CHAPTER III
Expanding opportunities: A map for equitable growth in South Asia

Introduction

Among South Asians, calls for re-distribution—i.e., support for the statement that “incomes should be made more equal”—are among the highest in the world. And, over the past three decades, these calls have also increased more in this region than elsewhere.

One possible reason behind this striking fact is that “unfair inequality” in South Asia is higher than in other parts of the world. Building on two background papers (Bussolo et al. 2023; Asher et al. 2023), this chapter uses two measures of inequality—inequality of opportunity and intergenerational education mobility—across seven countries in South Asia (India, Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, and Afghanistan) over multiple decades to analyze unfair inequality. Inequality of opportunity is measured as the share of inequality of outcomes, such as years of schooling, incomes, and standards of living, that arises from factors outside of one’s control. Intergenerational mobility is achieved when children’s educational attainments are independent from the level of education of their parents.

Leveraging a large data-harmonizing effort across scores of nationally representative household surveys spanning millions of South Asian individuals, this chapter establishes multiple previously unknown facts about inequality of opportunity and intergenerational education mobility across South Asia. The underlying measures have been constructed specifically to allow for comparison across population groups in data-constrained developing country contexts.

The results provide an understanding of why South Asian countries have higher-than-expected inequality of opportunity given their levels of observed total inequality. The results beg the attention of policy makers across the region, since inequality of opportunity and stagnant
intergenerational mobility are more detrimental to growth and societal cohesion than inequality of outcomes (Marrero and Rodríguez 2013; Van der Weide and Milanovic 2014; Marrero et al. 2016; Ferreira et al. 2018) through the following channels: (i) lower incentives to invest in human capital; and (ii) the misallocation of talent. These results are also relevant when considering the short-term macroeconomic situation for two reasons. Governments adjusting to declining fiscal space run the risk of cutting programs that achieved equality of opportunity in some areas, such as basic education. This may help rebalancing the fiscal accounts, but it may create new pressures, and fissures, in the future. In addition, while long-run supply-side investments may be expensive and not possible in the current macroeconomic context, policies to improve the business climate for small and medium enterprises, or to support a level playing field in the labor market should still be implementable with contained fiscal implications. The second reason is that macroeconomic adjustments are more successful if they have strong public support, and this is more likely obtained if they are perceived as fair.

3.1 Social progress in South Asia

More than two decades of sustained economic growth across most of South Asia has brought significant poverty reduction, yet inclusive social progress has remained elusive. Sustained economic growth over the past two decades in the South Asian region has lifted some 250 million people out of extreme poverty and improved average living standards considerably. However, economic growth has not benefited all groups equally. This chapter shows that, while there has been some improvement in closing the gaps between different groups, there is still very little mobility in South Asian societies. Circumstances at birth—i.e., the family background, whether a person was born in a certain region or belongs to a certain ethnic group, caste, or gender—remain important constraints to economic and social achievements in the lives of people of the South Asia region.

Inequality of opportunity in South Asia is one of the highest in the world. Data for comparing inequality between countries are scarce and this problem is even worse in the case of inequality of opportunity or mobility (see Box 3.1). The Fair Progress report (Narayan et al. 2018) and The Equal Chances Database are two of the few exceptions of data sources that can be used to reasonably benchmark South Asia in the global context. Figure 3.1 shows, for example, that in South Asia educational achievement is heavily dependent on the education of one’s parents: less than 9 percent of individuals whose parents’ education level was in the bottom half of the population reach levels of education of those in the highest educated 25 percent. Figure 3.1 also shows that, while some countries in the South Asia region do better than others, the

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1 See also, for more recent data and analysis, Van der Weide et al. 2021.

2 See Equalchances.org
Inequality of opportunity matters because it highlights the unfair process that generates and maintains disparities. In South Asia, disparities across groups account for a large part of overall inequality of outcomes. This makes the inequality both unfair and inefficient. Gaps between women and men, as discussed by a large body of literature and also in Chapter 3 of our Spring 2022 edition of the South Asia Economic Focus (World Bank 2022), are well known, but this chapter documents large disparities among other groups. Being born in a rural area, or a specific region, or simply coming from poorer and less educated parents, matters for one’s social and economic standing (educational attainment, access to jobs, earnings, level of consumption, and welfare) as an adult. Low intergenerational mobility and high inequality of opportunity have remained stubbornly unchanged across generations.\(^3\)

A re-focus of the discussion from inequality of outcomes to inequality of opportunity and intergenerational mobility is useful for three reasons, two of which are specific to South Asia and a third that is more general: (i) inequality of outcomes in South Asia tends to be underestimated; (ii) South Asia’s inequality of opportunity is high when seen from a global perspective; and (iii) inequality of opportunity is more harmful than inequality of outcomes.

International comparisons of inequality, while providing benchmarking, may also paint an inaccurately rosy picture for the case of South Asia. Indeed, inequality in South Asia,
measured by averaging the Gini coefficients for countries belonging to each region, is one of the lowest in the world (Figure 3.2). Even if the trend is concerning, as inequality has been increasing in recent decades, this low level is probably one of the reasons why inequality has not often figured in the debates about development challenges in South Asia or, at least, not as often as in the cases of Latin America and the Caribbean, or Sub-Saharan Africa. However, this impression of inequality being at low levels in South Asia is mainly the result of assessing inequality in the distribution of consumption per capita for countries in South Asia, rather than using incomes as in Latin America and other regions. Consumption-based inequality is always lower than income-based inequality (which in turn is lower than wealth-based inequality), as the former is calculated assuming that consumption is the same across all members of the household. Crucially, this eliminates gender disparities, which is a key source of inequality in South Asia.5

An important source of increases of inequality of incomes (and consumption) is the concentration of wealth at the top of the income distribution. This has increased in the South Asia region but has not been captured by the Gini indices measured on the standard datasets. Household survey data used to calculate the Gini index fail to properly capture inequality dynamics at the top of the income distribution due to under-reporting and under-sampling of the very rich (Atkinson and Piketty 2007). As a result, estimates of within-country inequality based on household surveys most likely underestimate the true level of inequality. Recent innovations in measurement and the availability of alternative data sources now make it

4 Referring to the case of India, Sriram Balasubramanian writes: “Debate and discussion on inequality in India have been largely centered around two key themes: one, focus on the top 1 percent ‘billionaire class’ and its exponential growth over the last few decades; two, on those residing below poverty levels. However, the real pertinent question resides in the space occupied in between—what are the inequality dynamics for the person who is trying to transition from rural to urban India in search of a better future?” (The Economic Times Mar 11, 2).

5 There is also another important reason explaining why inequality in consumption levels, even when these levels are directly measured for each individual in a household, is lower than inequality of incomes. This is because, when income flows change because of shocks, individuals tend to smooth consumption. In some cases, economists consider inequality in permanent incomes which will be closer to consumption inequality.
possible to study inequality dynamics at the top of the income distribution (Atkinson and Piketty 2010). Estimates from the Worldwide Inequality Database (WID) find a significant rise in top income shares in India since the 1990s (Figure 3.3). In 2020, the national income share held by the richest 1 percent Indians was more than 20 percent, making India one of the countries with the highest concentrations of wealth in the world. Data from the Forbes Rich List\(^6\) confirm this trend of concentration of wealth at the very top of the income distribution in India. The net worth of Indian billionaires increased substantially from 2 percent of GDP in 2000 to 20 percent in 2020 (Figure 3.4).\(^7\) Note also that concentration of assets signals that the growth process is not inclusive and, in

\(^6\) Forbes magazine annually publishes a list of individuals and families whose total net worth exceeds US$1 billion.

\(^7\) South Asian billionaires are concentrated in India. In 2021, the Forbes Rich List counted 140 billionaires in India, and one in Nepal.
a context of low direct taxation and almost absent inheritance taxes, this concentration hinders social mobility.

**A second reason for the focus on inequality of opportunity is because it reveals that South Asia is a special, and potentially concerning, case when seen from a global perspective.** At a given level of inequality of incomes (at a given level of the Gini inequality index), South Asian countries appear to have higher-than-average inequality of opportunity. Research has estimated the relationship between income inequality, equality of opportunity and intergenerational mobility, and labeled this relationship the “Great Gatsby Curve.” A version of such a curve is shown in Figure 3.5. The curve illustrates that countries with low income inequality also tend to have fewer inequality traps. In other words, when income inequality is low, people’s position in the income distribution is not so dependent on their circumstances at birth. Alternatively, in countries where income inequality is high, people’s position in the economic ladder is largely predetermined by their circumstances at birth. People starting in disadvantaged positions are trapped in those positions. In mobility terms, and paraphrasing Corak (2013), this means that someone born in the bottom economic class may have a slim chance of moving up to a better economic situation than their parents. Figure 3.5 highlights two important points: South Asian countries seem to be toward the middle of the graph (at least in terms of income inequality), but also these countries are above the curve, so that their inequality of opportunity is higher than would be expected given their levels of income inequality. This means that they are affected by more severe inequality traps, their inequalities in opportunities are reproduced over time and across generations.

![Figure 3.5. The Great Gatsby Curve of inequality of opportunity versus total inequality](image)

**Source:** Bussolo et al. 2023 and Equal Chances Database. **Note:** This figure shows, on the vertical axis, IOp in household consumption per capita for the latest available cross-section in South Asia from Bussolo et al. 2023 or IOp in consumption or in income per capita in the rest of the world from the Equal Chances Database and, on the horizontal axis, the Gini coefficients for the corresponding countries.

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8 See Corak (2013) and Durlauf et al. (2022).

9 Note that the traditional Great Gatsby curve refers to a relationship between inequality measured by a Gini index and intergenerational mobility across geographic units. The figure presented in this chapter is a modified version where inequality of opportunity has been shown instead of intergenerational mobility. A detailed explanation of what inequality of opportunity represents can be found in Box 1.
Box 3.1. Measuring inequality, inequality of opportunity and intergenerational mobility in South Asia

This chapter describes trends and characteristics of inequality of the distribution of two specific outcomes—education attainment and consumption per capita—across seven countries in South Asia.

Comparing inequality across countries and over time is fraught with difficulties as, unfortunately, household surveys do vary across countries in what they measure as the main welfare variable and how they measure it. In most Latin American countries, as well as in high-income countries, surveys capture income flows accruing to each individual member of the household, whereas in South Asia they capture consumption, which is measured for the whole household. Individuals’ consumption levels are then obtained by dividing household consumption by the number of its members. Clearly, inequalities within the household, chiefly disparities between men and women, are eliminated when everyone in the household is assigned the same consumption value. There are additional issues. Most surveys under-sample households at the top of the distribution, missing an important source of asset concentration and income (or consumption) inequality. And there is also substantial disagreement in terms of the trends of consumption that are derived from household surveys versus those obtained from national accounts (Deaton and Kozel 2005).

