to benefit the better-off within target groups (Sowell 2008) and often do not adequately account for 'intersecting inequalities', such as the marginalization experienced by minority women (Bird 2016).

Ex-ante it is thus unclear whether the adoption of AA policies will mediate or rather reinforce existing inequalities. In this study, we conduct a systematic review of the existing literature to investigate which of these effects prevails according to the available quantitative evidence, and explore what is known about the key factors conditioning AA policy success or failure.

On the basis of this analysis, we are able to establish that, although there is an extensive literature on AA, much of the existing research focuses on evaluating a small subset of particular country programmes, such as the preferential admission of racial minorities to universities in the United States and Brazil, India's caste-based reservations policy, Malaysia's New Economic Policy on behalf of Bumiputera indigenes (ethnic Malays), and South Africa's Black Economic Empowerment Act, to name only the best-known examples. At the same time, with some noteworthy exceptions, it is difficult to find studies that evaluate the success of AA policies in the rest of the world or across a broader set of countries (see, inter alia, Garaz 2014; Htun 2016;

Hughes 2011; Ratuva 2013b; Sommer and Asal 2019; Tan and Preece 2021). As Daly, Gebremedhin, and Sayem (2013) note, the lack of robust quantitative evidence for a wider set of countries is to a large extent explained by the limited availability of suitable data to test effects. Effects may only become apparent over long periods, which makes them hard to identify due to both the difficulty in following individuals over extended periods and the presence of concurrent policies or other confounding factors.

Despite the scarcity of comparable cross-country evidence, existing country-specific analyses have been used to draw conclusions about the effectiveness of AA policies. However, assessing the generalizability of such claims is highly problematic because we lack knowledge about the universe of AA policies implemented around the world to facilitate systematic comparisons. In consequence, we know relatively little about the extent to which AA policies have been more successful in some countries than in others, and what are the factors that influence policy success or failure—for example, in terms of policy design or country context. This lack of information has implications for the rigour with which we can build and test theories, evaluate interventions, and inform policy (Canelas and Gisselquist 2019). In order to implement effective public interventions, decision-makers require information on what works, for whom, and under what circumstances (Oliver et al. 2019).

With the aim of addressing this knowledge gap, we provide a systematic review of the literature that takes stock of the available quantitative evidence on the effect of ethnically targeted AA policies. To our knowledge, this is the first review in this area which (1) is global in coverage, (2) explicitly focuses on the study of AA policies aimed at improving the representation of marginalized ethnic groups, broadly defined,[1] and (3) covers research across all three major policy domains where AA policies prevail: education, employment or business, and electoral representation. In total, we review 194 studies that meet our inclusion requirements, comprising 181 country case studies and 13 comparative works, the latter ranging from two-case comparisons, over regional perspectives, to global studies. Even though the evidence is heavily geographically concentrated, with more than 70 per cent of the case studies focusing on a subset of four countries (the United States, India, Brazil, and Malaysia), the reviewed case-study evidence provides insights on a total of 27 countries spread across all five world regions.

We find that the aggregate effects of AA reported in the literature are largely positive. Overall, 63.4 per cent of the reviewed studies find a dominantly positive effect, while only 8.7 per cent report a dominantly negative effect. The remainder report either a mix of positive and negative effects, or no effect. This finding must be interpreted with caution, however, because the concentration of the evidence on a small set of frequently evaluated policies leads to some overrepresentation of positive results in the literature. We also note that many studies assess only the immediate effect of AA on the designated groups, focusing on outcomes that are directly affected by the policies. Studies that capture potential indirect consequences and spillover effects to non-designated groups are less frequent and more often come to negative conclusions.

The remainder of this paper is structured as follows. Section 2 briefly reviews different definitions of what constitutes AA. It then presents a conceptual framework of how AA policies are intended to influence positive societal change, and discusses common controversies regarding their impact. The research methodology guiding this review is discussed in Section 3. Section 4 presents a description of the included studies, looking in particular at the geographic scope and time frame, the distribution across policy domains and outcomes studied, the ethnic criteria defining target

[1] Following new standards in the ethnic politics literature, grounded in constructivist and instrumentalist frameworks, 'ethnic' here encompasses a broad set of categories based on attributes such as skin colour, language, tribe/kinship, caste, and religion (Canelas and Gisselquist 2018).

groups, and the research methods used. Section 5 summarizes the body of evidence with regard to the direction of reported effects. Here we distinguish between first- and second-order effects on target groups and also discuss evidence on the, usually unintended, consequences of AA policies on non-target groups. Section 6 concludes.

2 Definitions, conceptual framework, and common controversies

In this section, we first identify the core aspects characterizing AA across a range of definitions. We then develop a simple framework to conceptually illustrate the channels through which AA policies are expected to affect inequality outcomes and, finally, discuss common controversies regarding their intended and unintended consequences.

2.1 Definitions

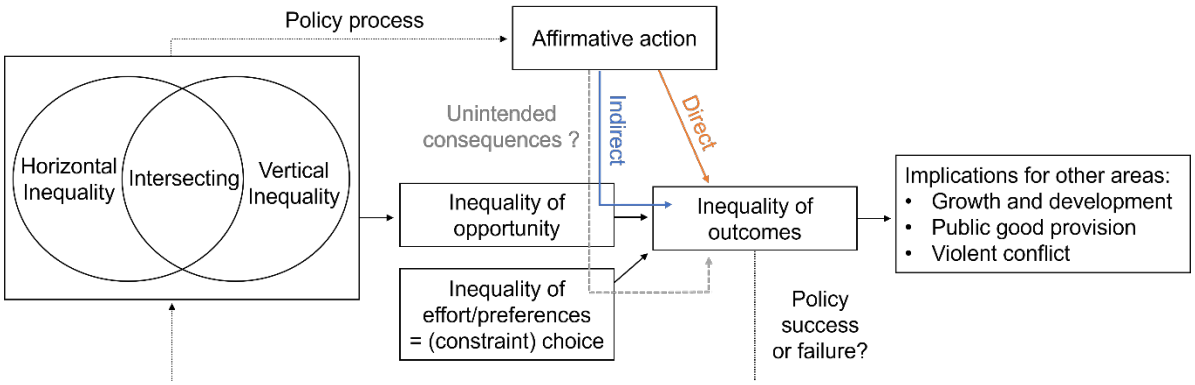
A multitude of approaches to the definition of AA have been suggested in the literature. Most of these see its essence in the intention to address historically rooted group-based inequalities. For example, Chowdhury, Esteve-Gonzalez, and Mukherjee (2020) define AA as 'a set of ethically driven policies aimed at providing special opportunities to a historically disadvantaged group in order to make the members of this group capable of competing with their privileged counterparts in the society'. Similarly, according to Kalev, Dobbin, and Kelly (2006), 'affirmative action is implemented to rectify old wrongs, eradicate injustices, […] extend benefits and provide special preferences'.

A common thread is that AA involves some type of proactive preferential treatment or positive action benefiting underrepresented groups, which differentiates AA from other anti-discrimination or equal-opportunity policies (Crosby et al. 2006). Making this distinction explicit, the United States Commission on Civil Rights has defined AA as 'any measure, beyond simple termination of a discriminatory practice, adopted to correct or compensate for past or present discrimination or to prevent discrimination from recurring in the future' (in Murrell and Jones 1996: 78). Along similar lines, Holzer and Neumark (2000) characterize AA measures as 'requiring pro-active steps to erase differences between women and men, minorities and non-minorities, etc., in contrast to laws that only prevent employers from taking steps that disadvantage minorities in the labour market'. However, the boundaries between anti-discrimination, equal-opportunity, and AA policies can be blurred or fluid in real world applications, and there is no clear consensus among scholars, law-makers, or policy-makers on the exact range of measures that should be considered AA (Harrison et al. 2006).

2.2 Conceptual framework

In this study, we are interested in the extent to which AA policies have been effective means to increase the representation of historically disadvantaged ethnic groups in different country contexts. The conceptual framework that structures our understanding of the ways in which AA policies attempt to influence positive societal change is illustrated in Figure 1, where the arrows illustrate causal influences.

Figure 1: Conceptual framework



Source: authors' elaboration.

At the core of AA is the goal to reduce inter-group or so-called 'horizontal' inequalities, rather than intra-group or so-called 'vertical' inequalities (Crichlow and Gomez 2015). While 'vertical' inequalities refer to differences between individuals or households, commonly based on the practice of ranking everyone in the population by their income or wealth, 'horizontal' inequalities capture differences between culturally defined groups that 'cut across the distribution of income and wealth, and are the product of social hierarchies which define certain groups as inferior to others through the devaluation of their socially ascribed identities' (Kabeer 2016: 55). Reflecting systematic differences based on attributes generally inherited at birth, horizontal inequalities present a primary concern in many multicultural societies, in which certain ethnic groups have been historically disadvantaged and discriminated against (Kabeer 2016).

Different political motives can drive the policy process leading to the adoption of AA policies. Particularly in democratic societies, AA often responds to direct demands by under-represented groups to address inequalities. In this regard, 'in most cases, a defining moment or an event has acted as a catalyst for affirmative action' (Kalev et al. 2006: 1). These catalysing events may range from the end of colonization and establishment of a new constitution, over violent or non-violent protests, to a change in government and political turnover, for example. In that respect, AA can provide a tool with which to share power and establish a unity government, or to mediate social conflict. Importantly, although AA favours economically, politically, and/or socially marginalized groups, these groups do not necessarily constitute a minority in the population. For instance, South Africa's Broad-based Black Economic Empowerment Act (2003) is aimed at 'Africans, Coloureds and Indians', or almost 90 per cent of the population.

The implementation of AA policies is commonly morally or ethically justified, reflecting values of fairness, justice, diversity, equality, and equity (Steward 2013; Yang et al. 2006). In this regard, Rawls' philosophical principle of (fair) equality of opportunity is frequently used in the literature as a starting point for the discussion about AA. According to Rawls' theory of justice (1971), equality of opportunity requires that socio-economic development—in terms of the labour market, income, educational attainment, health, and other living conditions—be possible for all and that all individuals must be eligible to compete on equal terms for it. Acceptance and full implementation of this principle means that individuals with the same talents and willingness to use them must have equal chances of succeeding, irrespective of their social, ethnic, or racial background. This may not translate into equal results, but inequality of outcomes will be more acceptable if attributable to differences in effort or preferences, rather than exogenous factors that are outside individual control, such as gender, race, disability, birthplace, or parental income (Rosenfeld 1991).

While the use of AA is commonly justified from an inequality-of-opportunity perspective, the success or failure of such policies is commonly evaluated on the basis of the achieved reduction in inequality of outcomes. Considering this objective, real-life applications of AA often make use of measures that affect the distribution of outcomes directly, rather than indirectly by enhancing the opportunities of marginalized groups. Harrison et al. (2006) illustrate the range of AA policy options—from the weakest to the strongest form—with an application to the labour market. According to their four-tier typology, 'opportunity-enhancing' AAs offer prior-selection assistance to designated groups in order to diversify the pool of qualified candidates (e.g. through focused recruitment or training) but do not give preference in the employment decision itself. Similarly, 'equal opportunity' AAs devote resources to prevent decision-makers from discriminating against designated groups. 'Tiebreak' AAs establish that members of designated groups should be given priority if, and only if, they are equally qualified as majority applicants. 'Strong preferential treatment' AAs give preference to members of the designated group even if they remain below the qualification level displayed by majority applicants (Harrison et al. 2006). While the first three usually encompass 'soft' measures that influence the distribution of outcomes indirectly—such as training, outreach programmes, or action plans that affect the chances of members of designated groups achieving certain outcomes—the last typically encompasses 'hard' programmes in the form of institutionalized quotas or reservations that mandate the distribution of outcomes directly (see Figure 1).

If successfully implemented, AA policies can contribute to reducing horizontal inequalities and allow historically marginalized groups to participate in society more fully, which has positive implications for social cohesion, political stability, and the reduction of conflict risk. Moreover, the successful implementation of AAs can bring economic benefits, since ethnic horizontal inequalities have been shown to negatively affect growth and macro-economic stability (Dabla-Norris et al. 2015), poverty reduction (Ncube et al. 2014), and the provision of public goods and services (Uzochukwu et al. 2020) through a variety of channels. In this regard, the improved access of marginalized groups to education and employment opportunities can increase the overall human capital in the labour force, with positive growth effects.

2.3 Common controversies

While AA policies are well intended, their actual effectiveness in driving positive societal change remains controversial (Chowdhury et al. 2020; Holzer and Neumark 2000; Ratuva 2013a). As discussed above, AA policies are intended to reduce inter-group, rather than intra-group, inequalities (Crichlow and Gomez 2015). This targeting based exclusively on ascriptive characteristics, ignoring other relevant individual circumstances, gives rise to three main criticisms (Cancian 1998; Darity et al. 2011; Ellison and Pathak 2021; Reardon et al. 2018). The first concerns the potential reinforcement of social categorizations and divisions, given that AA grants preferential treatment to some groups over others, which may fuel social tensions. Second, AA policies—especially those entailing strong preferential treatment—are seen by critics as rewarding exogenous factors at the expense of individual effort. This not only has been considered a form of reverse discrimination at the expense of marginalized individuals in non-designated groups, but also can foster stereotypes and create a stigma of incompetence against designated groups (Fryer and Loury 2005; Harrison et al. 2006; Koggel 1994). Third, AA policies are deprecated for being largely blind to 'intersecting inequalities' and 'cumulative disadvantage'. They either target one group only or treat target groups as distinct entities—and thereby risk benefiting the better-off in each group. Accordingly, critics argue that AA often benefits a small, wealthy, and politically well connected elite, thus raising 'vertical' inequalities within designated groups (Garaz 2014; Sowell 2008; Sunam et al. 2021).

A fourth and related criticism concerns the potential unintended consequences of AA policies. The most prominent example of this critique—hotly debated particularly in the US context—is the 'mismatch hypothesis', which states that the preferential admission of underqualified minority students to highly competitive colleges via AA ultimately harms their education prospects, since they are not academically prepared to succeed at these elite higher education institutions (see, inter alia, Alon and Tienda 2005; Ayres and Brooks 2004). Another negative side-effect of AA is potential unintended behavioural responses (see Figure 1), from either intended beneficiaries or the overall population (Dulleck et al. 2017; Kaletski and Prakash 2016). These, for example, occur when qualified individuals in the target group worry about tokenism and/or 'stigma of incompetence', and therefore decide to opt out of opportunities to which AA policies are supposed to increase their access, resulting in a negative selection effect (Coate and Loury 1993; Heilman et al. 1997).

3 Methodology

This paper conducts a systematic review of the literature that investigates the impact of ethnically targeted AA policies. With a considerable growth in applications from 2008 onwards (White 2019), systematic reviews are currently considered the preferred methodology for identifying and synthesizing large volumes of scientific evidence on a specific subject, thereby providing a useful (theory-based) tool for policy-oriented analyses (Knoll et al. 2018; Tapia-Benavente et al. 2021).

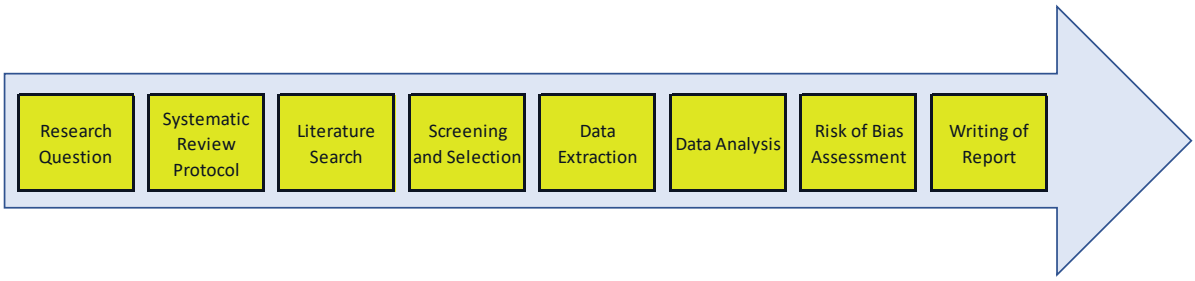
The systematic review methodology differs in important respects from conventional literature reviews. The key defining criterion is the application of rigorous and transparent methods to collect and analyse data—including a predetermined protocol for the systematic literature search, clear criteria for the inclusion and exclusion of studies, and transparent methods of summarizing and reporting research findings in an effort to provide (to the greatest extent possible) generalizable statements that reflect the current state of the literature (Waddington et al. 2012).[2]

The main steps in our analysis are illustrated in Figure 2. These are based on the *Cochrane Handbook for Systematic Reviews of Interventions*, which is widely accepted in the literature as the official guide for the preparation and creation of systematic reviews (Higgins et al. 2019).

The full project illustrated in Figure 2 was carried out between August 2021 and September 2022. The research question that we set out to answer is: 'To what extent and under which circumstances has affirmative action increased the representation of historically disadvantaged ethnic groups in politics, education, and employment?'. This question was formulated with the PICOS framework, as detailed in Section 3.1 below. At the beginning of the project, we created a systematic review protocol that served as a roadmap throughout our research. The protocol specified the inclusion criteria and guided the search strategy, screening process, and data extraction process, which we discuss in detail in the following sub-sections.

[2] Given initial time constraints, this systematic review was first designed as a 'rapid review' (Tricco et al. 2015); thus the protocol was not preregistered in a specialized systematic review registration database before the work began. However, the final review took almost one year and contained all the stages of a systematic review.

Figure 2: Steps in systematic review



Source: authors' elaboration.

3.1 Inclusion criteria

Our inclusion criteria are based on the PICOS elements, following the standard procedures commonly applied in systematic review studies (Higgins et al. 2019).

The population (P) is global in coverage and considers interventions targeting ethnic groups that have been historically disadvantaged. We follow new standards in the ethnic politics literature, where 'ethnic' encompasses a broad set of categories based on attributes such as skin colour, language, tribe/kinship, caste, and religion (see Canelas and Gisselquist 2018; Htun 2004). In consequence, we exclude studies that investigate policies benefiting groups defined by other criteria, such as gender or socio-economic characteristics.

The intervention (I) is AA, as defined in Section 2.1, implemented as a corrective policy measure to improve the representation of those historically disadvantaged ethnic groups. We focus on interventions in the areas of education, employment or business, and electoral representation, which may be implemented at national or sub-national level.

