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Life Chances in Turkey

*Expanding Opportunities for
the Next Generation*

Jesko Hentschel, Meltem Aran, Raif Can,
Francisco H. G. Ferreira, Jérémie Gignoux, and Arzu Uraz



THE WORLD BANK

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Foreword

Opinion polls show that having economic opportunities and having a good job are top priorities for people the world over. Polls also show that people care about living in just and equitable societies—where individual efforts are rewarded, there is fairness and no discrimination, and everyone has plenty of chances to develop capabilities and reach their life goals. While few would agree to aim for equality of outcomes—after all, effort should rightly be rewarded—most people endorse the need to level the playing field and provide for equality of opportunities.

Life Chances explores the state of equality of opportunities in Turkey. It builds on the concepts and ideas presented in the *World Development Report 2006: Equity and Development*. The authors assess how today's distribution of wealth and the success of children in learning to read and write are shaped by the past—by factors predetermined at birth, factors over which today's children and families have no control: one's gender, parents' and grandparents' education, region and area of birth, or mother tongue. Some of the findings are stark, especially as they pertain to how the opportunities today's children have affect the future of the country: a girl born in a remote village to a poor family and parents with primary education degrees will very likely struggle in almost every area of her development. Compared with a boy born to well-off, highly educated

parents in one of the urban centers in the country's west, that girl is four times as likely to suffer from low birth weight, one-third as likely to be immunized, and ten times as likely to have her growth stunted as a result of malnutrition. Similarly she has a one-in-five chance of completing high school, whereas the boy will likely finish school and move on to college. *Life Chances* shows how investing in early childhood education has huge payoffs—for disadvantaged children as well as social and economic development at large.

We hope *Life Chances* will find interested readers in Turkey and elsewhere. This book goes beyond tradeoffs between efficiency and equity. It shows that a focus on equity—equality of opportunities—can also lead to enhanced efficiency, once the productive capabilities of all citizens are nurtured to their fullest extent regardless of the luck of the draw at birth.

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Abbreviations

AÇEV	<i>Anne Çocuk Eğitim Vakfı</i> (Mother Child Education Foundation)
BADEP	<i>Baba Destek Programı</i> (Father Support Program)
CCT	conditional cash transfer
ECD	early childhood development
ERI	Education Reform Initiative
GDP	gross domestic product
HBS	household budget survey
HINOG	high intergenerational opportunity group
KEDV	<i>Kadın Emegini Değerlendirme Vakfı</i> (Foundation for Support of Women's Work)
LINOG	low intergenerational opportunity group
METU	Middle East Technical University
MOCEP	Mother Child Education Program
MONE	Ministry of National Education
NGO	nongovernmental organization
OECD	Organisation for Economic Co-Operation and Development
PISA	Program for International Student Assessment
PRONOEI	<i>El Programa No Escolarizado de Educacion Inicial</i> (Non-School Initial Education Project)

SHÇEK	<i>Sosyal Hizmetler Çocuk Esirgeme Kurumu</i> (Social Services and Child Protection Agency)
SPO	State Planning Organization
SSI	Social Security Institute
SYDGM	<i>Sosyal Yardımlaşma ve Dayanışma Genel Müdürlüğü</i> (General Directorate of Social Assistance and Solidarity)
TAPF	<i>Türkiye Aile Sağlığı ve Planlaması Vakfı</i> (Turkish Family Health and Planning Foundation)
TDHS	Turkish Demographic and Health Survey
TEÇGE	<i>Türkiye'de Erken Çocukluk Gelişim Ekolojileri</i> (Study of Early Childhood Developmental Ecologies in Turkey)
TL	Turkish lira
TÜİK	<i>Türkiye İstatistik Kurumu</i> (Turkish Statistical Institute)
UHI	universal health insurance
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
WDI	World Development Indicators

Overview

From the Marmara earthquake and the 2001 financial crisis to the onset of the global economic slowdown in mid-2008, Turkey recorded major social and human development progress. Mortality rates for children under age 5 continued their remarkable, decade-long decline, reaching 23.9 (per 1,000 live births) in 2008.¹ Net enrollment rates in secondary school, often characterized as the Achilles' heel of human development in the country, climbed steeply from 51 percent in 2002 to 59 percent in 2008. Similarly, poverty decreased from 27 percent in 2002 to 19 percent in 2007, and further decreases likely occurred until mid-2008. Such poverty reduction resulted not only from the strong growth performance of the economy but also from a marked reduction in inequality in society: between 2003 and 2006, consumption inequality declined by more than 10 percent.

Such improvements, welcome as they certainly are, still lag the aspirations of the Turkish people, as eloquently documented in a 2006 opinion survey. This survey registered a strong preference for a more equitable society among the Turkish public. A full 85 percent of the adult population said that the gap between the rich and the poor in society should be reduced—the single highest proportion in an international comparative assessment that included Eastern European and Central Asian countries.²

In the same inquiry, two of three Turkish adults responded that “injustice in society” was the main reason that poverty existed in the country, and close to three-fourths of all respondents said that the poor should not be held accountable for their fate.

The State of Equality of Opportunities in Turkey

This Report examines the reality behind those statements. It focuses on equality of opportunity in Turkish society today—most importantly on the life chances of today’s children, the country’s future. The Report shows that life chances of people in Turkey differ widely today and that the country could vastly improve its human and economic development potential by expanding the opportunities available for its next generation, particularly the most disadvantaged children.

Transforming opportunities into achievements depends on one’s own drive, effort, and, at times, luck. But the opportunities themselves might be determined by factors that any single person can do absolutely nothing about: the family into which one is born and where; the educational background of one’s parents and their wealth; the language spoken in the family; or one’s gender. Such factors, or *circumstances*, as John Roemer calls them, are all independent of one’s own choices and effort.

A society offering equal opportunities to its citizens would then be one in which all those circumstances, such as the socioeconomic family background or birthplace, matter little or none in determining life chances. In this society, a girl born in a remote, poor area of the country to parents without much formal education would have the same chances to succeed in life as a boy born in the center of Izmir to wealthy and educated parents.

The equity concept used here emphasizes *opportunities* rather than *outcomes* per se. Equality of outcomes would imply that reading scores of all 15-year-old children should be equally high, that wealth should be distributed homogeneously, or that life expectancy should be the same for everyone in society. But outcomes also depend to a significant extent on one’s own efforts, disposition, or luck. Moreover, rewarding effort (to learn, study, and work) is essential in societies for innovation and advance.

The Report finds that *circumstances* are important in determining life chances in Turkey today. It presents quantitative estimates of inequality of opportunities for two outcome dimensions: economic and educational achievement. Economic opportunity is measured as household wealth, while the opportunity for education is assessed through qualitative achievement (performance in standardized tests).

An examination of the distribution of household wealth reveals that at least one-third of the wealth disparity in 2004 results from inequality of opportunity.³ The most important circumstances that determine opportunities in Turkey are area of birth and parental education. Together, these account for two-thirds of inequality of opportunity related to the wealth distribution in the country. Limited analyses for other countries exist that allow an international comparison—as a rough indication, Turkey appears to rank toward the more moderate end of countries in Latin America, a region that has long been highlighted for the persistence of inequalities.

A similarly strong link between circumstances and outcomes emerges when one looks at educational achievement for Turkey's 15-year-olds, as measured by results of the 2006 PISA (Program for International Student Assessment) scores. Between a quarter and a third of overall educational inequality can be traced to underlying inequality of opportunities. As was the case for the wealth distribution, the socioeconomic background of the families in which the teenagers grew up accounts for the lion's share of such unequal opportunities. Spatial variables retain their importance but mostly along the rural-urban divide, signaling inequalities in access to quality education in the country. Gender, which is a key determinant of *enrollment*, is not a significant correlate of *achievement*; that is, once they succeed in staying in school, girls do the same as or better than boys in the achievement tests.

From Grandparents to Grandchildren

Comparing Turkish society today with the social and economic life of four or five decades earlier reveals that tremendous transformations have taken place regarding urban and rural life and livelihoods alike. Such transformations notwithstanding, this Report finds that the socioeconomic status of grandparents, measured by the education they attained roughly 40 or 50 years ago, retains a powerful link to the well-being and chances of their grandchildren today.⁴

For illustration purposes, the Report distinguishes two groups in the intergenerational opportunity profile, according to geographic and educational characteristics: a low intergenerational opportunity group (LINO), defined as the group of today's children and young adults whose maternal grandparents had less than primary education and whose mother was born in the rural, eastern part of the country. A high intergenerational opportunity group (HINO) consists of children and young adults whose maternal grandparents had, conversely, at least finished

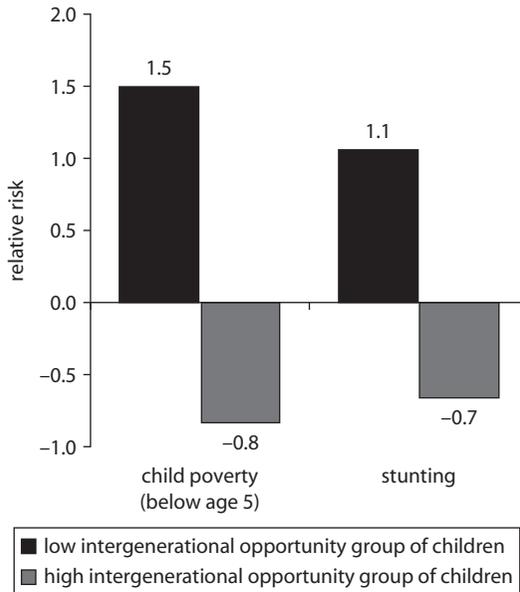
primary school and whose mother was born in the urban, western (or central) part of Turkey.

Such intergenerational opportunity groups are closely aligned with the well-being of present-day children. The most striking result is the close relationship between child poverty in 2004 and the intergenerational opportunity groups: child poverty in the LINOG was, at 78 percent, 18 times higher than child poverty in the HINOG, which barely reached 5 percent (figure O.1).

Similarly, more than a quarter of children in the LINOG showed signs of stunting, an indicator that measures the long-term effects of malnutrition. In the HINOG, only 4 of every 100 children showed such growth retardation. While iodine deficiency, a leading cause for mental retardation during child development, was present in more than 80 percent of LINOG children, it was detected in only about 20 percent of those in the HINOG.

Stunting and iodine deficiency are, according to cross-country research, among several leading acute risk factors that signal children may

Figure O.1 Relative Risk of Child Poverty and Stunting, by Intergenerational Opportunity Group, 2004



Source: Staff calculations based on 2004 Turkish Demographic and Health Survey (TDHS).

Note: Risk is relative to average incidence for all children under age 5.

not be able to reach their full cognitive development potential. Hence, the Report finds that lack of opportunity travels through generations and now significantly influences the development potential of disadvantaged children in Turkey today.

Girls appear to be particularly affected by such intergenerational transmission of opportunities. Within the low intergenerational opportunity group, young girls are significantly more likely to show early signs of malnutrition than boys: their stunting rate, at more than 30 percent, is about a third higher than their male siblings (23 percent). Child development trajectories continue to differ by gender: in the LINOG, the likelihood of girls ages 7 to 15 being enrolled in school was 68 percent, compared with almost 90 percent for boys. Breaking the intergenerational transmission of inequity would thus have to place particular emphasis on supporting disadvantaged girls in Turkish society today.

Child Development and Child Risks

The finding that the intergenerational transmission of inequity is powerfully affecting Turkey's youngest generation today points to the need for understanding how children's opportunities develop from a young age and whether there are policy interventions that can contribute to reduce the impact of exogenous *circumstances* on life chances.

Given the very close mapping of the intergenerational opportunity profile to child poverty, one important indicator of life chances for today's children is their poverty status. Poverty indeed is a *circumstance* for children in early ages, given that it is defined at the household level and that children do not contribute to the income or asset envelope of households.

In 2006, poverty among children was higher than for any other age group in Turkey. Both younger (age 5 and under) and older (age 6 to 14) children had the highest poverty rates among all age groups, with more than one in four children being poor. More than 40 percent, or over 5 million, of all poor people in Turkey in 2006 were children under age 14. About 1.9 million of them were infants and young children age 5 and under. And while overall poverty rates decreased between 2003 and 2006, children benefited least from such improvements. According to estimations conducted for this Report, children are also the population group that is likely to make up the largest share of those falling into poverty because of the economic slowdown Turkey is experiencing.

Findings from early childhood development research stress that it is the *multidimensional* lack of opportunities that puts children at the highest

risk of not reaching their development potential. This Report therefore examines core child development access levels (input indicators) and outcomes along both child poverty and intergenerational opportunity group dimensions.

With the strong intergenerational transmission of inequalities in society, it comes as little surprise to find that core *inputs* into the child development process diverge quickly according to child poverty and opportunity status. Across the board, poor children in low opportunity settings show remarkably worse access indicators to basic health functions than other groups even *before* the children are born. Two-thirds of poor mothers in low opportunity settings do not receive a minimum amount of antenatal care during their pregnancies. Similarly, more than 90 percent of poor children in the low opportunity setting do not consume food with sufficient iodine supply, and four-fifths do not receive the full set of six recommended immunizations before their first birthday. Similarly, new data from Koç University show that inputs for cognitive development of children differ strongly by socioeconomic strata.

Differences in development *outcomes* according to child poverty and opportunity groups emerge quickly as well. Low birth weight affects a quarter of poor children in low opportunity settings, indicating constraints in fetal nutrition during a crucial period for brain development; low birth weight stems largely from poor maternal nutrition and infections. Similarly, high stunting rates are concentrated in poor children of the low intergenerational opportunity group, albeit they are also significant for poor children in better opportunity settings, indicating that acute risk factors can also develop in poor households with a better educational background of the parents. An ongoing research study from Koç University shows that cognitive development scores, an early outcome measure, already diverge quickly and early according to the socioeconomic status of the families in which the children grow up.

Later in life, these vastly different inputs and early signals for divergence in outcomes feed through to school attendance and completion and thereby complete the cycle of the intergenerational transmission of inequality of opportunity. Sharp contrasts emerge, both by opportunity group and, almost more pronounced, by gender. Such gender differences in education access, beyond and above the opportunity setting of households, once again emerges as one of the core development challenges for Turkey.

These challenges are underlined in international comparisons: benchmarking of indicators, such as immunization coverage and birth attended by skilled staff, as well as outcome indicators, such as the under-5 mortality

rate, all show that Turkey, given its level of income, is somewhat underperforming in relation to comparator countries.

Expanding Opportunities for the Next Generation

Public policies that would reduce inequalities of opportunity in society are broadly those that would attempt to *weaken* the link between circumstances, which people cannot be held accountable for, and outcomes. A wide array of such policies exists, from building human capital for young people to providing skill building and lifelong learning opportunities for disadvantaged groups, to supporting productive asset creation by, for example, addressing capital market imperfections or providing income transfers that would offset original disadvantage. Other policies could open opportunities by connecting people to markets, using public infrastructure investment to overcome geographical poverty traps, and facilitating access for people to move and benefit from higher opportunity areas.

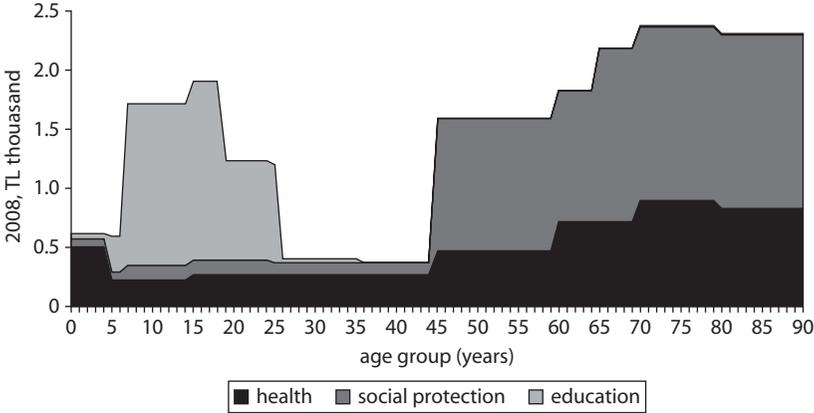
One pro-equity policy that could break the cycle of the intergenerational transmission of inequity focuses on early childhood development (ECD). The importance of ECD, starting before the child is even born, is based on brain development in the first months and years that affects physical health, learning, and social behavior throughout life.

As such, fostering ECD not only attacks poverty but is also the key for tackling the intergenerational transmission of inequities. ECD programs aim to improve the survival, growth, and development of young children so that they can develop all the necessary cognitive, physical, and socio-emotional skills they need later on in life.