While these problems are well known (World Development Report (World Bank 2006); Poverty and Shared Prosperity (World Bank 2018), the remedies—using administrative data or collecting new surveys—take time and resources. Thus, most international comparisons of inequality tend to mix consumption and income inequality measures. Note also that these problems also affect international comparisons of inequality of opportunity and intergenerational mobility. An additional data limitation that affects specifically the measurement of inequality of opportunity and intergenerational mobility is the absence of information on parental background. So, one is left to either consider a limited set of circumstances or focus on the sub-sample of co-resident individuals (i.e., those from households where two or more generations live under the same roof).

Inequality of Opportunity

In simplest terms, inequality of opportunity (IOp hereafter) can be described as the portion of inequality of a specific outcome that arises from circumstances. In essence, measures of IOp aim at separating the factors determining the distribution of social
outcomes (e.g., education, consumption) for a given population into two categories. The first category represents a person’s effort, while the second represents circumstances that are beyond their control. These circumstances include, but are not limited to, gender, race, ethnicity, religion, and place of birth. Each one of these circumstances have been incorporated in the IOp measures presented in this report. For additional information on how variables such as ethnicity and place of birth have been coded, see Appendix 3.1.2. Note that data limitations prevented the inclusion of parental background, so the estimates of Section 3.2 below underestimate the full extent of IOp.

As an illustrative example, consider the outcome of years of schooling. To construct the IOp measure in the South Asian context, Bussolo et al. 2023 first estimate inequality in years of schooling for a country under the assumption that all individuals in a particular group have the same years of schooling. For simplicity, in a world with a single circumstance—gender—this approach would first calculate inequality in years of schooling in the population under the assumption that there is no individual heterogeneity within the two groups of men and women. In this counterfactual distribution, the entirety of the inequality observed in years of schooling in the population is accounted for by inequality between men and women. As a next step, the authors calculate the ratio of this counterfactual inequality over total inequality in years of schooling, i.e., the inequality observed for the whole population (which clearly includes also the inequality within the two groups of men and women). This ratio can be interpreted as the share of total inequality that can be attributed to circumstances beyond an individual’s control, which was gender in the case of this illustrative example. Note that this attribution is not causal, but simply descriptive. The results presented in this report incorporate a range of circumstances to isolate IOp (circumstance-driven inequality) from total inequality. Appendix 3.1 provides precise methodological details of the estimation approach.

**Intergenerational Mobility**

Intergenerational mobility is captured by two distinct approaches. The first, absolute mobility, measures the degree to which living standards improve across generations. This measure is closely associated with changes in economic growth and poverty levels in a society. However, growth in absolute mobility does not necessarily guarantee an increase in relative mobility across generations. A society where standards of living improve across generations for everyone and yet, relative status (in terms of wealth, education, or social ranks) is preserved across generations, has high absolute mobility but low relative mobility. In other words, relative mobility captures the extent to which
A third and final reason for a re-focus is that inequality of opportunity is more detrimental to growth and societal cohesion than inequality of outcomes. In societies with low equality of opportunity, talented individuals may not reach their full potential because they are constrained by circumstances rather than by their lack of effort. Low equality of opportunity reduces an individual's position in the economic distribution is independent of their parents’ relative position in the economic distribution.

Relative mobility is lower in societies where inequality of opportunity is high, that is, where individual life outcomes are determined by circumstances allotted at birth. This report presents results from Asher et al. (2023) wherein a novel measure—bottom-half mobility—is constructed to measure relative intergenerational education mobility across and within South Asia over time. Bottom-half mobility is the average rank of the education attainment of an individual within their birth cohort conditional on being born to a parent who is in the bottom half of the education attainment distribution within their own birth cohort. Note that education attainment ranks were calculated separately within gender and decadal birth cohort groups for both parents and individuals. The bottom-half mobility was developed by Asher, Novosad and Rafkin (2023) in their study of intergenerational education mobility in India. The advantage of using the bottom half mobility measure for a comparative study of mobility in South Asia is twofold. First, the measure allows for calculation of precise bounds on mobility despite data limitations in developing country settings. Second, the measure has a standardized interpretation (in the spirit of the mobility measure in Card et al. 2022) across time periods and countries, allowing for the isolation of rank persistence from growth in education attainment. The bottom half mobility measures presented in this report represent intergenerational education mobility of father-child and not mother-child pairs. Appendix 3.1.2 describes steps taken to account for co-residence bias in the estimation of bottom half mobility.

Inequality of opportunity and intergenerational mobility are interconnected concepts, as both reflect how external factors beyond an individual’s control impact long-term life outcomes. In societies where inequality of opportunity is high, some individuals have more favorable opportunities to realize their potential, despite possessing similar talents and abilities as others. Conversely, in societies with high intergenerational mobility, an individual’s own efforts and abilities play a greater role in determining their social and economic status, regardless of their family background. Policies designed to reduce inequality of opportunity will, by design, facilitate greater intergenerational mobility by enabling individuals to realize their potential more fully.
incentives to invest in human capital, as one’s outcomes in the labor market are more dependent on factors outside one’s control, such as the education and socio-economic background of one’s parents. Low equality of opportunity is also linked to misallocation of talent (Hsieh et al. 2019, discuss this for the United States, and Cuberes and Teignier 2016, show that for the case of South Asia gender gaps, and specifically occupational segregation between men and women, produce large income losses). While the impact of overall inequality on growth is ambiguous, there is growing evidence that *inequality of opportunity* is detrimental for economic growth (Marrero and Rodriguez 2013; Van der Weide and Milanovic 2014; Marrero et al. 2016; Ferreira et al. 2018). Besides hampering economic growth, low equality of opportunity also leads to a sense of unfairness, which can threaten social cohesion in a society (Busso et al. 2018).

Notably, calls for a more equal income distribution are higher in South Asia than in any other region and have increased significantly since the 1990s, suggesting that public support for policies to promote inclusive growth and opportunity in the region is rising. Understanding people’s perceptions of inequality is important because these perceptions have implications for social cohesion, and can serve as an indicator of public support for redistributive policies. Support for reducing inequality in South Asia is discussed in more detail in the final section on policy recommendations.

### 3.2 Inequality of opportunity and intergenerational mobility in South Asia

Until recently, the research landscape on inequality of opportunity and intergenerational mobility has not examined in detail the South Asian region. The set of mobility measures developed by Solon (1992) and Chetty et al. (2014a) could not be replicated easily in South Asia, as reliable income data that can be linked across generations are non-existent or very limited. Likewise, estimating inequality of opportunity requires rich databases, containing information not only on the individual’s economic achievements but also on circumstances—data that are rarely available for developing countries and the South Asia region in particular.

The set of country-specific databases harmonized both in terms of circumstances and outcomes constructed for this chapter fills this gap in empirical analyses of inequality of opportunity and intergenerational mobility for the case of South Asia. Using this new dataset, this chapter provides comparable estimates of unfair disparities for seven countries in the region: Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. Moreover, it investigates the evolution of these disparities over time, as it uses a cohort-based analysis. For each country,

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10 IOp estimates are available for Brazil (Bourguignon, Ferreira and Menendez, 2007) and several other countries in Latin America (de Barros et al., 2009). Nandini et al. (2016) provide estimates of IOp in the Middle East and North Africa while Brunori, Palmisano and Peragine (2019) study IOp in Sub-Saharan Africa. Singh (2012) and Chaudhary et al. (2019) provide IOp estimates for India. Alesina, Hohmann and Papaioannou (2021) examine intergenerational mobility in Africa.
it follows the trends of inequality and mobility from the cohort of individuals born in the 1960s to the cohort born in the 1990s (the earliest and most recent cohorts can differ across countries and across outcomes; see Appendix 3.1 for a detailed description of the database).

The analysis based on this harmonized dataset establishes the following previously unknown facts:

1. On average for the region, inherited circumstances explain a large portion, ranging between 40 and 60 percent of inequality of the distribution of consumption per capita; these circumstances explain a similar, but slightly lower, share of inequality of the distribution of education attainments.

2. Intergenerational mobility in education is also low. The average education attainment rank of a child born to parents in the bottom half of the education attainment distribution is the 37th percentile. This is substantially lower than the corresponding measure in the United States (the 42nd percentile), which already has lower intergenerational mobility compared with other developed countries (Black and Devereaux 2011).

3. While the region as a whole experiences unfair disparities, there is considerable variation between countries in the region. Broadly, three groups can be identified: a first, comprising India and Pakistan, displays high inequality of opportunity and, correspondingly, low intergenerational mobility; a second, Nepal and Afghanistan, with intermediates levels; and a third, Bangladesh, Sri Lanka and Bhutan, with somewhat better mobility and equality of opportunity (Table 3.1).

4. Within countries, an urban premium (favoring girls more strongly than boys) is uncovered. Being born in a city translates into higher chances to move further ahead than one’s own parents (in terms of education) and, more generally, other inherited circumstances do not constrain achievement as tightly as in rural areas. Nonetheless, some countries show convergence in opportunity gaps between rural and urban areas.

5. Not all circumstances matter equally: geography (region of birth and, within it, city or rural area) plays the largest role in all countries, followed by socio-demographic factors such as caste, ethnicity, and then gender.

6. In terms of trends, and considering a period of about three decades, inequality of opportunity of education has reduced in most countries, even if intergenerational mobility remained low and relatively stable. This apparent paradox can be explained by the fact that the two concepts—inequality of opportunity and intergenerational
mobility—assess different features of the distribution of educational achievements. (Relative) inequality of opportunity measures how much of the overall inequality is accounted for by disparities among groups, when the groups are formed according to circumstances. (Relative) intergenerational mobility measures whether the ranking of the current generation is explained by that of the previous (parents) generation. So, what happened in South Asia is that education opportunities have improved for groups that were initially disadvantaged (such as women from rural areas and certain socio-economic groups). However, there has not been much reshuffling in the ranking of the distribution. And, specifically, being born from a father who is at the bottom rank means that his offspring are also likely to be in the same (or close to the) bottom rank. This is the case even if the top and low ranks are less distant from one another.