To provide a broad assessment of the available evidence, we purposely refrain from imposing any restriction on the type of control (C) used by included studies. We thus incorporate analyses that assess the effect of AA in comparison with target group(s) in the absence of intervention, target group(s) under alternative interventions, or non-target group(s) in the same society. Similarly, we impose no restriction on the type of outcome (O) studied.

Finally, regarding the study design (S), we limit the analysis to studies written in English that present some sort of own, quantitative data analysis of the effect of ethnic AA policies.[3] In consequence, we exclude studies that present purely qualitative (non-quantifiable) evidence,[4] only draw on statistics that have been previously published elsewhere, or do not include any direct statement on the direction of the effect of AA. All included studies thus utilize quantitative methods—ranging from simple descriptive statistics, over regression approaches to explore correlations, to causal identification approaches—sometimes in conjunction with other methodologies.

[3] We excluded Bachelor's and Master's theses from the systematic review, but included doctoral theses.

[4] We also included five publications applying a non-quantitative research design (Harper and Griffin 2010; Loncar 2013; Osorio 2012; Ready 2001; Segawa 2013), since these studies are based on large-scale, qualitative data collection with quantifiable findings.

3.2 Search strategy

The first round of the literature search was conducted in early October 2021 using Google Scholar. Search results were then corroborated in three ways: first, by re-running all searches in the Web of Science database; second, by re-running all searches in the EBSCOhost database; and, finally, by screening reference lists in recent papers and existing literature reviews. The search process covered texts written in English, including both published and unpublished ('grey literature') studies, and no restrictions regarding the country context studied or publication date were applied.[5] The online searches were carried out by two researchers, who cross-checked both included and excluded studies, and resolved discrepancies collaboratively.

The following search terms were used to identify all relevant papers regarding the impacts of AAs and related policies operated under different labels: 'affirmative action', 'alternative access', 'ethnic quota', 'positive action', 'positive discrimination', and 'reverse discrimination'. For each of these six search term synonyms, we arranged several permutations of potential search entries with the aim of capturing relevant publication results. These included different configurations of the words 'quantitative', 'impact', 'outcome', 'evaluation', 'education', and 'employment' in combination with each of the six search term synonyms. This first search yielded a total of 1,666,595 results.

Given this vast body of literature, we conducted a second literature search, narrowing the search criteria to gather more targeted results for our research purpose. To refine the search, we altered the term 'quantitative' to 'quantitative analysis', added the term 'policy' to signal the inclusion of social science research, and improved the search strategy to exclude results with the words 'medical' or 'chemical'. We then ran each search without citations and patents. This second search generated a total of 4,331 publications, out of which 3,835 were identified using Google Scholar, 152 using the Web of Science database, 268 using the EBSCOhost database, and 76 by searching bibliographies of recent papers and existing literature reviews. A disaggregation by search term synonym is provided below:

a. Affirmative action = 945 publications
b. Alternative access = 615 publications
c. Ethnic quota = 67 publications
d. Positive action = 1,088 publications
e. Positive discrimination = 1,041 publications
f. Reverse discrimination = 499 publications
g. Bibliography and literature review search = 76 publications

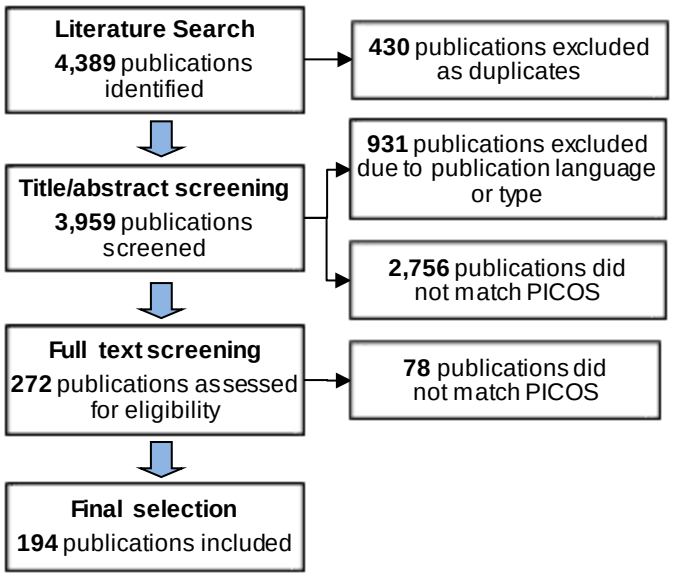
A feature that became apparent at this stage of the research was the concentration of the evidence on a limited number of country cases. For this reason, a third round of the literature search was conducted in April 2022 with the specific aim of enhancing the country coverage. For this purpose, we altered the list of search terms by including the names of countries that, based on our related work to create an AA policy database, have ethnic AA policies in place (Gisselquist et al. forthcoming). This round of the search yielded an additional 58 publications, which left us with a total of 4,389 studies detected at the identification stage.

[5] Unpublished work was included in the review to check for and mitigate potential bias resulting from a potential tendency of published work to reflect statistically significant results (either positive or negative), while excluding statistically insignificant findings.

3.3 Screening process

The search protocol and study selection process for this review are illustrated in Figure 3. Out of the 4,389 studies identified, 430 publications were removed as duplicates. In addition, at the screening stage, 931 publications were excluded on the basis of publication language (other than English) or type (Bachelor's and Master's theses), leaving us with 3,028 publications that were assessed for eligibility. A screening by title and abstract of those 3,028 records was carried out, and 2,756 publications were excluded for not meeting the pre-defined PICOS criteria. In consequence, a total of 272 records were identified for full text screening.

Figure 3: Search and selection results



Source: authors' elaboration.

This systematic full screening process led to the exclusion of 78 additional studies which were found not to meet the pre-defined PICOS criteria: because the records did not target ethnic groups, or they did not present some sort of (original) quantitative data analysis, or the AA policies investigated were outside the areas of education, employment or business, and electoral representation. This gave a final sample of 194 studies that are included in this review (the full list of included studies is provided as online supplementary material).

3.4 Data extraction

To ensure a harmonized data extraction process, we developed a coding manual describing the relevant information to be extracted from the studies. On the basis of this document, we created a coding sheet containing a total of 65 variables divided into 9 sections (see Table 1). The systematic coding of the 194 selected studies took place between October 2021 and June 2022. Once again, two researchers were involved in this task to ensure cross-checking.

As described in Sections 3.1 and 3.2, we focus on studies that investigate the impact of ethnic AA policies in the areas of education, employment or business, and electoral representation. We classify the outcomes investigated by these studies into six categories: educational attainment, employment, earnings, work or business performance, political participation, and other.

In coding the impact of AA policies on these outcomes, we differentiate between four types of group-level effects. First, we focus on the impact of AA on target groups, where we distinguish

between first- and second-order effect(s), as detailed below. Second, we look at spillover effects on non-target groups, where we distinguish between effects on other marginalized groups, which also experience some form of social or economic exclusion but are not beneficiaries of the AA policy, and effects on non-marginalized groups.

Table 1: Coding tool

Section	Description of variables
(1) Reference	(1.1) ID (Authors + year); (1.2) Type (descriptive / estimation); (1.3) Country; (1.4) Describe if comparative study; (1.5) Author(s); (1.6) Title of study
(2) Publication	(2.1) Year published; (2.2) Type of publication; (2.3) Journal/Institution/Publisher; (2.4) DOI / web link (URL)
(3) AA policy/programme	(3.1) Policy domain (education / employment or business / electoral representation); (3.2) Scale of AA (national / sub-national); (3.3) Specify sub-national scale (if applicable); (3.4) Quota (yes / no); (3.5) AA policy/programme studied; (3.6) Defining criterion for ethnic group AA addresses (race or colour / caste / indigeneity / region / religion / other); (3.7) Specify ethnic group AA addresses; (3.8) Year of AA policy/programme implementation; (3.9) Year of AA policy/programme abolition (if applicable)
(4) Research design	(4.1) Research question / aim; (4.2) Outcome(s) of interest—category (educational attainment / employment / earnings / work or business performance / political participation / other); (4.3) Outcome(s) of interest—detail; (4.4) Study impact group(s); (4.5) Sub-sample analysis (yes / no); (4.6) Description of sub-sample analysis (if applicable); (4.7) Research design type (descriptive / correlation / quasi-experimental / experimental); (4.8) Analytical methods
(5) Data	(5.1) Dataset; (5.2) Data source (administrative / secondary / primary); (5.3) Data structure (cross-section / pooled (repeated) cross-section / panel); (5.4) Period of analysis; (5.5) Geographic coverage; (5.6) Level of analysis
(6) Main results	(6.1) Textual content of main findings/conclusions; (6.2) First-order effect(s) on target group(s); (6.3) Second-order effect(s) on target group(s); (6.4) Effect(s) on non-target (ineligible) minority/marginalized group(s); (6.5) Effect(s) on non-target majority/non-marginalized group(s); (6.6) Comments
(7) Detailed results (for up to 3 outcomes for estimation studies only)	(7.1) Outcome; (7.2) Explanatory variable(s); (7.3) Textual content of result; (7.4) Estimated effect as reported in study; (7.5) Number of observations; (7.6) Page number where the effect size was found
(8) Quality assessment	(8.1) Author(s) mention empirical identification problems or shortcomings of the method; (8.2) Description of empirical identification problems as stated by the author(s); (8.3) Robustness checks (yes / no); (8.4) Other problems/limitations
(9) Coding management	(9.1) Additional information; (9.1) Name of coder; (9.3) Coding status; (9.4) Date last updated

Source: authors' elaboration.

Regarding the impact on target groups(s), in our typology, first-order effect(s) refer to the most immediate outcome directly targeted by the policy—usually enrolment rates for admission policies in higher education, ethnic diversity of employment for labour market policies, and, for electoral policies, the representation of ethnic minorities in the legislative. Second-order effect(s) on target group(s) refer to the consequences of AA policies on other outcomes, which usually materialize with a larger time lag. The Law of Quotas in Brazil, which reserves a proportion of seats in federal universities for non-white and low-income students from public high schools, is a good example to illustrate the difference between these two types of effect. In this example, we classify the impact of the policy on the racial composition of students admitted to university as the first-order effect, while its consequences on the dropout rate, academic performance, and labour market outcomes of admitted students are considered second-order effects. Other examples of second-order effects are poverty or inequality outcomes for labour market policies, and the representation of minority interests or the provision of public goods for electoral policies. In addition to these generally

intended knock-on effects, second-order effects can comprise unintended consequences of AA, such as an increased stigmatization.

For each group-level effect, we classify the direction of the impact of AA into one of four mutually exclusive categories: positive, negative, mixed (combining both positive and negative effects), and insignificant.[6] Insignificant here comprises estimation studies that report effects not statistically significant from zero (at common significance levels) as well as descriptive studies that report null effects. Accordingly, the direction of the impact is coded as communicated by the study, and does not necessarily imply statistical significance (given the inclusion of purely descriptive work).

In addition to presenting the group-level effects individually, as a final step in the analysis, we aggregate these effects into a summary assessment, which for each study is based on the textual content of the main research finding and direction of effect as communicated by the authors.

4 Characteristics of included studies

This section provides a descriptive profile of the studies included in this review. Specifically, we illustrate the geographic scope and time frame, provide summary statistics on the distribution across policy domains and outcomes studied, classify the ethnic groups targeted by AA policies, and discuss the research methods used.

4.1 Geographic scope and time frame

One key objective when scoping the literature for this review was to identify relevant studies assessing AA policies in as many country cases as possible, maximizing geographic coverage.

Of the 194 studies included in this review, the vast majority (93.4 per cent) are country case studies. However, we were also able to identify and review 13 comparative studies, which range from two-case comparisons (e.g. Alon 2015 on Isreal and the United States), over regional perspectives (e.g. Htun 2016 on Latin America), to global studies (e.g. Hughes 2011).

In total, the 181 case studies reviewed provide specific insights on 27 countries spread across all five world regions—Africa (18), the Americas (86), Asia (61), Europe (10), and Oceania (6). Figure 4 illustrates the country coverage achieved in this review and indicates that the evidence is heavily concentrated: 71.6 per cent of the case studies focus on a subset of four countries, namely the United States (66), India (33), Brazil (18), and Malaysia (12). Other relatively frequently studied countries are South Africa (8), Nigeria (7), and Nepal (6).

[6] For studies that investigate the abolition of AA (United States only), we reverse the direction of the estimated effect to ensure consistency. That is, for example, if the share of minority students admitted to university decreased after the abolition of the policy, we code the effect of the original AA on designated groups as positive.

Figure 4: Country coverage

Note: geographic scope of the 181 country case studies included in this review (countries included in the comparative work are not displayed). The bubble size indicates the number of studies included per country, ranging from 1 to 66 (see Figure 6 for a complete list).

Source: authors' elaboration.

Given the geographic concentration of the evidence, in what follows, results emerging from the four most studied cases will be discussed in particular detail. For a better context understanding, Table 2 summarizes the AA policy landscape in these countries.

Table 2: AA policy landscape in the United States, India, Brazil, and Malaysia

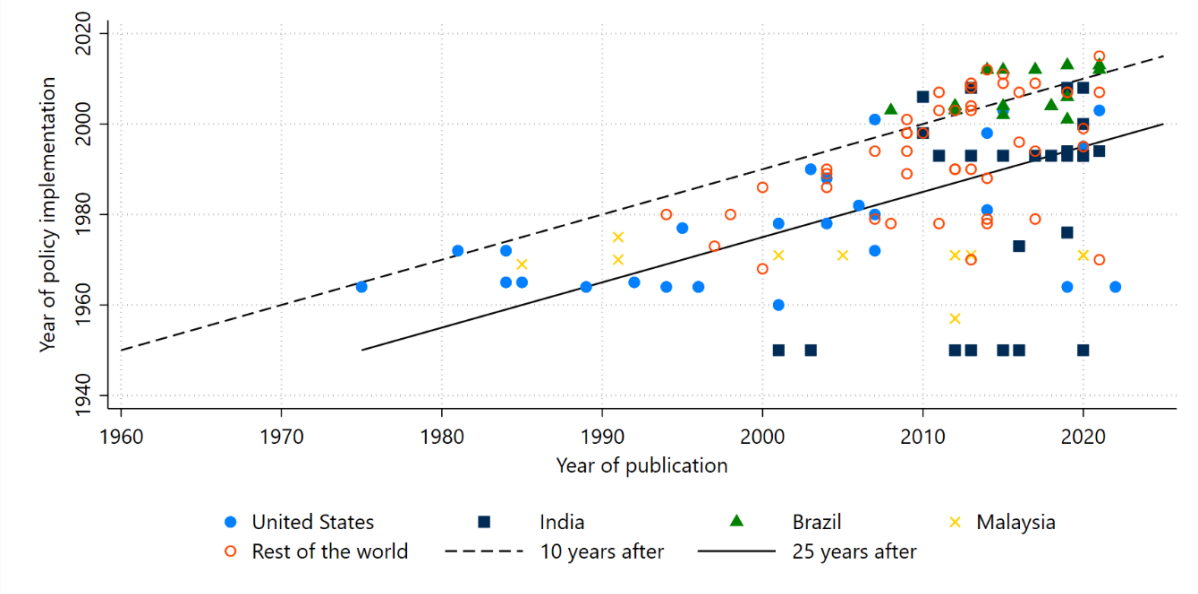
Country	Summary description
United States	In the United States, demand for AA policies addressing historically developed racial inequalities emerged during the civil rights movement. While concerns over racial inequity led to federal executive orders requiring non-discrimination in the employment policies of government agencies and contractors from the 1940s onward, it was with the Civil Rights Act of 1964 that more explicit AA policies appeared, involving a mix of federal and state (legally binding) policies and voluntary practices in employment and education. The majority of studies are on the preferential access to higher education for racial minorities (African, Hispanic, and Native American), which has been heavily contested. While the set of AA policies in education originally included the use of racial quotas in college admission, these were ruled unconstitutional by the Supreme Court in 2003. At the state level, California had already amended its constitution in 1996 via Proposition 209, which prohibited state governmental institutions from considering race, sex, or ethnicity, specifically in the areas of public employment, public contracting, and public education. Out of the 36 studies investigating the effect of AA policies in education in the United States, 19 assess the effect of the abolition of these policies.
India	India was the first country to adopt AA policies. Quota systems favouring certain disadvantaged castes were introduced during colonial rule. Since independence, the reservation system, backed by the 1950 constitution and the first constitutional amendment of 1951, guarantees the representation of historically disadvantaged groups in politics, employment, and education. The studies on India are relatively evenly split across domains, with a slightly larger proportion addressing the effect of reservations in public sector employment (13), followed by education (11) and political representation (11). Many of the more recent studies are concerned with the effect of the extension of reservations. While originally only Scheduled Castes (SCs) and the Scheduled Tribes (STs) were eligible for reservation, in 1987, the policy was extended to Other Backward Classes (OBC), a collective term used by the Government of India to classify castes that are educationally or socially disadvantaged.

Country	Summary description
Brazil	In Brazil, AA have been implemented only in the 21st century. The most influential policy is the race-targeted admission system in higher education, which aims to enhance the access of marginalized groups to highly competitive public universities. Given the particularities of Brazil's school system, where the low quality of education in public schools constitutes a major constraint, AA commonly targets public school applicants, with special provisions for Preto (black-skinned) and Pardo (brown-skinned and/or mixed heritage) students. While states like Rio de Janeiro and Bahia started adopting AA quotas in education from the early 2000s onward, the federal government passed the law of social quotas only in 2012.
Malaysia	In Malaysia, the New Economic Policy (NEP) was established through the Constitutional (Amendment) Act of 1971 to support Bumiputras (ethnic Malays and other indigenous populations) in public education and public sector employment. Here it is important to mention that the Bumiputras constitute the largest ethnic group in the country but have been historically economically disadvantaged compared with the ethnic Chinese minority. The majority of studies on Malaysia concentrate on the effect of policies in employment or business (8), while the rest assess the effect in education (4).

Source: authors' elaboration.

Figure 5 plots the year in which the studies included in this review were published (on the x-axis) against the year in which the policies assessed in these studies were adopted (on the y-axis).

Figure 5: Year of policy implementation and study publication



Note: year of policy implementation as reported in the study (only coded if reported explicitly). Studies above the dashed black line were published less than 10 years after policy implementation; studies between the dashed and solid black lines were published between 10 and 25 years after policy implementation, and studies below the solid black line were published more than 25 years after policy implementation.

Source: authors' elaboration.

