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RESEARCH 03

Equality of Opportunity

The Lottery of Birth

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Abstract

Equality of opportunity is often presented as the least controversial form of equality: people may legitimately end in different places provided that they begin with a fair chance. The difficulty is that no person begins life from a neutral starting point. Family income and wealth, parental education, health, neighbourhood, school quality, social networks, race, gender, citizenship and geography are allocated before meaningful individual choice is possible. These circumstances affect not only the resources available to children but also the environments through which skills, expectations, information and opportunities are formed.

This study examines the mechanisms through which circumstances of birth become differences in life chances. It distinguishes formal access from fair opportunity and absolute mobility from relative mobility, and it treats intergenerational mobility as an empirical test of how strongly social position is transmitted across generations. Evidence from OECD countries and the World Bank shows substantial persistence in income, education, occupation and health. In a typical OECD country, current rates of earnings persistence imply that it may take four to five generations for descendants of a family in the bottom income decile to reach mean income. Educational opportunity remains strongly associated with family background, while neighbourhood exposure, teacher quality, childhood health and cross-class social connections have measurable long-term effects.

The study develops an **Opportunity Formation Model** in which circumstances shape childhood environments; environments shape capabilities and expectations; institutions create gateways into education, employment, finance and social networks; and individual choices operate within the opportunity set produced by these prior stages. Outcomes then become resources and circumstances for the next generation. Equality of opportunity therefore cannot be reduced to a single moment of competition. It is a life-course and intergenerational property of institutions.

The resulting policy implication is not that outcomes should be equalised or that agency should be discounted. It is that societies seeking genuine equality of opportunity must pay particular attention to the points at which inherited circumstances become durable advantages or disadvantages: early childhood, schooling, health, place, networks, access to capital and transitions into work. A fair opportunity structure expands the range of futures that are realistically available before individuals are asked to choose among them.

Keywords: equality of opportunity; social mobility; intergenerational mobility; family background; education; childhood; neighbourhoods; social capital; inheritance; capability; meritocracy

1. Introduction

Equality of opportunity occupies a distinctive position in debates about equality. Societies may disagree sharply about the desirability of equalising income or wealth, yet there is broad normative appeal in the proposition that people should have a fair chance to develop their abilities and pursue valued lives. The principle appears to reconcile two ideas that are sometimes treated as opposites: equality and personal responsibility. People need not achieve identical outcomes if the opportunities from which they choose are genuinely fair.

The challenge lies in the word **genuinely**. A competition can be formally open to everyone while the ability to compete has been shaped for years by unequal circumstances. John Rawls distinguished careers formally open to talents from fair equality of opportunity,

under which people with similar abilities and motivation should have similar prospects regardless of their social class of origin.¹ John Roemer later formalised a related distinction between circumstances for which individuals should not be held responsible and effort for which responsibility might reasonably be attributed.² Amartya Sen added a further complication: equal resources or formal rights do not create equal opportunity if individuals differ in their ability to convert those resources into substantive freedom.³

This produces a central problem for empirical research. Effort is observable only after family, health, education, neighbourhood and social expectations have already influenced the person exerting it. Preferences themselves may be partly shaped by exposure and information. The task is therefore not to eliminate agency from the analysis but to understand the environment within which agency becomes possible.

The World Bank has described equity as involving both avoidance of deprivation and the absence of circumstances that systematically determine access to economic, social and political opportunity.⁴ The OECD approaches social mobility in a similar way, examining whether socio-economic outcomes are strongly related to those of parents across income, education, occupation and health.⁵ These approaches move equality of opportunity away from a single legal rule and towards the architecture of life chances.

This study develops that architecture. It asks how birth circumstances are translated into later opportunities, how mobility can be measured, why some institutions amplify inherited differences while others compress them, and what it would mean for opportunity to be sufficiently independent of origin that responsibility for subsequent choices becomes more meaningful.

2. What Equality of Opportunity Means

At least three conceptions of equality of opportunity should be distinguished.

Formal opportunity requires that positions are legally open and that explicit barriers based on irrelevant personal characteristics are removed. This is indispensable but weak. If two children may legally apply to the same university while one has experienced years of superior schooling, tutoring, financial security and information, equal permission to apply does not establish equal opportunity.