7. Remarkably, the reduction of inequality of opportunity in education has not translated into a reduction of inequality in the distribution of welfare measured by the level of consumption. This could be due to three factors: (i) there has been equalization of opportunity in obtaining basic levels of education, but not so much for higher levels of education, which are those that matter for incomes; (ii) this equalization of basic education does not account for quality; i.e. inequality in learning outcomes remains and

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Table 3.1. Intergenerational mobility and inequality of opportunity in South Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>(1) Bottom half mobility</th>
<th>(2) Relative IOp (Years of Schooling)</th>
<th>(3) Relative IOp (Consumption, 35–55-year-olds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>38.82</td>
<td>0.41</td>
<td>0.54</td>
</tr>
<tr>
<td>India</td>
<td>38.83</td>
<td>0.39</td>
<td>0.57</td>
</tr>
<tr>
<td>Nepal</td>
<td>40.73</td>
<td>0.55</td>
<td>0.41</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>41.99</td>
<td>0.54</td>
<td>0.45</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>43.24</td>
<td>0.14</td>
<td>0.44</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>45.23</td>
<td>0.34</td>
<td>0.31</td>
</tr>
<tr>
<td>Bhutan</td>
<td>47.93</td>
<td>0.37</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Source: Asher et al. (2023) and Bussolo et al. (2023).

Note: Columns (1) and (2) present estimates for bottom half education mobility and inequality of opportunity (in years of education) for individuals born around 1990. Note that we use decadal birth cohorts (i.e., people born between 1990 and 2000) for the estimation of bottom half mobility, and 5-year birth cohorts for the estimation of IOp. Column (3) represents IOp in the distribution of per capita consumption for individuals born around 1980. In contrast with education, consumption per capita follows an age pattern, so it is important to compare cohorts at the same age. This would be straightforward if we had frequently repeated cross sections for all countries collected in the same year, but since this is not the case, we are comparing cohorts when they are in the age range of 35- to 55-year-old, assuming that the age effect in this segment of the life cycle is minimal.
this matters for advancement to higher levels of education and ultimately for incomes; and (iii) the labor markets could remunerate the same education level in a differential way according to other circumstances. A salient example for the region is the one of different earnings for equally qualified men and women, or of women having much lower engagement in market activities vis-à-vis men with comparable human capital.

8. Finally, the trend of a stagnant inequality of opportunity for consumption of the past three decades is particularly concerning when contrasted with the sustained economic growth for the same period. While at the aggregate level it is impossible to establish causation, this contrast in trends signals that economic growth is not automatically accompanied by increasing opportunities for all and, as argued in Section 3.1, a high level of inequality of opportunity can, in turn, damage growth prospects.

The remainder of this section is organized as follows: Section 3.2.1 analyzes the evolution of inequality of opportunity of education; Section 3.2.2 discusses inequality of opportunity of consumption; and Section 3.2.3 considers intergenerational mobility.

**Inequality of opportunity in education**

Education has both an intrinsic and an instrumental value for a person’s wellbeing, as it is highly correlated with individual economic achievements such as income, consumption and wealth. Analogously, inequality of educational opportunities is relevant per se, as education is an important sphere of individual and social life, and it is also important because an unfair educational system typically generates unfairness in the labor market and, ultimately, in the distribution of economic resources in the society. In this section, education itself is considered as an outcome.

In recent decades there has been a clear improvement in equality of educational opportunities in the region (Figure 3.6). The number of years of formal education that an individual attains have become less and less dependent on inherited circumstances such as caste, ethnic group, area of birth, and gender. Taking the average of the region, for the cohort of individuals born in the (first half of) the 1960s, about 50 percent of total education inequality is explained by circumstances, while this percentage reduces to 35 percent for the cohort of individuals born in the early 1990s.

This overall regional trend is not followed by all countries. Bangladesh and Bhutan had the fastest reduction in IOp in the region, Pakistan and India also experienced a strong equalization of opportunities, while Sri Lanka is relatively stable but also has, at least for the earliest cohort, the lowest level of IOp. For the cohort born in the 1990s, Afghanistan and Nepal have the highest levels of IOp, while Bangladesh has the lowest level.
A factor explaining the reduction of inequality of opportunity in (years of) education is the large expansion of basic education. In most countries in the South Asia region, shares of primary education have increased substantially (Figure 3.7). However, there is also some heterogeneity in this case, with Pakistan and, in particular, Afghanistan, that are lagging behind this educational expansion. This general trend in the area is not surprising, as basic education has been at the center of attention in recent decades for promoting development and significant advances have been made. Given that people without primary education are more likely found in disadvantaged groups, increasing basic education tends to be a progressive policy (conversely, expansion of tertiary education risks being regressive). This is clearly reflected in the declining pattern of the relative IOp (measured by the dissimilarity index).

The commitment to equality of the education system is an important factor. This commitment is summarized in the starting points of inequality of opportunity. Contrast, for example, Nepal and Bangladesh. About one third of the cohorts born in the early 1960s attained primary education in both countries. This share goes up to about two thirds for the recent cohorts in both countries. However, in Nepal some groups did not have access to basic education, as reflected by an initial dissimilarity index of 37, which is about double the initial dissimilarity index observed in Bangladesh. These gaps in how education is delivered are not automatically eliminated by the simple expansion of the system. Indeed, the elasticities of inequality with respect to the expansion of education are quite different across countries, as shown in Table 3.2. In Nepal, a 1 percent increase in primary education share translates into a 0.44 percent reduction of the inequality index, while in Bangladesh that same increase produces a decrease in inequality of 0.83 percent. Remarkably, India and Sri Lanka have the highest elasticities of about 1 and 2, respectively.

For each of the seven South Asian countries considered in this chapter, Box 3.2 shows in detail what happened to different groups in terms of their opportunity of obtaining primary education. Different groups have different opportunity profiles. For example, the probability
Figure 3.7. Primary education in South Asia: coverage has increased and inequality has decreased

Source: Bussolo et al. 2023
Note: The figure shows the share of individuals in each birth cohort that have attained primary education (dashed lines); and the inequality of opportunity (measured using the dissimilarity index) of the distribution of primary education across groups of the population.

Table 3.2. Elasticity of IOp with respect to expansion in Primary Education

<table>
<thead>
<tr>
<th>Country</th>
<th>% Δ in literacy</th>
<th>% Δ in IOp</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>61.6</td>
<td>-17.1</td>
<td>-0.28</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>94.1</td>
<td>-78.3</td>
<td>-0.83</td>
</tr>
<tr>
<td>Bhutan</td>
<td>274.2</td>
<td>-61.0</td>
<td>-0.22</td>
</tr>
<tr>
<td>India</td>
<td>63.2</td>
<td>-65.5</td>
<td>-1.04</td>
</tr>
<tr>
<td>Nepal</td>
<td>137.9</td>
<td>-60.8</td>
<td>-0.44</td>
</tr>
<tr>
<td>Pakistan</td>
<td>67.6</td>
<td>-49.0</td>
<td>-0.73</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>31.4</td>
<td>-70.8</td>
<td>-2.25</td>
</tr>
</tbody>
</table>

Source: Bussolo et al. 2023.
Inequality of opportunity is an aggregate index that summarizes how much circumstances matter in accounting for total inequality in the distribution of primary education. To illustrate what this inequality means for an individual belonging to a specific group, one can use the concept of opportunity profile (Ferreira and Gignoux 2011). Given certain circumstances that define a group—gender, location of birth, ethno-linguistic group—how likely is it that an individual from that group will have primary education? For Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka, Table 3.3 focuses on two groups: a socio-economic geographically advantaged ('high-opportunity') group and a disadvantaged ('low-opportunity') group. The table shows the difference in opportunity profiles between these two groups, and it clearly highlights that, at least for the cohorts born in the 1950s, women faced much lower opportunities to attain primary education than men. Being a woman is a circumstance common in all countries for the low-opportunity groups. Similarly, being born in a rural area always carries a disadvantage.

In addition, by comparing individuals belonging to these two groups but born in different times—namely, by comparing the cohorts born in the 1950s and those born in the 1970s—this table reveals the pace at which the opportunity gaps are closing, or not, between the two groups.

Across countries, the reduction in disparity between a high-opportunity and low-opportunity group over time (moving from earlier cohorts to more recent cohorts) is driven by progressive increases in primary education rates. Improvements are higher for low-opportunity groups vis-à-vis high opportunity groups. The degree of progressivity is not the same across countries. To investigate this progressivity more fully, it is useful to consider the incidence curve of the growth in opportunities (a concept equivalent to that of the growth incidence curve but where groups are ranked according to the initial opportunity levels instead of initial levels of income or consumption, see Ravallion and Chen 2003; Peragine, Brunori and Palmisano 2014). An example of this incidence curve is shown in Figure 3.8 for Pakistan. The opportunity groups (also called "types" in the inequality of opportunity literature) have been ordered on the x-axis by their baseline primary education shares in the 1950s. The y-axis illustrates the growth in primary education share for each opportunity group between the 1950s birth cohort and the 1970s birth cohort. The red points indicate the high- and low-opportunity groups discussed in detail in Table 3.3.
Table 3.3. Primary education profiles for ‘high-opportunity’ and ‘low-opportunity’ groups

<table>
<thead>
<tr>
<th>Country</th>
<th>“High-Opportunity” Group</th>
<th>“Low-Opportunity” Group</th>
<th>Birth Cohort</th>
<th>Primary Education Share Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Male Urban Barisal Muslim</td>
<td>Female Rural Sylhet Muslim</td>
<td>1950</td>
<td>9 (0.67/0.07)</td>
<td>A Muslim male from urban Barisal born in the 1950s, was 9 times as likely to have primary education than a Muslim female from rural parts of Sylhet. Twenty years later, the disparity has narrowed substantially.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>3 (0.74/0.23)</td>
<td></td>
</tr>
<tr>
<td>Bhutan*</td>
<td>Male Urban West Central</td>
<td>Female Rural East</td>
<td>1950</td>
<td>19 (0.77/0.04)</td>
<td>A man from urban west central Bhutan born in the 1950s, was 19 times as likely to be literate than a female from rural parts of East Bhutan. Twenty years later, the disparity has narrowed but remains very high, as progress for women in the low opportunity group has been very slow.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>4 (0.82/0.20)</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Male Urban North Others**</td>
<td>Female Rural Central Scheduled Tribes</td>
<td>1950</td>
<td>28 (0.84/0.03)</td>
<td>An upper caste Hindu male from north India born in the 1950s, was 28 times as likely to have primary education than a rural Scheduled Tribe woman from Central India. Twenty years later, the disparity has narrowed substantially.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>6 (0.87/0.15)</td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>Male Urban Eastern Khas</td>
<td>Female Rural Eastern Muslim</td>
<td>1950</td>
<td>121 (0.73/0.006)</td>
<td>A Khas Hindu male from urban parts of eastern Nepal born in the 1950s, was 121 times as likely to have a primary education than a rural Muslim woman from eastern Nepal. As in India, twenty years later, the disparity has narrowed substantially.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>30 (0.90/0.03)</td>
<td></td>
</tr>
</tbody>
</table>
**Table 3.3. Primary education profiles for ‘high-opportunity’ and ‘low-opportunity’ groups**