Only 25 studies (12.9 per cent) were published before 2000, while more than half of the publications (111 studies, accounting for 57.2 per cent) have come out in the last decade (2012–22), including 11 of the 13 comparative works. The earliest available evidence that we were able to include is from a study on the United States, published in 1975. Ten years later, the first included study investigating AA outside the US was published (on Malaysia in 1985). Notably, while India was the first country worldwide to adopt AA policies, the earliest study on the impact of these measures that we were able to detect was published in 2001. Around this time, evidence on AA policies in other countries also began to appear, case studies from China, the Netherlands, and Pakistan being among the earliest included in this review. While Brazil started to adopt AA policies

much later than the majority of countries covered by the review, these policies have sparked great interest among academic researchers, particularly since the implementation of the Law of Social Quotas in 2012. Of the 100 country-specific studies published from 2012 onwards that are included, 17 use data from Brazil.

It is important to note that Figure 4 and Figure 5 focus on the case-study evidence, where country-specific results are available regarding the direction of the effect of AA policies. Yet, a wider range of countries with AA policies are covered by the comparative studies included in this review. For example, Bird (2016) analyses in a single study a set of 17 countries with any form of quota or reservation system for ethnic minorities in elections. Among these countries, the author distinguishes between (a) legislated candidate quotas, which set a minimum share of ethnic minorities on the candidate lists of registered political parties (Burundi, Djibouti, Pakistan); (b) reserved seats, which guarantee the representation of ethnic minorities via the creation of special electoral districts (Afghanistan, Bolivia, Colombia, Iraq, Jordan, Niger, Palestinian Territories, Panama, Slovenia, Taiwan); and (c) special threshold exemptions applied to the political parties of designated ethnic minority groups (Kosovo, Montenegro, Poland, Serbia). Similarly, Tan and Preece (2021) provide evidence on ethnic quotas in 11 Asia Pacific countries (Bhutan, China, Fiji, India, Nepal, Pakistan, Philippines, Samoa, Singapore, Taiwan, Viet Nam). It is important to note that for only 11 of these 28 countries could we also find case study evidence meeting our inclusion criteria (Burundi, China, Fiji, India, Jordan, Nepal, Pakistan, Serbia, Singapore, and Viet Nam).

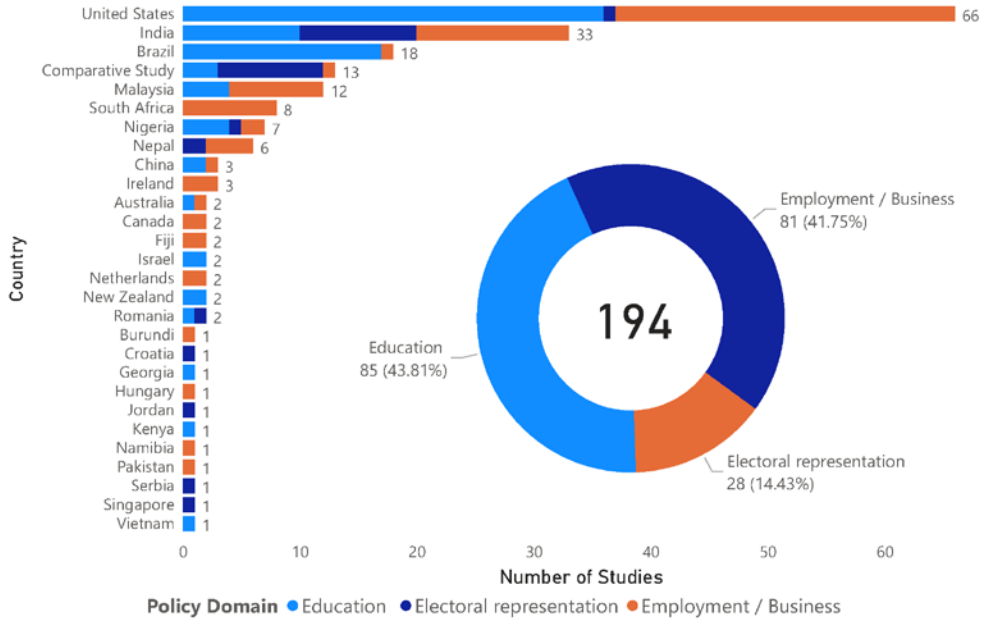
This implies that there is a substantial set of countries for which only conclusions derived from a broader set of countries and policies are available, while we know very little about the concrete effect of AA within the local country context. Furthermore, based on our work on a global AA policy database, we expect there to be an even larger set of countries with AA policies in place that are not even well reflected in the comparative work (Gisselquist et al. forthcoming). According to Das, Mukhopadhyay, and Saroy (2017), there are about 24 countries with electoral quotas for some ethnic groups. Similarly, Bird (2014) reports the existence of an 'ethnic quota' for elections to the main/lower chamber of national parliaments in at least 28 countries.

4.2 Policy domains and outcomes studied

The 194 studies included in this review investigate AA policies in three policy domains: education (85), employment or business (81), and electoral representation (28). Figure 6 illustrates the distribution of studies across the domains for each country (see Appendix Table A1 for a detailed list of the number of studies by country, research design, and policy domain).

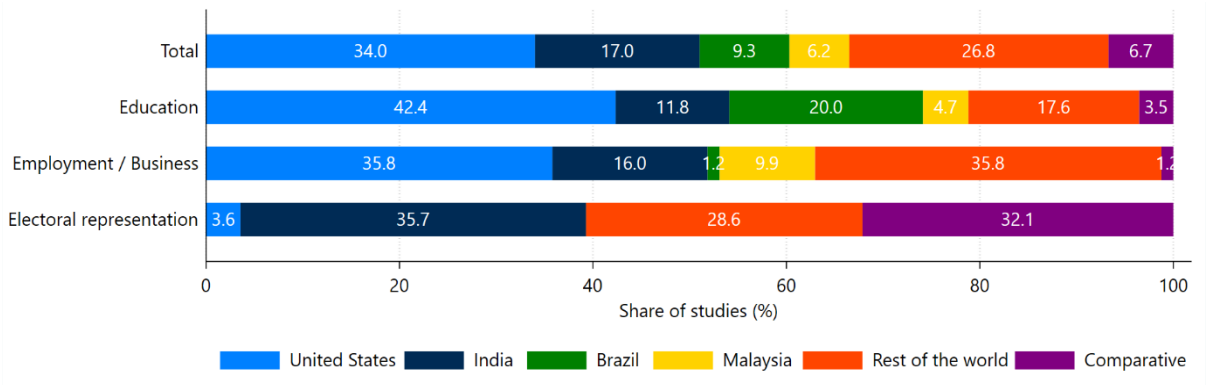
Among the three policy domains, the evidence in the area of education is the most concentrated (see Figure 7), with three-quarters (74.1 per cent) of the included studies being focused on three country cases: the United States (36), Brazil (17), and India (10). Policies in this area generally grant ethnically marginalized applicants preferential access to (public) universities and colleges, often by specifying admission quotas, awarding additional points in examinations, or lowering entrance thresholds. However, the literature also provides good examples of AAs that are not based on 'strong' preferences in admissions but on 'soft' measures. One example of the latter is the Pre-Academic Preparatory Program (PAPP) at the Sakhnin College in Israel, which aims to improve the chances of the Arab/Palestinian minority to access and excel in higher education (see Zoabi and Awad 2015). Similarly, the Biology Undergraduate Scholars Program of the University of California in the US aims to support ethnic minorities during tertiary education to increase the number of minority students who persist in science throughout their undergraduate careers (see Barlow and Villarejo 2004).

Figure 6: Number of studies by country and policy domain



Source: authors' elaboration.

Figure 7: Share of studies by country group and policy domain



Source: authors' elaboration.

Quotas at lower levels of education also exist but are observed less frequently. We found such quotas in Nigeria, where geographically defined 'catchment-area' quotas regulate access to universities and pre-university institutions (Adeyemi 2001), and in Kenya, where national and provincial schools are required to admit a certain share of students from specified localities (Kataka 2014). Another set of policy measures entails financial support in the form of scholarships or living allowances for underrepresented groups. An example is the ABSTUDY programme in Australia, which provides payments to help with living costs for eligible Aboriginal or Torres Strait Islander students in secondary school, full-time tertiary education, or apprenticeships (Walker 2000).

The 81 studies in the domain of employment or business are somewhat more diversified in terms of geographic coverage and policy means. The three most frequently studied countries—the US (29), India (13), and Malaysia (8)— account for 61.7 per cent of the evidence, while the studies from the rest of the world make up 38.3 per cent (see Figure 7). About one quarter of the latter group is accounted for by studies investigating the effect of policies of (Broad-based) Black Economic Empowerment (BEE/BBBEE) in South Africa, but the case-study evidence also covers 13 other individual countries across different world regions.

As in education, a key mechanism of AA in employment and business is quotas for public sector employment—prevalent in nine countries (Burundi, Fiji, India, Malaysia, Nepal, Nigeria, Pakistan, South Africa, United States). However, the majority (c. 60 per cent) of studies investigate AA policies granting 'soft' preferences, for example the Equal Employment Opportunity Act (Dometrius and Sigelman 1984; Hutchins and Sigelman 1981) and the associated diversity programmes in enterprises (Kalev et al. 2006) in the US, the Indigenous Employment Program in Australia (Daly et al. 2013), training programmes for minorities in the Netherlands (De Vries and Pettigrew 1994), a capability-building and microcredit programme for Roma businesses in Hungary (Molnár 2017), and encouragement to favour minority applicants at equal levels of qualification in China's public sector (Zang 2008).

Studies on the effect of AA policies designed to enhance the electoral representation of marginalized groups are more scarce than those in education or employment (28 versus 85 and 81, respectively). Nonetheless, the available evidence covers a diverse set of countries (as Figure 7 illustrates). The reservation policy in India accounts for 35.7 per cent of the evidence, while studies from eight other countries (Croatia, Jordan, Nepal, Nigeria, Romania, Serbia, Singapore, US) contribute 32.2 per cent.[7] Importantly, about one-third of the evidence in this domain (9 out of 28 studies) derives from comparative studies, which cover a wide set of countries (as detailed in Section 4.1). This is a clear distinction from the areas of education and employment, where comparative studies account for just 3.5 and 1.2 per cent of the total evidence, respectively.

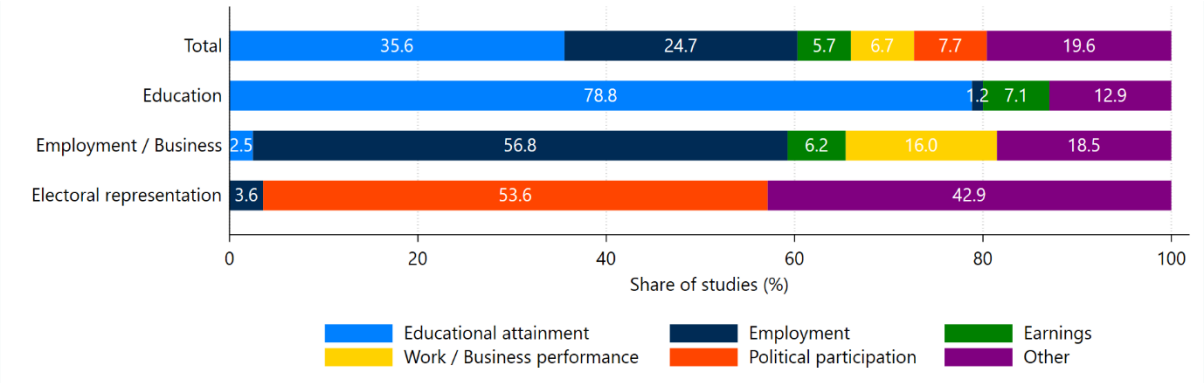
It is important to mention that in the electoral domain, all AA policies considered by the reviewed studies are based on legally binding rules. Examples of these policies are quota systems reserving legislative seats for minorities in Croatia (Allen 2018b), India (Jensenius 2015), Jordan (Hughes 2011), and Nepal (Pandeya and Oyama 2019); quotas for the legislated candidate list ensuring a minimum quantity of ethnic minorities across the candidates in Singapore (Tan 2014); and reduced thresholds for the accession of ethnic political parties to Parliament in Romania (Alionescu 2004) and Serbia (Loncar 2013).

As shown in Figure 8, four out of five studies investigating AA policies in education focus on indicators of educational attainment—predominantly enrolment, dropout, completion rates, and performance—while the remainder attempt to track longer-term effects on earnings, i.e. labour market success (see, e.g., Bertrandand et al. 2010), as well as other outcomes of interest, such as social and economic mobility (Gill 2002), welfare and inequality (Herskovic andand Ramos 2014), or sentiments of national cohesion (Kataka 2014).

The largest share of studies assessing AA policies in employment or business focus on changes in the composition of employment and representation of target groups in the workforce (46 out 81 studies), followed by effects on work or business performance (13 studies), and earnings (5 studies). Other outcomes studied include the ways in which work experiences shape designated groups' thinking about their future (Daly et al. 2013), job satisfaction (Hinks 2009; Niemann and Dovidio 2005; Taylor 1994), well-being (De Vries and Pettigrew 1994), and poverty and distributional outcomes (Gomez and Premdas 2012; Ravallion 2020a, 2020b; Yusof 2012). In addition, backward linkages from better employment opportunities to higher educational attainment have been studied in the Indian context (Khanna 2020; A. Lee 2021; Sheth 2004).

[7] With the exception of Nepal, with two studies, all these countries yielded only one study for our review.

Figure 8: Share of studies by main outcome studied and policy domain



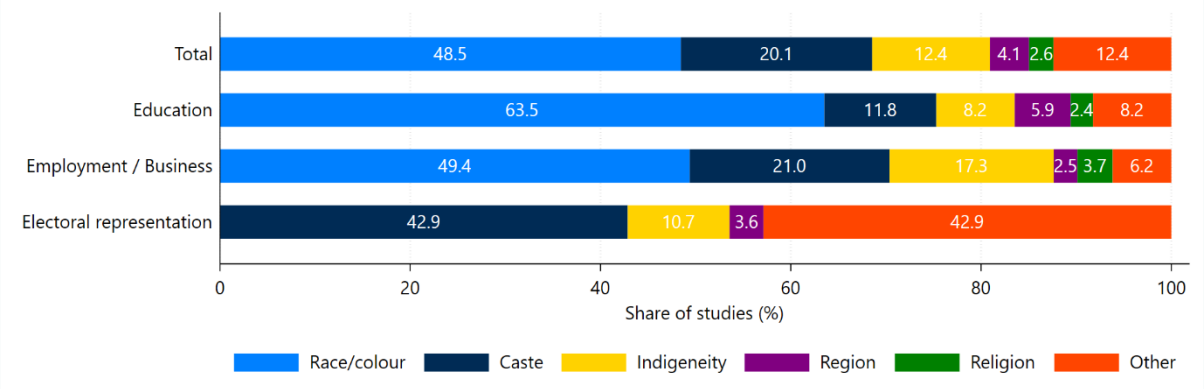
Source: authors' elaboration.

In relation to electoral representation, more than half of the studies (15 out of 28) focus on describing the direct effect of AAs on the ethnic composition of legislative institutions or other targeted bodies. Going beyond this immediate effect, there is a substantial body of research (42.9 per cent) that aims to provide insights into the consequences of including marginalized groups in policy-setting processes and decision-making on other outcomes. It is important to emphasize the strong focus of these studies on the case of India. Specifically, of the 12 studies, there are two comparative works (Banducciand et al. 2004; Kroeber 2017), one on Serbia (Loncar 2013), and nine on India. The last group includes studies on the effects of political reservations on the substantive representation of minority interests (Kroeber 2017; Loncar 2013), on the provision of public goods and government services (Bardhanand et al. 2010; Das et al. 2017; Girard 2018), and on poverty (Chaudhary 2015; Chin and Prakash 2011).

4.3 Target groups

Based on our PICOS, we identify six target groups of AA policies, broadly defined by race or colour, caste, indigeneity, region, religion, or other ethnic criteria (Figure 9).

Figure 9: Share of studies by target group/ethnic criterion and policy domain



Note: for country case studies where AA policies address groups defined by more than one ethnic criterion, the coding reflects the criterion identifying the primary target group. Comparative studies bringing together countries where the primary target groups are defined by different criteria are subsumed under 'Other'.

Source: authors' elaboration.

About half of the reviewed studies (94 of the 194 studies) assess the effect of AA policies that target groups defined by race or colour, and such studies dominate the evidence in education and

employment or business (see Figure 9).[8] The majority of the studies are accounted for by the United States (65), followed by Brazil (18) and South Africa (8). Other case studies concern Namibia (Sifani 2009) and the Netherlands (De Vries and Pettigrew 1994). While the Dutch policy primarily aims to support the employment prospects of the country's migrant population, the AA policies in Brazil, Namibia, South Africa, and the United States intend to address the consequences of the historical structural marginalization experienced particularly by the native and black population. In the case of the US, these have been extended to other people of colour, including the population of Hispanic origin (Chicanos and Latinos).[9]

While AA policies target segments of the population that have been socially, economically, and/or politically marginalized in the national context, these groups do not always constitute a minority in population terms. In the United States, AA policies benefit groups that make up about 33.8 per cent of the total population (according to the 2021 census), including those identifying as Black or African American (13.6 per cent), Hispanic or Latino (18.9 per cent), and Native or Indian American (1.3 per cent). In Brazil, however, AA policies provide special provisions for the Native (indigenous), Preto (black), and Pardo (brown and/or mixed heritage) population, who together comprise over half of the county's population, making up 1.1 per cent, 9.4 per cent, and 46.8 per cent of the population, respectively (according to the PNAD 2019). In South Africa and Namibia, the black population, which is the primary target of national AA policies, is in the majority, accounting for 80.7 per cent (Statistics South Africa 2019 est.) and 87 per cent (US Department of State 1995 est.) of the national population, respectively.

Another 39 studies included in this review (accounting for 20.1 per cent of the evidence) investigate AA policies that favour lower-caste groups (see Figure 9). These investigations concentrate on two countries only, where evidence on India (33) constitutes the lion's share, while studies on the case of Nepal (6) offer an additional perspective. Caste-based policies particularly shape our understanding in the area of political representation, contributing 42.9 per cent of the total evidence (see Figure 9).