Fair opportunity focuses on the conditions under which individuals develop the capacities required to compete. It asks whether social origin systematically changes the probability of acquiring education, health, skills, confidence, information or credentials. In Rawlsian terms, it seeks to reduce the influence of social class on prospects among people similarly motivated and endowed.⁶

Substantive opportunity goes further by asking whether options are realistically exercisable. Sen's capability approach is relevant here. An opportunity that exists in law or

¹John Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971), secs. 11-14.

²John E. Roemer, *Equality of Opportunity* (Cambridge, MA: Harvard University Press, 1998), 1-30.

³Amartya Sen, *Inequality Reexamined* (Oxford: Clarendon Press, 1992), 19-30.

⁴World Bank, *World Development Report 2006: Equity and Development* (Washington, DC: World Bank and Oxford University Press, 2006), 2-4.

⁵OECD, *A Broken Social Elevator? How to Promote Social Mobility* (Paris: OECD Publishing, 2018), 24-38, <https://doi.org/10.1787/9789264301085-en>.

⁶Rawls, *A Theory of Justice*, sec. 14.

on paper may not be a genuine option if a person lacks transport, health, childcare, finance, information or social acceptance necessary to use it.⁷

These three conceptions are cumulative rather than competing. Formal opportunity protects access. Fair opportunity concerns the formation of capacities. Substantive opportunity concerns the ability to convert capacity and access into actual choice. A society can perform relatively well on one dimension and poorly on another.

Table 1. Three layers of equality of opportunity

Layer	Core question	Typical barrier	Illustrative evidence
Formal access	Is the option legally and institutionally open?	Discriminatory rules; exclusionary eligibility	Admission, hiring and legal access
Fair formation	Were relevant capabilities formed under reasonably fair conditions?	Unequal childhood resources, schools, health and exposure	Learning gaps; parental-background effects
Substantive exercise	Can the person realistically use the option?	Finance, care, transport, networks, information	Take-up, completion and transition rates

The distinction also clarifies why equality of opportunity cannot be evaluated by inspecting a single decision point. By the time a university admits, an employer hires or a bank lends, many determinants of apparent merit have already been formed. The relevant unit of analysis is therefore the **opportunity pathway**, not merely the final gate.

3. The Lottery of Birth

No person chooses the initial conditions of life. Country, family, wealth, neighbourhood, parental education, early health, language, citizenship, race, gender and disability are assigned before a child can exercise meaningful agency. These characteristics need not determine outcomes, but they alter probabilities through multiple channels.

The metaphor of a **lottery of birth** is useful precisely because it separates moral responsibility from initial circumstance. It does not imply that individuals are passive or that societies can eliminate all differences. It identifies a class of determinants that cannot plausibly be attributed to the child and asks how strongly those determinants shape the range of futures available later.

Intergenerational evidence suggests that the influence is substantial. The OECD finds low mobility across earnings, education, occupation and health, with both "sticky floors" at the bottom and "sticky ceilings" at the top.⁸ Based on an average intergenerational earnings persistence of about 38 per cent and prevailing income differences, it estimates that in a typical OECD country it could take around four to five generations for descendants of a family in the bottom decile to reach mean income.⁹

The global picture is similarly uneven. The World Bank's study of intergenerational mobility, covering the overwhelming majority of the world's population, found that mobility in education and income is generally lower in developing economies than in high-income economies and particularly low in parts of Africa and South Asia.¹⁰ These differences show

⁷Sen, *Inequality Reexamined*, 39-55.

⁸OECD, *A Broken Social Elevator?*, 13-16, 26-38.

⁹*Ibid.*, 27.

that mobility is not simply a cultural characteristic or fixed feature of human behaviour. It varies with institutions, public investment and economic structure.

Table 2. Circumstances assigned at or near birth and their opportunity channels

Circumstance	Immediate channel	Later opportunity effect
Family income and wealth	Material security, housing, enrichment, ability to absorb shocks	Education, risk-taking, mobility, access to capital
Parental education	Language, expectations, information, academic support	Learning, qualifications, navigation of institutions
Early health and disability	Physical and cognitive development	School participation, employment capability, lifetime health
Neighbourhood and geography	Schools, safety, peers, transport, labour-market access	Human capital, networks, employment and earnings
Race, ethnicity and gender	Social treatment, norms, discrimination, representation	Access, expectations, wages, mobility and security
Citizenship and family status	Legal rights, mobility, eligibility, security	Education, work, welfare and geographic opportunity
Social networks	Information, role models, referrals and trust	Education choices, internships, jobs and entrepreneurship

4. Measuring Opportunity and Mobility

Equality of opportunity cannot be observed directly. Researchers therefore infer it from the relationship between predetermined circumstances and later outcomes. Intergenerational mobility is one of the most useful empirical approaches because it asks how strongly a child's adult position depends on the position of the parents.