<table>
<thead>
<tr>
<th>Country</th>
<th>“High-Opportunity” Group</th>
<th>“Low-Opportunity” Group</th>
<th>Birth Cohort</th>
<th>Primary Education Share Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>Male Urban Punjab Urdu</td>
<td>Female Rural Baluchistan Others***</td>
<td>1950</td>
<td>800 (0.80/0.001)</td>
<td>Female Pashtuns in Rural Baluchistan born in the 1950s, were 800 times less likely to have primary education than a male Urdu speaking urban Punjabi resident born in the 1950s. Two decades later, the disparity has narrowed substantially.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>40 (0.81/0.02)</td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Male Urban East Sinhalese</td>
<td>Female Rural South Sri Lankan Tamil</td>
<td>1950</td>
<td>9 (1.00/0.11)</td>
<td>Sinhalese males from urban parts of eastern Sri Lanka born in the 1950s are 9 times more likely to have primary education than Sri Lankan Tamil females in rural parts of south Sri Lanka. Twenty years later, disparity has narrowed marginally, and the low opportunity group continues to have substantially lower primary education rates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>6.7 (0.95/0.14)</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The literacy shares for Bhutan have been used instead of primary education shares. It should be noted that the low opportunity groups in both countries had no primary education in the 1950s. **Others: Hindu Forward Caste (India), ***Others: Individuals whose main language is Balti + Siraiki + Balochi + Kashmiri + Others. The selection of the low and high-opportunity groups is based on two criteria: lowest primary education share at baseline and group size of at least 15.

In Pakistan, the negative slope of the incidence curve indicates that growth in opportunities has been progressive. In fact, the curve is steeper for the most disadvantaged groups at baseline and flatter toward the right tail signaling that the largest gains were made by the lowest opportunity groups, such as females in rural Baluchistan. This incidence pattern suggests that the efforts to promote primary education in Pakistan have been successful in reaching the most marginalized communities, which have historically had limited access to education.
of obtaining primary education (or even just literacy) is much higher for a man who is born in an urban area in the western part of Afghanistan than the corresponding probability for a woman born in a rural area from the south. Inequality of opportunity reduces when the opportunity gaps between different groups go down or, in other words, when the opportunity profiles become similar across groups.

The expansion of secondary and higher levels of education has also been impressive in the region but it has not been as egalitarian as that of primary education or of literacy. The share of individuals enrolled at the different stages of the education process has substantially increased everywhere across the region. However, despite this progress, the extent to which circumstances influence the chances of obtaining lower-secondary, upper-secondary, or tertiary education remains significant and higher than that for basic education. On average, inequality of opportunity in the region increases the higher the level of education considered. Correspondingly, the reduction of inequality has been stronger for the lower levels of education (Figure 3.9), which compares the trends for primary with upper-secondary education.
In sum, the expansive programs to increase literacy and primary education across populations have produced positive results in the region, at least in terms of quantity of basic education. However, the structural features of education systems and, likely, the remaining disparities in terms of quality of education influence their impact on equity. Even when countries reach levels of coverage close to 75 percent, this does not mean that the opportunity to access basic and good quality education is available to everyone to the same degree. This is even more so for secondary and higher levels of education.

**An analysis of the circumstances**

Which factors count for more in determining inequality of educational opportunities and its evolution in the different countries? The relative contributions that specific circumstances...
such as gender or place of birth make to overall inequality of opportunity vary greatly across countries and cohorts, but some patterns do emerge (Figure 3.10).

Geography is a key barrier to opportunities in South Asia. A large percentage of inequality of opportunity can be traced back to a person’s location of birth, both with respect to the urban/rural divide and with respect to the region of birth.\(^{11}\) Taken together, these two factors account for more than 50 percent of overall inequality of opportunity in most of the countries (the range goes from 30 to about 80 percent). The socio-demographic circumstance (a composite variable taking into account caste, ethnicity, and religious group) tends to be the second-most-important factor, explaining between one-quarter and half of overall inequality of opportunity in most countries. Gender is also an important factor for most countries in the region.

The evolution across different cohorts shows that, while there has been a constant and substantial improvement in terms of gender gap in education, the geographical differences remain somewhat important in most countries, particularly with respect to the gap between rural and urban areas. The relevance of the urban/rural divide also emerges by considering the extent of inequality of opportunity separately for the different groups (Figure 3.11).

\(^{11}\)Note that region of birth, which is the circumstance beyond the control of the individual, is not always available as a variable in the surveys of the countries analyzed here. When not available, region of residence has been used as a proxy. Note also that, as described in detail in Bussolo et al. 2023, within country migration is quite limited in most South Asian countries, so region of residence is, in most cases, a valid proxy for region of birth.
An urban premium is present in the inequality of opportunity of education in South Asia. The share of inequality in years of education that is explained by circumstances is lower in urban areas than in rural areas for all the countries in the South Asia region. In terms of trends, in Bhutan and Bangladesh there is convergence as inequality of opportunity shrinks slightly faster in rural areas. However, it remains sizable in India, Pakistan and Nepal, and actually widens in Afghanistan and Sri Lanka.

**Inequality of opportunity for consumption**

When moving from education to consumption, the data (Figure 3.12) show that the burden of inherited circumstances on the individual economic achievements remains heavy in the region, with some heterogeneity suggesting a distinct hierarchy of countries.

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**Figure 3.11. There is an urban premium in IOp in years of education**

![Graph showing the urban premium in IOp in years of education](image)

Source: Bussolo et al. 2023.

Note: The figure shows the IOp (Gini index) in education for a given birth cohort for urban and rural population.
The predetermined circumstances explain a portion of total consumption inequality, which ranges between about 40 and 60 percent, with India at the highest point in the range and Sri Lanka at the lowest point. India displays one of the highest values of inequality of opportunity in the region for all the cohorts, and also exhibits an increasing trend over time. For the cohort of individuals born in more recent cohorts, more than 60 percent of total consumption inequality is driven by circumstances at birth.\textsuperscript{12}

The evolution of inequality of opportunity in consumption over time in the region shows, on average, a relatively stable pattern, particularly compared with the analogous evolution of IOp in education, but again with some heterogeneity. While Bhutan, Bangladesh and Sri Lanka show a (slight) reduction in the role of circumstances, countries such as Pakistan, in addition to India, show an increasing trend.

Hence, the analysis uncovers a puzzling divergence in the evolution of the inequality: the increase in equality of educational opportunities that, with different degrees and intensities, has characterized the region in the recent decades, has not been followed by a similar reduction in inequality of opportunities in other relevant individual economic achievements.

This disturbing divergence is illustrated in Figure 3.13. This figure shows a clear divergence when the trends in inequality of opportunity of consumption are contrasted with those of inequality of opportunity of primary education. However, when the trends of IOp of years of education are considered, the divergence remains pronounced only for India, Pakistan, and Bangladesh. This confirms the previously discussed features of the evolution of the educational opportunities and, in particular, the fact that the decrease of IOp in education is mostly driven by changes at the lower education levels and mainly in terms of quantity of primary education and not necessarily its quality. If, as documented recently for many countries,\textsuperscript{13} income gains accrue almost exclusively to those with high skills and tertiary education, while

\textsuperscript{12}Note that the latest surveys for India and Nepal used to estimate consumption per capita date from 2011. New surveys are currently underway and estimates of IOp for more recent cohorts would be possible when data will be released.

\textsuperscript{13}See for example Raveh and Reshef (2016) and Pi and Zhang (2018).
lower-skilled workers do not see real wage increases, then in the presence of a limited or unfair access to higher levels of education, which itself depends on the quality of primary education, the educational system can itself contribute substantially to overall income or consumption inequality. South Asian countries do not have many examples of data on learning that are comparable to countries in other regions. However, Angrist et al. (2021) construct an authoritative and globally comparable dataset of learning that covers 164 countries for the period 2000 to 2017. According to their dataset, South Asia is the region with the lowest learning score (at 335) below that of Sub-Saharan Africa (342) and far from those of the other regions. While these data do not directly speak to the inequality of learning, these large gaps in learning still suggest that even if South Asia countries were to reach 100 percent primary education attainment, i.e., a situation where there is zero inequality in the distribution of the quantity of primary education, a gap between the trends of IOp of education and IOp of consumption would likely still remain.

The divergence between IOp in education and IOp in consumption could also depend on additional and independent factors that could induce the labor market to remunerate the

Angrist et al. (2021) harmonize international and regional learning assessment test data for 164 countries to construct a Harmonized Learning Outcome (HLO) measure which can be used for global comparison of learning outcomes. A score of 625 on the HLO is equivalent to advanced proficiency in international assessment tests.
same education level in a differential way, according to some predetermined characteristics. That is to say, the inherited circumstances could have a first channel of influence, through educational attainments which, in turn, would affect the individual economic achievements later in life (income, consumption), and an additional channel by which they affect directly the remuneration of the acquired education in the labor market (for example, the network effect exercised by parents in the labor market).

The relative contributions of specific circumstances to overall consumption opportunity inequality vary greatly across countries and cohorts, but some patterns do emerge. A large percentage of inequality of opportunity can be traced back to a person’s location of birth, both with respect to the urban/rural divide and with respect to the region of residence. The demographic group (a composite variable taking into account caste, ethnicity and religious group) is the second-most-important factor and is particularly important in Pakistan and India, although its importance is weakening in both countries.

As for the case of inequality of opportunity of education, Box 3.3 describes examples of opportunity profiles for the case of consumption, providing a nuanced and differentiated narrative across the seven countries of the region.