Over the past years, Turkey has set itself ambitious targets to raise core child development indicators. In line with such targets, innovative and pathbreaking reforms are being carried out that focus on children, including the pivotal role that family doctors are now playing in monitoring growth and assessing family support systems.

Few public resources reach children in Turkey today. Funding for early childhood development policies and programs has gradually increased in Turkey, but on a per capita basis, only a small share of public funds, about 6.5 percent, is directed to children age 6 and under. Estimating central government budget expenditures (excluding contributions to the social security system), on a per capita and age-group basis, the Report finds that the population above age 44, largely because of high pension expenditures, receives a per capita transfer at least two and a half times as large as children do (figure O.2).

Figure O.2 Per Capita Social Expenditures by Age Group in Turkey, 2008



Source: Ministry of Finance, Central Government Expenditures; authors’ calculations.
Note: Staff calculations for central government social expenditures excluding social security contributions. See technical appendix, paragraph A.8 for explanations.

Coverage, especially for disadvantaged children, is generally low in most dimensions of early childhood development. Pregnancy monitoring and immunization data show high coverage, and about 30 percent of children ages 4 to 6 are enrolled in preschool. However, all other ECD programs reach less than 10 percent of children in the relevant age group. In addition, evidence from multiple sources shows that one of the most important programs—public preschool and day care—reaches many more children of wealthier than poorer families. Turkey has much to build on given that several of its civil society and public initiatives have a proven track record in reaching the poorest and most disadvantaged children early on.

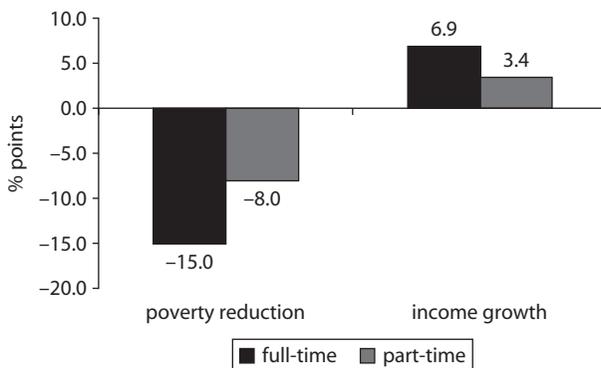
Improving the opportunities of Turkey’s children today would have significant economic and social benefits. Significant work has been carried out by partner organizations to assess the potential costs of comprehensive ECD policies. Hence, this Report focuses on the benefit side.

It uses two simulation models to assess the potential benefits of selected ECD policies.⁵ First, the Report uses the results of controlled experiments in Turkey that quantify the impact of preschool-parenting on educational attainment of beneficiaries. The model examines how poverty, incomes, and female labor force participation would be different today for the generation of 20- to 39-year-olds if they had attended preschool-parenting programs when they were 6-year-olds. Various channels of influence are considered,

including occupational choice, fertility effects, and higher earnings stemming from the additional educational attainment. Considering only these channels, the simulation finds significant impacts for that generation, with incomes being almost 8 percent higher, the poverty rate 11 percent lower, and the female labor force participation rate more than 9 percent higher. Such simulations are partial because they do not take into account synergies with other ECD programs (like early cognitive development) and changes in the returns to education or the demand for labor. Hence the effects could well be lower-bound estimates, with benefits even larger than reported here.

Second, some of these investments in Turkey's future could very well materialize in the very short run. A companion report by the World Bank and the State Planning Organization (World Bank 2009) on female labor force participation establishes that poor, especially urban, women want to work but might not because the very cost of child care inhibits them from taking up income-earning activities. As a spin-off to increased availability of preschool and child-care services, a concomitant increase in female labor force participation could hence achieve immediate growth and productivity effects: the Report estimates that an increase in the female labor force participation rate to 29 percent (to match the government's targets by 2013) could lead to a decrease in poverty of more than 15 percent and a possible aggregate income effect for all Turkish households on the order of 7 percent. Such a substantial increase could significantly support households "working themselves out of poverty" (figure O.3).

Figure O.3 Aggregate Income and Poverty Reduction Effects of Increased Female Labor Force Participation



Source: Staff elaboration; see technical appendix, paragraph A.11 for explanation.

Reflections

Inequality of opportunity is important in explaining both the distribution of wealth and education outcomes in Turkey today. Such inequity, this Report finds, travels through generations, with child poverty and stunting closely mapping the socioeconomic background of grandparents. A closer look at children in such low opportunity settings reveals clear disadvantages regarding access and inputs into their development process and finds these children lagging behind early on in physical and cognitive development. Turning to policy, Turkey spends relatively little on its youngest generation today, with low coverage rates across most dimensions of early childhood development, especially for the disadvantaged. Investments in early childhood development, however, might provide the highest return for the country's future, as several of the simulations show.

The Report ends with a number of reflections for the public social policy debate. First, to improve equity in society, opportunities for disadvantaged children would need to be expanded. Such an expansion would necessitate reviewing the current functioning and financing of the Turkish welfare state. Current public, noncontributory social expenditures reach children in their early years only to a limited extent. For creation of fiscal space that would allow programs for disadvantaged children to expand, the financing and societal (tax-financed) transfers to old-age insurance would need to be reexamined.

Second, Turkey's informal safety nets, as strong as they might be, do not seem to have been able to offset the disadvantages of children, especially girls, born into specific circumstances. Turkey has a traditional and strong communal and family solidarity often described as one of the main pillars of societal functioning. But given the strong intergenerational transmission of inequity observed here, such communal and traditional ties would need to be complemented by an integrated and inclusive policy for the most disadvantaged children.

Third, international evaluations show that the most effective way to reduce the influence of *circumstances* on opportunities is to provide effective support to the most disadvantaged children first. The concept of equality of opportunities employed in this Report goes beyond creating equal *access*—it implies that the most disadvantaged must be reached first and more intensively than less disadvantaged children so that they can improve their life chances. If this concept resonates in Turkey, a strategy for rollout would then need to set targets detailing how, and how many, of the most disadvantaged children can be reached. Currently, vital child

services, from nutritional support to health care to cognitive stimulation, largely benefit less disadvantaged children; those that (judged by their own circumstances) are more likely to succeed in life at any rate. While a discussion on how *disadvantage* can be defined will be necessary, this Report suggests that two factors alone, child poverty and parental education, are core determinants of opportunities.

Last, civil society, community, and private initiatives will need to complement public efforts in expanding the supply of services for the most disadvantaged children. Turkey's innovative and inspirational experiences of delivering ECD services through nongovernmental channels is admired across the globe. Overall, coverage of such delivery is very low, however. A social compact between private, public, civic, and community actors would create an appropriate enabling environment for making high-quality and integrated support available to disadvantaged children.

Notes

1. Preliminary results are based on the 2008 Turkish Demographic and Health Survey.
2. Data are from the 2006 Life in Transition Survey. See Ferreira, Gignoux, and Aran (2009) and Zaidi and others (2009).
3. Estimations are based on the Turkish Demographic and Health Survey fielded between December 2003 and May 2004. While the analysis here captures more than 80 percent of all Turkish households, the circumstance variables it is able to examine pertain only to the women in the household who were ever married. See technical appendix, paragraph A.1.
4. Given the data source (see technical appendix, paragraph A.1), this Report examines the relationship between the education of the maternal grandparents and a number of well-being indicators of their grandchildren.
5. Both models concentrate on assessing direct impacts only and hence do not assess overall general effects, which would have to include many more behavioral functions.

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CHAPTER 1

Introduction

This Report examines life chances for today's Turkish people, most importantly for today's children. The results presented in this Report show that life chances differ in important dimensions and that Turkey could immensely improve its human and economic development potential by maximizing opportunities for life chances that occur even before a child is born.

To illustrate, imagine a girl, Ayşe, and a boy, Mehmet, born on the same day but in two very different environments.¹ The girl's parents are poor, having around 80 Turkish lira (TL) monthly for each member of the family to meet the costs of food, clothing, schooling, transport, and other life essentials. She is born in a remote village in eastern Turkey, located between Erzurum and Ağrı. Imagine that both of Ayşe's parents work in animal husbandry and that her eldest sister is looking after the little baby and her other siblings. Her small house, made of bricks, holds few belongings, and the family does not own a television, washing machine, or car. Imagine Mehmet, in contrast, growing up in a well-to-do neighborhood in Izmir in a wealthy household that is able to afford monthly expenditures of more than TL 1,000 for each person in the household. Mehmet's parents, who have completed university degrees,

both have professional jobs. Mehmet will grow up in a large apartment that has all the conveniences that contemporary urban life offers.

Comparing the life trajectories of these two imaginary children until age 15 is telling. Chances begin to differ at birth if not earlier. Based on recent observed patterns, the chance of Ayşe's mother receiving regular antenatal care during pregnancy is only about 45 percent, while Mehmet's mother is almost certain to have had regular checkups. The girl's risk of being born with a low birth weight is one in four, more than four times higher than the risk to Mehmet. And such differences continue through to school age: Ayşe's chances of being fully immunized when she celebrates her first birthday are only a third of his chances (24 percent against 72 percent). She is also 10 times more likely than he is (about 30 percent to 3 percent) to suffer from stunting, a sign of chronic malnutrition in which children show growth deficiencies. Similarly, the two children's education trajectories are likely to differ starkly: Ayşe has about a one-in-five chance of completing secondary school, while Mehmet is very likely to complete secondary school successfully and move on to university. At age 15, learning, reading, and comprehension differences will most likely be fundamental. Later in life, such diverging education achievements will lead to widely different opportunities for finding good jobs and earning incomes that would allow Ayşe and Mehmet themselves to offer good life chances to their own children.

This Report explores a number of questions about diverging life chances in Turkey. Are opportunities in Turkey shaped by characteristics such as birthplace, education, and wealth of one's parents, and even the language spoken in one's childhood? If so, which characteristics are the most important ones for determining life chances? And are there other factors of importance shaping the opportunities each child has—factors that reach even further back in time, such as the education of Ayşe's and Mehmet's grandparents? Finally, how many children are affected by low opportunities, and how can society help them to reach their own full potential?

This Report aims to shed some light on these questions in the following way. As background, chapter 2 briefly reviews trends in poverty and social development in Turkey over the past years, contrasting these developments with a recent representative opinion survey that provides an insight into the aspirations of Turkish society. Chapter 3 introduces the equality-of-opportunity concept and applies it to examine wealth and education outcomes. The chapter also examines how intergenerational factors are linked to the well-being of children in Turkey today,

most prominently the education of the maternal grandparents. Chapter 4 explores child well-being and child risk factors, while chapter 5 concentrates on what this Report, like many others, considers to be the most effective policies to assist disadvantaged children to reach their development potential—and to attain the high aims the government of Turkey has set for itself: integrated, holistic policies and programs that support disadvantaged children and their families from the earliest moment in their lives. The report ends with several reflections for the social policy debate in Turkey. The interested reader may find a technical appendix at the end of the report that provides a detailed description of the models and concepts used.

Note

1. The environment and chances of the two children discussed here are derived from examination of the 2004 Turkish Demographic and Health Survey with monetary values inflated to 2009 prices. Monetary values are illustrations only, and the examples fall in the classifications of intergenerational opportunity groups introduced in this Report. See technical appendix, paragraph A.1.

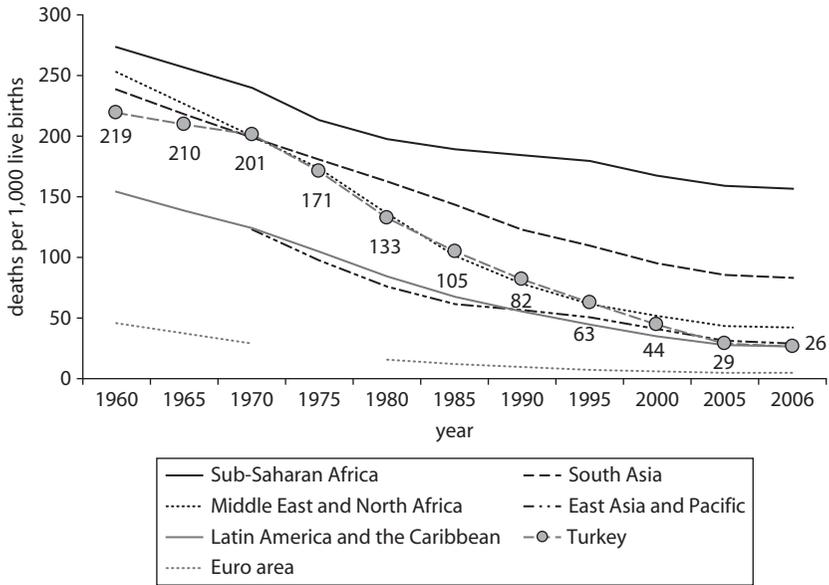
CHAPTER 2

Equity Aspirations

From the Marmara earthquake and the 2001 financial crisis to the onset of the global economic slowdown in mid-2008, Turkey recorded major social and human development progress. Mortality rates for children under age 5 continued their remarkable, decade-long decline, reaching 23.9 (per 1,000 live births) in 2008.¹ As figure 2.1 shows, Turkey achieved this sustained reduction even during periods of economic decline and is now outperforming countries in the Middle East and North Africa that for a long time had child mortality rates similar to Turkey's. Net enrollment rates in secondary school, often characterized as the Achilles' heel of human development in the country, climbed steeply from 51 percent in 2002 to 59 percent in 2008.² Similarly, poverty decreased from 27 percent in 2002 to 19 percent in 2007, and further decreases are likely to have occurred through the middle of 2008. This poverty reduction was achieved not only through the strong growth performance of the economy but also through a marked reduction in inequality in society: between 2003 and 2006, consumption inequality declined by more than 10 percent.³

Such improvements, welcome as they certainly are, still lag the aspirations of the Turkish people, as eloquently documented in a 2006 opinion survey. The Life in Transition Survey, conducted in Turkey and 27 other countries of Eastern Europe and Central Asia, asked a nationally representative

Figure 2.1 Under-5 Mortality Rate, 1960–2006

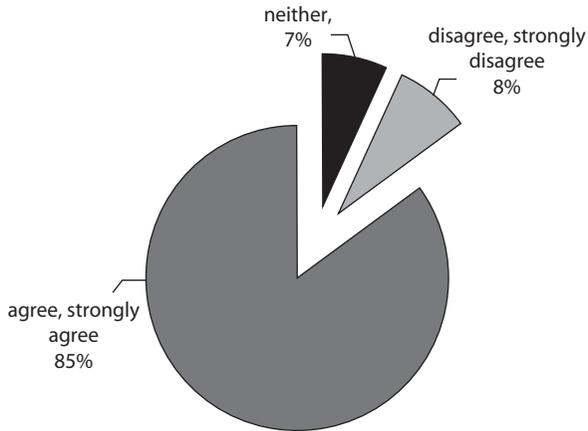


Source: World Development Indicators database. (The data for 1965 are extrapolated from existing data.)

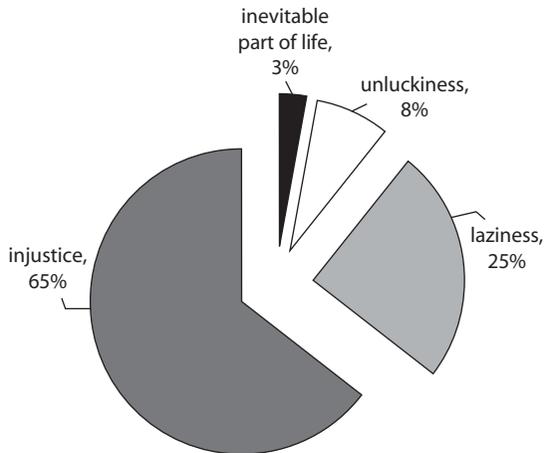
group of adults in each country for their opinions on living standards, poverty and inequality, trust in state institutions, and attitudes toward the market economy and public services.⁴ A full 85 percent of the adult population in Turkey said that the gap between the rich and the poor in society should be reduced; that was the highest proportion in any country in which the survey was fielded (figure 2.2). An even higher proportion, 92 percent, said they believed that the state should be involved in reducing the gap between the rich and the poor.

The same survey also solicited opinions about justice and fate. Two of every three Turkish adults said that “injustice in society” was the main reason why poverty existed in the country (figure 2.3). If “luck” and “inevitable part of modern life,” two other possible responses, are also considered to be factors beyond the control of the individual, then a full three-fourths of the Turkish population feel that the poor should *not* be held responsible for their condition. Such opinion does not imply, however, that those who obtain wealth and standing do not deserve it. On the contrary, three-fourths of Turkish people, according to the opinion survey, believe that success results from effort, hard work, intelligence, or skills.