Two concepts must be separated. **Absolute mobility** asks whether children achieve a higher standard of living or educational attainment than their parents. **Relative mobility** asks whether a child's position within the distribution is independent of parental position. A growing economy can produce high absolute mobility even when relative positions remain highly persistent. Conversely, a stagnant economy could exhibit considerable positional movement without broad gains in living standards.¹¹

Income mobility is commonly measured through intergenerational earnings elasticity or rank-rank relationships. Educational mobility compares attainment across generations. Occupational mobility tracks movement between occupational classes. Health mobility asks whether health conditions and behaviours persist between parents and children. Each captures a different dimension of opportunity.

No single measure should be treated as definitive. Earnings are measured at different ages and can be volatile. Education has expanded dramatically across generations, mechanically increasing absolute attainment. Occupational categories change as economies transform. Rank measures describe position rather than welfare. Good analysis therefore uses several

¹⁰World Bank, Fair Progress? Economic Mobility across Generations Around the World (Washington, DC: World Bank, 2018), executive summary and chap. 1, <https://doi.org/10.1596/978-1-4648-1210-1>.

¹¹World Bank, Fair Progress?, 4-9. See also Miles Corak, "Income Inequality, Equality of Opportunity, and Intergenerational Mobility," *Journal of Economic Perspectives* 27, no. 3 (2013): 79-102, <https://doi.org/10.1257/jep.27.3.79>.

indicators and distinguishes the outcome being measured from the mechanism being inferred.

This point matters normatively. Low mobility may indicate unequal opportunity, but high mobility is not automatically desirable if it is driven by instability or downward movement. The objective is not movement for its own sake. It is that inherited position should not unduly determine a person's feasible set of lives.

5. Family Resources, Wealth and Inheritance

The family is the first institution through which opportunity is distributed. It transmits income and wealth, but also time, stability, knowledge, expectations, networks and the ability to protect children from shocks. The relevant inequality is therefore broader than current consumption.

Income affects the quality and stability of housing, nutrition, educational materials, childcare, transport and participation in extracurricular activities. Wealth adds a different form of advantage. It provides collateral, the ability to live near high-performing schools, a buffer against unemployment or illness, and the capacity to finance education, internships, entrepreneurship or geographic mobility without immediate income. It can also be transferred directly.

OECD evidence shows that household wealth is substantially more concentrated than income and that wealth transfers favour richer households: high-wealth households are more likely to receive inheritances and gifts and receive larger amounts.¹² Inheritance is therefore not only an outcome of one generation. It becomes a circumstance of the next.

The opportunity effect of wealth is especially important because many high-return choices involve risk. A young adult with family financial support can undertake unpaid or low-paid training, move to another city, pursue further education or start a business with less exposure to catastrophic downside. Two people with identical talent and ambition may therefore face different feasible strategies because one can survive failure and the other cannot.

This does not imply that family support should be viewed as illegitimate. Parents naturally seek to help their children. The analytical point is that private transfers can cumulatively transform differences in parental outcomes into differences in children's opportunity sets. Equality of opportunity therefore depends partly on whether public institutions counterbalance or reinforce the unequal capacity of families to invest in the future.

6. Early Childhood: When Opportunity Begins

Opportunity formation begins long before school examinations or labour-market entry. Early childhood combines rapid cognitive, emotional and physical development with unusually high dependence on family resources and environment. Differences arising at this stage can therefore compound over time.

Research on early childhood development has long emphasised that prenatal conditions, health, nutrition, language exposure, emotional security and stimulation influence subsequent learning and participation.¹³ The importance of timing is reinforced by evidence from targeted interventions. Heckman and colleagues' analysis of the HighScope Perry

¹²OECD, Inheritance Taxation in OECD Countries, OECD Tax Policy Studies, no. 28 (Paris: OECD Publishing, 2021), chap. 1, <https://doi.org/10.1787/e2879a7d-en>.