Figure 3.14. The contribution of the different circumstances to IOp in consumption

Source: Bussolo et al. 2023.
Note: This chart indicates the percentage of the variation in consumption in each country that is explained by each individual circumstance. The relative contributions of the circumstances are calculated using Shapley decompositions. Cohort: Individuals born in 1980–84 (in India, Afghanistan and Nepal) and in 1985–89 elsewhere.
Box 3.3. Are opportunity gaps closing? A stylized version of the opportunity growth incidence curve

This box first presents a stylized version of an opportunity growth incidence curve (Peragine, Brunori and Palmisano 2014). This is a concept similar to that of the growth incidence curve used to assess whether the growth process is progressive, regressive, or has other distributional impacts. In an opportunity growth incidence curve, rather than ordering individuals according to their incomes into percentiles and then comparing what happens in terms of income growth to each percentile, individuals are grouped according to their inherited circumstances and these groups ranked according to their average incomes. Then, the levels of income (or consumption) for each group are compared in two moments in time and the growth of each group is a point of the opportunity growth incidence curve. This box focuses on two groups that are likely to be at different points of the income (or consumption) distribution. The opportunity gap between these two groups is represented by the difference (or the ratio) in the average consumption of the two groups. Considering these two groups (a high-opportunity and a low-opportunity group) for two cohorts, one born in 1950–1955 and another in 1970–1975, it is possible to assess whether the opportunity gap has closed or not. In other words, it is possible to see whether the opportunity growth has been “progressive” or not. Table 3.4 reveals a persistent disparity between advantaged and disadvantaged groups across countries. The selection of which of the many different circumstances-based groupings has been labeled high- or low-opportunity has been guided by available empirical literature and data in the surveys, but it should be considered as illustrative.

Among middle-aged “high-opportunity” individuals identified in the 1950s, on average, the baseline consumption per capita levels are at least twice and at most four times as large as middle-aged individuals in “low-opportunity” circumstances across each one of the seven South Asian countries in Table 3.4., except for Nepal. While the baseline differences are large, it is concerning to note that, decades later, some of the opportunity gaps remain significant, even if there has been progress in their reduction.

Across countries, the disparity between a high-opportunity and low-opportunity group over time has remained stagnant among low-opportunity groups across countries (Table 3.4). Table 3.4 also suggests that the convergence in consumption shares across advantaged and disadvantaged groups occurred at different rates across different countries. To investigate the evolution of opportunity gaps further, we use a growth incidence curve to illustrate the distribution of growth in mean consumption across opportunity groups in each country.
Table 3.4. Consumption profiles for "high-opportunity" and "low-opportunity" groups

<table>
<thead>
<tr>
<th>Country</th>
<th>Urban</th>
<th>Rural</th>
<th>Birth Cohort</th>
<th>Consumption Ratio*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Dhaka Muslims</td>
<td>Rangpur Hindu + Others**</td>
<td>1950</td>
<td>3</td>
<td>Middle-aged Muslims from urban parts of Dhaka born in the 1950s are likely to have three times higher consumption than Hindus in rural Rangpur. Twenty years later, the consumption gap has narrowed marginally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bhutan</td>
<td>West</td>
<td>East</td>
<td>1950</td>
<td>4</td>
<td>Individuals in urban parts of western Bhutan born in the 1950s are likely to consume four times more than those in rural parts of eastern Bhutan. Twenty years later, this gap has narrowed substantially.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>North Others***</td>
<td>Central Scheduled Caste</td>
<td>1950</td>
<td>3.6</td>
<td>A middle-aged individual belonging to the Scheduled Caste of rural central India born in the 1950s, consumes four times less than upper caste Hindus from northern India. Twenty years later, the gap has narrowed marginally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>Western Janajati</td>
<td>Western Muslim</td>
<td>1950</td>
<td>9</td>
<td>A Janajati born in the 1950s residing in urban western Nepal has a standard of living roughly nine times higher than a Muslim born in rural western Nepal. This stark difference between consumption levels decreases substantially 20 years later.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>Punjab Urdu</td>
<td>Punjab Others ****</td>
<td>1950</td>
<td>4</td>
<td>Balti/Siraiki/Balochi/Kashmiri speakers born in the 1950s, consume four times less than a middle-aged Urdu-speaking individuals from Punjab. Twenty years later, the difference in consumption levels between the groups decreased marginally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1970</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.4. Consumption profiles for “high-opportunity” and “low-opportunity” groups (continued)

<table>
<thead>
<tr>
<th>“High-Opportunity” Group</th>
<th>“Low-Opportunity” Group</th>
<th>Birth Cohort</th>
<th>Consumption Ratio*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri Lanka Urban North Central Sinhalese</td>
<td>Rural Sabaragamuwa Indian Tamils</td>
<td>1950</td>
<td>4.5</td>
<td>Sinhalese in urban north central Sri Lanka consume 4.5 more than Indian Tamils in rural Sabaragamuwa Sri Lanka. In the past 20 years, the difference in their consumption levels declined marginally.</td>
</tr>
</tbody>
</table>

* The consumption ratios represent the ratio of household monthly consumption per capita for high and low opportunity groups for each country across two birth cohorts, namely 1950–1955 and 1970–1975. The consumption estimates have been calculated using consumption data of individuals who were 35–54 years old at the time of data collection in each country-survey round. The selection of the low and high-opportunity groups is based on two criteria: lowest consumption at baseline and group size of at least 15. ** The “Hindu + Others” group in Bangladesh comprises of Hindus (primarily), Buddhists and Christians. *** The “Others” group comprises of all caste groups except Scheduled Castes, Scheduled Tribes, Muslims, and Other Backward Classes. **** The “Others” group in Pakistan comprises of individuals whose primary language is not Urdu/Punjabi/Sindhi or Pashto (i.e. Balti/Siraiki/Balochi/Kashmiri speakers).

Figure 3.15 shows the result of this exercise for Pakistan. The opportunity groups have been ordered on the x-axis by their baseline mean consumption in the 1950s. The y-axis illustrates the growth in mean consumption for each opportunity group between 1950 and 1970. The black points indicate the high- and low-opportunity groups selected to estimate consumption ratios across groups for Pakistan in Table 3.4.

Figure 3.15. Opportunity growth incidence of consumption across opportunity groups in Pakistan
**Intergenerational mobility in South Asia**

High and persistent inequality of opportunity across South Asian countries suggests an oversized role played by the “lottery of birth” compared with other parts of the world. Most of these circumstances—caste, gender, place of birth—beyond the control of an individual, are passed onto individuals through parents. In societies with low social mobility, these inherited circumstances dominate long-term life outcomes irrespective of individual effort. This is a perverse equilibrium where growth is hindered due to misallocation of talent and a poverty of aspirations. Relying on findings from a background paper on intergenerational education mobility in South Asia (Asher et al. 2023), this section develops a deeper understanding of patterns of upward mobility across space, time and communities within the South Asia region.

Bottom-half mobility was low and stagnant across much of South Asia over the latter half of the 20th century, despite rapid economic growth during the same period. In order to better understand the bottom-half mobility measure in Figure 3.16, consider a country with perfect intergenerational mobility. In such a setting, the education attainment ranks of individuals do not depend on the ranks of their parents at all. The average rank of an individual born to fathers in the bottom half of the distribution would be the 50th percentile in this fictional society. Now consider the other extreme where one’s education attainment rank is equal to the rank of their parent irrespective of their abilities or the environmental changes that they have been exposed to in their own generation. In such a society, the average rank of an individual born to fathers in the bottom half would be the 25th percentile.

Figure 3.16 suggests that the average South Asian individual born in the 1980–1990 birth cohort to fathers who were in the bottom half of the education distribution in their own generation has an education attainment rank of the 37th percentile. As a benchmark, the corresponding ranks of individuals born...
to fathers in the bottom half of the income distribution are the 46th and 42nd percentile for Denmark and the United States, respectively.

There is substantial heterogeneity in terms of intergenerational mobility within South Asian countries. Figure 3.17 suggest a distinct hierarchy of countries in terms of intergenerational education mobility in the region. Consider the cohort of individuals born to fathers in the bottom half of the education distribution in the 1990–2001 decade. During this same decade, each of the countries in the figure below (except Afghanistan\(^{16}\)) witnessed an interrupted substantial increase in economic growth per capita. However, this overall economic growth did not translate into dramatic reshuffling of social status ranks across generations, measured by bottom-half education mobility in most countries. Among the 1990–2001 generation of South Asian children born to parents in the bottom half, the average rank of a Bhutanese and Sri Lankan child is the 47th and 45th percentile, respectively, within their own lifetime. However, children born to parents in the bottom half in low-mobility countries, such as India and Pakistan, only end up at the 38th percentile within their own cohort.

Bottom-half mobility has been stagnant over time in low-mobility countries. Figure 3.17 establishes that the mobility gap between countries in South Asia is widening. Insofar as there was an increase in intergenerational mobility in the 20th century, this was concentrated in countries that are at the top of the intergenerational mobility hierarchy (Bhutan, Sri Lanka and Bangladesh).

\(^{16}\)We do not have data on GDP growth per capita or overall GDP growth in Afghanistan for 1991–2001 time period.
The heterogeneity in upward mobility by place is stark, both between and within countries in South Asia. Figure 3.18 illustrates bottom-half mobility for father-son pairs calculated at the country-birth cohort level and aggregated at the subnational level. National mobility measures in each country obscure the underlying geographic diversity in bottom-half mobility. For instance, in India, certain states such as Kerala, Goa, and Arunachal Pradesh display the highest levels of bottom-half mobility throughout the entire South Asian region. Yet, the Indian state of Bihar is one of the provinces with the lowest bottom-half mobility measures in the region, at levels similar to those of southern Afghanistan, Mid–western Nepal, Central Nepal, and Balochistan. Note that regions and sector (urban/rural) do not represent the entire gamut of spatial variation in intergenerational mobility. For instance, Asher, Novosad and Rafkin (2023), illustrate dramatic variation in bottom-half mobility at the neighborhood level using high-resolution census data suggesting that location matters for
intergenerational mobility right from the country down to the granular zip-code level, across developed and developing countries.

Importantly, the geographical heterogeneity observed in bottom-half mobility within countries follows a distinct urban-rural pattern. Across most countries in South Asia, children of fathers born to the bottom half are more likely to progress in terms of ranks in their own generation if born in urban areas as opposed to rural areas. This is consistent with the findings of Bussolo et al. (2023), illustrating a greater role played by circumstances in inequality of outcomes in rural areas compared with urban areas across South Asian countries.