The caste system establishes a social hierarchy—rooted in Hindu scriptures—which crystallized during British colonial rule. In addition to India and Nepal, it is present in Pakistan, Bangladesh, Sri Lanka, the Maldives, and Bhutan (Hasnain and Srivastava 2022). In India, the SCs and STs are among the most disadvantaged socio-economic groups and the original target of AA policies. They respectively comprise about 16.6 per cent and 8.6 per cent of the country's population (according to the 2011 census). In 1990, the reservation policy in public employment was officially extended to OBCs, who, according to a 2007 survey, constitute 41 per cent of the total population (The Times of India 2007). While reservation cannot be granted solely on the basis of religion, OBCs among Muslims and other religions have been identified, and reservation benefits have been extended to them (Munusamy 2022). While Nepal's society is also split along caste lines, these divides overlap with cross-cutting group cleavages defined by religion, language, and region (Pandey and Risal 2021). Consequently, the Interim Constitution of 2007 (implemented after a 10-year civil war) demands that the State make special provision—based on positive discrimination—

[8] While none of the reviewed case studies investigated an AA policy benefiting groups defined by race or colour in the area of electoral representation, it should be noted that several of the Latin American countries covered in the regional study by Htun (2016) reserve legislative seats for both indigenous populations and Afro descendants (the study is subsumed under 'Other' due to the variation in criteria applied in different countries).

[9] Race relations in both the US and Brazil have been shaped by the legacy of slavery; and the US, Namibia, and South Africa have all seen systems of institutionalized racial oppression and racial segregation, sanctioned by law, in their histories.

for national minorities, including Dalit, indigenous people, Madhesi, those located in backward regions and communities, and Muslims (Pandeya and Oyama 2019).

AA policies primarily favouring indigenous groups are the subject of 24 of the reviewed studies (accounting for 12.4 per cent of the evidence). Half of these investigate the case of Malaysia, where AA policies were implemented from 1971 onwards under the New Economic Policy (NEP), with the aim of helping Bumiputras (ethnic Malays and other indigenous populations) to catch up economically with other Malaysians (Ravallion 2020a). Bumiputras comprise 69.4 per cent of the population (according to the 2020 census) but have historically been economically disadvantaged, particularly with respect to the ethnic Chinese and Indian minorities (H.-A. Lee 2012). This shares some similarities with the case of Fiji, where AA policies were introduced by the 1990 Constitution to reduce economic disparities between the indigenous Fijian majority (56.8 per cent according to the 2007 census) and the Indo-Fijian minority (Ratuva 2013b). In addition to those on Malaysia and Fiji, we identified studies investigating the impact of AA on indigenous populations in six other countries, but for these countries, the target groups represent minority populations: the Aboriginal peoples and Torres Strait Islanders in Australia, the Bedouins in Jordan, the Māori and Pacific Islanders in New Zealand, the First Nations, Inuit, and Métis peoples in Canada, and the Native Americans in the United States.[10]

In our systematic review, we also identified eight studies (accounting for 4.1 per cent of the evidence) that investigate AA policies addressing inequalities between groups residing in different (sub-national) regions. Most of the evidence is based on Nigeria (6), complemented by Kenya (1) and Pakistan (1). In these countries, the concept of 'ethnicity' played a crucial role in the implementation of AA policies, since underprivileged target communities are mainly populated by disadvantaged ethnic groups. In Nigeria, AA policies in education, employment, and electoral representation were implemented to promote national unity and are based primarily on quota systems that benefit the population located in backward 'catchment areas' (local government areas) in the north of the country (Adeyemi 2001). Similar legislation can be found in Kenya, where a quota system was adopted in 1978 to promote the admission of students from disadvantaged areas to secondary schools. It stipulates that 85 per cent of students need to be resident in the school's home district (Kataka 2014). In Pakistan the federal quota system aims for regional parity in government employment and was implemented with the aim of opening up opportunities for the underdeveloped regions and communities (Waseem 1997).

According to our review, religion is also a criterion applied by AA policies. We identified five studies (accounting for 2.6 per cent of the evidence) that investigate the effects of AA policies addressing inequalities between religious groups—specifically in employment between Protestants and Catholics in Northern Ireland (McCrudden et al. 2004; McCrudden et al. 2009; Muttarak et al. 2012) and in education between the Jewish majority and Muslim Arab/Palestinian minority in Israel (Zoabi and Awad 2015). Both countries apply 'soft' preferences instead of binding quotas to achieve these aims. In Northern Ireland, the legislation requires employers to carry out regular reviews of their workforce composition to determine whether there is a fair recruitment policy, and to undertake remedial action where required (McCrudden et al. 2004); while in Israel, the included evidence stems from a pre-university preparatory programme and extra tutoring for Arab students in universities (Zoabi and Awad 2015).

[10] Native Americans represent 2.9 per cent of the population of the US (2020 Census Bureau), Aboriginals and Torres Strait Islanders 3.3 per cent in Australia (2016 Census), Indigenous people 4.9 per cent in Canada (2016 Census), Māori and Pacific Islanders 25.5 per cent in New Zealand (2018 Census), and Bedouin 33 per cent in Jordan (Minority Rights Group International 2007).

The remaining 24 studies (accounting for 12.8 per cent of the evidence) assess AA policies that benefit groups defined by other ethnic criteria, and comprise evidence for all three policy domains: education (7), electoral representation (12), and employment/business (5). These subsume 11 comparative studies bringing together countries where the primary target groups are defined by different ethnic criteria and thus could not be assigned to a single category (such as H.-A. Lee 2016, which compares South Africa's race-based policy and Malaysia's policy based on indigeneity), as well as 13 country cases where the group-defining criterion does not fall within any of the previously discussed categories. The latter cases report evidence for 10 different nations, including analyses of policies targeting ethnic Roma in Hungary and Romania (Molnár 2017; Samii 2013), ethnic minorities in Burundi, Viet Nam, and China (Iyer et al. 2021; Zang 2008), national minorities in Croatia, Georgia, and Serbia (Allen 2018b; Loncar 2013), and migrants in the Netherlands (Verbeek and Groeneveld 2012).

4.4 Publication outlets and research design

Three-quarters of the 194 studies in this review were published in scientific journals. This share is similar across policy domains, accounting for 70.6 per cent of the studies in education, 81.5 per cent of the studies in employment or business, and 71.4 per cent of the studies concerning AA policies on electoral representation. In addition, we included 19 book chapters and 29 grey literatures consisting of 13 working papers, 3 reports, 5 doctoral dissertations or parts thereof, and 8 mimeos (see Figure 10a).[11]

While standard systematic reviews commonly focus exclusively on experimental and quasi-experimental studies to quantitatively estimate the causal effect of an intervention (Waddington et al. 2012), this methodological approach would defy the purpose of our research here. AAs are generally (real-world) large-scale policies that are adopted endogenously and in a politically sensitive environment, marked by social tensions between ethnic groups, which makes the implementation of a fully controlled counterfactual analysis challenging. In addition, ethical and political considerations prevent field experiments on such policies, which would randomly benefit only some in the target population (Silva-Goncalvesand et al. 2016).

These challenges are reflected in our findings. As Figure 10b illustrates, we were able to detect only one experimental study meeting our inclusion criteria. This work assesses the impact of an AA rule on the effort level of Australian students in a laboratory experiment, where the participants were randomly assigned to either the treatment or the control group (Dulleck et al. 2017). In addition, we identified 31 studies in which the choice of who gets the intervention was not randomized, but which applied 'quasi-experimental' methods (specifically Difference-in-Differences, Regression Discontinuity, Propensity Score Matching, or Instrumental Variable designs) to estimate causal effects. These account for 16 per cent of the total evidence, and mostly focus on AA policies in education (see Figure 10b). These studies often explore the variation caused by the staggered adoption (or abolition) of AA policies at the sub-national level, as the examples of Cassan (2019) for India and Garces (2012) for the United States illustrate.

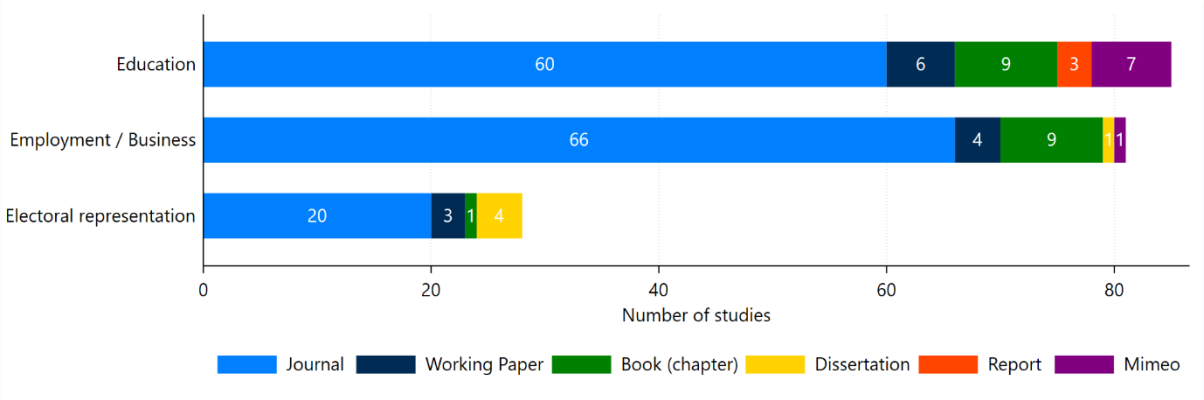
In addition, 67 studies (accounting for 34.5 per cent of the evidence) apply non-experimental designs—such as Ordinary Least Squares, Logit Models, Fixed Effects Models, or Oaxaca–Blinder Decomposition. These studies assess the correlation between the implementation (or abolition) of

[11] The dissertation by Allen (2018a, 2018b) titled 'Presence and Impotence: The Perils of Guaranteed Descriptive Representation' provided data for three different coding cases. These include one country case study (Croatia) and two comparative studies, where the first presents a cross-national analysis covering four countries (Croatia, New Zealand, Slovenia, and Taiwan), while the second covers 29 European countries.

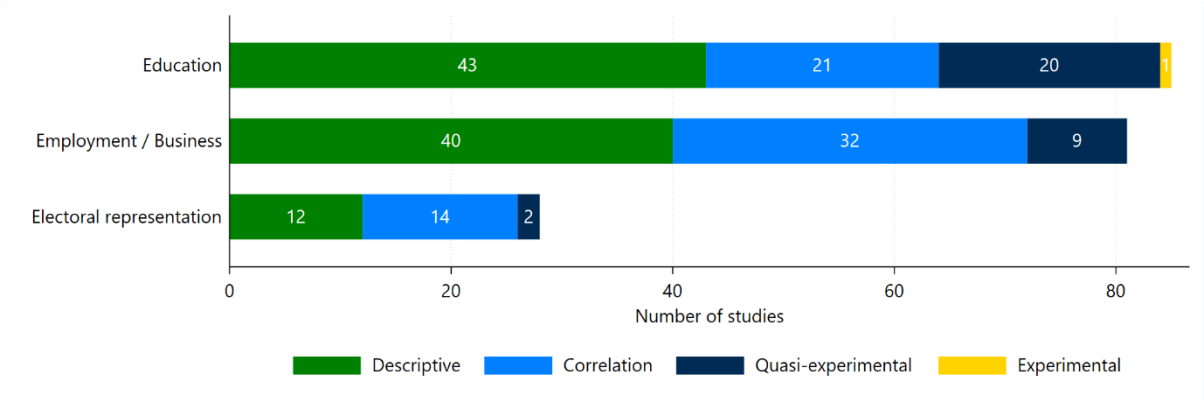
an AA policy and specified outcomes of interest. While including controls for differences in group characteristics and other observable factors, endogeneity remains a concern in these studies, as no counterfactual analysis identifying statistically identical treatment and comparison groups is applied, and no causal claims can be made.

Figure 10: Number of studies by publication outlet, research design type, and policy domain

a) By publication outlet



b) By research design type



Source: authors' elaboration.

The remaining 95 studies (49 per cent of the total) present purely descriptive research based on simple comparisons in means without controls or robustness checks. The results from these studies must be treated with caution, but for 14 out of the 27 countries included in our review they represent the only evidence available to assess the effect of AA.

Experimental and quasi-experimental studies are widely considered the strongest methods of testing causal claims (Duflo et al. 2007; Duvendack et al. 2012). Consequently, the low number of experimental and quasi-experimental studies investigating the impact of AA policies raises questions about the rigour of conclusions drawn from the literature in this area. The high geographic concentration of the available evidence raises further concerns about the validity of any general causal claims drawn from this literature. In addition to the comparative experimental study mentioned above (Dulleck et al. 2017), we reviewed 31 quasi-experimental studies, which focus on no more than five countries: 12 studies present evidence for the United States, 9 on India, 8 on Brazil, and 1 each on Burundi (Samii 2013) and Northern Ireland (Muttarak et al. 2012).

The absence of experimental and quasi-experimental studies warranting causal claims for 22 out of the 27 countries included in this review is an important and highly concerning finding in itself. In order to offer a cross-country perspective that is as comprehensive as possible, we have also included in our review correlation analyses and descriptive studies. Consequently, we note that the

cross-country patterns identified in this work and reviewed here should be interpreted with caution, given clear discrepancies in the quality of the evidence.

5 Synthesis of evidence

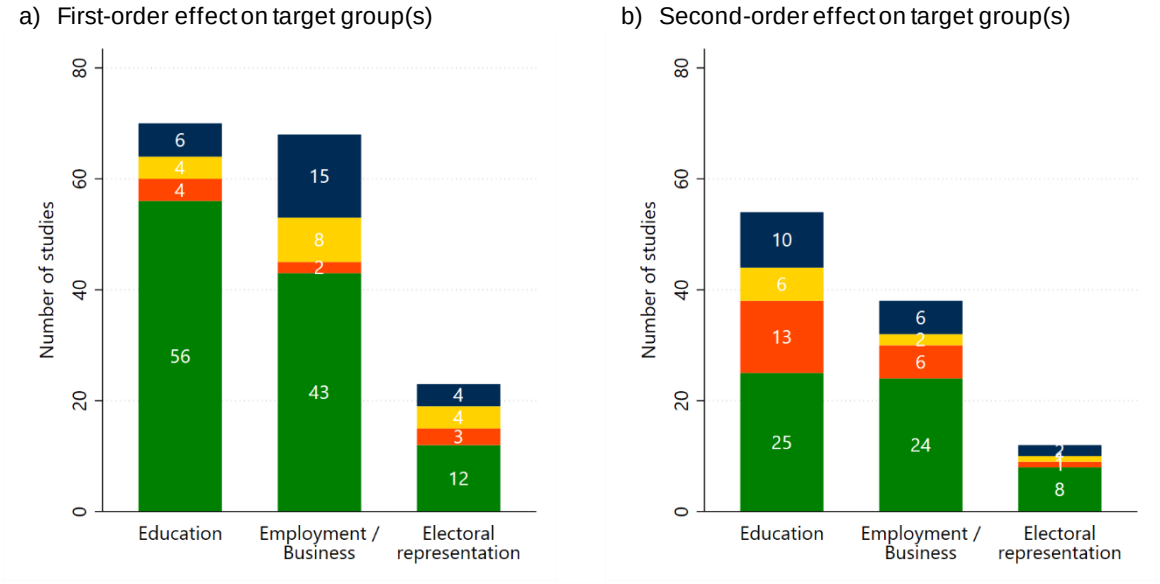
This section provides a synthesis of the evidence concerning the direction of the effects of AA policies, distinguishing between positive (+), negative (-), mixed (+/-), and insignificant effects. As explained in Section 3.4, we start with a disaggregated assessment that differentiates between four group-level effects: First-order effect(s) on target group(s), second-order effect(s) on target group(s), effect(s) on non-target (ineligible) marginalized group(s), and effect(s) on non-target non-marginalized group(s). Subsequently, we aggregate these effects into a summary assessment.

5.1 Group-level effects

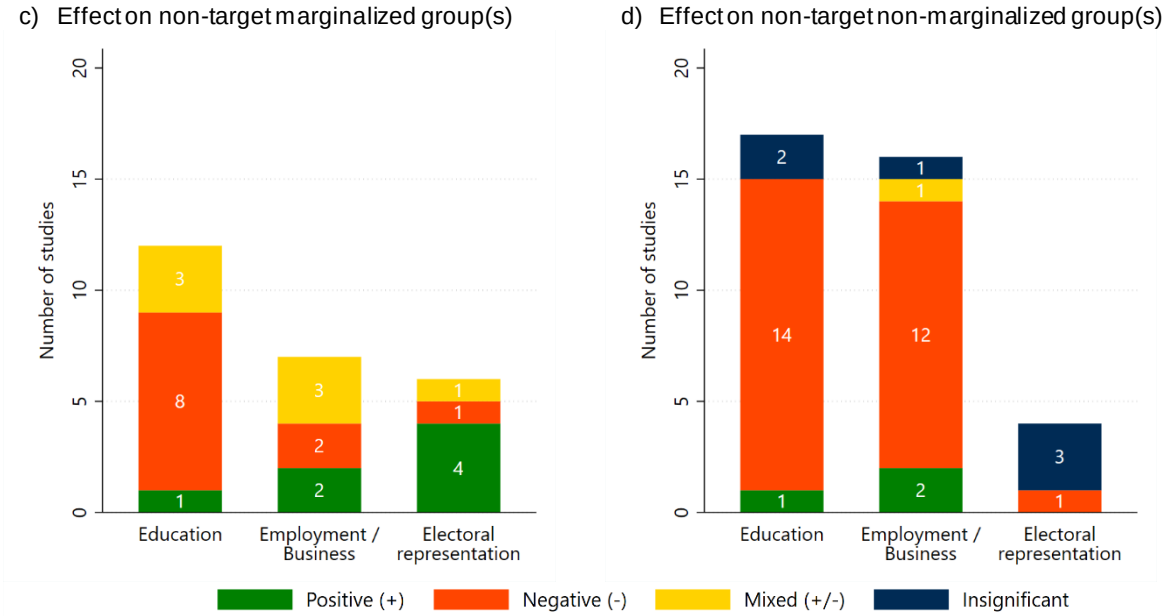
Figure 11 provides an overview of the group-level effects by policy domain. A detailed discussion of each of the four effects is provided in the sub-sections below.

Importantly, we recognize that the inclusion of studies repeatedly investigating AA policies for the same country in the same policy domain—such as the bulge of studies assessing preferential policies in higher education in the United States and Brazil (see Section 4.1)—will drive aggregate statistics and can distort our understanding of the average effect of AA.[12] To mitigate this concern and gain an understanding of the magnitude of the bias, we generate inverse probability weights that account for the overrepresentation of studies at the country-policy-domain level.