Some divergences in social indicators, often identified with potential underlying inequities in societies, are indeed significant in Turkey today.

Figure 2.2 Should the Gap between the Rich and the Poor in Turkey Be Reduced?

Source: EBRD and World Bank 2007 (data for 2006).

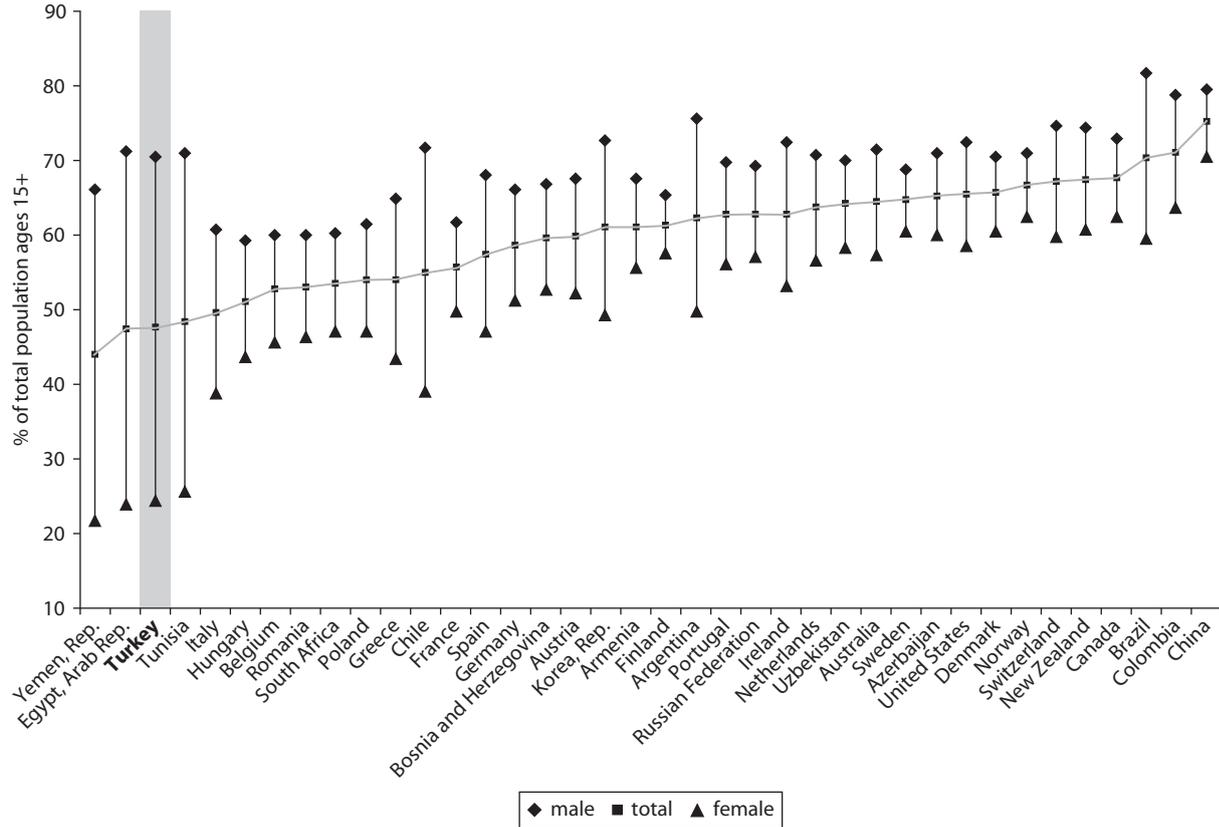
Figure 2.3 Why Are Some People in Need in Turkey Today?

Source: EBRD and World Bank 2007 (data for 2006).

Note: The percentages total 101 because of rounding.

While net secondary school enrollment rates have increased, as observed earlier, the gap between girls' and boys' completion rates remains significant at 9 percentage points in 2006.⁵ As prominently pointed out by the Education Reform Initiative (ERI 2009) and also emphasized later in this Report, girls' learning achievement is at least equal to that of boys, so different school attainment rates for girls and boys are often interpreted as representing underlying inequalities.

Figure 2.4 Labor Force Participation Rates, by Gender, Latest Available Year



Source: World Bank 2009b.

Similarly, at 25.5 percent in 2008, the female labor force participation rate remains very low. Figure 2.4 shows that the low level of female participation as well as the large difference between female and male participation rates stand in stark contrast to emerging market and developed countries. A World Bank report shows that educational attainment is strongly correlated with female labor force participation rates,⁶ so the observed participation gap could, at least in part, be caused by inequities materializing through the education system.

Notes

1. Preliminary results of the Turkish Demographic and Health Survey for 2008, Hacettepe University, Institute for Population Studies, Ankara.
2. MONE (2009).
3. Aran and others (2009), one of the working papers jointly produced by the government of Turkey and the World Bank on social policy, has a detailed analysis of the contributions of changes in inequality and average consumption to poverty reduction in Turkey between 2003 and 2006. Inequality, as measured by the adult equivalence adjusted consumption Gini coefficient, declined from 34 percent to 31 percent.
4. For descriptions and results of the surveys, see EBRD and World Bank (2007) and Zaidi and others (2009). Ferreira, Gignoux, and Aran (2009) discuss the results for Turkey.
5. World Bank (2009b). School completion rates, by gender, are provided in the *World Development Indicators* only until 2006. More recent data for secondary school completion rates are not available, but the Ministry of National Education reports net secondary school enrollment for 2008 at 60.6 percent for males and 56.3 percent for females.
6. World Bank (2009a).

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CHAPTER 3

The State of Equality of Opportunity in Turkey

What does the phrase *equality of opportunity* actually mean?¹ First of all, and following the concept laid out in the *World Development Report 2006*, opportunities refer to the possibilities people have to succeed in life—to lead healthy, long lives, free of material or social deprivation (World Bank 2006). For a child, for example, that would mean that the social environment (family, household, community, education, health system, and so forth) is supportive of her or his development needs and provides the best possible basis for the child to choose her or his self-determined path in life.

Transforming opportunities into actual achievements depends on one's own drive, effort, and, at times, luck. But the opportunities themselves might be determined by factors that no one can do anything about—factors such as the family one is born into, where one is born, the educational background of one's parents and their wealth, the language spoken in the family, or one's gender. Such factors, or circumstances, as John Roemer (1998) calls them, are all independent of one's own choices and effort.

A society offering equal opportunities to its citizens would then be one in which all those circumstances, such as the socioeconomic family background or birthplace, matter little or none in determining life chances. It would be one in which a girl born in a remote, poor area between

Erzurum and Ağrı to parents without much formal education would have the same chances to succeed in life as a boy born in the center of Izmir to wealthy and educated parents.

The equity concept used here emphasizes opportunities rather than outcomes per se. Equality of outcomes would imply that all children's reading scores at age 15 should be equally high, that wealth should be distributed evenly, or that life expectancy should be the same for everyone in society. But such outcomes also depend to a significant extent on one's own efforts, disposition, or luck. For example, lifestyle decisions (such as whether to smoke) are an important determinant for individual life expectancy. Also, rewarding effort (to learn, study, and work) is essential in societies to spur innovation and advancement.

The concept of equality of opportunity does, however, imply more than providing universal access to basic public services like education. As the Report discusses later, differences in child well-being emerge early in Turkish society—differences that have nothing to do with individual effort or luck. For example, according to the 2004 Turkish Demographic and Health Survey (TDHS), 12 percent of children below the age of 5 were stunted—a measure for chronic malnutrition—and stunting has been proven to have a strong negative effect on learning abilities. This form of malnutrition is closely related to the poverty and socioeconomic circumstances in the households in which children grow up. Even if school access were universal and education quality high across the country, it is unlikely that those children stunted when infants would be able to learn equally as well as children who were well nourished when young. Equality of opportunity would imply an active effort to reach disadvantaged groups in society and to *offset* such disadvantages early on.

As evidence that opportunities are not equally distributed in Turkey, this Report finds that circumstances are important in determining success in Turkey today. The remainder of this chapter presents quantitative estimates of inequality of opportunity for two outcome dimensions: economic and educational achievements.

Inequality of Economic Opportunity

The analysis of inequality of economic opportunity looks at six circumstances—factors that are outside the scope of influence of an individual. Both the number and the choice of these circumstances are determined by availability in the data source, the TDHS. The TDHS collected such variables for all women between 15 and 49 years of age who were married,

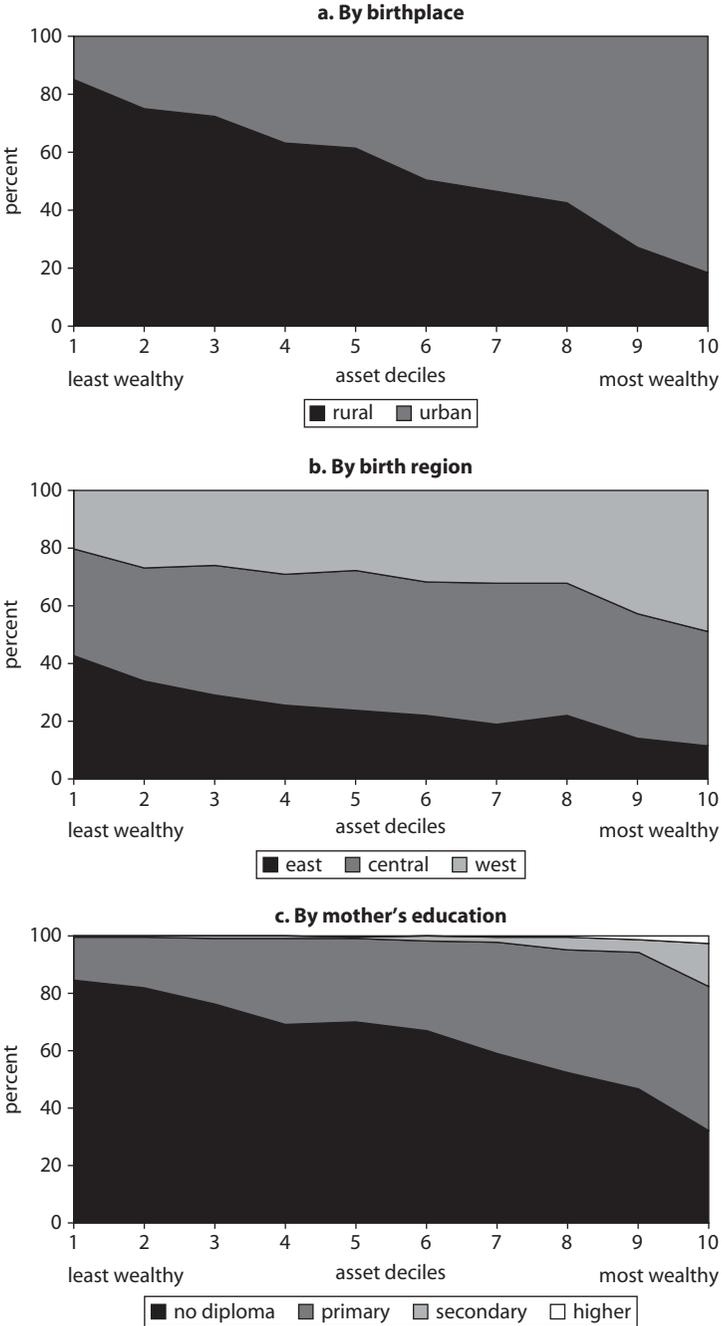
widowed, or divorced. Importantly, more than 80 percent of all households in Turkey have at least one ever-married woman, so the survey covers a very large share of the population.² The circumstances considered include the woman's place of birth (rural or urban, as well as region), her father's and mother's education, the number of siblings in the family, and the language spoken in the household when she was growing up.

Relationships between these circumstances at birth and outcomes in later life can be both direct and complex at the same time. While the analysis here aims to assess the aggregate influence of such circumstances, it does not aspire to understand specifically *how* each of them influences life chances. For example, birthplace can exert its importance through many channels: the quantity and quality of available health services or schooling; access, or lack of it, to public services such as sanitation and clean water (reducing health hazards) or electricity (influencing information connectivity as well as allowing reading and communication during darkness); connectivity to markets that could bring employment and income-earning possibilities; and the availability of strong family and community networks that provide support and encouragement throughout child- and adulthood. Similarly, a birthplace might also be associated with positive or negative discrimination later in life if a geographical area is identified by society at large with specific attributes.³

Because of data limitations, the analysis includes only some of the many circumstances that influence economic outcomes; therefore, the estimates presented can safely be judged as conservative, denoting only the minimum inequality of opportunity present in Turkish society today. For example, the analysis could not include any information pertaining to the husband of the ever-married women (birthplace, his parents' education, and so forth) or to the household income or wealth into which husband and wife were born. Because these and other circumstances also exert an influence on opportunities, their inclusion would lead to an increase in the measured inequality of opportunity in Turkey.

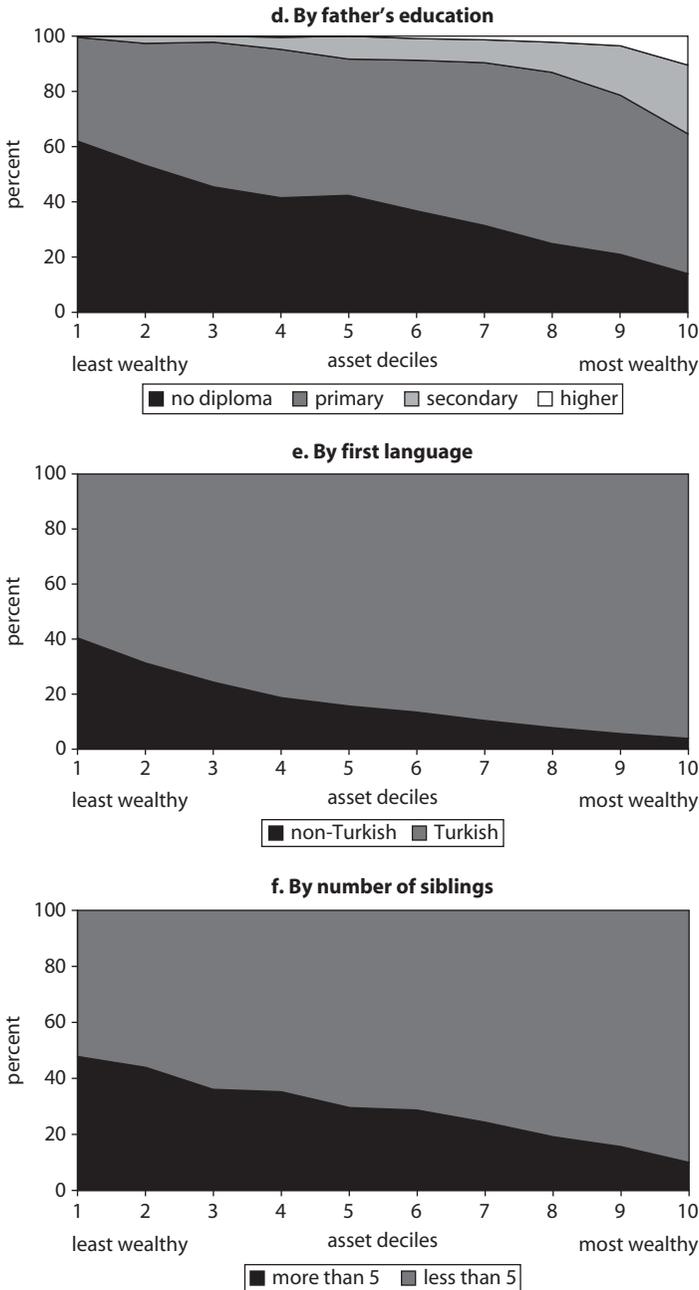
In Turkey, wealth and the measured circumstances are closely related. Wealth is measured by a household's ownership of durable goods (ranging from bicycles to tractors and from refrigerators to air conditioners), housing conditions (size, materials), and access to amenities (public service supply).⁴ The relationships between wealth and the circumstances are depicted in figure 3.1. Each panel of the graph shows how household wealth—ranging from the least wealthy on the left to the wealthiest on the right—and a circumstance are associated. A strongly downward sloping

Figure 3.1 Wealth Distribution and Circumstances, 2004



(continued)

Figure 3.1 Wealth Distribution and Circumstances, 2004 (continued)



Source: Staff elaborations based on Ferreira, Gignoux, and Aran (2009).