Figure 3.19 echoes prior evidence establishing the vast differences in upward mobility prospects of urban and rural residents across India.\(^{17}\) The urban premium in upward mobility is likely driven by access to a wider range of economic opportunities in formal, non-agricultural sectors, which mediate the adverse effects of identity group-based hierarchies (Deshpande 2007). The central idea is that cities not only improve economic opportunities but also erode social norms, such as patriarchal ideologies. Motivated by this theory, Asher et al. (2023) study the interaction of gender gaps in intergenerational education mobility and the observed urban premium in mobility across South Asia. Figure 3.20 presents the findings.

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\(^{17}\)Vast differences exist in upward mobility prospects across urban and rural India (Iversen et al. 2015). Yamamoto et al. (2019) find that a widening of disparities in terms of access to opportunity between rural and urban areas in Nepal. In parts of rural Pakistan, there is evidence that historical inequality, in the form of land ownership and social status, continues to shape educational opportunities and outcomes for individuals (Cheema et al. 2013; Ashgar et al. 2018).
Figure 3.20. In most South Asian countries, the urban premium is driven higher upward mobility of women in urban areas.

Source: Asher et al. (2023).
Note: The figure shows bottom half mobility, which is the average education rank attained by individuals born in the 1990s to parents who are in the bottom half of the education distribution, by urban and rural sectors for each country in the sample. Note that Afghanistan has not been illustrated in the figure above due to the particularly coarse education attainment distribution of women in Afghanistan compared with the rest of the region.

Informal social institutions, such as caste hierarchies and patriarchal norms, are likely to govern socio-economic behavior and decisions in the absence of formal institutions, such as widely accessible public education and formal labor market opportunities. Urbanization can counter the reliance on informal institutions by widening access to formal economic opportunity, which would obviate reliance on informal institutions. While the drivers and consequences of structural transformation is a critical area of research within development economics, empirical evidence remains nascent on the extent to which and how urbanization interacts with caste hierarchies, ethnic-group affinities and patriarchal norms to ultimately impact economic mobility and inequality of opportunity.
3.3 Policies

The previous sections of this chapter document the variation and limitations in the scope for upward mobility in South Asia, alongside the growing perception of inequality in the population. Addressing existing social and economic divides in South Asia is crucial for the region to fully realize its economic potential. Over the next two decades, South Asia is expected to be the fastest-growing region in the world. Unless this economic growth is inclusive, existing social divides will widen and increase overall inequality which, in turn, will limit the growth potential of the region.

Calls for a more equal income distribution are higher in South Asia than in any other region and have increased significantly since the 1990s, suggesting that public support for policies to promote inclusive growth in the region is rising. The share of people in favor of a more equal income distribution is nearly twice as high in South Asia compared with other regions, according to data from the World Values Survey (Figure 3.21). Calls for more equality have been rising in South Asia since the 1990s. For example, between 2000 and 2016, the share of people strongly in favor of the idea that incomes should be more equally distributed increased from 30 to 38 percent—a significantly higher increase than in any other region (Figure 3.22).

Among countries in South Asia, support for reducing inequality is especially high in India (Figure 3.23). On average, people in India appear to be significantly more supportive of a relatively even distribution of income compared with people in neighboring Bangladesh and Pakistan. Strikingly, support for greater equality extends across the income distribution. Based on a large nationwide survey of 116,061 households conducted in India, Bussolo and Dixit (2023) find that over 80 percent of people believe that inequality is a problem for society. Even among people who perceive themselves to be in the top decile of the income distribution, more than 80 percent view inequality as a concern. This concern with inequality is visible across caste, religious and regional lines.

The demand for greater equality is accompanied by support for state intervention to bring about more equitable outcomes. Figure 3.24 shows that the average World Values Survey (WVS) respondent in India, Bangladesh and Pakistan leans toward believing that their governments bear primary responsibility for ensuring that everyone is provided for, rather than the individual. While the belief in the role of government is prevalent in each country, it is

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18 The lower support for redistributive policies in Pakistan may be related to lower trust in the national government authorities’ ability and willingness to implement them. This may signal that the social contract is under strain and people are opting for informal forms of redistribution (such as the Zakat system). This interesting hypothesis is worth further research. For an example of such a study see Bussolo et al (2018).

19 This is the Consumer Pyramids Household Survey conducted by the Centre for the Monitoring of the Indian Economy.
especially high in India, in line with the relatively higher support for reducing inequality. Based on findings from India by Bussolo and Dixit (2023), the belief that inequality is a problem for society is near synonymous with the belief that the government should reduce the gap between the rich and the poor.

Perceptions or subjective measures of inequality are important because of their implications for social cohesion, as well as their implications for public support for redistributive policies, even if perceptions are not necessarily an accurate measure of the extent of inequality. People’s perceptions likely go beyond their income or economic circumstances, and reflect their experiences relating to economic insecurity, dignity, beliefs about fairness and social mobility, and ideology. In that sense, perceptions offer a window into social aspects of inequality that income- or asset-based measures cannot capture. Bussolo and Dixit (2023),

Figure 3.21. The demand for a more equal income distribution is higher in South Asia than in any other region

![Figure 3.21](image1)

Source: World Values Survey (WVS).
Note: Regional averages based on latest available data for each country. South Asian countries included are Bangladesh, Pakistan and India. Respondents are asked on a scale from 1 to 10 how much they agree with following statement: “1=Incomes should be made more equal” versus “10=There should be greater incentives for individual effort”. Population shares are calculated based on the percentage of respondents that agree strongly with “Incomes should be made more equal” (i.e., they select option 1 or 2 in their replies).

Figure 3.22. The demand for a more equal income distribution has increased significantly since the 1990s and more so for South Asia than in other regions

![Figure 3.22](image2)

Source: World Values Survey (WVS).
Note: Figure shows the difference in the share of respondents that strongly agree that income should be made more equal between 1995 and 2004 (wave 3-4) and 2010-2022 (wave 6-7). South Asian countries included are Bangladesh, Pakistan and India. Respondents are asked on a scale from 1 to 10 how much they agree with following statement: “1=Incomes should be made more equal” versus “10=There should be greater incentives for individual effort”. Population shares are calculated based on the percentage of respondents that agree strongly with “Incomes should be made more equal”. (i.e., they select option 1 or 2 in their replies).
for instance, show that people’s views of their economic standing in society reflect not just their household income, but also the sharing of resources within communities implicit in religious and social goods such as places of worship, religious ceremonies, cultural events, community kitchens, and so on. The implication is that policy measures that aim to bring about a more equitable distribution of income must also be attentive to their impacts on the provision of informal public goods within communities.

Overall, these data suggest that people in South Asia are increasingly concerned about economic inequality, and that policies to promote inclusive growth are likely to find widespread public approval. The remainder of this section outlines areas where effective policies can help foster inclusive growth.

Building an opportunity-egalitarian society is not an easy task and requires interventions both on the supply and demand side of both factor and product markets. The discussion that follows in this section highlights some policy areas that deserve attention to achieve this goal. Some will require considerable long-term investments and may not be immediately possible in the current macroeconomic context, while others may not have large fiscal costs and could be pursued right away. When thinking of policies, it may be
useful to keep in mind the conceptual framework put together by the international panel on social progress (www.ipsp.org), which classifies policies in three groups: (i) pre-market (or pre-distribution), a group which includes policies preparing individuals such as education, training policies, but even inheritance; (ii) in-market which affects the rules of how the market (and even society) functions and includes competition policies, technology policies, labor market regulations, electoral system rules amongst others; and (iii) post-market (or redistribution) which includes safety nets as well as progressive taxation.

An opportunity-egalitarian society rests it foundation on all these three groups of policies. However, the remaining of this section describes just a subset of policies, linking them to the findings of the previous sections: education policies (considering interventions on both the supply and demand side), affirmative action policies, labor mobility interventions, as well as support to small and medium enterprises.

Achieving an inclusive set of education policies requires interventions on both the supply and the demand side. On the supply side, South Asia has witnessed success in increasing literacy and expanding enrolment in primary schooling. In recent years, all countries in the region have made considerable strides toward achieving universal or near-universal enrolment in primary school. However, enrolment in secondary school lags far behind. Based on statistics reported by UNESCO Institute of Statistics\textsuperscript{20} in 2018–2019, gross enrolment in primary school in India, Bangladesh and Pakistan exceeded 95 percent, while gross enrolment in secondary school was 74, 73 and 44 percent, respectively, in the three countries. This points to a massive gap in educational opportunities, which can be addressed with greater public investments in education. However, such investments are lacking. As of 2019–20, government spending on education in South Asia was less than 3 percent of GDP, well below the global average of 4.3 percent and well short of the quantum of investment necessary to meet the aspirations of an overwhelmingly young population. As a percentage of per capita GDP, government expenditure per student on secondary education is relatively low, at 12 percent in South Asia, compared with a global average that exceeds 20 percent. Educational investments hold the key to expanding equality of opportunity and must be ramped up significantly. However, it is important to qualify this supply-side expansion. First, the focus on primary schools, and especially on improving the quality of basic education should not be neglected. In fact, successful progression to secondary and higher education is dependent on learning the basic skills of primary education. Measurements of learning in South Asian countries are available but, with few exceptions (see Angrist et al 2021), learning scores are not internationally comparable. This makes it difficult to compare and assess policies aimed at improving education in the region. Second, the system of government might impact a country’s capacity to deliver equitable education opportunities. In countries with a federal government system, such as India, the provision of (some) public goods is the responsibility

\textsuperscript{20}Visit http://uis.unesco.org/ for more details.
of individual states. In this case, policies and policy implementation can be different across states and, if these differences persist, reductions of inequality of opportunity may be slower than those for a country with a more unitary government system (Asadullah and Yalonetzky 2012). In fact, as shown in Section 3.2, Bangladesh, which has a more unitary government system, achieved a more equitable education expansion. A related and third qualifier is that if increased investment in secondary education is to remedy spatial and social inequalities, and translate into a more equitable society, resources would need to be earmarked in a progressive fashion targeting, among others, the ‘low-opportunity’ groups identified in Box 3.2, Table 3.3.21

**Interventions to achieve inclusive education are also needed on the demand side.** Social norms can both affect decisions regarding girls’ education and influence employment outcomes of women. For example, in Nepal, Vogel and Korinek (2012) find that households are more willing to invest in boys’ than girls’ education based on norms about their role in society. Another study in Pakistan (Sawada and Lokshin 2009) finds that lack of (local) schools affects female education more strongly than male education but also that sociocultural factors, such as the risk of violating the purdah if girls have to go far from home to reach a distant school, exacerbate the supply-side constraint of lack of schools (or absence of female teachers). In Sri Lanka, Malhotra and DeGraff (1997), and Gunatilaka (2013), find that the labor market behavior of educated young women is shaped by family expectations about their role as daughters in the household, cultural differences in the acceptability of young women working, marital status, and more. The case of Afghanistan is particularly significant in terms of the restrictions on education for girls and policies, both on the demand and supply side. Hence, improving the situation will have to be tailored to the specific countries.