Figure 11: Number of studies by effect type, direction of effects, and policy domain



[12] The following example may illustrate this concern: Imagine four countries, A, B, C, and D, which all grant marginalized groups preferential access to education. The policy had a positive effect in country A and a negative effect in countries B, C, and D. However, country A accounts for 75 per cent of the available evidence. In consequence, assuming that all studies identify the true effect, we would risk limiting ourselves to the conclusion that three-quarters of all studies find a positive effect of AA policies in education, while missing out on the fact that in three-quarters of all countries a negative effect occurred.



Source: authors' elaboration.

For each of the four group-level effects, we calculate the relative shares of positive, negative, mixed, and insignificant results for both the unweighted sample (default) and the weighted sample. Figures A1 and A2 in the Appendix report the results, which we discuss below.

First-order effects on target groups

Most of the reviewed studies (161 out of 194) provide evidence on first-order effects. In our typology, first-order effects refer to the most immediate outcome directly targeted by the policy—such as enrolment rates for admission policies in higher education, ethnic diversity of employment for labour market policies, and legislative seats held by ethnic minorities for electoral policies. For each of the 27 individual countries covered by this review, there is at least one study that reports first-order effects, which gives us relatively wide country coverage to assess these effects. In addition, 12 studies provide evidence on first-order effects from a comparative perspective.

The reported first-order effects on target group(s) are overwhelmingly positive (see Figure 11a). In total, 111 out of 161 studies (equivalent to 68.9 per cent) find positive first-order effects. These comprise case studies on 22 different countries and six comparative works.[13] Importantly, out of 27 quasi-experimental studies that report first-order effects, 24 estimate these to be positive and significant, pointing to an improved representation of designated groups. In addition, 30 correlation studies and 57 descriptive studies report positive first-order effects.

In contrast, only nine studies (equivalent to 5.6 per cent) report negative first-order effects. These comprise seven studies on different individual country cases—China (Zang 2008), Croatia (Allen 2018b), Kenya (Kataka 2014), Malaysia (Mehmet and Hoong 1985), Nepal (Pandey and Risal 2021), New Zealand (Curtis et al. 2017), and Nigeria (Omeje et al. 2016)—and two comparative works. Six of these nine studies are based on descriptive analyses only.

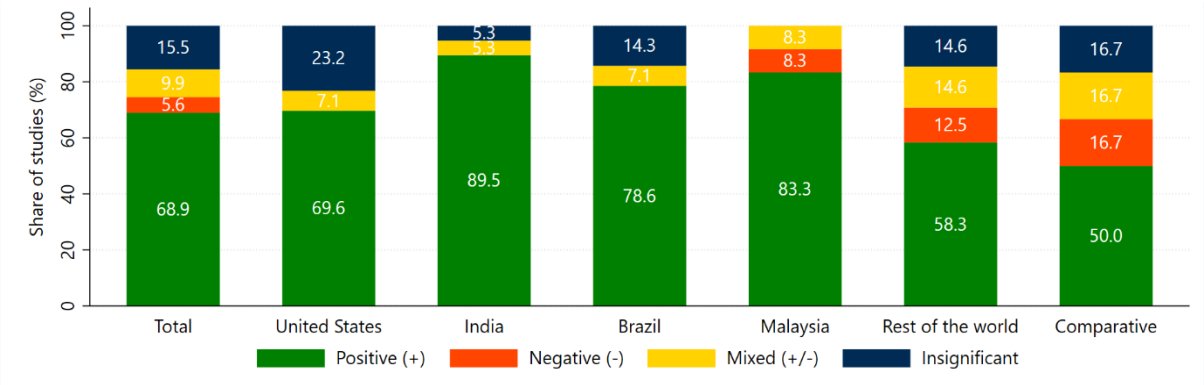
[13] The five countries for which only negative, mixed, or insignificant first-order effects are reported are Croatia (Allen 2018b), Georgia (Tabatadze and Gorgadze 2013), Hungary (Molnár 2017), Kenya (Kataka 2014), the Netherlands (Verbeek and Groeneveld 2012), and Serbia (Loncar 2013).

Finally, we identified 16 studies reporting mixed and 25 studies reporting insignificant first-order effects. The former find opposing (both positive and negative) first-order effects for different outcomes or target groups (see, e.g., Hinks 2009; Howard and Prakash 2012), while the latter report statistically non-significant or zero effects (e.g. Jensenius 2015; Lin 2013).

Positive first-order effects are most often reported for AA policies in education (80 per cent), followed by employment or business (63.2 per cent) and electoral representation (52.2 per cent) (see Figure A1a in the Appendix). One concern in this regard is that policies targeting minority groups tend to fail to reach those who experience intersecting inequalities, such as minority women (Htun 2016; Hughes 2011). Consequently, we found a relatively high share of publications reporting mixed (11.8 per cent) or insignificant (22.1 per cent) effects for policies adopted in the area of business or employment (see Figure A1a in the Appendix). Of these 23 studies, 16 investigate policies in the United States, where diversity programmes have been implemented to improve job opportunities for African Americans, Hispanics, and Native Americans (see, e.g., Naff and Kellough 2003; Sweet 2006).

Once we account for the overrepresentation of case studies at the country-policy-domain level, we observe a general reduction in the share of studies reporting positive first-order effects (from 68.9 to 56.8 per cent), and a rise in the share of studies reporting negative (from 5.6 to 12.6 per cent) and mixed or insignificant (from 25.5 to 30.6 per cent) results (see Figure A2a in the Appendix). This change in patterns is explained by the reduced weight given to studies investigating the most frequent country cases—especially the United States, India, Brazil, and Malaysia—which on average arrive at a more positive evaluation of AA policies than studies investigating AA policies in the rest of the world and comparative studies (see Figure 12). This may be due to the nature of the policies in these countries, or differences in research design, given the larger share of quasi-experimental studies that control for potential confounding factors (recall Section 4.4).

Figure 12: Share of studies by first-order effect and country group



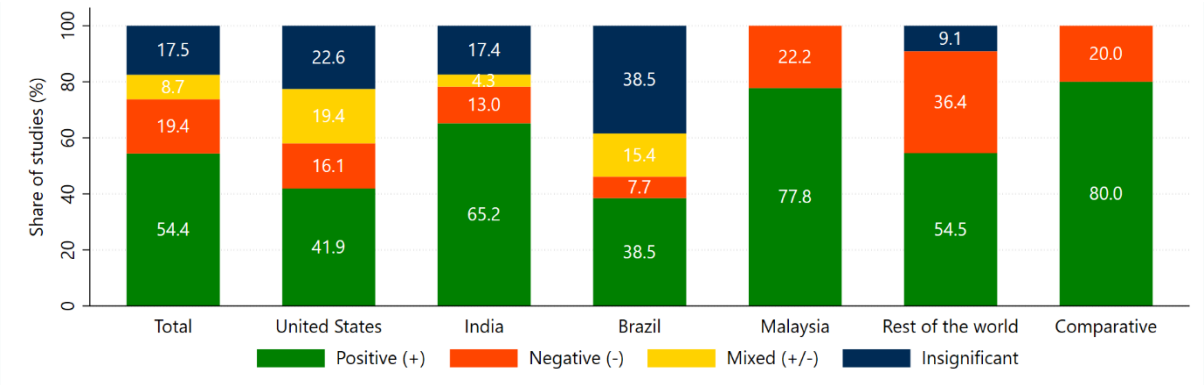
Source: authors' elaboration.

Second-order effects on target groups

Of the 161 studies reporting first-order effects, 72 also report evidence on second-order effects, understood here as outcomes affecting the target group(s) that are only indirectly produced by the policy—such as effects on dropout rate, academic performance, or labour market success for policies regulating admissions to higher education; effects on work performance, poverty, or the distribution of earnings for labour market policies; and effects on the representation of minority interests or the provision of public goods for electoral policies. Moreover, 32 studies focus exclusively on second-order effects, leaving us with a total of 104 studies that provide some evidence on second-order effects. These cover 18 countries, with 74 per cent of the evidence concentrated on the United States (31), India (24), Brazil (13), and Malaysia (9).

While 68.9 per cent of the reviewed studies report positive first-order effects, we see a remarkably smaller share of studies (54.8 per cent) reporting positive second-order effects (see Figure A1 in the Appendix). Interestingly, this gap disappears or even slightly reverses in the weighted sample, where positive first-order effect account for 56.8 per cent, and positive second-order effects for 59.4 per cent (see Figure A2b in the Appendix). This is because the difference in the share of positive assessments between first- and second-order effects is most pronounced in the three most studied country cases—the US (69.6 vs. 41.9 per cent), India (89.5 vs. 65.2 per cent), and Brazil (78.6 vs. 38.5 per cent)—while in Malaysia and the rest of the world, this divide amounts to no more than 5.5 and 3.8 percentage points, respectively (see Figure 13). Importantly, for 13 out of the 18 countries for which second-order effects are reported, there is at least one study that finds these effects to be positive.[14]

Figure 13: Share of studies by second-order effects and country group



Source: authors' elaboration.

In addition, we detect a remarkably larger share of studies finding negative second-order than negative first-order effects, the highest share of negative second-order effects being reported for education policies. The gap in negative first- versus second-order effects is present in both the unweighted (5.6 vs. 19.2 per cent) and the weighted (12.6 vs. 26.7 per cent) samples (see Figures A1b and A2b in the Appendix). The negative second-order effects reported by studies included in this review relate to performance gaps, lower graduation rates, and lower labour market prospects of students admitted via AA rather than merit (see, e.g., Adeyemi 2001; Arcidiacono et al. 2014; Ehrhardt 2017; Sander 2004), social stigma and accusations of unfairness faced by the beneficiaries of AA measures (see, e.g., Gille 2013; Harper and Griffin 2010; Segawa 2013), and rising within-group inequality due to AA benefits reaching the socially and economically better-off within designated groups (see, e.g., Surdu and Szira 2009), among others.

For the 72 studies that report both first- and second-order effects, Table 3 reports the direction of the second-order effect conditional on the direction of the first-order effect. Of the 56 studies that evaluate the first-order effect to be positive, 34 studies (60.7 per cent) arrive also at positive second-order effects, while 9 studies (16.1 per cent) report negative second-order effects. On the other hand, the two studies that report first-order effects to be negative also report negative second-order effects.

A common example of studies that find positive first-order and negative second-order effects is that by Frisancho and Krishna (2016), who for the case of India show that AA increases the

[14] The five for which only negative, mixed, or insignificant second-order effects are reported are Fiji (Ratuva 2013b), Georgia (Tabatadze and Gorgadze 2013), Israel (Zoabi and Awad 2015), the Netherlands (De Vries and Pettigrew 1994), and Romania (Alionescu 2004; Surdu and Szira 2009).

admission share of minorities in higher education (first-order effect), but these minority students, especially those admitted to more selective majors, tend to fall behind their same-major peers in terms of grades as they progress through college (second-order effect). Similarly, Silva-Goncalves et al. (2016) conclude for the cases of South Africa and Malaysia that both countries have made quantitative gains in increasing the representation of target groups in tertiary education and high-level occupations, but these shifts have been accompanied by 'continuing, primarily qualitative, shortfalls, in terms of graduate capability, dependence on public sector employment, and persistent difficulty in cultivating private enterprise' (Silva-Goncalves et al. (2016: 615).

Table 3: Direction of second-order effect(s) by reported first-order effect(s)

Second-order / First-order	Positive (+)		Negative (-)		Mixed (+/-)		Insignificant		
	Number	Share	Number	Share	Number	Share	Number	Share	Total
Positive (+)	34	60.7 %	9	16.1 %	4	7.1 %	9	16.1 %	56
Negative (-)	0	0 %	2	100 %	0	0 %	0	0 %	2
Mixed (+/-)	1	20.0 %	3	60.0 %	0	0 %	1	20.0 %	5
Insignificant	3	37.5 %	1	12.5 %	0	0 %	4	50.0 %	8
Total	38	53.5 %	15	21.1 %	4	5.6 %	14	19.7 %	71

Source: authors' elaboration.

Effects on other marginalized groups

Beyond the first- and second-order effects on target group(s), 25 of the 194 studies provide evidence on the implications of AA for other marginalized groups who are not beneficiaries of AA (see Figure 11c). This evidence relates to eight country cases, with eight studies on India alone accounting for 32 per cent of the evidence.[15]

Almost half of these studies (44 per cent; 46.6 per cent in the weighted sample) find a negative effect on (non-target) minorities or other disadvantaged groups (see Figures A1c and A2c in the Appendix). One frequently discussed example is the position of Asian students in the US, who to enter university need to outperform both racial minority students benefitting from AA and white majority students (see, e.g., Caldwell Jr 2008; Conrad and Sharpe 1996; Grove and Hussey 2011). Moreover, it has been argued that the focus on ethnicity as one aspect of disadvantage risks overlooking other aspects of disadvantage, such as gender (e.g. Alon 2015; Bertrand et al. 2010).

Interestingly, most of the positive effects (4 out of 7 studies) on non-target marginalized groups derive from electoral AA policies, while the majority of negative effects (8 out of 11 studies) are found in the education domain. For education and employment/business, we found one study in each domain reporting a positive impact on disadvantaged groups that were not direct beneficiaries of the AAs (Sunam et al. 2021 for Nepal; and Vieira and Arends-Kuenning 2019 for Brazil). Specifically, for the Nepalese case, the authors argue that

> a more diverse workforce created with affirmative action led to more civil servants with specific language skills and better understanding of different cultural contexts of the marginalized and indigenous communities, which has played an important

[15] Brazil (3), Fiji (1), Malaysia (3), Nepal (2), Nigeria (1), Singapore (1), and the US (3) are the other countries with studies reporting the impact of AA on other marginalized groups.

> role in providing effective services to ordinary citizens, particularly to those living on the margins of society (Sunam et al. 2021: 12–13).

For the Brazilian case, the authors conclude that the quota system in higher education has generated 'a significant increase in the enrollment of students from targeted disadvantaged groups, i.e., public high school students […] and Blacks.' They also observe 'a significant increase in the enrollment of students with disadvantaged characteristics not explicitly targeted by the policies', specifically students with low levels of educational attainment by their parents (Vieira and Arends-Kuenning 2019: 2).

Effects on non-marginalized groups

Last but not least, 37 of the 194 reviewed studies report results regarding the implications of AA for non-marginalized groups (see Figure 11d above). Most of these studies are focused on education (17) and employment/business (16), while for electoral representation the evidence is scarce (4). Geographically, the studies cover 13 countries, but 67.6 per cent of the evidence is concentrated in the United States (12), India (8), and Malaysia (5).[16] Here we observe the highest proportion of negative effects, reported by 27 studies, accounting for 73.0 per cent (67.4 per cent in the weighted sample) of the available evidence (see Figures A1d and A2d in the Appendix). In addition, six studies find insignificant effects, one mixed effects, and three positive effects.

Following the same terminology as used to describe effects on the target group, these spillover effects can again be subdivided into first- and second-order effects. While the former are commonly negative displacement effects (Arcidiacono and Lovenheim 2016; Dobbin and Kalev 2015; Holzer 1996; Joshua et al. 2014; Sautman 1998), the latter present gains in intercultural competence (Daly et al. 2013; Orfield and Whitla 2001). Displacement effects occur, for example, in the US and Brazil when black students are admitted to university while white students are rejected, even if academically stronger (see, e.g., Arcidiacono and Lovenheim 2016). Diversity task-forces promoting managerial diversity in American firms also show a significant negative effect for white men (Dobbin and Kalev 2015; Holzer 1996).

In education, however, several studies conclude that the consequences of displacement on non-marginalized groups tend to be moderate. For example, Caldwell (2009) finds that the abolition of AA in some US states led to only a marginal increase in the admission of white students, and Bleemer (2022) argues that white and Asian students just below Berkeley's admissions threshold tend to attain similar educational and labour market outcomes after enrolling at other universities. On the contrary, for the case of India, Bertrand et al. (2010) conclude that 'the income losses experienced by displaced upper-caste applicants [due to AA in admissions to engineering colleges] are larger than the income gains experienced by displacing lower-caste students'. Moreover, studies from Malaysia alert us that displacement effects can also lead to second-order damages. According to Segawa (2013: 199), quotas favouring indigenous Malays (Bumiputera) in the admission to higher education have made it difficult for academically qualified Chinese to study in public institutions, and 'this difficulty has reduced their motivation to study in public secondary schools in which Malay is the only language of instruction'; indeed, ethnic preferential policies have strengthened the 'us versus them' mentality, thereby increasing ethnic tensions (Segawa 2013).

[16] The other countries with studies investigating the implications of AA for non-marginalized groups are: Australia (Daly et al. 2013), Brazil (Childs and Stromquist 2015), China (Sautman 1998), Fiji (Ratuva 2013a), Kenya (Kataka 2014), Nepal (Vollan 2011), the Netherlands (De Vries and Pettigrew 1994), Nigeria (Joshua et al. 2014; Ukiwo 2007), Pakistan (Waseem 1997), and South Africa (Hinks 2009; H.-A. Lee 2020).

Contrary to these negative effects, positive spillovers are reported in four studies. Two examples are Daly et al. (2013) and De Vries and Pettigrew (1994), who identify the emergence of a more diverse workforce as a result of AA in the employment/business domain. For the first case, the authors conclude that the AA programme developed by the National Australia Bank (NAB) to promote employment opportunities for Indigenous Australians changed positively the attitudes of the non-target majority: 'Having an Indigenous person in the workplace made employees and customers think more carefully about Indigenous stereotypes and helped break down negative views' (Daly et al. 2013: 290). For the case of the Netherlands, De Vries and Pettigrew (1994) argue that the special 'stepping courses' to recruit (more) migrant minority officers to the police force have been well evaluated by native police groups that 'understood with appreciation the enhanced effectiveness of a multi-ethnic workforce in administering the law in an increasingly multi-ethnic society'.

5.2 Aggregated effect

As a last step in the analysis, for each study we aggregated the group-level effects discussed in the previous section into a summary assessment. For each study, this aggregated effect reflects the main research finding and direction of effect as communicated by the authors. Table 4 provides an overview of the aggregated effect by subcategory.

Overall, 63.4 per cent of the reviewed studies find a dominantly positive effect. The patterns across policy domains and country groups closely resemble the effects discussed with regard to the first-order effect on target groups (see Section 5.1), which generally dominate the overall assessment.