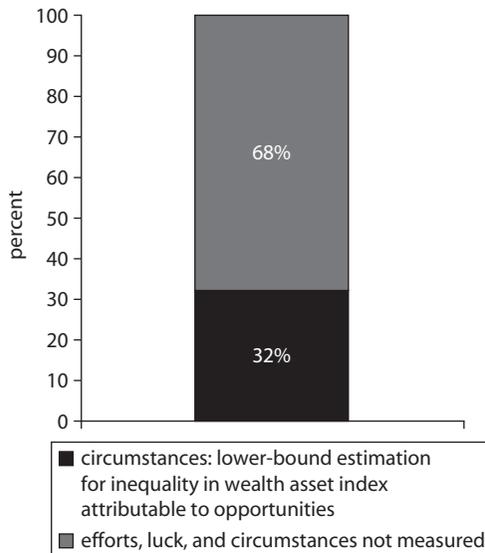
Note: See technical appendix, paragraph A.1. This figure covers households with ever-married women ages 15–49.

curve signals a strong association. For example, panel a shows that 85 percent of women in the poorest households were born in rural areas, whereas that was so for only about 20 percent of women living in the wealthiest households. Note that this panel depicts the birthplace of the ever-married woman in the household and not where family members currently live.

Other circumstances show equally strong associations with household wealth. The association is especially strong for the education of both parents (panels c and d). Comparing the shapes of these two panels also reveals a remarkably different distribution of educational attainment of the elder generation by gender in Turkey: roughly, the “parents generation” (that is, the grandparents of today’s children) depicted here was born between 1940 and 1970. The share of women in that generation not holding a primary school diploma was significantly higher than the corresponding share for men.⁵

An assessment of the importance of all such circumstances finds that at least one-third of the wealth disparity in Turkey results from inequalities of opportunity (figure 3.2). Again, because not all circumstances could be captured, this estimate is conservative, with actual inequality of opportunity most likely being higher. The techniques applied assess the

Figure 3.2 Sources of Inequalities of Wealth Opportunity in Turkey, 2004



share of wealth inequality that is attributable to circumstances and hence to inequalities of opportunity.⁶ Birth circumstances have a powerful and strong influence on life trajectories. Limited analyses for other countries allow an international comparison: as a rough indication, Turkey's share of inequality of opportunity is similar to levels in those countries in the middle of the range of inequality of opportunity in Latin America—a region that has long been recognized for the persistence of inequalities.⁷

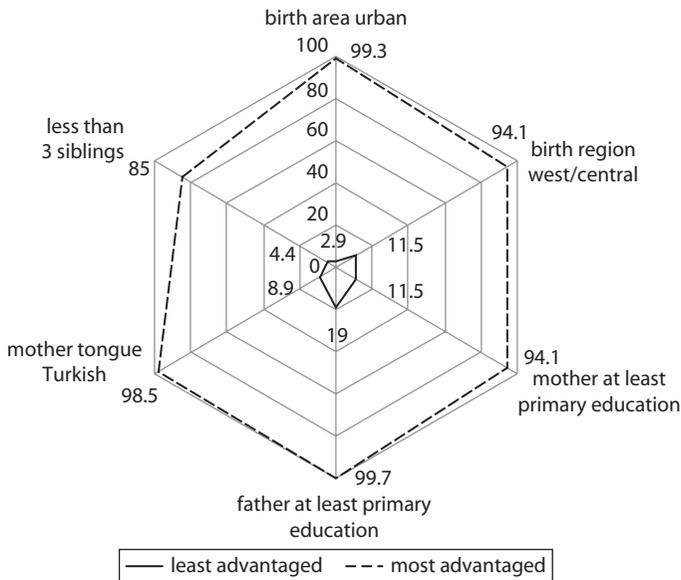
Birth area and parental education are more important determinants of opportunity than other circumstances that were analyzed. The decomposition of this share (which has to be interpreted with caution⁸) shows that birth area (rural or urban) appears to be the most important factor affecting opportunities. Area and region can influence today's distribution of wealth in Turkey through many venues, including access, reliability, and quality of education and other public services, as well as connectivity to markets and access to information. Following birth area, parental education, which is closely related to socioeconomic status, emerges as a similarly important circumstance factor. These factors alone account for two-thirds of inequality of opportunity related to the wealth distribution in the country. Mother tongue, number of siblings, and birth region follow, albeit with lesser significance.

An opportunity profile for Turkish society can depict how prevalent different exogenous circumstances at birth are. The opportunity profile is constructed by using all circumstances and defining population groups—for example, all households whose ever-married woman was born in the rural, western area of the country to parents who had completed secondary school degrees and where Turkish was spoken at home. Such groups can then be aggregated to include the most advantaged 10 percent, or decile, and the least advantaged 10 percent of the population using their observed household wealth. The least advantaged 10 percent would then encapsulate the population with the fewest opportunities for acquiring wealth, based on exogenous circumstances at birth.⁹

The opportunity deciles show a high concentration of circumstances, indicating that a core group of households is cumulating circumstances that are associated with the most advantaged and most disadvantaged. As depicted in figure 3.3, for the most advantaged (least advantaged) decile, 99 (3) percent of ever-married women were born in urban areas and about two-thirds (4 percent) in the western part of the country. A high share, 94 (12) percent, had educated mothers with at least a primary school diploma, and almost all, 99.7 (19) percent, had educated fathers

Figure 3.3 Opportunity Profile for Least and Most Advantaged Population Groups, 2004

percent



Source: Ferreira, Gignoux, and Aran 2009. See also technical appendix, paragraph A.4.

Note: Circumstances defined for ever-married women.

with at least a primary diploma. Further, 98 (9) percent had Turkish as a mother tongue, and 85 (4) percent had three or fewer siblings. Hence, while several exogenous circumstances can explain a large share of the inequality of opportunities in Turkey, the overlap with other circumstances (including region) is high.

Inequality of Opportunity for Educational Achievement

How do exogenous circumstances at birth influence a noneconomic outcome, namely educational achievement?¹⁰ To answer that question, the inequality-of-opportunity concept can be applied to data from the 2006 Program for International Student Assessment (PISA), which recorded standardized tests for reading, mathematics, and science. The assessment was given to a large sample of 15-year-old pupils in Turkey, and information was recorded at the same time about the gender of the student, area and region of the school, the family background (father's occupation, parental education), and a number of asset (wealth) variables.

Similar to the results regarding the distribution of wealth, the data show that between a quarter and a third of the variation in overall educational achievement can be traced to underlying inequality of opportunities. When all circumstances are considered together and controlled for, family background emerges as the dominant source of such inequality for education achievement: three-quarters to four-fifths of the measurable inequality of opportunity can be accounted for by socioeconomic variables of the students' families—parental education, asset ownership, and father's occupation.

Geographic variables, both area and region, contribute about one-fifth to the opportunity inequality. Schools located in the east or in rural areas are associated with lower test scores, even when other circumstances, such as family background, are taken into account. For reading and science, the rural-urban divide is more important than the broad regional location—an analogy to the results regarding the determinants of inequality of economic opportunity.

Although gender is strongly associated with school enrollment, it is not a significant determinant of achievement. Girls performed *better* than boys in reading (significantly so) and somewhat worse in mathematics, according to the PISA results for 2006.¹¹ Overall, the PISA results suggest that once girls are in school, there is no evidence that they perform worse than boys.

These findings support the recent and prominent education equity analysis conducted by the Education Reform Initiative (ERI 2009). The ERI report finds that students are being separated into different-quality schools at the secondary level based on their socioeconomic status and that the basis for the separation stems from lack of access to preschool education and quality primary education for disadvantaged children. Given that the type of secondary school a student attends (Anatolian, general, vocational, multitrack) is a core determinant of university access—and higher earnings in the future—the ERI concludes that the education system in its current form restricts social mobility and has not realized equal opportunities for all children.

Grandparents and Grandchildren

To what degree do the observed inequalities of opportunity travel through generations to influence today's children? Comparing Turkish society today with the social and economic life of four or five decades ago reveals that tremendous transformations have taken place regarding

urban and rural life and livelihoods alike. But such transformations notwithstanding, this Report finds that the socioeconomic status of grandparents, measured by the education they attained roughly 40 or 50 years ago, retains a powerful link to the well-being and chances of their grandchildren today.¹²

For illustration purposes, the intergenerational transmission of opportunities are traced for two groups. The analysis earlier highlighted the prominence of area (rural or urban) and parental education as circumstances that explain the largest opportunity share of wealth inequality. Socioeconomic family status, including education, retained its paramount importance in the education achievement analysis as well. The results for learning outcomes also showed that geographic variables—both area and region—remained important, albeit to a lesser extent than socioeconomic status. Based on these findings and the patterns observed when analyzing the opportunity profiles, this Report defines those children whose mothers were born in eastern, rural Turkey and whose maternal grandmother and grandfather did not complete primary education as being in the low intergenerational opportunity group (LINOG). Conversely, the high intergenerational opportunity group (HINOG) is composed of children whose mother was born in an urban area in the western or central region and whose maternal grandparents both completed at least primary school (table 3.1).

Significant shifts have taken place between the grandparents' and children's generation included in the low intergenerational opportunity group. The most important of these relates to current location. While all grandmothers in the LINOG gave birth to their daughters in the rural, eastern part of the country, the current domicile of the grandchildren's generation is much more dispersed—an effect of the strong migration that took place over the past decades (table 3.2). Only about 50 percent of children belonging to the LINOG live in rural areas of Turkey's eastern region today, but an additional 30 percent now live in eastern urban areas.

The two opportunity groups are of similar size. The LINOG covered a little more than 14 percent of all children in Turkey, and the HINOG

Table 3.1 Intergenerational Opportunity Groups of Children

<i>Grouping</i>	<i>Birthplace of mother</i>	<i>Education of maternal grandparents</i>
LINOG	Rural east	Less than primary completed
HINOG	Urban west or center	At least primary completed

Source: Staff elaboration.

Table 3.2 Residence of Children, by Intergenerational Opportunity, 2004
percent

<i>Group</i>	<i>East rural</i>	<i>East urban</i>	<i>West/central urban</i>	<i>West/central rural</i>	<i>Total</i>
LINOG	50	30	18	2	100
HINOG	3	0	90	7	100

Source: Staff Elaboration based on 2004 TDHS.

close to 16 percent in 2004, the base year for the analysis. As was seen in the opportunity profile, circumstances are highly correlated. About 11 percent of the children in the LINOG have a mother whose mother tongue was Turkish; in the HINOG, this is the case for 98 percent of the children.

An examination of educational achievement of the children's parents in the two groups finds a significant share of reproduction of educational attainment across generations. Table 3.3 shows that educational advance in the LINOG has been limited, especially for women: two-thirds of today's children in the LINOG have a mother without a primary school degree—these women have not advanced in their educational achievement compared with their own mothers. A significant share of the children's fathers did obtain a primary school degree. Still, more than 80 percent did not complete secondary school.

The intergenerational opportunity groups are very closely aligned with the well-being of present-day children. The most direct result is the close relationship between child poverty, in 2004, and the intergenerational opportunity groups: child poverty in the LINOG was, at 78 percent, 18 times as high as for the HINOG, in which child poverty barely reached 4.4 percent. Poverty risks vary for different subgroups of the LINOG. For example, the poverty rate of those families that migrated to urban areas in western and central Turkey is, at 40 percent, lower than for those that did not migrate (89 percent in rural eastern areas; 73 percent in urban eastern areas), but it remains almost three times as high as the average poverty rate in urban western and central areas. Hence, regional migration is associated with reduced but not vanishing disadvantage. Opportunities might be improving but not at the speed that the Turkish society aspires to.

The results for stunting are equally pronounced. For children under age 5, 27 of every 100 in the LINOG showed a low height for age, an indicator of the long-term effects of malnutrition; in the HINOG only

Table 3.3 Educational Attainment of Grandparents and Parents by Intergenerational Opportunity Group, 2004
percent

<i>Group</i>	<i>Less than primary, illiterate</i>	<i>Primary</i>	<i>Secondary</i>	<i>Higher education</i>	<i>Total</i>
LINOG					
Child's mother	68	31	1	0	100
Child's father	23	61	14	2	100
HINOG					
Child's mother	0	31	51	18	100
Child's father	0	20	55	24	100

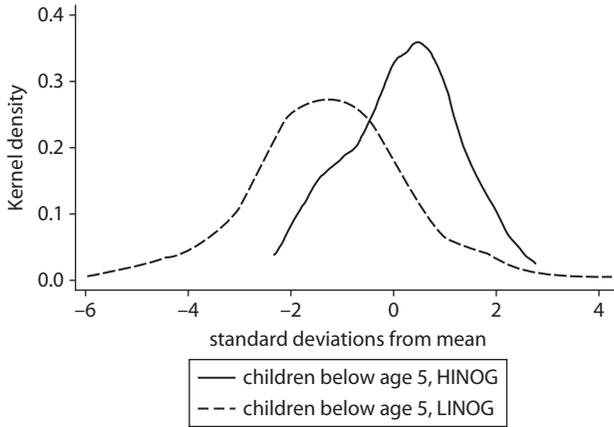
Source: Staff Elaboration based on 2004 TDHS.

4 of 100 children showed such signs. Figure 3.4 shows how divergent the growth paths of children in the two groups are. The vertical axis indicates the density of the distribution—how many children reach a certain height. The horizontal axis is an indicator of the actual height they achieve, with the “0” indicating the expected normal height for their age. The two curves diverge strongly, with the HINOG curve peaking much more to the right in the scale, which signals normal growth performance. For the LINOG, on the other hand, the curve shifts much more to the left, with many children showing significantly worse-than-normal growth performance.

Lack of opportunity travels through generations and significantly influences the development potential of disadvantaged children in Turkey today. Figure 3.5 visualizes the contrast between the intergenerational opportunity groups with respect to the risks of poverty and stunting. Stunting is, according to cross-country research, among several leading acute risk factors signaling that children are not reaching their full cognitive development potential.¹³ As the figure shows, a child born in the LINOG in 2004 (black bars) was 110 percent more likely to be stunted than the average stunting level in Turkey.

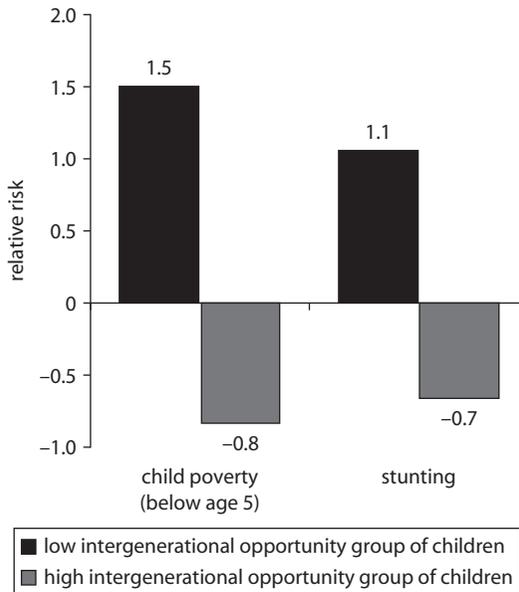
In addition, girls appear to be substantially more affected than boys by the intergenerational transmission of opportunities. Within the LINOG, young girls are significantly more likely to show early signs of malnutrition than boys: their stunting rate is, at more than 30 percent, about a third higher than their male siblings (at 23 percent). Given that stunting is an early sign of acute risk for children, this result is

Figure 3.4 Height-for-Age Measures for LINOG and HINOG, 2004



Source: Authors' estimation based on 2004 TDHS.

Figure 3.5 Relative Risk of Child Poverty and Stunting, by Intergenerational Opportunity Group, 2004



Source: Staff calculations based on 2004 TDHS.

Note: Risk is relative to average incidence for all children under age 5.

particularly worrying.¹⁴ Child development trajectories continue to differ in education: in the LINOG, the likelihood of girls ages 7 to 15 being enrolled in school was 68 percent, compared with almost 90 percent for boys.

Hence, breaking the intergenerational transmission of inequity would have to place particular emphasis on supporting disadvantaged girls in Turkish society today. Given their socioeconomic background and other circumstances at birth, girls are more likely to lose in the combination of low opportunities and poverty. Providing focused support to disadvantaged girls so that they can reach their own development potential, including education, would be instrumental in improving the socioeconomic circumstances into which their own children are born in the future.