**Among policies specifically designed for the ‘low-opportunity groups’, affirmative action deserves renewed consideration.** Commonly referred to as quotas or reservations, affirmative action includes programs or policies to redress past and present inequalities through preferential treatment of members of marginalized groups. Nepal’s affirmative action policy, which reserves public jobs for disadvantaged groups, has significantly improved educational and labor markets by incentivizing younger eligible candidates to invest more in their human capital (Subedi et al. 2022). Similarly, affirmative action policies for scheduled castes have increased educational attainment in secondary schooling and literacy in India (Cassan 2019). Hence, the appropriate implementation of affirmative action policies can serve to reduce the opportunity gaps discussed in this report. Simultaneously, inequality has multiple dimensions, and affirmative action policies that work effectively along one dimension may neglect another. Policies for scheduled castes in India significantly enhanced education

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21In case of tertiary education, an important policy is access to funding (including credits). Other relevant policy measures include: network considerations (access to nearby institutions and dorms, especially for women); bridging programs supporting transition from secondary to tertiary; flexible learning pathways (which can be supported by modularization), among others.
outcomes for boys, but not so for girls from scheduled castes (Cassan 2019). This suggests that such policies must be complemented by measures to promote gender equity in the allocation of their benefits (see Box 3.4 for more details).

**While improving access to education, public institutions need to pay attention to the economic and social mechanisms that allow individuals to translate their educational skills into earning abilities.** As shown in Section 3.2, inequalities in education and inequalities in consumption follow different patterns. Hence, alongside more investment in secondary education, there is a need for avenues that make it more feasible for people to productively pursue income-generating work. In part, this requires employment creation. Alarmingly, estimates from the International Labor Organization (ILO) suggest that the labor force participation rate in South Asia declined steadily between 2005 and 2019, from nearly 60 percent to just over 53 percent.22 Over the same period, the population in the region grew by about 300 million, and the share of the population aged 15–64 grew by 6 percentage points,23 with millions of young adults added to the labor force every year. Policies to foster the growth of micro, small and medium enterprises (MSMEs) are essential. MSMEs account for a large fraction of employment in South Asia’s predominantly informal labor markets and suffered a serious setback from pandemic restrictions. Investing in MSME growth would help create the jobs to productively employ a larger population in pursuit of upward mobility. To promote equality of opportunity, a renewed policy emphasis on MSMEs would also need measures to enable more individuals from underrepresented groups to join the labor force. An important example of this is the gender gaps in labor force participation in the region, which point to the need to facilitate women’s involvement in labor markets. For instance, policies that enhance women’s mobility and autonomy, making it easier and safer for women to travel and engage in paid labor outside the household, could go a long way toward reducing the documented gender inequalities in upward mobility.

**Enabling individuals to move to places with greater scope for mobility would also help reduce inequality of opportunity.** The report highlights the ‘urban premium’ in South Asia, whereby the share of inequality in years of education that is explained by one’s circumstances is lower in urban areas than in rural areas for all the countries in the region. Urban areas are also known to offer a significant wage premium. Alongside urban-rural differences, there is also a significant geographic variation in upward mobility, as visualized in Figure 3.18. While some countries have been able to shrink such gaps, it is also worth exploring policies that enable people to migrate to higher-opportunity areas. Many of the constraints on migration are well-known. People often lack information about where to migrate, underestimate the income gains from migration, and are unable to afford the costs of relocation

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22 Visit https://ilostat.ilo.org/data/ for more details.
Box 3.4. Affirmative action policies in South Asia

Broadly defined, affirmative action involves programs or policies developed to redress past and present inequalities through preferential treatment of members of groups that have been excluded, or restricted, from accessing specific social and political spheres. Affirmative action policies are also commonly referred to as reservations, quotas, preferential treatment, or positive discrimination. Affirmative action policies have been used extensively by several governments in South Asia to level the playing field in political representation and create opportunities in education and the labor market.

Political reservation policy can be an effective redistribution tool

Political reservation policies typically reserve a certain percentage of political positions or seats in elected bodies for groups that are under-represented. The rationale behind these policies is that increased representation of these groups in political decision-making will lead to improved opportunities, such as access to education, employment, and other public goods. On the other hand, reservations restrict the electorate’s choice and, hence, introduce distortions. Restricting the pool of political candidates to groups that have been historically disadvantaged and might have less education and experience could reduce the quality of public service delivery.

Findings from empirical studies conducted in South Asia suggest that the benefits of political reservation policies outweigh the costs (Duflo 2005). Reservation policies have increased the political participation of discriminated groups in the political decision-making process in South Asia. In India, political reservations have led to a sharp increase in the participation of women, scheduled castes, and scheduled tribes (Chattopadhyay and Duflo 2004; Cassan and Vandewalle 2021).

Reservation policies have also been found to shift policy decisions and public good provisions in favor of discriminated groups. In India, village councils reserved for women are found to invest more in public infrastructure directly relevant to women’s needs (Chattopadhyay and Duflo 2004). Reservations of seats for scheduled castes and scheduled tribes in the state legislative assemblies are found to increase welfare transfers to these groups (Pande 2003). Similarly, political reservations at Indian village councils are found to increase access to local public goods such as toilets, electricity and private water connections for scheduled tribes and scheduled caste households (Besley et al. 2004).
While reservation policies do bring to power a group of relatively less experienced and less educated politicians, there is no empirical evidence that links reservation policies to reduced public services quality. For example, contrary to public perceptions, village councils reserved for women provide more public goods and those goods are of better quality (Duflo 2005).

**Affirmative Action Policies in Education and Public Employment**

In addition to increasing political participation, one can also design policies that directly improve opportunities for discriminated groups in the labor market. Through a quota system, a share of public sector jobs can be reserved for disadvantaged groups. Borooah et al. (2007) find that public job reservations in India increase the share of scheduled castes and scheduled tribes in regular salaried employment. Besides the direct opportunities for those who become employed in these public sector jobs, quotas also increase the returns to education for disadvantaged groups. Recent research on affirmative action policies in South Asia shows that these indirect effects can be important in improving overall educational attainment and labor market outcomes for discriminated groups by incentivizing younger eligible candidates to invest more in their human capital (Khanna 2020; Subedi et al. 2022). For example, Nepal’s affirmative action policy, which reserves quotas in public jobs for women and disadvantaged castes, significantly improves monthly earnings and educational attainment for these targeted groups (Subedi et al. 2022). In India, affirmative action policies incentivize students from targeted groups to take up around one extra year of schooling (Khanna 2020).

Affirmative action policies in education can range from quotas in higher education institutions to various policies that reduce the cost of education for discriminated groups through free secondary schooling, scholarships, and free school meals. Reducing the cost of education can incentivize parents to keep students in education for longer by altering the cost-benefit considerations of their human capital investment decision. Quotas in higher education institutions can increase both the quantity and quality of schooling target groups receive. For example, Badge et al. (2016) show that an admission policy that fixes quotas for lower castes and women in Indian engineering colleges increases college attendance of targeted students in higher-quality colleges and, as a result, increases their educational achievement. Quotas in higher education can also indirectly benefit the targeted groups more generally by increasing the returns to education in primary and secondary schooling. For example, Cassan et al. (2019) find that affirmative action policies increased literacy and secondary schooling for boys of
scheduled castes in India. In Sri Lanka, an affirmative action policy based on region-based targeting of university students increases representation of students from disadvantaged regions (de Silva et al. 2021).

While affirmative action policy can be an effective tool for redistribution, not all targeted groups benefit equally from these policies. For example, Cassan and Vandewalle (2021) find that gender quotas for political office mostly improve the representation of lower caste women. Social norms around the mobility of women and female labor force participation are more restrictive within higher caste groups preventing women from these groups from taking up these opportunities. Similarly, while affirmative action policies improve educational opportunities in secondary schooling for boys from scheduled castes in India, girls did not benefit from these policies (Cassan et al. 2019). Hence, individuals at the intersection of discriminated groups may not be sufficiently protected by policies that ignore cumulative disadvantage. Moreover, some groups in South Asia are left out of current affirmative action policies, while also facing considerable disadvantages. For example, findings from a recent study in India suggest that affirmative action policies can explain the widening opportunity gap between scheduled castes and Muslims who did not benefit from these policies (Asher, Novosad and Rafkin 2023).

In sum, the devil is in the details. While the literature suggests that the benefits of affirmative action policies outweigh their costs, the design and implementation of such policies vary considerably across countries and most empirical evidence available for South Asia is concentrated in India. More research into the effectiveness of these policies in Bangladesh, Pakistan, Nepal, and Sri Lanka is therefore needed. Also, the ultimate objective of effective affirmative action policies should be the long-term eradication of discrimination. However, we do not yet have empirical evidence of this long-term impact, namely of the impact once the policies have stopped.
these constraints. Programs that help finance travel costs, provide accurate information to individuals about where to migrate in search of opportunities, and enable individuals to understand what life might be like if they migrated could be impactful. The expansion of state safety nets to include the urban poor, for instance by extending unemployment insurance programs to the informal sector, may also alleviate the risks that individuals take in moving to an unfamiliar labor market. Such policies could greatly facilitate the movement of human capital to regions offering higher scope for upward mobility. They constitute potential tools for any government aiming to help people defy the ‘lottery of birth’.
Appendix III

Appendix 3.1: Underlying Data, Constructed variables, and Methodology

3.1.1 Data

The analyses in Bussolo et al. (2023) and Asher et al. (2023) form the foundation of the present chapter on Social Progress in South Asia. The underlying dataset for the two papers draws on 39 national household surveys conducted across seven countries in South Asia, namely Pakistan, Afghanistan, India, Bangladesh, Sri Lanka, Bhutan, and Nepal. The details of each survey, such as its name and year of conduct, and sample size, are presented in Table A1.

Beyond the analytical contributions of the underlying studies supporting the present chapter, the harmonized data backbone spanning millions of individuals across South Asia between 1950 and the 2000s will be released as a digital public good to support future research on inequality of opportunity and upward mobility in South Asia.