With regard to the target groups of AA policies, we observe the smallest share of positive results and largest share of mixed findings among those studies assessing the effect of policies targeting regionally defined groups (see Table 4). This is mainly driven by the mixed assessment of Nigeria's catchment area policy and Federal Character Commission (FCC), which appear to have failed to satisfactorily address the underrepresentation of backward regions (Demarest et al. 2020; Mustapha 2009), have been criticized for strongly undermining merit in education admission (Joshua et al. 2014), and are deemed vulnerable to abuse of bureaucratic discretion (Ehrhardt 2017).

Looking at the distribution of effects by publication outlet, we find some suggestive evidence of a potential publication bias towards studies finding clear positive effects, while studies with insignificant or zero findings more often remain unpublished (see Table 4). We also observe that studies reporting negative findings are relatively more prevalent among the included dissertations and unpublished work, although the small count of these studies does not permit any strong conclusions (see Section 4.4).

About the same share of purely descriptive studies (63.2 per cent) and estimation studies (63.6 per cent) find a dominantly positive effect. However, within the estimation studies, we observe a strong split between those looking at correlations and those using a causal identification strategy, the latter finding largely positive effects (see Table 4). While this may imply that the positive effects of AA policies are more likely to be detected once other confounding factors are accounted for, it is important to keep in mind that the quasi-experimental evidence is available only for a limited set of countries (Brazil, Burundi, India, Ireland, and the United States).

Table 4: Aggregated effect by sub-category

	Positive (+)		Negative (-)		Mixed (+/-)		Insignificant	
	Number	Share	Number	Share	Number	Share	Number	Share
Total	123	63.4 %	17	8.8 %	25	12.9 %	29	14.9 %
By policy domain								
Education	61	71.8 %	9	10.6 %	9	10.6 %	6	7.1 %
Empl. / Business	48	59.3 %	5	6.2 %	10	12.3 %	18	22.2 %
Electoral rep.	14	50.0 %	3	10.7 %	6	21.4 %	5	17.9 %
By country group								
United States	40	60.6 %	4	6.1 %	10	15.2 %	12	18.2 %
India	24	72.7 %	2	6.1 %	3	9.1 %	4	12.1 %
Brazil	13	72.2 %	1	5.6 %	1	5.6 %	3	16.7 %
Malaysia	10	83.3 %	1	8.3 %	1	8.3 %	0	0.0 %
Rest of the world	29	55.8 %	7	13.5 %	8	15.4 %	8	15.4 %
Comparative	7	53.8 %	2	15.4 %	2	15.4 %	2	15.4 %
By target group								
Race/colour	60	63.8 %	5	5.3 %	11	11.7 %	18	19.1 %
Caste	27	69.2 %	3	7.7 %	4	10.3 %	5	12.8 %
Indigeneity	17	70.8 %	3	12.5 %	4	16.7 %	0	0.0 %
Region	3	37.5 %	2	25.0 %	1	12.5 %	2	25.0 %
Religion	5	100.0 %	0	0.0 %	0	0.0 %	0	0.0 %
Other	11	45.8 %	4	16.7 %	5	20.8 %	4	16.7 %
By publication outlet								
Journal	94	64.4 %	12	8.2 %	17	11.6 %	23	15.8 %
Working paper	8	61.5 %	0	0.0 %	4	30.8 %	1	7.7 %
Book (chapter)	14	73.7 %	0	0.0 %	2	10.5 %	3	15.8 %
Dissertation	1	20.0 %	3	60.0 %	1	20.0 %	0	0.0 %
Report	2	66.7 %	0	0.0 %	1	33.3 %	0	0.0 %
Mimeo	4	50.0 %	2	25.0 %	0	0.0 %	2	25.0 %
By research design								
Descriptive	60	63.2 %	10	10.5 %	12	12.6 %	13	13.7 %
Correlation	36	53.7 %	6	9.0 %	13	19.4 %	12	17.9 %
Quasi-experimental	27	87.1 %	1	3.2 %	0	0.0 %	3	9.7 %
Experimental	0	0.0 %	0	0.0 %	0	0.0 %	1	100.0 %

Source: authors' elaboration.

6 Conclusions

While AA policies are well intended, their effectiveness in mediating 'horizontal inequalities' has been hotly debated. With this review, we intend to add clarity on whether positive or negative effects prevail in the empirical literature as well as on the rigour and generalizability of the evidence on AA impact.

We find that the evidence points to AA generally improving the position of target groups and, in most cases, the benefits appear to outweigh potential drawbacks. Overall, 63.4 per cent of the reviewed studies find a dominantly positive effect, while only 8.8 per cent find a dominantly negative effect. The remainder report mixed (12.9 per cent) or zero (15.0 per cent) effects. The share of positive assessments is largest for policies in education (71.8 per cent), followed by labour market policies (59.3 per cent) and policies in electoral representation (40 per cent). The largest share of studies reporting a mix of positive and negative effects is found in the area of electoral

representation (21.4 per cent), while the largest share of insignificant or zero effects is found with regard to preferential labour market policies (22.2 per cent).

We identify three main factors that condition this overall assessment:

First, while the evidence points to AA policies generally improving the numerical presentation of designated groups, the qualitative implications of these changes are more ambiguous. Most studies assess the effect of AA on the most immediate outcome directly targeted by the AA policy under study. Evidence on these first-order effects on target group(s) is overwhelmingly positive (68.9 per cent). However, this one-dimensional view tends to miss a more complex picture. Looking further, we see that about half of the studies provide evidence on second-order effects, understood here as implications for target group(s) that are only indirect outcomes of the policy. While the majority of these are still positive (54.8 per cent), there is also a much larger share of studies finding negative results (19.2 per cent), which may reflect performance gaps, social stigma, or rising within-group inequality, for example. Moreover, among the studies that assess the implications of AA for marginalized groups that are not beneficiaries of AA, about half find a negative effect. This suggests that the focus on ethnicity may cause other aspects of disadvantage to be overlooked. Interestingly, this seems to apply primarily to AA policies in education and employment, while AA policies in electoral representation more often display positive spillovers on other marginalized groups. Lastly, studies that assess the implications of AA for non-marginalized groups generally report negative effects (73.0 per cent), often reflecting displacement, although these are often moderate and outweighed by the positive effect on target groups. There are also a few studies reporting positive spillovers, particularly resulting from increased diversity in the workforce.

Second, the concentration of the evidence on a limited set of country cases entails an upward bias. Once we apply inverse probability weights to account for the concentration of the evidence at the country-policy-domain level, we observe a drop in the average share of studies reporting positive first-order effects, from 68.9 to 56.8 per cent, and a rise in the average share of studies reporting negative effects, from 5.6 to 12.6 per cent.

Third, causal evidence on the impact of AA is generally scarce and studies applying quasi-experimental research methods generally arrive at a more positive assessment than studies applying less rigorous methods. While this may be the consequence of accounting for confounding factors, suggesting a downward bias in the broader literature, it is important to note that studies applying quasi-experimental methods are limited to a yet narrower set of countries, for which the evidence may also generally be more positive. Of the 31 quasi-experimental studies reviewed, 29 discuss policies in the United States, India, or Brazil. The studies on these countries overall are more likely to show positive first-order effects than the full sample. One reason for the lack of quasi-experimental evidence is that AA policies are typically implemented at the national level, which complicates the identification of a counterfactual group to estimate the policy impact.

In addition, it is important to keep in mind that there are a number of countries with AA policies in place for which we could not locate any case study evidence. While for some of these countries conclusions can be derived from comparative analyses covering a broader set of countries and policies, we know very little about the concrete effect of AA within local country contexts, and drawing conclusions about the country-level factors that condition policy success or failure remains difficult, revealing a strong need for further research in this area.

References

Adeyemi, K. (2001). 'Equality of Access and Catchment Area Factor in University Admissions in Nigeria'. *Higher Education*, 42(3): 307–32. https://doi.org/10.1023/A:1017965905830

Alionescu, C.-C. (2004). 'Parliamentary Representation of Minorities in Romania'. *Southeast European Politics*, 5(1): 60–75.

Allen, G. (2018a). 'Comparative Evidence of the Negative Impacts of Reservations'. In G. Allen (ed.), *Presence and Impotence: The Perils of Guaranteed Descriptive Representation*, pp. 116–36. University of California, Santa Barbara: Dissertation for Ph.D. in Political Science.

Allen, G. (2018b). 'The Impact of Communal Reservations in Croatia'. In G. Allen (ed.), *Presence and Impotence: The Perils of Guaranteed Descriptive Representation*, pp. 116–36. University of California, Santa Barbara: Dissertation for Ph.D. in Political Science.

Alon, S. (2015). *Race, Class, and Affirmative Action*. New York: Russell Sage Foundation.

Alon, S., and M. Tienda (2005). 'Assessing the "Mismatch" Hypothesis: Differences in College Graduation Rates by Institutional Selectivity'. *Sociology of Education*, 78(4): 294–315. https://doi.org/10.1177/003804070507800402

Arcidiacono, P., and M. Lovenheim (2016). 'Affirmative Action and the Quality–Fit Trade-off'. *Journal of Economic Literature*, 54(1): 3–51. https://doi.org/10.1257/jel.54.1.3

Arcidiacono, P., E. Aucejo, P. Coate, and V.J. Hotz (2014). 'Affirmative Action and University Fit: Evidence from Proposition 209'. *IZA Journal of Labor Economics*, 3(1): 1–29. https://doi.org/10.1186/2193-8997-3-7

Ayres, I., and R. Brooks (2004). 'Does Affirmative Action Reduce the Number of Black Lawyers'. *Stanford Law Review*, 57: 1807.

Baldwin, K., and J.D. Huber (2010). 'Economic versus Cultural Differences: Forms of Ethnic Diversity and Public Goods Provision'. *American Political Science Review*, 104(4): 644–62. https://doi.org/10.1017/S0003055410000419

Banducci, S.A., T. Donovan, and J.A. Karp (2004). 'Minority Representation, Empowerment, and Participation'. *The Journal of Politics*, 66(2): 534–56. https://doi.org/10.1111/j.1468-2508.2004.00163.x

Bardhan, P.K., D. Mookherjee, and M. Parra Torrado (2010). 'Impact of Political Reservations in West Bengal Local Governments on Anti-Poverty Targeting'. *Journal of Globalization and Development*, 1(1): online. https://doi.org/10.2202/1948-1837.1025

Barlow, A.E., and M. Villarejo (2004). 'Making a Difference for Minorities: Evaluation of an Educational Enrichment Program'. *Journal of Research in Science Teaching*, 41(9): 861–81. https://doi.org/10.1002/tea.20029

Bertrand, M., R. Hanna, and S. Mullainathan (2010). 'Affirmative Action in Education: Evidence from Engineering College Admissions in India'. *Journal of Public Economics*, 94(1–2): 16–29. https://doi.org/10.1016/j.jpubeco.2009.11.003

Bird, K. (2014). 'Ethnic Quotas and Ethnic Representation Worldwide'. *International Political Science Review*, 35(1): 12–26. https://doi.org/10.1177/0192512113507798

Bird, K. (2016). 'Intersections of Exclusion: the Institutional Dynamics of Combined Gender and Ethnic Quota Systems'. *Politics, Groups, and Identities*, 4(2): 284–306. https://doi.org/10.1080/21565503.2015.1053399

Bleemer, Z. (2022). 'Affirmative Action, Mismatch, and Economic Mobility after California's Proposition 209'. *The Quarterly Journal of Economics*, 137(1): 115–60. https://doi.org/10.1093/qje/qjab027

Caldwell, R. (2009). 'The Erosion of Affirmative Action and its Consequences for the Black–White Educational Attainment Gap'. *UMKC Law Review*, 57: 813.

Cancian, M. (1998). 'Race-based versus Class-based Affirmative Action in College Admissions'. *Journal of Policy Analysis and Management*, 17(1): 94–105. Available at: https://doi.org/10.1002/(SICI)1520-6688(199824)17:1<94::AID-PAM6>3.0.CO;2-C (accessed 23 January 2023).

Canelas, C., and R.M. Gisselquist (2018). 'Horizontal Inequality as an Outcome'. *Oxford Development Studies*, 46(3): 305–24. https://doi.org/10.1080/13600818.2018.1508565

Canelas, C., and R.M. Gisselquist (2019). 'Horizontal Inequality and Data Challenges'. *Social Indicators Research*, 143(1): 157–72. https://doi.org/10.1007/s11205-018-1932-1

Cassan, G. (2019). 'Affirmative Action, Education and Gender: Evidence from India'. *Journal of Development Economics*, 136: 51–70. https://doi.org/10.1016/j.jdeveco.2018.10.001

Chaudhary, K. (2015). 'The Effect of Political Decentralisation and Affirmative Action on Multidimensional Poverty Index: Evidence from Indian States'. *Journal of Social and Economic Development*, 17(1): 27–49. https://doi.org/10.1007/s40847-015-0004-5

Childs, P., and N.P. Stromquist (2015). 'Academic and Diversity Consequences of Affirmative Action in Brazil'. *Compare: a Journal of Comparative and International Education*, 45(5): 792–813. https://doi.org/10.1080/03057925.2014.907030

Chin, A., and N. Prakash (2011). 'The Redistributive Effects of Political Reservation for Minorities: Evidence from India'. *Journal of Development Economics*, 96(2): 265–77. https://doi.org/10.1016/j.jdeveco.2010.10.004

Chowdhury, S.M., P. Esteve-Gonzalez, and A. Mukherjee (2020). 'Heterogeneity, Leveling the Playing Field, and Affirmative Action in Contests'. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3655727

Coate, S., and G.C. Loury (1993). 'Will Affirmative-Action Policies Eliminate Negative Stereotypes?'. *The American Economic Review*, 83(5): 1220–40. Available at: https://www.brown.edu/Departments/Economics/Faculty/Glenn_Loury/louryhomepage/papers/Coate%20and%20Loury%20(AER%201993).pdf (accessed 6 January 2023).

Conrad, C.A., and R.V. Sharpe (1996). 'The Impact of the California Civil Rights Initiative (CCRI) on University and Professional School Admissions and the Implications for the California Economy'. *The Review of Black Political Economy*, 25(1): 13–59. https://doi.org/10.1007/BF02690051

Crichlow, M.A., and E.T. Gomez (2015). 'Revisiting Affirmative Action, Globally'. *Cultural Dynamics*, 27(1): 3–18. https://doi.org/10.1177/0921374014567362

Crosby, F.J., A. Iyer, and S. Sincharoen (2006). 'Understanding Affirmative Action'. *Annual Review of Psychology*, 57(1): 585–611. https://doi.org/10.1146/annurev.psych.57.102904.190029

Curtis, E., et al. (2017). 'Examining the Predictors of Academic Outcomes for Indigenous Māori, Pacific and Rural Students Admitted into Medicine Via Two Equity Pathways: a Retrospective Observational Study at the University of Auckland, Aotearoa New Zealand'. *BMJ Open*, 7(8): e017276. https://doi.org/10.1136/bmjopen-2017-017276

Dabla-Norris, E., K. Kochhar, N. Suphaphiphat, F. Ricka, and E. Tsounta (2015). 'Causes and Consequences of Income Inequality: a Global Perspective'. Washington, DC: International Monetary Fund. https://doi.org/10.5089/9781513555188.006

Daly, A., T. Gebremedhin, and M. Sayem (2013). 'A Case Study of Affirmative Action Australian-Style for Indigenous People'. *Australian Journal of Labour Economics*, 16(2): 277–94.

Darity, W., Jr, A. Deshpande, and T. Weisskopf (2011). 'Who is Eligible? Should Affirmative Action be Group- or Class-based?'. *American Journal of Economics and Sociology*, 70(1): 238–68. https://doi.org/10.1111/j.1536-7150.2010.00770.x

Das, S., A. Mukhopadhyay, and R. Saroy (2017). 'Efficiency Consequences of Affirmative Action in Politics: Evidence from India'. IZA Discussion Paper 11093. Bonn: Institute of Labor Economics. https://doi.org/10.2139/ssrn.3056631

De Vries, S., and T.F. Pettigrew (1994). 'A Comparative Perspective on Affirmative Action: Positieve Aktie in the Netherlands'. *Basic and Applied Social Psychology*, 15(1–2): 179–99. https://doi.org/10.1207/s15324834basp1501and2_8

Demarest, L., A. Langer, and U. Ukiwo (2020). 'Nigeria's Federal Character Commission (FCC): a Critical Appraisal'. *Oxford Development Studies*, 48(4): 315–28. https://doi.org/10.1080/13600818.2020.1727427

Dobbin, F., and A. Kalev (2015). 'Why Firms Need Diversity Managers and Task Forces'. In A. Forsyth, H. Sheikh, and F. Sperotti (eds), *How Global Migration Changes the Workforce Diversity Equation*, pp. 170–98. Cambridge: Cambridge Scholars Publishing.

Dometrius, N.C., and L. Sigelman (1984). 'Assessing Progress Toward Affirmative Action Goals in State and Local Government: a New Benchmark'. *Public Administration Review*, 241–46. https://doi.org/10.2307/975487

Duflo, E., R. Glennerster, and M. Kremer (2007). 'Chapter 61 Using Randomization in Development Economics Research: a Toolkit'. In T.P. Schultz and J.A. Strauss (eds), *Handbook of Development Economics*, Vol. 4, pp. 3895–962. Amsterdam: Elsevier. https://doi.org/10.1016/S1573-4471(07)04061-2

Dulleck, U., Y. He, M.P. Kidd, and J. Silva-Goncalves (2017). 'The Impact of Affirmative Action: Evidence from a Cross-Country Laboratory Experiment'. *Economics Letters*, 155: 67–71. https://doi.org/10.1016/j.econlet.2017.03.010

Duvendack, M., J.G. Hombrados, R. Palmer-Jones, and H. Waddington (2012). 'Assessing "What Works" in International Development: Meta-Analysis for Sophisticated Dummies'. *Journal of Development Effectiveness*, 4(3): 456–71. https://doi.org/10.1080/19439342.2012.710642

Ehrhardt, D. (2017). 'Indigeneship, Bureaucratic Discretion, and Institutional Change in Northern Nigeria'. *African Affairs*, 116(464): 462–83. https://doi.org/10.1093/afraf/adx016

Ellison, G., and P.A. Pathak (2021). 'The Efficiency of Race-neutral Alternatives to Race-based Affirmative Action: Evidence from Chicago's Exam Schools'. *American Economic Review*, 111(3): 943–75. https://doi.org/10.1257/aer.20161290

Fernandez, S., S. Koma, and H. Lee (2017). 'Establishing the Link between Representative Bureaucracy and Performance: the South African Case'. *Governance*, 31(3): 535–53. https://doi.org/10.1111/gove.12319

Frisancho, V., and K. Krishna (2016). 'Affirmative Action in Higher Education in India: Targeting, Catch up, and Mismatch' [*sic*]. *Higher Education*, 71(5): 611–49. https://doi.org/10.1007/s10734-015-9927-1

Fryer, R.G., and G.C. Loury (2005). 'Affirmative Action and Its Mythology'. *Journal of Economic Perspectives*, 19(3): 147–62. https://doi.org/10.1257/089533005774357888

Funjika, P., and R.M. Gisselquist (2020). 'Social Mobility and Inequality between Groups'. WIDER Working Paper 12/2020. Helsinki: UNU-WIDER. https://doi.org/10.35188/UNU-WIDER/2020/769-9

Garaz, S. (2014). 'Helping the Marginalised or Supporting the Elite? Affirmative Action as a Tool for Increasing Access to Higher Education for Ethnic Roma'. *European Educational Research Journal*, 13(3): 295–311. https://doi.org/10.2304/eerj.2014.13.3.295

Garces, L.M. (2012). 'Necessary but Not Sufficient: the Impact of Grutter v. Bollinger on Student of Color Enrollment in Graduate and Professional Schools in Texas'. *The Journal of Higher Education*, 83(4): 497–534. https://doi.org/10.1080/00221546.2012.11777255

Gill, M.S. (2002). 'Reservation – an Affirmative Action of Social Justice?'. *Social Change*, 32(1–2): 27–38. https://doi.org/10.1177/004908570203200202

Gille, V. (2013). 'Stigma in Positive Discrimination Application? Evidence from Quotas in Education in India'. Conference Paper, Centre d'Economie de la Sorbonne.