Notes

1. This section draws on Ferreira, Gignoux, and Aran (2009) and Ferreira and Gignoux (2009).
2. See technical appendix, paragraph A.1, which discusses which household types are included in the sample and which ones are not captured.
3. See Wietzke (2009) for a recent review of this literature, specifically about how spatial variables can affect poverty and human development.
4. Ferreira, Gignoux, and Aran (2009) build on the methodology developed by Filmer and Pritchett (2001) to define the wealth variable.
5. This calculation defines completion as five years of primary schooling, as was the case for the generation of grandparents considered here.
6. Technical appendix, paragraph A.2.
7. Ferreira, Gignoux, and Aran (2009); Paes de Barros and others (2009).
8. See technical appendix, paragraph A.3, and Ferreira, Gignoux, and Aran (2009) for details on calculations and methodology.
9. Technical appendix, paragraph A.4.
10. Ferreira and Gignoux (2009).
11. The better reading outcomes for girls could be influenced by the high dropout rate for girls at secondary levels. If those girls with worse test scores were to drop out more than girls with better test scores, the average scores of the remaining cohort increases.
12. Given that the TDHS data only include circumstance variables for ever-married women, only the relationship between maternal grandparents and their grandchildren is examined here.

13. Grantham-McGregor and others (2007); Walker and others (2007).
14. A multivariate regression analysis also finds that when child access and outcomes are linked to circumstance variables, girls have a significantly lower probability of obtaining immunization and medical treatment than boys.

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CHAPTER 4

Child Development and Child Risks

The finding that the intergenerational transmission of inequity is powerfully affecting Turkey's youngest generation today points to the need to understand how children's opportunities develop from a young age and, indeed, whether there are policy interventions that can reduce the impact of exogenous circumstances on life chances. Given the very stark divergence between opportunity groups in the likelihood of children growing up in poverty, the chapter begins with a closer look at child poverty in Turkey.

Child Poverty

The very close mapping of the intergenerational opportunity profile to child poverty means that one important indicator of life chances for today's children is their poverty status. Poverty indeed is a *circumstance* for children in early ages: poverty is measured at the household level, and children do not contribute to the income or asset envelope of households. Cross-country research has shown that poverty is one of the most important factors linked to developmental delay in children. Poverty is often associated with a number of variables that directly affect child well-being, ranging from inadequate food intake to poor sanitation and hygiene facilities that can lead to infections and growth retardation.

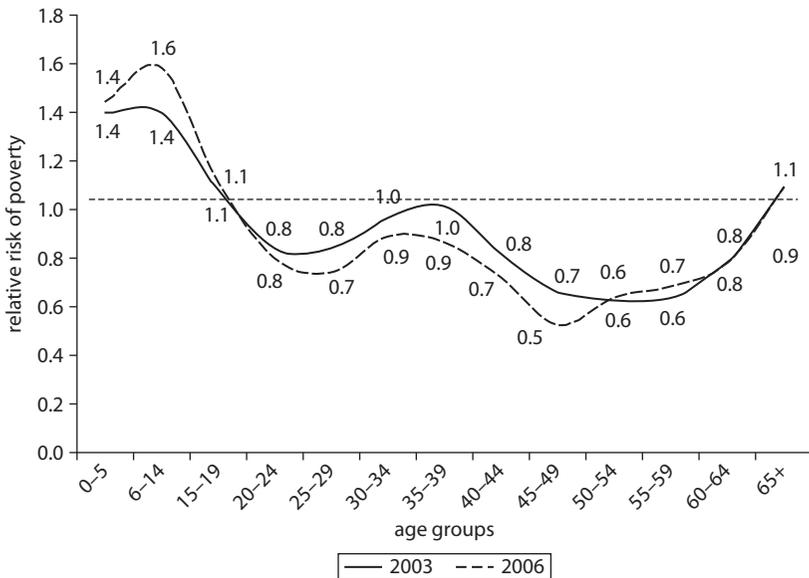
In addition, poverty is often correlated with parental, especially maternal, stress as well as with lower education levels of the parents and less cognitive stimulation.¹

In 2006, poverty was higher among children than among any other age group in Turkey. More than one in four children were poor. Forty-one percent, or over 5 million, of all poor people in Turkey in 2006 were children age 14 and under. About 1.9 million of them were children age 5 and under.²

Although overall poverty rates decreased between 2003 and 2006, children benefited least from these improvements in welfare. Figure 4.1 illustrates the relative poverty rate of children, that is, the risk of children being in poverty compared with the risk for all other age groups in Turkish society. The relative risk for children age 5 and under increased slightly from 2003 to 2006, while the risk for those ages 6 through 14 rose quite strongly.

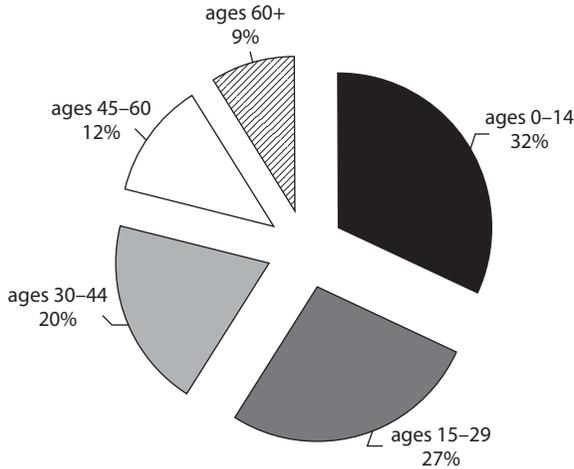
According to estimations carried out for this Report, children are also the population group that is likely to be at highest risk of falling into poverty because of the current economic slowdown in Turkey. Based on a simulation model that links the overall economic slowdown

Figure 4.1 Relative Risk of Poverty, by Age Group, 2003 and 2006



Source: Staff calculations based on Aran and others 2009.

Figure 4.2 Distribution of Estimated Numbers of Additional Poor, by Age Group, 2009–10



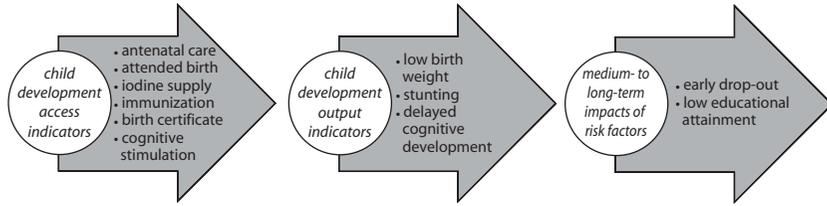
Source: Staff estimations; see also technical appendix, paragraph A.5.

to reduction in employment in different sectors of the economy, almost one-third of the additional poor could be children age 14 and younger (figure 4.2).³

Child Poverty and Opportunity Groups

Findings from early childhood development research stress that it is the *multidimensional* lack of opportunities that puts children at highest risk of not reaching their development potential.⁴ The lack of opportunities can stem from many different sources, including those already discussed, such as poverty, parental education, gender, and geographic characteristics, and factors that are more difficult to capture, such as functionality of the family or extended family and neighborhood support. Childhood development will be especially hampered if children lack many of these opportunities at the same time.

This Report uses a simple measurement framework to examine child development in Turkey in relation to lack of opportunities (figure 4.3). The framework looks first at a number of child development access indicators of health services (such as birth attendance), administrative functions (such as birth certificate), and inputs for cognitive stimulation. Second, it looks at the presence of acute risk factors for development to uncover

Figure 4.3 Child Development Measurement Framework

Source: Staff elaboration based on World Bank (2009a).

early signs of development gaps emerging for different groups of children. These include low birth weight, stunting, and cognitive development retardation. Last, it measures how school attendance diverges according to opportunity groups and poverty. These three dimensions form a measurement framework that traces child development, albeit one must be cautious about assigning causality because many other factors also influence child development outputs and outcomes. The analysis for measures of lack of opportunity retains the intergenerational opportunity group classification (LINOG and HINOG) and adds child poverty status.⁵

Core access indicators differ greatly by opportunity group and child poverty status in Turkey. Table 4.1 shows, for 2004, the different access indicators for poor children and those children in the LINOG and HINOG. Across the board, poor children in low opportunity settings show remarkably worse access indicators for basic health services than other groups. This lack of access starts even before the children are born, with two-thirds of poor mothers in low opportunity settings not receiving a minimum of antenatal care during their pregnancies. Similarly, more than 92 percent of poor children in the LINOG do not have access to food with sufficient iodine supply, and four-fifths do not receive the full set of six recommended immunizations before they reach their first birthday.

The cumulative nature of the lack of opportunities is also apparent. Differences within the LINOG and HINOG (between poor and non-poor children), as well as between poor children across the groups, show some marked differences. For example, poor children in the HINOG—representing only 5 percent of children within this group—are twice as likely to be issued a birth certificate as poor children in the LINOG.

Table 4.1 Child Development Access and Outcome Indicators by Opportunity Status, 2004*percent*

<i>Grouping</i>	<i>Child access (input) indicators</i>				<i>Child development outcomes</i>		
	<i>No antenatal care</i>	<i>Unattended births</i>	<i>Insufficient iodine supply</i>	<i>Incomplete immunization (first year)</i>	<i>No birth certificate</i>	<i>Low birth weight</i>	<i>Stunting</i>
All children	24	21	50	48	16	11	12
Poor	50	45	79	68	28	18	23
Nonpoor	14	8	33	36	9	9	6
LINOG	54	56	81	75	28	22	27
Poor	62	65	92	80	30	24	30
Nonpoor	21	20	35	58	20	20	15
HINOG	4	4	20	27	6	6	4
Poor	25	18	55	55	33	—	14
Nonpoor	3	3	19	26	5	6	4

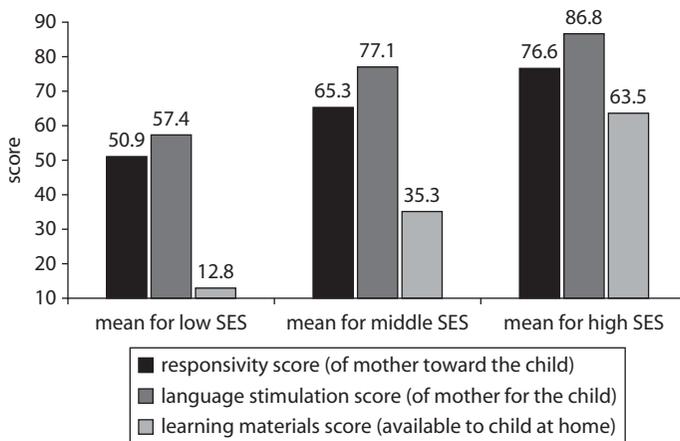
Source: Staff calculations based on 2004 TDHS. See also technical appendix, paragraph A.6.*Note:* — Not available.

Similarly, nonpoor children in the HINOG are 10 times more likely to be born in a medical facility than poor children in that group.

New data from Koç University show that inputs for cognitive development of children differ strongly by socioeconomic strata.⁶ While this data cannot be presented along the opportunity group–poverty dimension shown in table 4.1, socioeconomic strata and opportunities for children are closely linked. A number of country studies have demonstrated that inputs such as language stimulation and availability of learning materials are core determining factors for cognitive development and later educational achievement, and this relationship can be observed in Turkey as well.⁷ Figure 4.4 illustrates evidence that these crucial inputs into the cognitive learning process differ significantly for 3-year-olds in Turkey according to socioeconomic strata.

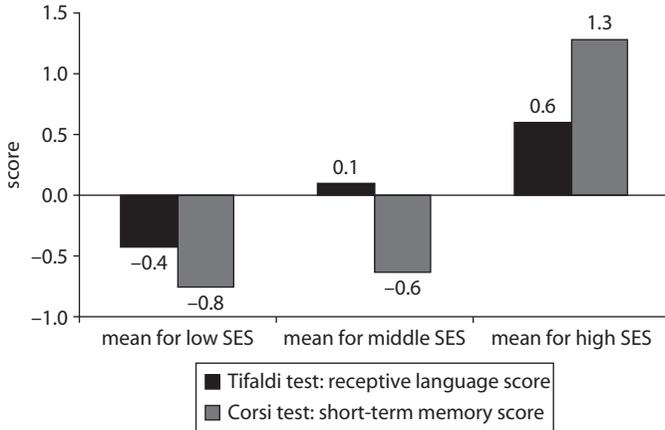
The research study by Koç University also collects cognitive test scores for children in this age group. Test results show an early diversion according to socioeconomic status of the families in which the children grow up. Figure 4.5 provides language comprehension (Tifaldi) and short-term memory (Corsi) test results and visualizes the stark difference in cognitive development outcomes between children from different socioeconomic backgrounds.⁸

Figure 4.4 Cognitive Development Inputs at Household Level for Children Ages 36 to 47 Months



Source: Data from the Study of Early Childhood Developmental Ecologies in Turkey for 36- to 47-month-old children and their families.

Note: SES = socioeconomic strata.

Figure 4.5 Cognitive Development Scores of Children Ages 36 to 47 Months

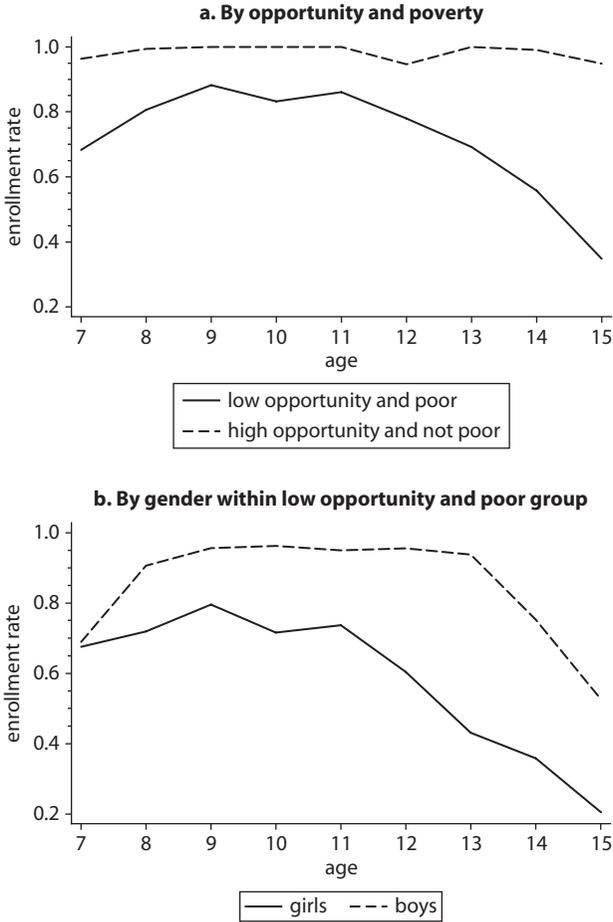
Source: Data from the Study of Early Childhood Developmental Ecologies in Turkey for 36- to 47-month-old children and their families.

Note: SES = socioeconomic strata.

The outcome dimension in the measurement framework of figure 4.3 also signals acute risk factors for children in low opportunity settings. Low birth weight affects a quarter of poor children in the LINOG (see table 4.1). Low birth weight, which indicates constraints in fetal nutrition during a crucial period for brain development, is largely attributable to poor maternal nutrition and infections.⁹ Similarly, high stunting rates are concentrated in poor children of the LINOG as well, although stunting is also significant for poor children in the HINOG, indicating that acute risk factors can also develop in poor households where the parents' educational background is better.