Preschool programme estimated annual social rates of return generally between 7 and 10 per cent, reflecting effects extending beyond test scores into education, earnings, behaviour and other outcomes.¹⁴

The deeper point is not that one preschool programme can be generalised mechanically to every context. It is that capability formation is cumulative. Skills acquired early make later learning easier; poor health or developmental delay can make later investments less effective. A policy system that waits until the end of compulsory schooling to address opportunity gaps may therefore intervene after a substantial part of the opportunity structure has already formed.

Early childhood also illustrates why equal spending per child is not necessarily equal opportunity. Children enter institutions with different needs and different access to resources at home. Equalising opportunity may require greater support where initial circumstances create greater developmental risk.

7. Education: Equaliser and Transmission Mechanism

Education is the institution most commonly expected to convert equal legal status into equal opportunity. It can do so by providing knowledge, credentials and exposure independent of family background. Yet education can also reproduce inequality when access, quality, peer groups and transitions remain strongly stratified.

The OECD's PISA 2018 results illustrate the persistence of socio-economic gradients. Across OECD countries, advantaged 15-year-olds scored on average 89 points higher in reading than disadvantaged students. Disadvantaged students were 2.7 times as likely as advantaged students to perform below the baseline level of reading proficiency.¹⁵ At the same time, some countries combined above-average performance with below-average socio-economic gaps, suggesting that strong average results and greater educational equity are not mutually exclusive.

Parental education remains particularly predictive. The OECD reports that children whose parents did not complete secondary education have far lower rates of tertiary attainment than children with tertiary-educated parents.¹⁶ This transmission can operate through many mechanisms: household resources, language, familiarity with institutions, expectations, school choice and information about educational pathways.

Quality within schooling matters as well as access to schooling. Using administrative data on more than one million children, Chetty, Friedman and Rockoff found that students assigned to higher value-added teachers were more likely to attend college and had higher earnings in adulthood.¹⁷ This finding does not mean that teacher performance can be

¹³World Health Organization, *Early Child Development: A Powerful Equalizer* (Geneva: World Health Organization, 2007), 5-13.

¹⁴James J. Heckman et al., "The Rate of Return to the HighScope Perry Preschool Program," *Journal of Public Economics* 94, nos. 1-2 (2010): 114-128, <https://doi.org/10.1016/j.jpubeco.2009.11.001>.

¹⁵OECD, *PISA 2018 Results (Volume II): Where All Students Can Succeed* (Paris: OECD Publishing, 2019), chap. 2, <https://doi.org/10.1787/b5fd1b8f-en>.

¹⁶OECD, *A Broken Social Elevator?*, 3; OECD, *Education at a Glance 2022: OECD Indicators* (Paris: OECD Publishing, 2022), <https://doi.org/10.1787/3197152b-en>.

¹⁷Raj Chetty, John N. Friedman, and Jonah E. Rockoff, "Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood," *American Economic Review* 104, no. 9 (2014): 2633-2679, <https://doi.org/10.1257/aer.104.9.2633>.

reduced to one metric. It demonstrates that institutional quality encountered during childhood can have durable consequences beyond contemporaneous test scores.

At the global level, the problem is more basic. The 2022 update on global learning poverty estimated that about 70 per cent of ten-year-olds in low- and middle-income countries could not read and understand a simple text, up from an estimated 57 per cent before the pandemic.¹⁸ Access to school without foundational learning is therefore an incomplete measure of opportunity. The relevant question is what capability the educational institution actually creates.

8. Health as an Opportunity Condition

Health is often treated as an outcome of social inequality. It is also a determinant of future opportunity. Childhood health affects attendance, concentration, learning, physical capacity and the ability to participate in later education and employment.

Longitudinal evidence shows that childhood health and economic circumstances can have lasting effects on adult health, employment and socioeconomic status.¹⁹ WHO evidence likewise documents socioeconomic inequalities in child and adolescent health that emerge early and can persist across the life course.²⁰

The opportunity implications are important. If poor health reduces educational attainment or labour-market participation, health inequality becomes one channel through which initial social position is translated into later economic position. Conversely, universal access to high-quality preventive and curative care can compress differences in effective capability even where household incomes remain unequal.