Girard, V. (2018). 'Don't Touch My Road. Evidence from India on Affirmative Action and Everyday Discrimination'. *World Development*, 103: 1–13. https://doi.org/10.1016/j.worlddev.2017.10.008

Gisselquist, R.M., S. Schotte, M. Jung Kim, and G. Özdemir (forthcoming). 'Database on Affirmative Action Around the World'.

Gomez, E.T., and R. Premdas (2012). *Affirmative Action, Ethnicity, and Conflict*. Oxford: Routledge. https://doi.org/10.4324/9780203078839

Grove, W., and A. Hussey (2011). 'Affirmative Action in MBA Programs: Investigating the Mismatch Hypothesis for Race and Gender'. Available at: https://www.researchgate.net/publication/228835177_Affirmative_Action_in_MBA_Programs_Investigating_the_Mismatch_Hypothesis_for_Race_and_Gender (accessed 6 January 2023).

Harper, S.R., and K.A. Griffin (2010). 'Opportunity beyond Affirmative Action: How Low-Income and Working-Class Black Male Achievers Access Highly Selective, High-Cost Colleges and Universities'. *Harvard Journal of African American Public Policy*, 17: 43.

Harrison, D.A., D. Kravitz, D.M. Mayer, L.M., Leslie, and D. Lev-Arey (2006). 'Understanding Attitudes toward Affirmative Action Programs in Employment: Summary and Meta-Analysis of 35 Years of Research'. *Journal of Applied Psychology*, 91(5): 1013–36. https://doi.org/10.1037/0021-9010.91.5.1013

Hasnain, A., and A. Srivastava (2022). 'Caste Doesn't Just Exist in India or in Hinduism – It Is Pervasive across Many Religions in South Asia and the Diaspora'. *The Conversation*. Available at: https://theconversation.com/caste-doesnt-just-exist-in-india-or-in-hinduism-it-is-pervasive-across-many-religions-in-south-asia-and-the-diaspora-180470 (accessed 29 December 2022).

Heilman, M.E., C.J. Block, and P. Stathatos (1997). 'The Affirmative Action Stigma of Incompetence: Effects of Performance Information Ambiguity'. *Academy of Management Journal*, 40(3): 603–25. https://doi.org/10.2307/257055

Herskovic, B., and J. Ramos (2014). 'Affirmative Action in College Admission: Long-Run Implications for Efficiency and Inequality'. Mimeo.

Higgins, J.P., et al. (2019). *Cochrane Handbook for Systematic Reviews of Interventions*. New York: John Wiley and Sons. https://doi.org/10.1002/9781119536604

Hillesund, S., et al. (2018). 'Horizontal Inequality and Armed Conflict: a Comprehensive Literature Review'. *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 39(4): 463–80. https://doi.org/10.1080/02255189.2018.1517641

Hinks, T. (2009). 'Job Satisfaction and Employment Equity in South Africa'. *Journal of African Economies*, 19(2): 237–55. https://doi.org/10.1093/jae/ejp019

Holzer, H. (1996). 'Employer Hiring Decisions and Antidiscrimination Policy'. Institute for Research on Poverty, University of Wisconsin-Madison.

Holzer, H., and D. Neumark (2000). 'Assessing Affirmative Action'. *Journal of Economic Literature*, 38(3): 483–568. https://doi.org/10.1257/jel.38.3.483

Howard, L.L., and N. Prakash (2012). 'Do Employment Quotas Explain the Occupational Choices of Disadvantaged Minorities in India?'. *International Review of Applied Economics*, 26(4): 489–513. https://doi.org/10.1080/02692171.2011.619969

Htun, M. (2004). 'Is Gender like Ethnicity? The Political Representation of Identity Groups'. *Perspectives on Politics*, 2(3): 439–58. https://doi.org/10.1017/S1537592704040241

Htun, M. (2016). *Inclusion without Representation in Latin America: Gender Quotas and Ethnic Reservations*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139021067

Hughes, M.M. (2011). 'Intersectionality, Quotas, and Minority Women's Political Representation Worldwide'. *American Political Science Review*, 105(3): 604–20. https://doi.org/10.1017/S0003055411000293

Hutchins, M., and L. Sigelman (1981). 'Black Employment in State and Local Governments'. *Social Science Quarterly*, 62(1): 79.

Iyer, P., C. Rolleston, and V.T.T. Huong (2021). 'Equitable, Quality Education for Ethnic Minority Students? A Case of "Positive Deviance" in Vietnam'. *Comparative Education Review*, 65(3): 467–92. https://doi.org/10.1086/714962

Jensenius, F.R. (2015). 'Development from Representation? A Study of Quotas for the Scheduled Castes in India'. *American Economic Journal: Applied Economics*, 7(3): 196–220. https://doi.org/10.1257/app.20140201

Joshua, S., R.E. Loromeke, and I.P. Olanrewaju (2014). 'Quota System, Federal Character Principle and Admission to Federal Unity'. *International Journal of Interdisciplinary and Multidisciplinary Studies*, 2(2): 1–10. Available at: www.ijims.com/uploads/a68aad8fc57772239123D1.pdf (accessed 11 January 2023).

Kabeer, N. (2016). '"Leaving No One Behind": the Challenge of Intersecting Inequalities'. ISSC, IDS, and UNESCO, Challenging Inequalities: Pathways to a Just World, World Social Science Report, 55–58. Paris: International Social Science Council. Available at: https://en.unesco.org/inclusivepolicylab/sites/default/files/analytics/document/2016/10/world%20social%20science%20report%202016.pdf (accessed 11 January 2023).

Kaletski, E., and N. Prakash (2016). 'Does Political Reservation for Minorities Affect Child Labor? Evidence from India'. *World Development*, 87: 50–69. https://doi.org/10.1016/j.worlddev.2016.06.003

Kalev, A., F. Dobbin, and E. Kelly (2006). 'Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies'. *American Sociological Review*, 71(4): 589–617. https://doi.org/10.1177/000312240607100404

Kataka, J.K. (2014). 'The Quota System of Education and Its Influence on National Unity: a Study of the Catholic University of Eastern Africa'. *Education Journal*, 3(5): 278–92.

Khanna, G. (2020). 'Does Affirmative Action Incentivize Schooling? Evidence from India'. *The Review of Economics and Statistics*, 102(2): 219–33. https://doi.org/10.1162/rest_a_00848

Knoll, T., et al. (2018). 'Key Steps in Conducting Systematic Reviews for Underpinning Clinical Practice Guidelines: Methodology of the European Association of Urology'. *European Urology*, 73(2): 290–300. https://doi.org/10.1016/j.eururo.2017.08.016

Koggel, C.M. (1994). 'A Feminist View of Equality and its Implications for Affirmative Action'. *Canadian Journal of Law and Jurisprudence*, 7(1): 43–59. https://doi.org/10.1017/S0841820900002551

Kroeber, C. (2017). 'Exploring the Impact of Reserved Seat Design on the Quality of Minority Representation'. *Ethnopolitics*, 16(2): 196–216. https://doi.org/10.1080/17449057.2015.1051326

Langer, A., F. Stewart, and M. Schroyens (2016). 'Horizontal Inequalities and Affirmative Action: an Analysis of Attitudes towards Redistribution across Groups in Africa'. Helsinki: UNU-WIDER. https://doi.org/10.35188/UNU-WIDER/2016/163-5

Lee, A. (2021). 'Does Affirmative Action Work? Evaluating India's Quota System'. *Comparative Political Studies*, 54(9): 1534–64. https://doi.org/10.1177/0010414021989755

Lee, H.-A. (2012). 'Affirmative Action in Malaysia: Education and Employment Outcomes Since the 1990s'. *Journal of Contemporary Asia*, 42(2): 230–54. https://doi.org/10.1080/09500782.2012.668350

Lee, H.-A. (2016). 'Affirmative Action Regime Formation in Malaysia and South Africa'. *Journal of Asian and African Studies*, 51(5): 511–27. https://doi.org/10.1177/0021909614550895

Lee, H.-A. (2020). *Affirmative Action in Malaysia and South Africa: Preference for Parity*. London: Routledge. https://doi.org/10.4324/9781315114071

Lin, Y. (2013). 'Does Elimination of Affirmative Action Affect Postsecondary Admission and Earnings? Evidence from California'. Mimeo. Available at: https://www.researchgate.net/profile/Yuxin-Lin-5/publication/320022096_Does_Elimination_of_Affirmative_Action_Affect_Postsecondary_Admission_and_Earnings_Evidence_from_California/links/59c93454a6fdcc451d545712/Does-

Elimination-of-Affirmative-Action-Affect-Postsecondary-Admission-and-Earnings-Evidence-from-California.pdf (accessed 11 January 2023).

Loncar, J. (2013). 'Political Representation of National Minorities: a Case Study of Minority Parties in Serbia'. University of York.

Mancini, L. (2008). 'Horizontal Inequality and Communal Violence: Evidence from Indonesian Districts'. In F. Stewart (ed.), *Horizontal Inequalities and Conflict*, pp. 106–35. London: Palgrave Macmillan. https://doi.org/10.1057/9780230582729_6

McCrudden, C., R. Ford, and A. Heath (2004). 'Legal Regulation of Affirmative Action in Northern Ireland: an Empirical Assessment'. *Oxford Journal of Legal Studies*, 24(3): 363–415. https://doi.org/10.1093/ojls/24.3.363

McCrudden, C., R. Muttarak, H. Hamill, and A. Heath (2009). 'Affirmative Action without Quotas in Northern Ireland'. *The Equal Rights Review*, 4: 7–14.

Mehmet, O., and Y.Y Hoong (1985). 'An Empirical Evaluation of Government Scholarship Policy in Malaysia'. *Higher Education*, 14(2): 197–210. https://doi.org/10.1007/BF00137484

Minority Rights Group International (2007). 'World Directory of Minorities and Indigenous Peoples—Jordan'. Available at: https://www.refworld.org/docid/4954ce4ec.html (accessed 20 January 2023).

Molnár, G. (2017). 'Capability Building Combined with Microcredit: the Loan Alone is Insufficient'. *Journal of Social Entrepreneurship*, 8(3): 354–74. https://doi.org/10.1080/19420676.2017.1371632

Munusamy, K. (2022). 'The Legal Basis for Affirmative Action in India'. WIDER Working Paper 2022/74. Helsinki: UNU-WIDER. https://doi.org/10.35188/UNU-WIDER/2022/205-8

Murrell, A.J., and R. Jones (1996). 'Assessing Affirmative Action: Past, Present, and Future'. *Journal of Social Issues*, 52(4): 77–92. https://doi.org/10.1111/j.1540-4560.1996.tb01849.x

Mustapha, A.R. (2009). 'Institutionalising Ethnic Representation: How Effective is Affirmative Action in Nigeria?'. *Journal of International Development*, 21(4): 561–76. https://doi.org/10.1002/jid.1573

Muttarak, R., H. Hamill, A. Heath, and C. McCrudden (2012). 'Does Affirmative Action Work? Evidence from the Operation of Fair Employment Legislation in Northern Ireland'. *Sociology*, 47(3): 560–79. https://doi.org/10.1177/0038038512453799

Naff, K.C., and J.E. Kellough (2003). 'Ensuring Employment Equity: Are Federal Diversity Programs Making a Difference?'. *International Journal of Public Administration*, 26(12): 1307–36. https://doi.org/10.1081/PAD-120024399

Ncube, M., J.C. Anyanwu, and K. Hausken (2014). 'Inequality, Economic Growth and Poverty in the Middle East and North Africa (MENA)'. *African Development Review*, 26(3): 435–53. https://doi.org/10.1111/1467-8268.12103

Niemann, Y.F., and J.F. Dovidio (2005). 'Affirmative Action and Job Satisfaction: Understanding Underlying Processes'. *Journal of Social Issues*, 61(3): 507–23. https://doi.org/10.1111/j.1540-4560.2005.00418.x

Oliver, K., T. Lorenc, J. Tinkler, and C. Bonell (2019). 'Understanding the Unintended Consequences of Public Health Policies: the Views of Policymakers and Evaluators'. *BMC Public Health*, 19(1): 1–9. https://doi.org/10.1186/s12889-019-7389-6

Omeje, J.C., E.I. Egwa, and V.O. Adikwu (2016). 'Impact of Quota System and Catchment Area Policy on the University Admissions in North Central Nigeria'. *SAGE Open*, 6(2): online. https://doi.org/10.1177/2158244016654951

Orfield, G., and D. Whitla (2001). 'Diversity and Legal Education: Student Experiences in Leading Law Schools'. In G. Orfield (ed.), *Diversity Challenged: Evidence on the Impact of Affirmative Action*, pp. 143–74. Cambridge, MA: Harvard Education Publishing Group, Harvard Graduate School of Education.

Osorio, R.G. (2012). 'The Persistence of Black–White Income Differentials in Brazil'. In G.K. Brown, A. Langer, and F. Stewart (eds), *Affirmative Action in Plural Societies: International Experiences*, pp. 100–27. Basingstoke: Palgrave Macmillan.

Pandey, D.L., and N. Risal (2021). 'Effectiveness of Reservation in the Nepalese Civil Service'. *Wutan Huatan Jisuan Jishu*, XVII(I): 16–24.

Pandeya, G.P., and T. Oyama (2019). 'The Question of Equal Representation of Citizens in the Legislature of Nepal: Rhetoric and Reality'. *Asian Journal of Political Science*, 27(1): 45–69. https://doi.org/10.1080/02185377.2019.1570471

Premdas, R. (2016). 'Social Justice and Affirmative Action. Ethnic and Racial Studies', 39(3): 449–62. https://doi.org/10.1080/01419870.2016.1109681

Ratuva, S. (2013a). 'Coerced Preferences: Affirmative Action and Horizontal Inequality in Fiji'. In E.T. Gomez and R. Premdas (eds), *Affirmative Action, Ethnicity, and Conflict*. London: Routledge. https://doi.org/10.4324/9780203078839

Ratuva, S. (2013b). *Politics of Preferential Development: Trans-Global Study of Affirmative Action and Ethnic Conflict in Fiji, Malaysia and South Africa*. Canberra: ANU Press. https://doi.org/10.22459/PPD.07.2013

Ravallion, M. (2020a). 'Ethnic Inequality and Poverty in Malaysia Since May 1969. Part 1: Inequality'. *World Development*, 134: 1095040. https://doi.org/10.1016/j.worlddev.2020.105040

Ravallion, M. (2020b). 'Ethnic Inequality and Poverty in Malaysia Since May 1969. Part 2: Poverty'. *World Development*, 134: 105039. https://doi.org/10.1016/j.worlddev.2020.105039

Rawls, J. (1971). *A Theory of Justice*. Cambridge, MA: Harvard University Press. https://doi.org/10.4159/9780674042605

Ready, T. (2001). 'The Impact of Affirmative Action on Medical Education and the Nation's Health'. In G. Orfield (ed.), *Diversity Challenged: Evidence on the Impact of Affirmative Action*, pp. 205–20. Cambridge, MA: Harvard Education Publishing Group, Harvard Graduate School of Education.

Reardon, S.F., R. Baker, M. Kasman, D. Klasik, and J.B. Townsend (2018). 'What Levels of Racial Diversity Can Be Achieved with Socioeconomic-based Affirmative Action? Evidence from a Simulation Model'. *Journal of Policy Analysis and Management*, 37(3): 630–57. https://doi.org/10.1002/pam.22056

Rosenfeld, M. (1991). *Affirmative Action and Justice: a Philosophical and Constitutional Inquiry*. New Haven, CT: Yale University Press. https://doi.org/10.12987/9780300159547

Samii, C. (2013). 'Perils or Promise of Ethnic Integration? Evidence from a Hard Case in Burundi'. *American Political Science Review*, 107(3): 558–73. https://doi.org/10.1017/S0003055413000282

Sander, R.H. (2004). 'A Systemic Analysis of Affirmative Action in American Law Schools'. *Stanford Law Review*, 57: 367–483. Available at: https://www.stanfordlawreview.org/wp-content/uploads/sites/3/2010/01/Sander.pdf (accessed 11 January 2023).

Sautman, B. (1998). 'Affirmative Action, Ethnic Minorities and China's Universities'. *Washington International Law Journal*, 7(1): 77–116. Available at: https://digitalcommons.law.uw.edu/cgi/viewcontent.cgi?article=1147andcontext=wilj (accessed 11 January 2023).

Segawa, N. (2013). 'Affirmative Action and Nation Building in Malaysia: the Future of Malay Preferential Policies'. *African and Asian Studies*, 12(3): 189–214. https://doi.org/10.1163/15692108-12341262

Sheth, D. (2004). 'Caste, Ethnicity and Exclusion in South Asia: the Role of Affirmative Action Policies in Building Inclusive Societies'. Human Development Report Office, Occasional Paper. New York: United Nations Development Programme. Available at: https://gsdrc.org/document-library/caste-ethnicity-and-exclusion-in-south-asia-the-role-of-affirmative-action-policies-in-building-inclusive-societies/ (accessed 11 January 2023).