Moving to medium-term impacts, it is not surprising to find that lower access rates and the emergence of acute risk factors in early childhood go hand in hand with significantly diverging enrollment profiles once formal school starts. Figure 4.6 sketches enrollment profiles both between the nonpoor HINOG and poor LINOG children and between poor boys and poor girls in the LINOG only in Turkey as of 2004. Sharp contrasts emerge, both by opportunity group and poverty, as well as (almost more pronounced) by gender. Such gender differences in education access, above and beyond the opportunity setting of households, once again emerges as one of the core development challenges for Turkey.¹⁰

Figure 4.6 Enrollment Age Profiles by Opportunity Group and Gender, 2004

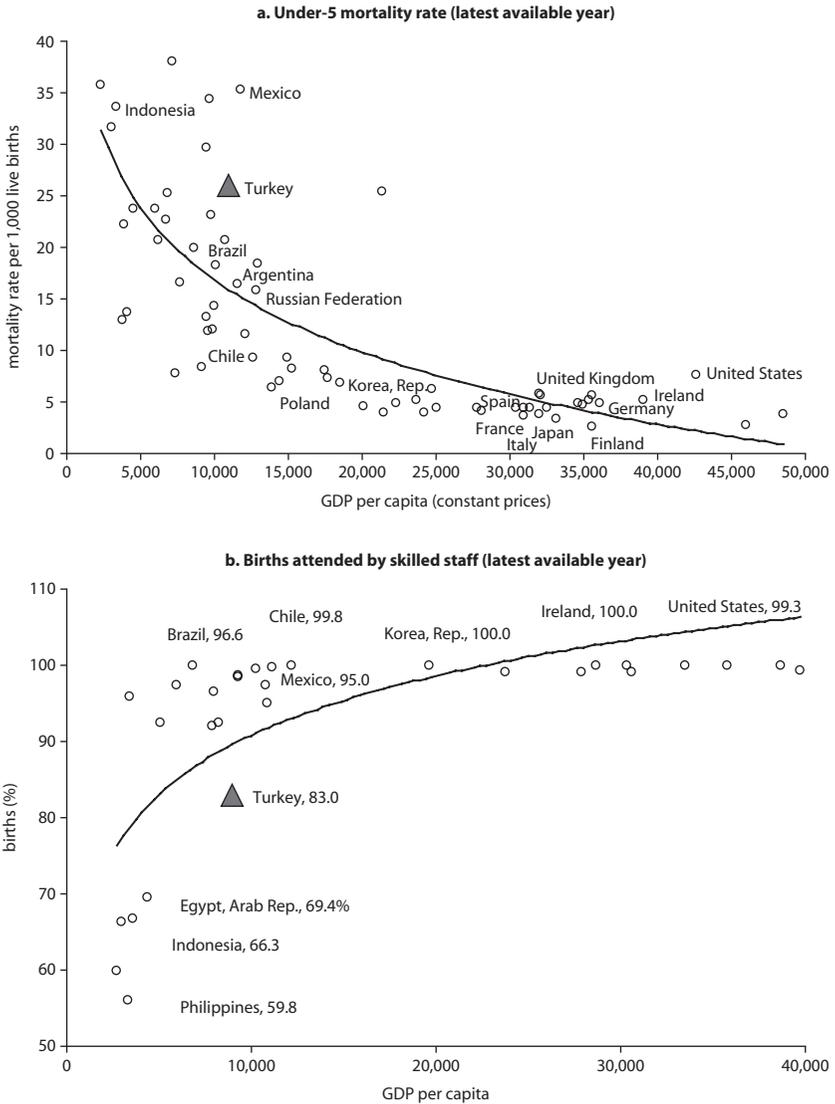


Source: Staff calculations using the 2004 TDHS.

International Comparisons

Internationally, Turkey performs less well than comparator countries with respect to core child development indicators. Benchmarking of input indicators, such as immunization coverage and birth attended by skilled staff, as well as of outcome indicators such as the under-5 mortality rate all show that Turkey, given its level of income, is somewhat underperforming when compared internationally. Figure 4.7, panel a, illustrates this relationship by plotting the under-5 mortality rate against constant GDP per capita. The curve indicates a “predicted”

Figure 4.7 International Comparisons of Key Indicators



Source: World Bank 2009b.

Note: The figure does not include observations for Sub-Saharan African countries.

outcome; Turkey finds itself with a higher-than-predicted under-5 mortality rate. Similar results can be observed in the comparison of immunization coverage or attended births (the latter is shown in figure 4.7, panel b).

Notes

1. Grantham-McGregor and others (2007, p. 62).
2. Calculations using Aran and others (2009, p. 35).
3. Based on Hentschel and Aran (2009). See technical appendix, paragraph A.5.
4. The ecological model of child development emphasizes the large number of environmental influences on children; rather than singling out the partial impact of various risks, this model finds that it is the cumulative combination of risks that increases the probability of children not reaching their development potential (Shonkoff and Meisels 2000).
5. Paes de Barros and others (2009) introduce a new measurement tool, the Human Opportunity Index, that can be applied to individual access rates to basic services. The index captures both access levels and their distribution in the population, giving more weight to poorer households because these are likely the ones lacking opportunities. Further work in Turkey could build on the Human Opportunity Index concept and measure both regional opportunities as well as changes over time.
6. Baydar (2008). The study collects longitudinal data for the children.
7. Shonkoff and Phillips (2000).
8. The Corsi test is an internationally standardized short-term memory test. The Tifaldi language test is designed specifically for Turkish language comprehension.
9. Walker and others (2007, p. 145).
10. See, for example, ERI (2009).

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CHAPTER 5

Expanding Opportunities for the Next Generation: Early Childhood Development Policies

Public policies that would reduce inequalities of opportunity in society are broadly those that would attempt to *weaken* the link between circumstances, for which people cannot be held accountable, and outcomes. A wide array of such policies exists, from building human capital for the young to providing skill-building and lifelong learning opportunities for disadvantaged groups, to supporting productive asset creation by, among other things, addressing capital market imperfections or income transfers that would offset original disadvantage. Public policies also could open opportunities by connecting people to markets, using public infrastructure investment to overcome geographical poverty traps, and facilitating access for people to move to and benefit from higher opportunity areas.¹

This chapter focuses on one such pro-equity policy, early childhood development (ECD). Given the strong influence of the intergenerational transmission of inequity in Turkey reported in earlier chapters, supporting disadvantaged children today could result in one of the most effective investments in Turkey's future. Not only would ECD policies attack poverty—mostly through an indirect impact on female labor force participation—but they are also the key for tackling the intergenerational transmission of inequities and poverty. Given the large positive externalities and high social and economic returns from investing in children's

early years, many countries around the world have made ECD investment a top priority in their longer-term growth and development agenda.

ECD: Why and How?

Early childhood development refers to brain development in the early months and years of childhood, which affects physical health, learning, and social behavior throughout life.² In the early years, a child develops all the basic brain and physiological structures upon which later growth and learning depend. For instance, stunting in early childhood has been proven to have a significant negative effect on cognitive development; iodine deficiency can lead to mental retardation; and insufficient cognitive stimulation reduces learning abilities. Ensuring adequate nutrition, health, and cognitive stimulation in the first months and years of life raises returns to later child investments significantly.³ The older a child is with unaddressed developmental delays, the less likely—and the more intense and costly—that child can be put back on a normal developmental trajectory.

The international evidence on the effectiveness of ECD policies is growing, and a number of these policies derive from the successful piloting of core ECD interventions and their evaluations in Turkey. For example, a long-term study of the impact of the Mother Child Education Program (MOCEP) in Turkey followed children who had participated in the first rounds of the program in 1982 until adulthood 22 years later.⁴ It found that, compared with a control group, children who participated in the program were more likely to have graduated from high school and even university and to be employed than children who did not participate. Such results are in line with international evidence from emerging market economies: in Argentina, Brazil, and Colombia, studies have found that children who participate in ECD programs repeat fewer grades and progress better through school than nonparticipant children with similar backgrounds.⁵

More recent studies emphasize that effective early childhood programs not only have an impact on school readiness and social and emotional development but may also affect the level of children's intelligence.⁶ Evidence from programs in Cali, Colombia; Jamaica's First Home-Visiting Program; and Peru's PRONOEI (Non-School Initial Education Project) shows that children participating in such programs early in their life scored higher on intellectual aptitude tests than nonparticipating children.⁷

Internationally, several common characteristics of ECD interventions are linked to their success in reducing disadvantage and breaking the intergenerational transmission of poverty and inequity.⁸ First, the highest

returns, both social and economic, stem from focusing on the most disadvantaged children. Second, reaching disadvantaged children as early as possible, significantly before they reach kindergarten or preschool readiness, has the greatest impact and is most cost-effective. Third, efforts to reduce iodine and iron deficiencies, support cognitive stimulation, and prevent stunting through health and nutrition interventions require a holistic approach to ECD that ideally encompasses health, nutrition, cognitive stimulation, and parental involvement interventions together.⁹ Last, most cost-effective interventions provide direct learning experiences to disadvantaged young children and their families and are of long-term duration, high quality, and high intensity. Some of these policy lessons, together with key input indicators, have recently been summarized by the United Nations Children's Fund (UNICEF) for advanced countries in an international benchmarking assessment, discussed in box 5.1.

Box 5.1

International Benchmarking League Table for Early Childhood Development

UNICEF (2008) recently published an international benchmarking league table for economically advanced countries whereby quality and access standards for ECD programs are compared across countries. The international targets include structural policy measures (such as the existence of national policy to support disadvantaged children); coverage indicators of ECD programs (such as subsidized and regulated child care being available for 25 percent of children under age 3, and subsidized and accredited early education services reaching 80 percent of 4-year-olds); and input indicators for ECD programs (such as a minimum staff-to-children ratio of 1:15 in preschool education, percentage of staff in accredited early education services educated with relevant information, and 1 percent of GDP spent on early childhood services, excluding health services). Most of these benchmarks are relevant for developed countries with advanced ECD programs and policies. For example, over two-thirds of 3- and 4-year-old children in developed countries are now enrolled in preschools and kindergartens, so setting a target for 80 percent becomes achievable with appropriate policies and planning.

Benchmarking Turkey against such indicators would not be appropriate at this point. But the targets could serve as long-run goals for the country, given its renewed emphasis on reaching children early through its social policies, as documented in major government plans and strategies.

ECD Policies and Programs in Turkey

Today, Turkey is implementing a number of early childhood development programs through public as well as nongovernmental delivery channels. Specific targets have been defined for further rollout during the coming years. Four broad types of ECD programs can be distinguished.

Center-based preschooling. Attendance at a formal preschool (either a specialized center or one integrated with a primary school) has increased significantly over the past five years, according to official figures, now reaching about 50 percent of all children age 6 and about 31 percent of children ages 5 and 6. Public awareness drives, such as the “Seven Is Too Late” campaign supported by the Mother Child Education Foundation (AÇEV), have contributed to mobilizing parents and public resources around early childhood education. An infrastructure push fueled expansion of preschool classroom capacity within existing primary schools. While supported at the national level, funding depends primarily on mobilizing local resources at the provincial level. Local demand and prioritization are thus the main drivers of preschool coverage. Teacher salaries and infrastructure costs are covered directly by the Ministry of National Education (MONE), but private user fees also contribute to overall financing, paying for nutritional supplements, for example. Such private fees can vary between TL 50 and TL 200 a month for each child, a potentially substantial cost for poor families considering that the poverty line for a family of four is around TL 700 a month.

Parenting programs. Turkey is recognized as an international pioneer in the provision of home-based early childhood education and preschool programs. These are implemented by MONE’s Directorate of Nonformal Adult Education Centers (with financial support from the European Commission), and they are delivered in cooperation with the Mother Child Education Foundation and UNICEF. The programs support mothers (and now also fathers) as caregivers and are designed to improve cognitive development of children and increase school preparedness.¹⁰ Parent and caregiver training programs provide a very important starting point for expanding ECD through home-based services in Turkey, but their coverage still remains modest. The share of children below age 6 reached through all family training programs in Turkey (MOCEP, UNICEF’s My Family Program, and the Turkish Family Health and Planning Foundation) is estimated to be around 3.5 percent.¹¹

Growth and psychosocial monitoring. The country, through the Ministry of Health, is rolling out an innovative, integrated mother-child health monitoring service, centered on expanded responsibility for family doctors. The model includes a multidisciplinary assessment of child development and child needs in early ages that captures nutritional health as well as cognitive and psychosocial developments. The tool, a digitalized score-card consistent with World Health Organization guidelines, aims to track children starting with the pregnancy of the mother. For each child, the family doctor regularly collects and records information from mother and child on immunizations, growth performance, and cognitive and psychosocial developments. Within the ministry, the directorates of Mother and Child Health and Primary Health closely coordinate policy and program development on the basis of the integrated monitoring tool. Program implementation started originally in Bursa in 1996 and is currently being implemented as pilots in 54 provinces, covering 108,000 pregnant women and 686,650 children under age 7 (equivalent to 8.3 percent of children in Turkey in this age group). It is to be rolled out universally with the family doctor program by the end of 2010. In the program, the family doctors are responsible for the immunization and growth monitoring of all children in their jurisdiction and receive per capita incentive payments on the basis of the number of families mapped to their practice.¹²

SHÇEK community centers. Last, Turkey has developed a specific outreach program for poor and disadvantaged children through its Social Services and Child Protection Agency (SHÇEK). The agency operates both what it calls protective services for orphans and children in need as well as preventive services through community centers and family counseling programs. Community centers are multipurpose facilities located in disadvantaged communities that typically deliver a range of services, from family training programs to vocational training workshops to counseling for families to providing child-care options for course attendants.¹³ There are 81 community centers across the country with an estimated reach of around 40,000 children.¹⁴

Private and Community Provision

Scaling up the provision of ECD through low-cost community models as well as through private providers could be an important tool for expanding ECD services to the most disadvantaged children in Turkey. As of 2007, less than 1 percent of 5- and 6-year-olds benefited

from private centers, and only about 6 percent of all children between ages 4 and 6 enrolled in school were attending private schools. Hence, community-driven and private day-care and preschool providers are rare, although innovative and promising models exist (box 5.2). The current regulatory framework for day-care centers and preschools emphasizes the quality of infrastructure (that is, the availability of an open-air space, sleeping room with specific area requirements, kitchen, infirmary, and the like) as well as training requirements for staff working in the centers. A review of current infrastructure and staff training requirements with the aim of facilitating the accreditation and expansion of services, coupled with public financing for those private providers that serve in disadvantaged areas, could have the potential to expand day-care opportunities for poor children and their mothers.

Box 5.2**Community-Based ECD Provision in Turkey**

One community-driven model of private provision has been developed by the Foundation for Support of Women's Work (*Kadın Emeğini Değerlendirme Vakfı*, or KEDV), a nongovernmental organization empowering women through networks and cooperatives. KEDV facilitates the establishment of cooperative day-care centers (under the name of Women and Children Centers) in poorer urban neighborhoods of Turkey. Its model provides a low-cost solution for affordable day care where women in the communities come together and self-finance day-care services for their children. KEDV staff train and support neighborhood mothers who volunteer at the centers; the cooperative also hires professional preschool teachers to work in some centers. Members of the cooperative contribute to costs on a sliding scale according to their ability to pay, so that over time, the neighborhood nurseries become entirely self-financed and self-run by the communities (Social Policy Forum 2009).

Such community-driven initiatives may provide a method of expanding early childhood development services in low-income urban neighborhoods of Turkey where private and public child-care options are otherwise limited or too costly. In many countries, particularly in Latin America, such community-driven informal networks have become pillars of expansion of ECD services, often supported through public financing within a system of accreditation and close supervision (Young and Richardson 2007).

Governance and Coordination

The governance of ECD programs rests with various institutions in Turkey. The Intersectoral Child Council is entrusted with coordination of ECD policy within the framework of the UNICEF–government of Turkey program. Given the various actors delivering ECD services across the public, voluntary, and private sectors, such coordination is essential. The council is attended by various ministries. The Ministry of Health assumes a coordinating role, but the quality control of service delivery is the responsibility of the respective line agencies.¹⁵

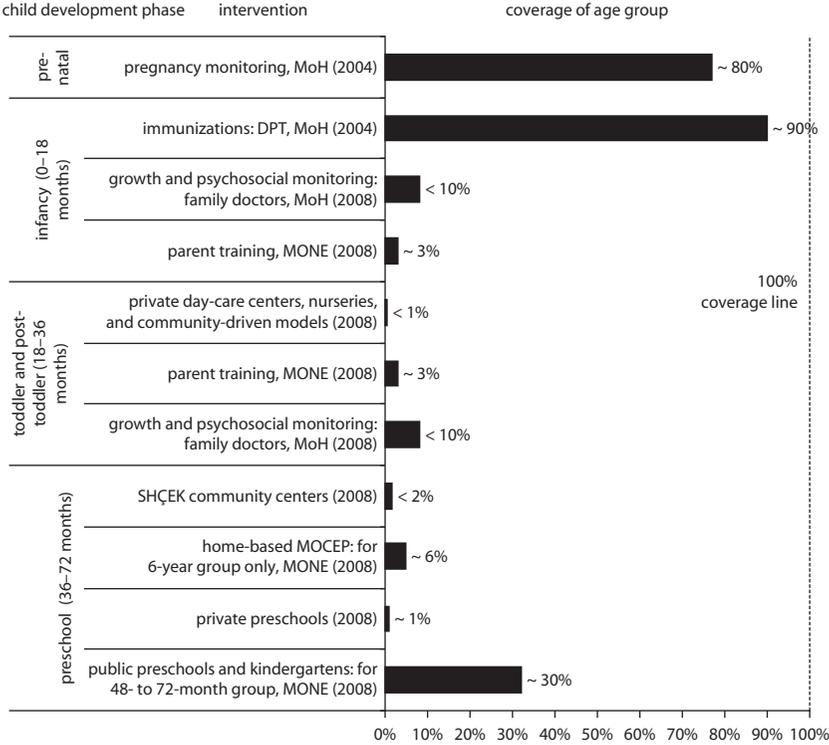
Institutional reforms that allow for effective planning and coordination of activities across line ministries and various government levels are often at the heart of successful ECD campaigns. One example comes from Chile, which has recently undertaken a comprehensive institutional reform to implement its program Chile Crece Contigo (Chile Grows with You). The program is, de facto, a universal and integrative child insurance system that covers all children in Chile from conception onward with services that ensure their healthy growth and development. Coordination and financing functions, through the Chilean planning ministry, are separated from implementation, which remains with responsible line agencies and specialized institutions.