This also demonstrates why opportunity cannot be equated with a single educational metric. A child's capacity to benefit from education depends on nutrition, sleep, mental health, disability support, safety and family stability. Institutions responsible for equality of opportunity therefore extend beyond the education system.

9. Place, Neighbourhoods and Exposure

Where a child grows up is another circumstance over which the child has little control. Place bundles together school quality, safety, environmental conditions, peers, transport, local institutions, employment access and social networks. Geographic inequality can therefore convert residential location into opportunity.

Chetty, Hendren, Kline and Saez documented large differences in upward mobility across areas of the United States. For children starting in the bottom income quintile, the probability of reaching the top quintile varied sharply between metropolitan areas.²¹ Geographic correlations alone do not establish causation, but subsequent research exploiting family moves provided stronger evidence of childhood exposure effects.

¹⁸World Bank et al., *The State of Global Learning Poverty: 2022 Update* (Washington, DC: World Bank, 2022), 5-8.

¹⁹Anne Case, Angela Fertig, and Christina Paxson, "The Lasting Impact of Childhood Health and Circumstance," *Journal of Health Economics* 24, no. 2 (2005): 365-389, <https://doi.org/10.1016/j.jhealeco.2004.09.008>.

²⁰World Health Organization Regional Office for Europe, *Reducing Inequities in Health across the Life-Course: Early Years, Childhood and Adolescence* (Copenhagen: WHO Regional Office for Europe, 2022).

²¹Raj Chetty et al., "Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States," *The Quarterly Journal of Economics* 129, no. 4 (2014): 1553-1623, <https://doi.org/10.1093/qje/qju022>.

Chetty and Hendren found that children who move to areas with better outcomes experience improvements approximately in proportion to the number of years they spend exposed to the new environment during childhood.²² The Moving to Opportunity experiment provides complementary evidence: children whose families moved from high-poverty housing projects to lower-poverty neighbourhoods before age 13 subsequently had higher college attendance and earnings, while moves later in adolescence did not produce the same benefits.²³

These results alter the interpretation of geographic inequality. Location is not merely a place in which pre-existing family differences are observed. Childhood environment itself can contribute to later outcomes. Housing, transport, school catchments and spatial segregation are therefore part of the opportunity structure.

10. Networks, Social Capital and Information

Opportunity is transmitted not only through money and institutions but also through relationships. Networks influence what people know, what they imagine to be possible, whom they trust, who recommends them and which opportunities reach them.

Bourdieu described social capital as resources linked to durable networks of relationships.²⁴ Contemporary large-scale network evidence provides an unusually direct empirical view of this mechanism. Using data on 21 billion friendships, Chetty and colleagues found that the share of high-socioeconomic-status friends among low-SES individuals - termed **economic connectedness** - was among the strongest predictors of upward income mobility across US areas.²⁵ Their estimates imply that if low-income children grew up in places with economic connectedness comparable to that experienced by high-income children, their adult incomes would be about 20 per cent higher on average.

The companion study decomposes cross-class connection into **exposure** and **friending bias**. Roughly half of the social disconnection across class lines was associated with differences in exposure to higher-SES people in institutions such as schools and religious organisations; the remainder reflected differences in friendship formation conditional on exposure.²⁶

This evidence widens the concept of opportunity. A school may provide the same curriculum to two children while surrounding them with different peer networks and information environments. A labour market may publish vacancies openly while referrals travel through unequal networks. Equality of opportunity therefore includes access to the social infrastructure through which opportunities are discovered and made credible.

²²Raj Chetty and Nathaniel Hendren, "The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects," *The Quarterly Journal of Economics* 133, no. 3 (2018): 1107-1162, <https://doi.org/10.1093/qje/qjy007>.

²³Raj Chetty, Nathaniel Hendren, and Lawrence F. Katz, "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment," *American Economic Review* 106, no. 4 (2016): 855-902, <https://doi.org/10.1257/aer.20150572>.

²⁴Pierre Bourdieu, "The Forms of Capital," in *Handbook of Theory and Research for the Sociology of Education*, ed. John G. Richardson (New York: Greenwood, 1986), 241-258.

²⁵Raj Chetty et al., "Social Capital I: Measurement and Associations with Economic Mobility," *Nature* 608 (2022): 108-121, <https://doi.org/10.1038/s41586-022-04996-4>.