Table A3.1. Data harmonized for the underlying analyses in Bussolo et al. (2023); Asher et al. (2023)

<table>
<thead>
<tr>
<th>Country</th>
<th>Survey</th>
<th>Name</th>
<th>Survey years used in analysis for Education</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>ALCS</td>
<td>Afghanistan Living Conditions Survey</td>
<td>2013, 2016</td>
<td></td>
</tr>
<tr>
<td>Afghanistan</td>
<td>IELFS</td>
<td>Integrated Expenditure and Labor Force Survey</td>
<td>2019</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>DHS</td>
<td>Demographic and Health Surveys</td>
<td>1998, 2005, 2015, 2019</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>IHDS</td>
<td>India Human Development Survey</td>
<td>2005, 2011</td>
<td></td>
</tr>
</tbody>
</table>
3.1.2 Constructed Variables and Methodology

**Inequality of Opportunity Bussolo et al. (2023)**

Bussolo et al. (2023) focus on two outcome variables of interest: education attainment and economic well-being.

The primary outcome of interest to measure inequality of opportunity in education attainment is years of schooling recorded at the individual level. This variable ranges from 0 to 16 years. The variable is top-coded at 16 years to curtail outliers and misreporting. Furthermore, the analysis focuses on individuals who are at least 21 years of age to ensure that education attainment is complete at the time of data collection. Additional analyses have also been presented using measures of education levels, such as literacy, primary school, middle school, and so on.

To measure economic well-being, the analysis in Bussolo et al. (2023) use household consumption per capita as the primary measure, following the literature on IOp in developing countries (Brunori et al. 2019; Hufe 2021; Hufe et al. 2022).

The circumstances incorporated in the estimation of IOp are gender, place of birth, and demographic/ethnic group. While the educational attainment IOp estimation incorporate
gender (male/female), the variable is excluded from the consumption analysis as the outcome is determined on the household level. Place of birth is subdivided into two dimensions: urban/rural status and geographic location (e.g., region, state). While a subsample of surveys directly record place of birth, Bussolo et al. (2023) proxy it by the place of residence at the time of survey and provide supportive evidence for this approximation through estimates for migration between place of residence and place of birth. The geographic location follows salient divisions in the given countries and ranges, in terms of granularity, from four regions in Bhutan to nine states in Sri Lanka.

The demographic/ethnic group is a composite variable that takes into account data limitations. For Afghanistan, the variable is constructed based on the largest demographic group in the province of residence reported in the Asia Foundation’s “Survey for Afghan people 2006–2019”. If a group has a population share of more than 70 percent in a given region, the individual residing there is attributed to this demographic group. If there is no such clear majority group the individual is assigned to the residual other category. In this manner, five demographic groups are formed: Pashtun, Tajik, Uzbek, Nuristani, Others + Mixed Area. In Bangladesh, a binary classification in Muslim (majority population) and non-Muslim is utilized. For Bhutan, no demographic/ethnic group variable could be found across surveys. For India, caste and religion are combined into a salient classification of five groups: Scheduled Caste, Scheduled Tribe, Other Backward Class, Muslim and Others. In Nepal, a similar compound classification of caste and religion is derived: Janajati, Khas, Muslim and Others. For Pakistan, the language of the interview is used for classifying demographic groups: Urdu, Punjabi/Hindko, Sindhi, Pushtu and Others. Ethnicity is directly reported in Sri Lanka and renders distinction into five groups: Sinhalese, Sri Lanka Tamil, Indian Tamil, Sri Lanka Moors and Others.

All analyses are performed at a cohort level. To attain sufficient sample size, observations are pooled across surveys and survey years. Such pooling for educational outcomes is non-problematic due to educational attainment not (rarely) changing after the completion of the individual’s initial educational career. For the consumption analysis, the World Bank’s PPP in private consumption is applied to the year-specific outcomes to establish comparability across survey years and the data are limited to harmonized estimates based on the World Bank’s SARMD database. In addition, the consumption analysis is based on individuals who are between the ages of 35–55 years at the time of data collection to account for dynamic income-age effects. The table below illustrates the cohorts and age-groups of a single country as an example of the underlying analysis sample. The shaded area indicates the restricted sample for estimation of consumption IOp.
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<thead>
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<tbody>
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<td>0</td>
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<tr>
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</tr>
<tr>
<td>Total</td>
<td>10,528</td>
</tr>
</tbody>
</table>

Note: The table above illustrates sample sizes at the intersection of each five-year birth cohort and age group drawn from pooled survey rounds in India. The shaded area indicates the restricted analysis sample for the consumption IOp analysis.
Measuring inequality of opportunity (IOp): The Empirical Model

Consider the distribution of outcome $Y$ (education, income, consumption) in a given population. Suppose that all determinants of individual income $Y$, including luck, can be classified into either a set of circumstances $C$ that lie beyond individual control or as individual-specific mutable characteristics, summarized by a variable $F$, denoting effort. Following Ferreira and Peragine (2016), the simplified outcome generating process can be described by a function $g$ such that

$$ Y = g(C, F) $$

In this model, income is exclusively determined by circumstances and effort, such that all individuals having the same circumstances and the same effort obtain the same income. The source of unfairness in this model is given by the effect that circumstance variables have on individual outcomes. The main methodological challenge for quantifying IOp is quantifying this unfair part of outcome inequality. In the literature, this is usually done by constructing suitable counterfactual distributions, $Y^C$. By construction, $Y^C$ is able capture the variability in the outcome uniquely arising from the differences in the circumstance variables, $C$, while ignoring the differences resulting from different $F$.

Following Ferreira and Gignoux (2011), a parametric set up is adopted to estimate the counterfactual distribution $Y^C$, denoted $\hat{Y}$, which allows us to approximate the outcome of circumstance-based groups with few observations. It assumes a linear relationship between the outcome and the circumstance/effort variables. The outcome generating process can be written as:

$$ Y_i = bC_i + cF_i + u_i $$

with $u_i$ being an error term. As recognized by the literature (see for example Roemer 1998), effort, the so-called legitimate source of inequality, can itself be partially determined by the existing social circumstances. Effort variables themselves are often assumed to be a function of circumstances as below:

$$ F_i = dC_i + v_i $$

with $v_i$ being another error term uncorrelated with $u_i$. Hence, the outcome generating process in equation (1) can be reformulated as a reduced form equation, as follows:

$$ Y_i = bC_i + c(dC_i + v_i) + u_i = (b + cd)C_i + (cv_i + u_i) = \beta C_i + \epsilon_i $$

From the OLS estimates of equation (4), inequality of opportunity is then measured as the value of a given inequality measure $I(\cdot)$ applied to the distribution of the predicted values $\hat{Y}$.
where \( \hat{Y}_i = \hat{\beta} C_i \). For a given inequality measure \( I \), the value of absolute inequality of opportunity is given by \( I(\hat{Y}) \). The value of relative inequality of opportunity (IOp) as the share of unfair inequality in the total outcome inequality, is given by \( I(\hat{Y}) / I(Y) \). In Bussolo et al. (2023) the inequality measures used is the Gini index (see Brunori et al. 2019 for a discussion of the most suitable inequality measure in the context of equality of opportunity).

In the case of a binary outcome (e.g. literacy), equation (2) is instead estimated via a PROBIT regression. In this case, a suitable measure of inequality is the dissimilarity index (D-index), which is given by the average distance between predicted outcomes and the mean predicted outcome. Formally:

\[
D = \frac{1}{2N} \sum_{i=1}^{N} |\hat{Y}_i - \overline{Y}| \tag{4}
\]

The interpretation of this index is very similar to the Gini coefficient: a D-index equal to 0 means that opportunities are equally distributed across individuals. A D-index approaching 1 indicates that all opportunities are concentrated on one individual. Thus, a low value of D means a low level of IOp. Conversely, a higher value of D means a high level of IOp. Higher than average predicted outcomes, based on favorable circumstances, will lead to a higher D-index, as will lower than average predicted outcomes due to unfavorable circumstances.

**Bottom Half Mobility (Asher et al. 2023)**

The primary outcome of interest in Asher et al. (2023) is a novel measure of intergenerational education mobility that circumvents specific issues that arise in the estimation of intergenerational mobility in data-constrained developing country settings.

In South Asian countries, data on income are limited and unreliable. While researchers have used education attainment as a proxy measure for income to calculate intergenerational mobility in developing countries (Solon 1999; Guell et al. 2013; Wantchekon and Stanig 2015; Card et al. 2022; Derenoncourt 2019; Alesina et al. 2021), this approach also poses a problem in the South Asian context for the following reason.

Consider individuals born in the 1971–1980 birth cohort in Pakistan, 59 percent of fathers are in the lowest years of education category. As a result, it is impossible to identify a father at the 25th percentile of the education attainment distribution and estimate the average education attainment of their children. The education attainment distribution is similarly coarse for other South Asian countries.

Asher, Novosad and Rafkin (2023) developed an estimate of intergenerational education mobility that overcomes the issue posed by coarseness of the education distribution. This measure—the
bottom-half mobility measure—uses a partial identification approach to provide precise bounds on the average education attainment rank of an individual conditional on their parental education attainment rank.

Calculating bottom-half mobility requires matched parent-child education attainment across birth cohorts. In the first step, raw education attainment variables capturing years of schooling are transformed into weighted education ranks within birth-cohort and gender groups. At the second stage, a transition matrix is created to illustrate the education attainment distribution of children born to parents in each education category. The shares in each cell of a transition matrix provide the weights for calculation of average education attainment ranks of children born to parents in each education attainment category. At the final stage, bounds are calculated on the average education attainment rank of children born to the group of parents within the bottom half of the educated distribution even if the bottom half is not directly observed in the data due to coarseness. The bounds are calculated using a simple principle of monotonicity wherein the average education attainment rank of children born to parents in any education attainment bin is either higher or equal to the average education rank of children of parents in the next education attainment category.

To construct this measure, a harmonized education attainment variable across all surveys was constructed with the following categories: (i) less than two years of schooling; (ii) some primary education; (iii) completed primary education; (iv) completed middle school; (v) completed high school; and (vi) post-high school. For individuals who were still attending an educational institution at the time of the survey, it is assumed that they would complete the level of education they were pursuing. Since education attainment of parents is not directly recorded across most surveys, parent-child education attainment is matched using household rosters. To account for co-residence bias emerging from this process, the analysis limits the sample to individuals who are old enough to have completed high school education yet are young enough to remain in co-residence with parents. These age intervals were identified using the underlying distribution of education attainment and co-residence share across countries. The age intervals vary by gender since women tend to leave home earlier than men primarily for marriage in the South Asian context.
References