Coverage and Reach among Disadvantaged Children

Although Turkey has many innovative ECD programs in place that have served as examples to the world, the coverage of many of these programs as well as their reach among poorer, disadvantaged children is low. Figure 5.1 shows estimated overall coverage rates, distinguished by child development phase and intervention type. Apart from birth attendance and immunization (90 percent coverage) and formal, center-based preschool education (around 30 percent coverage for 5- and 6-year-olds), no program currently reaches more than 10 percent of children in the relevant age group. As discussed in chapter 4, even the high-coverage programs such as immunizations or birth attendance tend to reach primarily nonpoor children from better opportunity groups. Moreover, even if the low-coverage programs were focused on reaching the poor and disadvantaged children, undercoverage of children at risk would still be significant.

Over the past years, Turkey has placed much emphasis on expanding preschool access for 6-year-olds. Overall enrollment for 5- and 6-year-olds

Figure 5.1 Coverage of Various ECD Programs in Turkey by Age Category, Latest Available Year

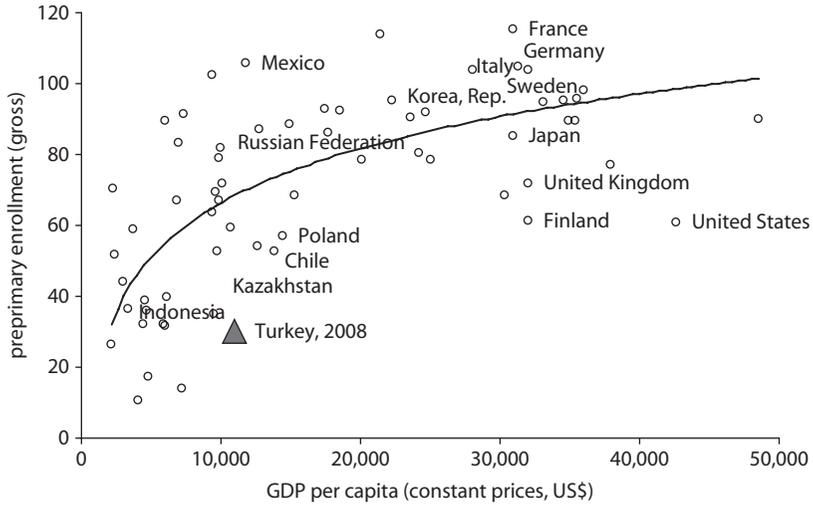


Source: Staff elaboration. For details, see technical appendix, paragraph A.7.
Note: DPT = diphtheria, pertussis, and tetanus; MoH = Ministry of Health; SHÇEK = Social Services and Child Protection Agency (Sosyal Hizmetler Çocuk Esirgeme Kurumu).

shows a strong and sustained increase over the past years, rising from less than 15 percent in 2003 to more than 30 percent in 2008. This expansion was funded largely at the provincial level and was made possible through formation of strong partnerships between the central government and local governments. Further targets have been set: Turkey now aims for the preschool enrollment rate to reach 100 percent in 30 provinces by 2011. As figure 5.2 shows for 2008, further strong increases in preschool enrollment rates would be necessary to approach levels observed in comparator countries—or the targets specified by the Organisation for Economic Co-operation and Development (OECD) for its members.

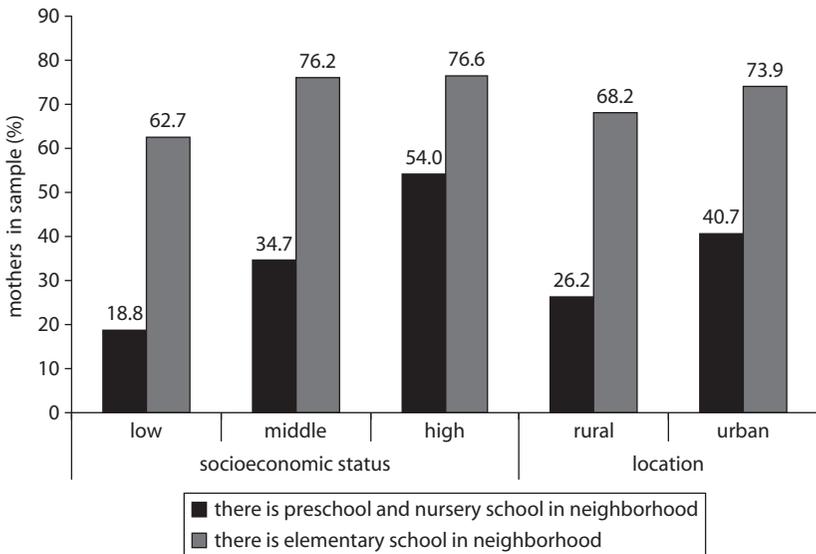
The combined public and private supply of preschools, kindergartens, and child-care options, which are dominated by publicly provided preschools, is strongly tilted to better-off areas in Turkey. Household-level data on such availability, collected by Koç University (figure 5.3), show

Figure 5.2 Preprimary Gross Enrollment for Children Ages 36 to 72 Months, Latest Available Year



Source: World Development Indicators 2009; MONE 2008–09 enrollment data.

Figure 5.3 Preschool and Daycare Access, by Socioeconomic Status and Rural-Urban Location, 2008



Source: Data from the Study of Early Childhood Developmental Ecologies in Turkey for 36- to 47-month-old children and their families.

Note: Socioeconomic status is an index that combines income, household assets, and the educational level of adults in the household.

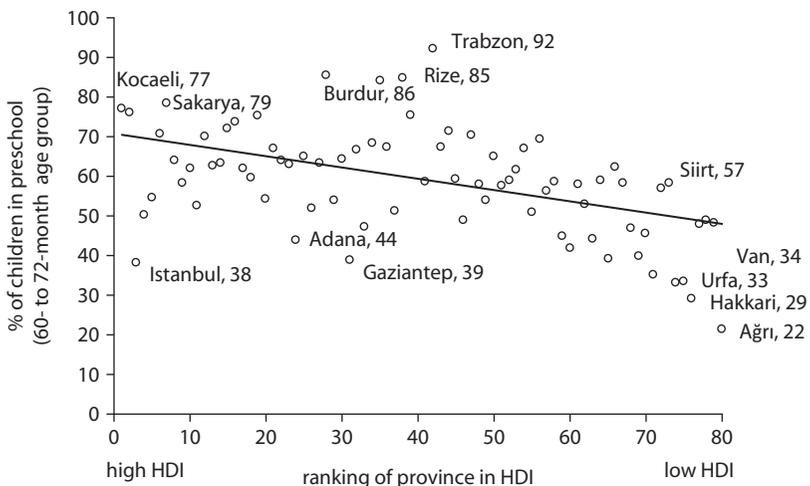
that less than 20 percent of mothers with low socioeconomic status have access to such facilities in their neighborhood while more than 50 percent of mothers with high socioeconomic status have such access. The same disparity reappears along the rural-urban divide. Local elementary school availability, on the other hand, is more evenly distributed across socioeconomic dimensions.

Like the household-level results, the provincial distribution of access rates to preschool is also higher in better-off provinces. Figure 5.4 compares provincial preschool access rates with the level of human development (as measured by the Human Development Index [HDI], compiled by the United Nations Development Programme) at the provincial level. In line with the Koç data, a mild negative correlation can be witnessed, signaling that preschool enrollment rates tend to be higher in better-off provinces.

Public Funding

While funding for early childhood development policies and programs has gradually increased in Turkey, a relatively small share of central public social expenditures is directed toward children. The calculations here, approximations only, are based on a detailed classification of all central

Figure 5.4 Preschool Enrollment (2008–09) and Human Development Index (2004), by Province

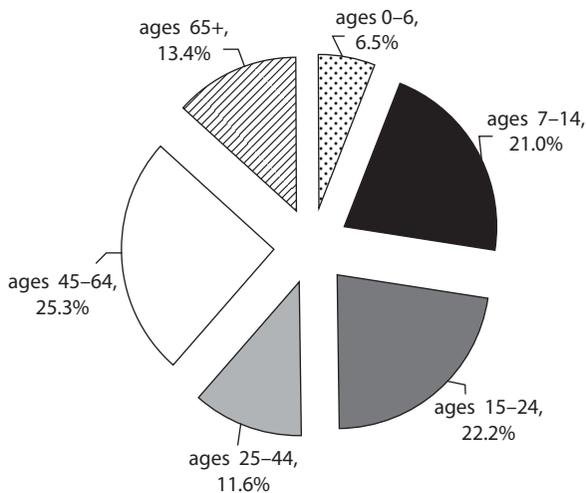


Source: Staff calculations for 60- to 72-month-old group based on MONE (2008–09 academic year) and UNDP (2004) data.

social expenditures in education, health, and social protection, excluding all health, unemployment, and pension contributions to the Social Security Institute. Estimates for age-specific social expenditures were derived by looking both at the target beneficiaries of the programs involved and at available estimates about the age-group-specific nature of funding. The expenditures included here reflect central government spending only and do not include local government expenditures or private expenditures at the household level. As figure 5.5 shows, of the total central social expenditures, about 6.5 percent benefited the youngest age group, while the largest share of funding accrued to the age group between 45 and 65, primarily because of the Treasury-financed (noncontributory) portion of pension and health expenditures. Overall, Turkey spends about 0.5 percent of its GDP on children age 6 and under—considerably less than established international early childhood development benchmarks for OECD countries.¹⁶

This finding changes little if different assumptions are made about who benefits from social transfers within households. Rather than assuming that income transfers (such as all income-based social protection transfers) benefit the recipient only, this analysis estimated the age-specific expenditure incidence assuming the alternative extreme—that all transfers are distributed *equally* to all household members. Under this

Figure 5.5 Distribution of Social Expenditures in Turkey by Age Group, 2008



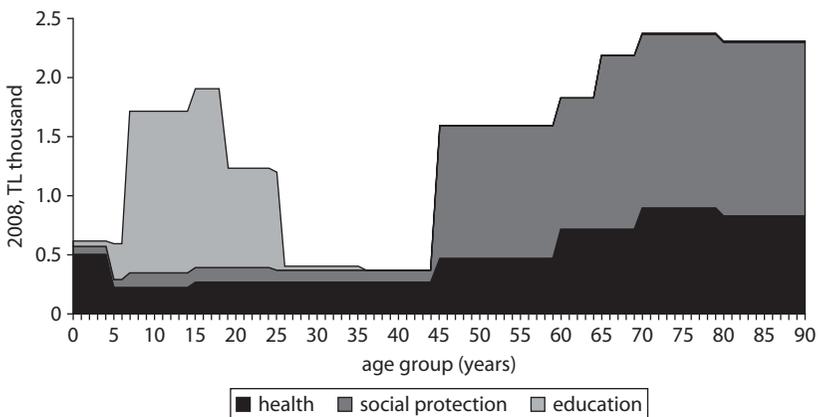
Source: Ministry of Finance central budget data, staff calculations (see technical appendix, paragraph A.8, for details).

assumption, children 6 and under receive 2.8 percent of pension benefits in Turkey.¹⁷ This revised calculation changes the distribution of public expenditures by age group only slightly, leaving the overall share of funds reaching the youngest age group still at only about 7 percent.

Early childhood funding varies significantly by sectors. Highest is the funding of health programs, mostly for immunization, growth monitoring, and services through family doctors and primary care institutions. Education expenditures for the age group are low because only about 4 percent of the total central public education budget accrues to publicly funded preschool and family-parent training programs.¹⁸ Central social protection expenditures are also relatively modest for the age group. This funding consists largely of child-focused conditional cash transfer payments, which currently reach more than 3 million children with modest transfers, and support for the most disadvantaged children provided through the Social Services and Child Protection Agency.

Per capita funding levels between age groups diverge greatly. Figure 5.6 shows per capita funding across the entire population, hence spreading funding across those that benefit from specific programs and those that do not. As shown, estimated central, noncontributory funding levels for each child age 6 and under in 2008 reached approximately TL 650; most of this spending was related to immunization, postnatal care, and growth monitoring programs. A slight drop for the 6-year-olds is followed by a

Figure 5.6 Per Capita Social Expenditures by Age Group in Turkey (Central Government, Excluding Social Security Contributions), 2008



Source: Staff calculations based on Ministry of Finance study and data.

Note: For explanation, see technical appendix, paragraph A.8.

steep increase for children in primary school and an even steeper increase for those in secondary school. Considerable funding also is provided for students in university; such funding, on a per beneficiary basis, is considerably higher than for other education levels. Social expenditures for the working-age population drop to around TL 300 before a steep rise occurs at the current minimum retirement age in the mid-40s. High health and pension expenditures through middle and old age lead to a significant tilt of overall social expenditures to the right of the age scale in the figure. On a per capita basis, the funding ratio between the over-45 age group and those 6 and under is almost two and a half to one.¹⁹

Early Childhood Development Benefits

This Report focuses on assessing the economywide benefits of ECD policies. Without doubt, costs of expanding early childhood development services are substantial. A full and comprehensive estimate of an expansion would very much depend on the model of early childhood development programs being offered, including how, where, and by whom would the various program elements be delivered and how effective and efficient coordination would be. Significant work has been conducted by other organizations to assess the potential costs of expanding parenting and preschool education. Hence, this Report focuses on the benefit side. As demonstrated by international studies, long-term benefits from high-quality early intervention programs for disadvantaged children include higher verbal and mathematics achievement, greater success at school (less grade repetition, higher graduation rates), higher employment and earnings, better health outcomes, less welfare dependency, and lower crime rates.²⁰

An impressive body of evaluations illustrates such benefits for several Turkish programs. Data from controlled experiments reveal that children who take part in preschool programs achieve roughly one more year of formal schooling (excluding the preschool attendance year) than children who do not participate.²¹ With more schooling comes higher incomes, a higher likelihood of working in the formal sector, and therefore higher contributions to public revenues. The returns to investment in one year of home-based preschool education through the MOCEP have been calculated to be 2 to 1 at a minimum and as high as 6 to 1.²² Even an examination of family training programs in isolation shows returns of between 20 percent and 100 percent for every Turkish lira invested. Apart from high private benefits—and the social benefit of preventing the participating children from falling into poverty later in their life—UNICEF estimates

that public investments in such family training programs pay for themselves through higher formalization of work and tax collection within roughly 20 years.²³

Improving the opportunities of Turkey's children today would have significant economic and social benefits. This Report uses two simulation models to assess potential benefits of selected ECD policies.²⁴ The first one focuses on the impacts of educational attainment stemming from preschool and parenting in Turkey.²⁵ A simulation model is used that examines how poverty, incomes, and female labor force participation would be different today for the generation of 20- to 39-year-olds if all of them had received preschool or parenting programs when they were 6 years old. Because evaluations in Turkey have shown a net increase of schooling by about one year for children attending these programs, the educational attainment of the 20- to 39-year-old group was hypothetically raised by this one year. Next, the impacts of such higher educational attainment were considered. First, education is linked to both participation in the labor market and occupational choice. Observed relationships show that participation rates, especially for women, increase with higher educational attainment. In parallel, education levels also influence people's decision about which sector they choose to work in, with some sectors more prone to absorb higher-skilled workers than others. Second, increases in education tend to be associated with a reduction in the fertility rate of women, leading to changes in the availability of household per capita income and consumption. Last, the higher educational attainment itself has a direct impact on earnings and consumption given that one more year of schooling is associated with a return that can be calculated from historical relationships.

When one considers only these transmission mechanisms, preschool and parenting policies have significant effects at the wider societal level.²⁶ For the generation of 20- to 39-year-olds considered here, per capita incomes increase by almost 8 percent, poverty falls by 11 percent, and the female labor force participation rate climbs by 9 percent. These results could well be lower-bound estimates of benefits because the simulations do not take into account changes, for example, in returns to education or the demand of firms; nor do they take into account synergies with other ECD programs, such as early cognitive stimulation.