²⁶Raj Chetty et al., "Social Capital II: Determinants of Economic Connectedness," *Nature* 608 (2022): 122-134, <https://doi.org/10.1038/s41586-022-04997-3>.

11. Race, Gender and Other Ascribed Characteristics

Some circumstances matter because societies attach meaning to them. Race, ethnicity, gender, disability and migration status can influence expectations, exposure, treatment and institutional access even where formal rules are neutral.

The opportunity perspective is particularly useful because it distinguishes inherited identity from individual choice while avoiding the assumption that every observed disparity has a single cause. Chetty and colleagues' intergenerational analysis of race in the United States found markedly different patterns of upward and downward mobility across racial groups, including large differences for Black and white men conditional on parental income.²⁷ Such findings do not eliminate the need to identify mechanisms; they show that parental income alone does not exhaust the circumstances shaping opportunity.

Gender similarly interacts with opportunity through norms, care responsibilities, safety, occupational expectations and role models. The OECD finds that mobility patterns differ between men and women in some countries, while Bell and colleagues show that girls' later innovation choices are related to childhood exposure to women inventors in the relevant technology field.²⁸

These dimensions receive dedicated treatment elsewhere in the activism group e.U. research programme. Their role here is conceptual: an opportunity framework must treat social classifications as possible circumstances that influence capability formation and institutional gateways, rather than assuming that family income alone captures the starting point.

12. Lost Potential: Opportunity and the Allocation of Talent

Unequal opportunity is often discussed as a matter of fairness to individuals. It can also be understood as a problem of social efficiency. When talent is widely distributed but exposure and access are not, societies may fail to develop people who could make valuable contributions.

Bell, Chetty, Jaravel, Petkova and Van Reenen provide a striking example. Linking patent records to tax and school data, they found that children from families in the top 1 per cent of the income distribution were about ten times as likely to become inventors as children from below-median-income families. The gaps persisted among children with similar early mathematics scores. Exposure to innovation during childhood had significant effects on the probability of later becoming an inventor.²⁹

The authors describe the resulting unrealised potential as "lost Einsteins". The phrase captures a broader principle. Opportunity inequality can create allocative inefficiency when ability is not matched with education, networks, finance or institutional access. The cost is borne not only by the individual whose potential is constrained but by society through foregone innovation, productivity, leadership and cultural contribution.

²⁷Raj Chetty et al., "Race and Economic Opportunity in the United States: An Intergenerational Perspective," *The Quarterly Journal of Economics* 135, no. 2 (2020): 711-783, <https://doi.org/10.1093/qje/qjz042>.

²⁸OECD, *A Broken Social Elevator?*, 36-38; Alex Bell et al., "Who Becomes an Inventor in America? The Importance of Exposure to Innovation," *The Quarterly Journal of Economics* 134, no. 2 (2019): 647-713, <https://doi.org/10.1093/qje/qjy028>.

²⁹Bell et al., "Who Becomes an Inventor in America?," 647-713.

This provides an economic rationale for equality of opportunity independent of any commitment to equal outcomes. Institutions that identify and develop capability across the full population can improve both fairness and the effective allocation of human talent.

13. Shocks and the Fragility of Opportunity

Opportunity structures are particularly visible during shocks. Families with savings, stable housing, digital access, flexible work and educated adults can often protect children from disruption more effectively than families without these resources. A temporary event can therefore generate permanent differences if it affects critical periods of capability formation.

The COVID-19 pandemic provides the clearest recent example. School closures were global, but the capacity to replace classroom learning was not. The 2022 global learning-poverty report notes that remote learning was constrained by connectivity, devices, home learning conditions and digital skills, with richer households better positioned to maintain educational engagement.³⁰ The estimated increase in learning poverty from 57 to 70 per cent in low- and middle-income countries implies a large deterioration in foundational opportunity for a cohort already facing unequal starting conditions.

The lesson extends beyond pandemics. Economic recessions, illness, family breakdown, displacement and climate events can all change opportunity if their consequences depend on private buffers. Social insurance and public services matter partly because they prevent temporary shocks from becoming permanent reductions in capability.

14. An Opportunity Formation Model

The evidence suggests that equality of opportunity is best understood as a dynamic formation process. It does not begin when an applicant reaches a university, employer or lender. It begins with the circumstances into which a child is born and develops through successive environments and institutional gateways.