Sifani, J.N. (2009). 'The Impact of Namibia's Affirmative Action Policy on Employment of the Designated Groups'. Master of Science in Economics dissertation. Windhoek: University of Namibia.

Silva-Goncalves, J., U. Dulleck, A.L. Hong, M. Schaffner, and S. Whyte (2016). 'Affirmative Action and Effort Choice'. WIDER Working Paper 54/2016. Helsinki: UNU-WIDER. https://doi.org/10.35188/UNU-WIDER/2016/097-3

Sommer, U., and V. Asal (2019). 'Political and Legal Antecedents of Affirmative Action: a Comparative Framework'. *Journal of Public Policy*, 39(2): 359–91. https://doi.org/10.1017/S0143814X18000089

Sowell, T. (2008). *Affirmative Action Around the World: an Empirical Study*. New Haven. CT: Yale University Press.

Statistics South Africa (2019). 'Statistical Release P0302: Mid-Year Population Estimates, 2019'. Available at: https://www.statssa.gov.za/publications/P0302/P03022019.pdf (accessed 11 January 2023).

Steward, F. (2013). 'Horizontal Inequalities: Delivering Justice, Framing Policy'. IEG Distinguished Lecture 6. Washington, DC: Independent Evaluation Group, World Bank.

Stewart, F. (2000). 'Crisis Prevention: Tackling Horizontal Inequalities'. *Oxford Development Studies*, 28(3): 245–62. https://doi.org/10.1080/713688319

Stewart, F., and A. Langer (2008). 'Horizontal Inequalities: Explaining Persistence and Change'. In F. Stewart (ed.), *Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies*, pp. 54–82. Basingstoke: Palgrave Macmillan. https://doi.org/10.1057/9780230582729

Sunam, R., B. Pariyar, and K.K. Shrestha (2021). 'Does Affirmative Action Undermine Meritocracy? "Meritocratic Inclusion" of the Marginalized in Nepal's Bureaucracy'. *Development Policy Review*, 40(1): online. https://doi.org/10.1111/dpr.12554

Surdu, M., and J. Szira (2009). 'Analysis of the Impact of Affirmative Action for Roma in High Schools, Vocational Schools and Universities'. Budapest: Roma Education Fund. Available at: https://old.romaeducationfund.org/sites/default/files/documents/gallup_romania_english.pdf (accessed 20 January 2023).

Sweet, M.J. (2006). 'Minority Business Enterprise Programmes in the United States of America: an Empirical Investigation'. *Journal of Law and Society*, 33(1): 160–80. https://doi.org/10.1111/j.1467-6478.2006.00353.x

Tabatadze, S., and N. Gorgadze (2013). 'Evaluation of the Effectiveness of the Quota System in Georgia'. Tbilisi: Centre for Civil Integration and Inter-Ethnic Relations.

Tan, N. (2014). 'Ethnic Quotas and Unintended Effects on Women's Political Representation in Singapore'. *International Political Science Review*, 35(1): 27–40. https://doi.org/10.1177/0192512113508666

Tan, N., and C. Preece (2021). 'Ethnic Quotas, Political Representation and Equity in Asia Pacific'. *Journal of Representative Democracy*, 58(3): 1–25. https://doi.org/10.1080/00344893.2021.1989712

Tapia-Benavente, L., L. Vergara-Merino, L.I. Garegnani, L.Ortiz-Muñoz, and M. Vargas-Peirano (2021). 'Rapid Reviews: Definitions and Uses'. *Medwave*, 21(1): e8090. https://doi.org/10.5867/medwave.2021.01.8090

Taylor, M.C. (1994). 'Impact of Affirmative Action on Beneficiary Groups: Evidence from the 1990 General Social Survey'. *Basic and Applied Social Psychology*, 15(1–2): 143–78. https://doi.org/10.1080/01973533.1994.9646076

The Times of India (2007). 'OBCs form 41% of Population: Survey'. Available at: https://timesofindia.indiatimes.com/india/obcs-form-41-of-population-survey/articleshow/2328117.cms (accessed 11 January 2023).

Tricco, A.C., et al. (2015). 'A Scoping Review of Rapid Review Methods'. *BMC Medicine*, 13(1): 224. https://doi.org/10.1186/s12916-015-0465-6

Ukiwo, U. (2007). 'Education, Horizontal Inequalities and Ethnic Relations in Nigeria'. *International Journal of Educational Development*, 27(3): 266–81. https://doi.org/10.1016/j.ijedudev.2006.10.016

US Department of State (1995). 'Namibia (04/95)'. Available at: https://2009-2017.state.gov/outofdate/bgn/namibia/6212.htm (accessed 11 January 2023).

Uzochukwu, B.S., et al. (2020). 'Exploring the Drivers of Ethnic and Religious Exclusion from Public Services in Nigeria: Implications for Sustainable Development Goal 10'. *International Journal of Sociology and Social Policy*, 41(5/6): 561–83. https://doi.org/10.1108/IJSSP-02-2020-0036

Verbeek, S., and S. Groeneveld (2012). 'Do "Hard" Diversity Policies Increase Ethnic Minority Representation?'. *Personnel Review*, 41(5): 647–64. https://doi.org/10.1108/00483481211249157

Vieira, R.S., and M. Arends-Kuenning (2019). 'Affirmative Action in Brazilian Universities: Effects on the Enrollment of Targeted Groups'. *Economics of Education Review*, 73: 101931. https://doi.org/10.1016/j.econedurev.2019.101931

Vollan, K. (2011). 'Group Representation and the System of Representation in the Constituent Assembly and Future Parliaments of Nepal'. *International Journal on Minority and Group Rights*, 18(3): 343–68. https://doi.org/10.1163/157181111X583323

Waddington, H., et al. (2012). 'How to Do a Good Systematic Review of Effects in International Development: a Tool Kit'. *Journal of Development Effectiveness*, 4(3): 359–87. https://doi.org/10.1080/19439342.2012.711765

Walker, R. (2000). 'Indigenous Performance in Western Australian Universities'. Canberra: Department of Education, Training and Youth Affairs.

Waseem, M. (1997). 'Affirmative Action Policies in Pakistan'. *Ethnic Studies Report*, 15(2): 223–45.

White, H. (2019). 'The Twenty-First Century Experimenting Society: the Four Waves of the Evidence Revolution'. *Palgrave Communications*, 5(1): 1–7. https://doi.org/10.1057/s41599-019-0253-6

Yang, C., G.C. D'Souza, A.S. Bapat, and S.M. Colarelli (2006). 'A Cross-National Analysis of Affirmative Action: an Evolutionary Psychological Perspective'. *Managerial and Decision Economics*, 27(2–3): 203–16. https://doi.org/10.1002/mde.1293

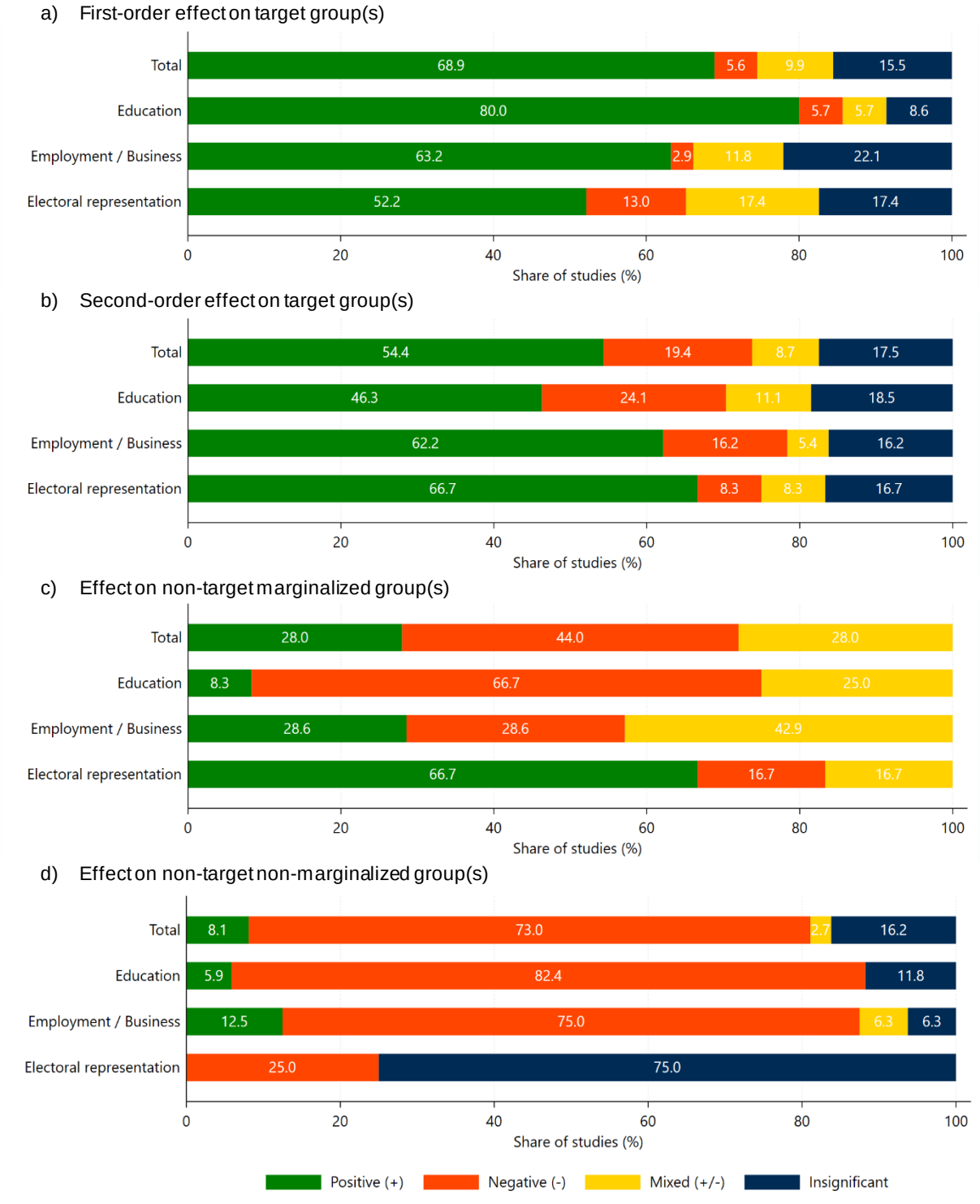
Yusof, Z.A. (2012). 'Affirmative Action in Malaysia: an Overview of Progress and Limitations'. In G. Brown, A. Langer, and F. Stewart (eds), *Affirmative Action in Plural Societies: International Experiences*, pp. 128–50. Basingstoke: Palgrave Macmillan.

Zang, X. (2008). 'Market Reforms and Han-Muslim Variation in Employment in the Chinese State Sector in a Chinese City'. *World Development*, 36(11): 2341–52. https://doi.org/10.1016/j.worlddev.2007.11.009

Zoabi, K., and Y. Awad (2015). 'The Role of Evaluation in Affirmative Action-Type Programs'. In B. Rosenstein and H. Desivilya Syna (eds), *Evaluation and Social Justice in Complex Sociopolitical Contexts: New Directions for Evaluation*, pp. 83–93. New York: John Wiley and Sons. https://doi.org/10.1002/ev.20122

Appendix

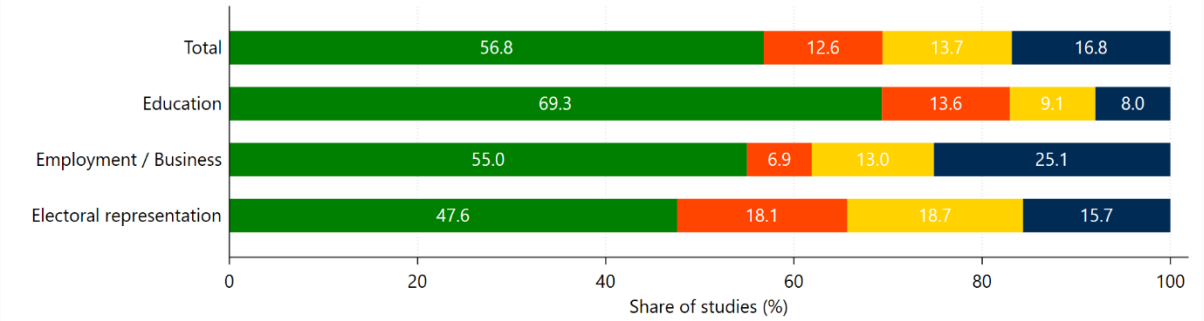
Figure A1: Share of studies (unweighted) by direction of aggregated effects and policy domain



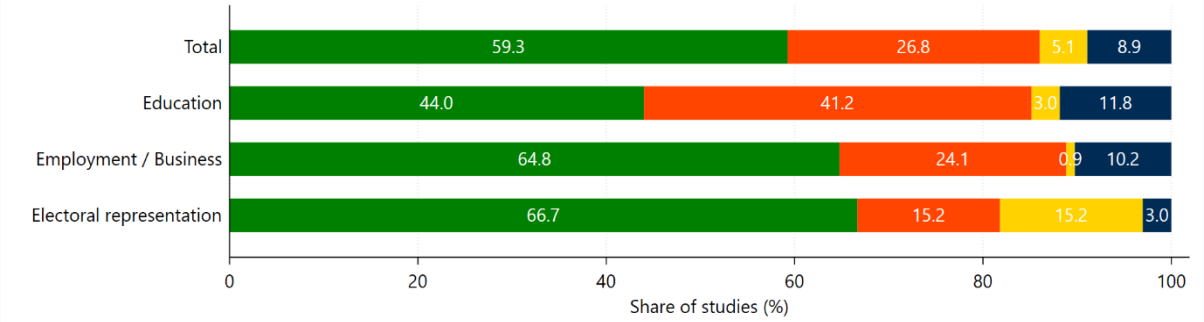
Source: authors' elaboration.

Figure A2: Share of studies (weighted) by direction of aggregated effects and policy domain

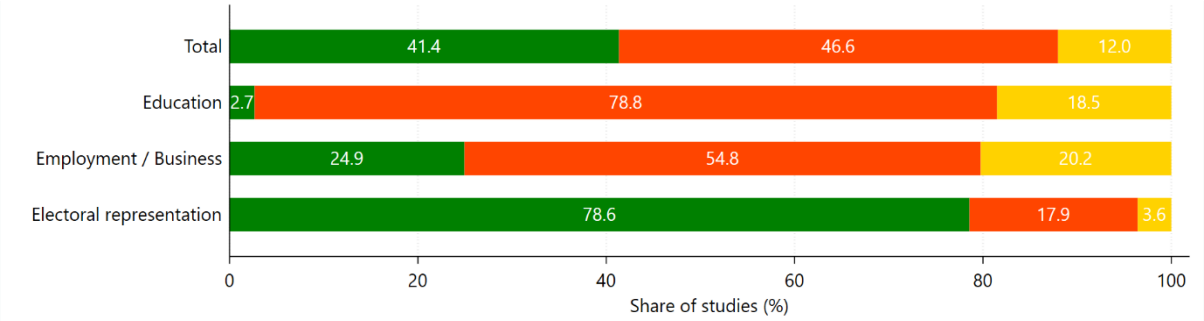
a) First-order effect on target group(s)



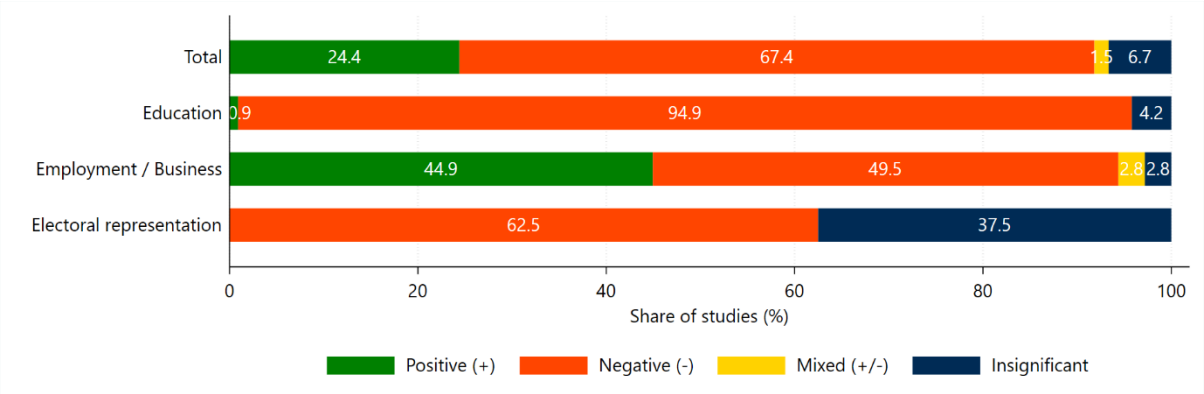
b) Second-order effect on target group(s)



c) Effect on non-target marginalized group(s)



d) Effect on non-target non-marginalized group(s)



Note: the weighted summary statistics apply inverse probability weights to account for the overrepresentation of studies at the country-policy-domain level.

Source: authors' elaboration.

Table A1: Overview of studies by country, research design type, and policy domain

	Descriptive				Estimated				Total
	Education	Employment / Business	Electoral representation	Total	Education	Employment / Business	Electoral representation	Total	
Comparative	2	1	4	7	1		5	6	13
Australia	1	1		2					2
Brazil	7	1		8	10			10	18
Burundi						1		1	1
Canada		1		1		1		1	2
China	1			1	1	1		2	3
Croatia			1	1					1
Fiji		2		2					2
Georgia	1			1					1
Hungary						1		1	1
India	2	4		6	8	9	10	27	34
Ireland		2		2		1		1	3
Israel	2			2					2
Jordan			1	1					1
Kenya	1			1					1
Malaysia	4	6		10		2		2	12
Namibia						1		1	1
Nepal		4	2	6					6
Netherlands		1		1		1		1	2
New Zealand	1			1	1			1	2
Nigeria	4	2	1	7					7
Pakistan		1		1					1
Romania	1		1	2					2
Serbia			1	1					1
Singapore			1	1					1
South Africa		3		3		5		5	8
United States	16	11		27	20	18	1	39	66
Viet Nam					1			1	1
Total	**43**	**40**	**12**	**95**	**42**	**41**	**16**	**99**	**194**

Source: authors' elaboration.