Figure 1. Opportunity Formation Model

1. Circumstances	2. Environments	3. Capability formation	4. Gateways	5. Agency	6. Outcomes
Family wealth identity place	Home health school peers	Skills health confidence expectations	Education work finance networks	Effort choices risk-taking	Income status health participation
Not chosen by the child	Determine exposure and protection	Define what becomes feasible	Select and enable transitions	Operates within the feasible set	Become circumstances for the next generation

The model makes two claims. First, **agency is real but conditional**. Effort and choice matter, yet they operate within a feasible set formed by prior circumstances and institutions. Second, **outcomes are recursive**. Income, wealth, education, networks and place achieved in one generation become circumstances affecting children in the next.

This recursion explains why equality of opportunity and inequality of outcome cannot be treated as entirely separate policy domains. Very unequal outcomes may be compatible with fair opportunity in a hypothetical one-generation model. In an intergenerational society, however, outcomes become parental resources, neighbourhoods, school access

³⁰World Bank et al., State of Global Learning Poverty, 7-8.

and networks. Unless institutions offset those transmissions, outcome inequality today can produce opportunity inequality tomorrow.

The model also identifies intervention points. Public policy can affect family security, early childhood development, healthcare, school quality, residential access, information, discrimination, social networks, tertiary finance, labour-market entry and asset formation. The relevant question is not whether government can equalise every circumstance. It is which mechanisms most strongly convert circumstances outside individual control into durable restrictions on opportunity.

15. Institutional Pathways to Greater Equality of Opportunity

A credible opportunity agenda should avoid two extremes. One is to assume that formal non-discrimination is sufficient. The other is to interpret every unequal outcome as evidence that opportunity was unequal. A more disciplined approach targets mechanisms for which evidence shows a strong connection between inherited circumstance and capability.

Early childhood. Maternal and child health, nutrition, high-quality early education and family support operate before many gaps become difficult to reverse. The evidence on early development and preschool interventions supports attention to both access and quality.³¹

Schooling. Equal opportunity requires more than enrolment. Resource allocation, teacher quality, foundational learning, special educational needs, school composition and pathways into tertiary or vocational education all matter. The wide variation across countries in the strength of the relationship between socioeconomic status and PISA performance demonstrates that educational gradients are not immutable.³²

Health. Preventive care, mental health, disability support and protection from environmental hazards preserve capabilities required for education and work. Because childhood health has long-term consequences, unequal access can become a mechanism of intergenerational persistence.

Place and housing. Where feasible, housing policy can widen access to high-opportunity neighbourhoods; local investment can also improve opportunity where families already live. Mobility programmes and place-based policy should therefore be treated as complements rather than automatic substitutes.

Networks and exposure. Mentoring, mixed educational environments, internships and institutions that generate cross-class interaction can address forms of opportunity inequality not captured by income transfers alone. The social-capital evidence suggests that exposure and interaction can be consequential mechanisms, though causal policy design requires care.

Finance and assets. Student finance, access to credit, savings mechanisms and support for entrepreneurship can reduce the extent to which worthwhile choices depend on parental wealth. Inheritance and gift taxation are one possible instrument, but the broader opportunity question concerns whether access to capital is tied excessively to family assets.

Fair gateways. Transparent recruitment, anti-discrimination enforcement, portable credentials and accessible information can reduce institutional barriers at transitions into

³¹World Health Organization, Early Child Development, 5-13; Heckman et al., "Rate of Return," 114-128.

³²OECD, PISA 2018 Results (Volume II), chap. 2.

higher education and work. These interventions become more effective when combined with earlier investments in capability formation.

Table 3. Opportunity policy by life stage

Life stage	Primary risk	Institutional objective	Illustrative mechanisms
Prenatal and early childhood	Health and developmental gaps	Protect basic capability formation	Maternal health; nutrition; childcare; early learning
School years	Unequal learning and exposure	Reduce dependence of learning on family background	Teacher quality; targeted support; inclusive schools; digital access
Transition to adulthood	Finance and information constraints	Keep high-value pathways genuinely open	Student finance; guidance; apprenticeships; mobility support
Labour-market entry	Network and discrimination barriers	Make gateways more transparent and contestable	Open recruitment; internships; anti-discrimination; credential recognition
Adulthood and family formation	Shock and asset inequality	Prevent disadvantage from compounding across generations	Social insurance; housing; savings; healthcare; access to capital

16. Measuring Equality of Opportunity

The Opportunity Formation Model implies that measurement should combine intergenerational outcomes with evidence on the mechanisms that produce them. A single mobility number cannot identify where an opportunity structure is failing.

Table 4. A measurement framework for equality of opportunity

Layer	Illustrative indicator	Question
Initial circumstances	Parental income and wealth; education; health; geography	How unequal are starting conditions?
Capability formation	Early development; learning; health; skills	Do inherited differences become capability gaps?
Institutional access	School quality; tertiary entry; healthcare; finance	Are high-value institutions accessible across backgrounds?
Exposure and networks	Peer composition; mentoring; economic connectedness	Who is exposed to information, role models and opportunity?
Transitions	Completion; employment entry; occupational access	Do similar capabilities translate into similar transitions?
Mobility	Income ranks; earnings elasticity; educational and occupational mobility	How strongly does parental position predict adult position?
Intergenerational feedback	Inheritance; residential persistence; school sorting	How strongly do outcomes reproduce starting conditions?

Measurement should also be disaggregated. Average mobility can conceal different opportunity structures by race, gender, region, disability or migration status. At the same time, group disparities should not be interpreted mechanically as causal proof. The objective is to combine distributional evidence with analysis of the mechanisms producing it.

Finally, opportunity should be measured in capabilities as well as outcomes. Two individuals may make different choices from equally broad opportunity sets; identical outcomes are therefore not the objective. The more demanding empirical task is to estimate whether the range of realistic options available before choice depends excessively on circumstances not chosen by the individual.

17. Directions for Further Research

Several questions follow directly from this analysis. One concerns the relationship between **gender and opportunity formation**: how care, norms, representation, safety and institutional design influence capability and occupational pathways. A second concerns **racial and ethnic opportunity**, including how discrimination, segregation, historical wealth differences and institutional treatment affect intergenerational mobility.

A third concerns **intersectionality**. Circumstances are experienced simultaneously, and the opportunity effect of one characteristic may depend on another. Family income can interact with geography; gender with social norms; race with neighbourhood and labour-market institutions; disability with education and transport.

A fourth concerns the economic architecture that precedes redistribution. If access to education, assets, capital, networks and ownership shapes opportunity before market outcomes occur, an Economy of Equality must ask how these gateways are organised, not only how income is redistributed after the fact.

Finally, further research should distinguish policy interventions that merely change measured outcomes from those that genuinely widen the feasible set available to individuals. Equality of opportunity is ultimately about agency. Its success should be judged by whether origin becomes less predictive of what people are able to become.

18. Conclusion

Equality of opportunity is attractive because it appears to preserve both fairness and responsibility. People can make different choices and achieve different outcomes, while society commits itself to making the chance to develop and participate independent of arbitrary origin. The evidence shows, however, that this principle is much more demanding than equal rules at the final point of competition.

Circumstances of birth shape family resources, health, education, neighbourhood, networks and exposure. These environments influence the development of capability and expectations. Institutions then create gateways into further education, work, finance and social participation. Individual agency operates within the opportunity set generated by these prior stages.

Intergenerational mobility provides a practical test of the system. Persistent relationships between parental and child income, education, occupation and health indicate that starting position continues to matter. Geographic and experimental evidence shows that environment itself can alter long-run outcomes. Research on teachers, early childhood and health demonstrates that capability formation is cumulative. Social-network research adds a further layer: access to information, role models and cross-class relationships can affect upward mobility. Evidence on innovation shows the social cost when ability is not matched with exposure and opportunity.

The central conclusion is therefore that **equality of opportunity is a property of a pathway, not a starting gun**. It cannot be secured at one moment by declaring a competition open. It depends on the sequence of institutions through which people acquire health, knowledge, confidence, information, networks, finance and access.

Nor does this conclusion eliminate responsibility. It makes responsibility more meaningful. The stronger the evidence that people faced genuinely broad and comparable opportunity sets, the more defensible it becomes to attribute resulting differences to choice. Conversely, where origin strongly predicts the options available, appeals to merit alone risk describing the outcome without explaining the conditions that produced it.

A society committed to equality of opportunity need not promise equal destinations. It should seek something both more modest and more profound: that birth does not determine the range of destinations a person can realistically reach.

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