Some of these investments in Turkey's future could very well materialize in the very short run. A recent World Bank report on female labor force participation establishes that poor, especially urban women might not work, although they want to, because the high cost of child care prevents them from taking up income-earning activities. As a spin-off to increased

availability of preschool and child-care services, a concomitant increase in female labor force participation could achieve immediate growth and productivity effects (box 5.3).

Box 5.3

Female Labor Force Participation and Affordable Child-Care Options in Turkey

In addition to the direct impact of early childhood development interventions on children, interventions that have an affordable child-care component can have beneficial effects on mothers' participation in the workforce. At 25.5 percent as of 2009, the country had the lowest female labor force participation among OECD countries. Although female participation has been declining, Turkey's Ninth Development Plan targets an increase of female labor force participation in Turkey to 29 percent by 2013 (State Planning Organization 2007). To date, the government has enacted measures to increase the demand for female workers—such as offering partial subsidies to enterprises that hire additional, first-time female formal workers (Employment Package, passed in May 2008).

A new and expanding body of evaluations looks at female labor force participation rates in the presence of an expansion of affordable ECD services. A study in Argentina estimates the effect of a large-scale increase in the availability of free public preschool on maternal employment to be between 7 and 14 percent (Berlinski and Galiani 2007). Using a regression discontinuity design, another study in Argentina estimates a 13 percent difference in labor market participation between mothers whose youngest child just made the age cutoff for preschool eligibility and those whose youngest child just missed that age cutoff (Berlinski, Galiani, and McEwan 2008). A recent study (World Bank 2009a) finds that in Turkey, reducing the opportunity cost of working for women in urban areas—by providing increased availability of day-care services, for example—could also have potentially large and immediate positive effects on female labor force participation.

In Turkey, as in many other countries, marriage and childbirth are negatively correlated with women's labor supply decisions. Of the women ages 20 to 65 who have ever been married, more than half state being a housewife as a reason for not working, while 9 percent state "taking care of children" as the main reason for not working (2004 Turkish Demographic and Health Survey). Childbirth is a significant contributor in Turkey to lower participation in the labor force, particularly for women living in urban areas, where informal networks

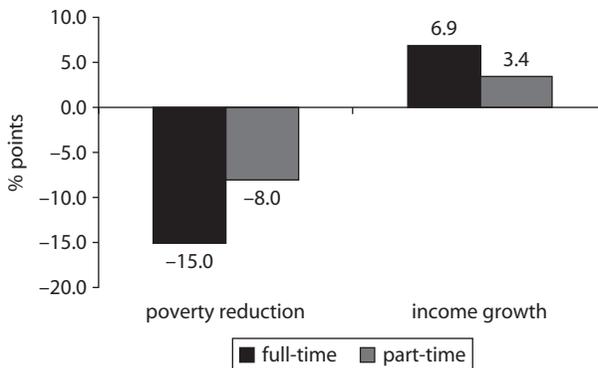
(continued)

Box 5.3 (continued)

of child care are weaker. A multivariate analysis finds that the birth of the first child is correlated with a reduction in the probability of labor force participation by about 12 percentage points for high-skilled women and a reduction of around 10 percentage points for low-skilled women in urban areas (Aran and others 2009).

Given the limited access to affordable child-care services in Turkey, women, especially those in urban areas with children—have limited options for continuing to work. Because of the high costs of child care, both women's opportunity cost of working and their reservation wage increases after childbirth. Although some women choose to stay home and care for their children, the absence of affordable child-care options inhibits labor force participation for women that would like to continue working. This especially can be the case for young migrant families in urban areas who no longer can rely on an extended family network for child care (Social Policy Forum 2009). Increasing options of good quality day-care can, in addition to providing positive cognitive and development stimulus for young children, alleviate a constraint on women's labor force participation in Turkey.

Figure 5.7 Aggregate Effects on Income and Poverty Reduction from Increased Female Labor Force Participation



Source: Staff estimation; for details, see technical appendix, paragraph A.11.

The results show that reaching the female labor force participation target of 29 percent, as spelled out by the government in a number of policy documents, could have substantial aggregate effects on income increases and poverty reduction (figure 5.7).²⁷ Using existing relationships between

education, family structure, and age, as well as between personal characteristics and earnings, the possible *aggregate* income effects for all Turkish households could be on the order of 7 percent—a substantial increase that could significantly help households work themselves out of poverty. If one uses 2006 as the base year and assumes that new female labor market entrants would assume full-time jobs, poverty would decrease by more than 15 percent (from 18.3 percentage points to an estimated 15.5 percentage points). Even if the new labor market entrants only take up part-time work, aggregate effects on income (an estimated increase of 3.4 percent) and poverty reduction (an estimated drop of about 8 percentage points) would still be significant.²⁸

Notes

1. World Development Report (2009b).
2. Engle and others (2007); Grantham-McGregor and others (2007); Walker and others (2007); Young and Richardson (2007); Heckman (2008).
3. Engle and others (2007).
4. Kağıtçıbaşı, Bekman, and Cemalcılar (2005).
5. Myers (1995); Young (2002); World Bank (2006).
6. Heckman and Cunha (2007).
7. World Bank (2006, ch. 7).
8. Engle and others (2007).
9. Evans, Myers, and Ilfeld (2000).
10. Kağıtçıbaşı, Bekman, and Cemalcılar (2005); Kaytaz (2005); AÇEV (2007). The government aims to reach 30 percent of parents and caregivers through the expansion of parenting programs in the coming years. The Family Training programs by UNICEF (the My Family Program) trains mothers of children below age 6. The training programs are complemented through center-based preschool training for children. The Father Training programs, implemented by AÇEV for fathers of children ages 2–10, encourage fathers to engage more closely with the development of their children. More recently, MONE's Directorate of Nonformal Education and Apprenticeship has started to implement "care-giving" courses for young women who would like to take up jobs at homes, day-care centers, or preschools as caregivers.
11. See technical appendix, paragraph A.7.
12. Staff elaboration based on Ministry of Health information.
13. SHÇEK currently operates 81 Community Centers across the country, 26 Women Shelters and 42 Family Counseling Centers.

14. See technical appendix, paragraph A.7.
15. The supervision of growth monitoring and ECD health services delivery rests with the Ministry of Health, which also oversees family doctors and primary health care facilities. Similarly, SHÇEK accredits private providers of day-care and crèche facilities. This license supervision responsibility is scheduled to shift to MONE. The Ministry already regulates the educational content of private nurseries and preschools.
16. UNICEF (2008) establishes a benchmark of 1 percent of GDP for ECD programs, excluding health. The comparable amount Turkey spends, excluding health expenditures, amounts to roughly 0.1 percent of GDP.
17. Children age 6 and under would receive 2.8 percent of pension benefits, 12.2 percent of social assistance benefits through the Social Solidarity Fund from the General Directorate of Social Assistance and Solidarity (Sosyal Yardımlaşma ve Dayanışma Genel Müdürlüğü, or SYDGM), and 6.6 percent of noncontributory old age benefits. However, since the overall size of these benefits is modest, making these different assumptions about the intrahousehold distribution does not alter the original age-incidence significantly (see technical appendix, paragraphs A.8 and A.9).
18. As an approximation, one-third of the total budget of the Nonformal and Apprenticeship Education Directorate is assigned to parent and family training activities. The salaries of full-time preschool teachers who teach within primary schools are also included in the preschool budget in this calculation, although they are paid from the budget of the Directorate General for Basic Education.
19. Technical appendix, paragraph A.8.
20. Engle and others (2007, p. 231).
21. Sunar, Bekman, and Kağıtçıbaşı (2001); Kaytaz (2005); Özmert, Yurdakök, and Soysal (2005); Ertem and others (2006); Yılmaz (2007).
22. Kaytaz (2005).
23. Yılmaz (2007).
24. Both models concentrate on assessing direct impacts only. Hence they do not assess overall general effects, which would have to include many more behavioral functions.
25. Sunar, Bekman, and Kağıtçıbaşı, (2001); Kaytaz (2005).
26. Technical appendix, paragraph A.10.
27. Technical appendix, paragraph A.11.
28. Using the same methodology, a larger increase in female labor force participation, that is, to 40 percent, has an estimated aggregate income effect of almost 12 percent and a poverty reduction impact of 17 percent.

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CHAPTER 6

Reflections

This Report examined equity through the lenses of opportunities. It found that inequalities of opportunity are substantial and that what it terms circumstances—exogenous factors that no individual can influence—are an important determinant of life trajectories. It also found that the inter-generational transmission of such inequities is pronounced, with the socio-economic status of grandparents mapping closely into the early childhood development outcomes of their grandchildren, today's young generation in Turkey. Child development trajectories diverge early in life depending on the child's opportunity background and poverty status. One of the most important pro-equity policies focuses on reaching the most disadvantaged children early in their life, ideally before birth. Today, such early childhood development (ECD) policies in Turkey reach relatively few of the children most in need, while most public resources are largely benefiting other age groups.

The Report concludes with a number of reflections for the public social policy debate. First, to improve equity in society, opportunities for disadvantaged children would need to be expanded, and expansion would necessitate a review of the current functioning and financing of the Turkish welfare state. Given the equity aspirations of the Turkish people, which are reviewed in this Report, society at large appears open

to enter such reflection. A host of pro-equity policies exist, and one set of them, early childhood development policies, has proven significant in many countries in weakening the link between circumstances and individual life chances. Current public, noncontributory social expenditures reach children in their early years only to a limited extent. For creation of fiscal space that would allow programs for disadvantaged children to expand, the financing and societal transfers to old-age insurance would need to be reexamined.

Second, public policies for the most disadvantaged children would need to complement the existing informal solidarity networks in the country. These informal safety nets, as strong as they might be, do not seem to have been able to offset the disadvantages of children—especially girls—born into specific circumstances. Turkey has a traditional and strong communal and family solidarity that is often described as one of the main pillars of societal functioning.¹ But given the strong intergenerational transmission of inequity observed here, such communal and traditional ties would need to be complemented at least by an integrative and inclusive policy for the most disadvantaged children. Families could then receive support to improve their children's healthy early development and learning. Support for families through ECD programs in the early years of the child's life is particularly important, given that women's educational attainment remains low, adult female literacy is not universal, and mothers often remain the primary caregivers of children.

Third, international evaluations show that the most effective way to reduce the influence of circumstances on opportunities is to provide effective support to the most disadvantaged children first. The concept of equality of opportunities employed in this Report goes beyond creating equal access: it implies that the most disadvantaged must be reached first and more intensively than less disadvantaged children if their life chances are to improve. If this concept resonates in Turkey, a strategy for rollout would then need to set targets detailing how, and how many, of the most disadvantaged children can be reached. Currently, vital child services—from nutritional support to health services to cognitive stimulation—largely benefit less disadvantaged children. While a discussion on how to define *disadvantage* will be necessary, this Report suggests that two factors alone, child poverty and parental education, are core determinants of opportunities.

Last, civil society, community, and private initiatives will need to complement public efforts in expanding the supply of services for the most disadvantaged children. Turkey's innovative and inspirational experiences

of delivering ECD services through nongovernmental channels is admired across the globe. At the same time, however, overall coverage of such delivery is very low. A social compact between private, public, civic, and community actors would create an appropriate enabling environment to make high-quality and integrated support available to disadvantaged children.

Note

1. See, for example, Ayata (2004).

Reference

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Technical Appendix

A.1 The basis for the analysis of inequality of economic opportunity is the Turkish Demographic and Health Survey (TDHS), which recorded data, collected from December 2003 to May 2004, for 10,836 households, representative at the national level and also for five major regions (west, south, central, north, and east). Information on basic socioeconomic characteristics of the population was collected for all household members. All women ages 15 to 49 who had ever been married also answered a detailed questionnaire on demography and health; in total, 8,075 women provided information. This ever-married women's questionnaire included information on the characteristics of these women at birth, such as place of birth (rural or urban, region), her father's and mother's education, her mother's language, and so on. Hence, the results presented in this Report are related to the wealth distribution at the household level, with the circumstance variables being derived from the women in each household. For a more extensive discussion, see Ferreira, Gignoux, and Aran (2009).

The household budget survey (HBS) for 2004 was used to assess the composition of the group of households that did not include an ever-married woman, because this survey also

includes information on employment and other variables of interest. The households that did not have an ever-married woman between 15 and 49 years of age represented 17 percent of the total population (very close to the 20 percent obtained from the TDHS) but accounted for only 3 percent of all children under 15. A majority of the individuals living in households without an ever-married woman (63 percent) represented households made up entirely of members that were age 50 or older and not working. Overall, the average size of households without an ever-married woman was 2.70, much lower than the mean size of all households in the TDHS sample (4.63 in 2004). Poverty was also less prevalent for the population living in households without an ever-married woman, with a rate of 19.8 percent, compared with 29.8 percent for the population in the TDHS sample households.

- A.2 The inequality-of-opportunity share can be computed through a parametric regression (which relates the wealth variable directly to the circumstance variable and uses the degree of explained variance as the implicit opportunity share) or through a nonparametric analysis that partitions the entire data set into different, identical circumstance groups and calculates how much of the overall variance of household wealth results from variation between the conditional cell means. The two techniques show similar results for Turkey. Note that the inequality-of-opportunity share is a *lower-bound* estimate because not all circumstance variables are captured in the household survey (parental occupation and parental wealth are not captured, for example). See Ferreira, Gignoux, and Aran (2009) for a detailed explanation.
- A.3 As explained in Ferreira, Gignoux, and Aran (2009), the parametric estimate provides a robust lower-bound estimate of the share of inequality of opportunity in total wealth disparity in Turkey. The decomposition of this share into the contribution made by each individual circumstance variable is dependent, however, on the partial correlation of the circumstances with omitted variables (that is, the circumstances that were not included in the TDHS). See Ferreira, Gignoux, and Aran (2009) for a robustness test of the results with an alternative to the wealth indicator (imputed consumption at the household level).

- A.4 If one uses the exogenous circumstances, the entire population can be divided into different groups by their opportunity sets. For example, one such group is made up of all households whose ever-married women were born in the urban areas of the western region to parents who both had higher education diplomas, whose mother tongue is Turkish, and who had more than nine siblings. Ferreira, Gignoux, and Aran (2009) distinguish 768 different types. For each type, they calculate the mean wealth, which they then use to rank all types. The 10 percent of the population with the lowest wealth (conditional by type) are defined as the least advantaged decile; the 10 percent with the highest wealth (conditional by type) are the most advantaged decile. Examining the composition of these two groups produces an opportunity profile that is the basis for figure 3.3 in the main text.
- A.5 The adjustments and assumptions made in the simulations to assess the possible poverty impact of the economic slowdown are as follows:
- The starting point is the 2006 HBS for Turkey. Each household has a defined (geographically adjusted) real per capita consumption rate level assigned, which can be used to distinguish poor and nonpoor households using the nationally defined poverty line.
 - To bring the 2006 data (the latest available survey) to 2008 as the base, the real sectoral GDP per capita growth rates are applied to the consumption per capita variable (distinguishing between the agricultural, industry, and services/other sectors). The affiliation of each household with a sector is determined by the activity of the household head. For inactive or unemployed household heads, the average GDP per capita growth rate is applied.
 - Households are next mapped into six different categories, based on the employment status of the household head: low-wage formal sector employment (those household heads with social security coverage and earning up to 1.5 times the minimum wage); high-wage formal sector (earning more than 1.5 times the minimum wage); informal sector working in agriculture; informal nonagricultural sector, unemployed; and inactive.
 - The potential impact of a growth slowdown is assessed—real GDP is assumed to fall 5 percent in 2009, and 1 percent in 2010.
 - The employment impact of the scenarios is determined by calculating average employment elasticities of output growth (Taymaz 2009). The following assumptions are used.

- Employment in the formal sector would contract with the historically calculated weighted elasticity of 0.47. Under the growth slowdown scenario, an estimated 170,000 *heads* of households would thus lose their primary employment in 2009. It is assumed that these job losses would be concentrated among low-wage formal sector workers; Taymaz (2009) finds that during the last crisis in Turkey, these workers experienced by far the largest labor market adjustment. Note that the labor market impact is assessed only for household heads and *not* for the total labor force.
- The informal sector *outside* of agriculture would contract at the average historical output elasticity of 0.37, leading to a contraction in the sector affecting 45,000 heads of households until 2010. In line with historical elasticity calculations, agricultural informal employment would not contract. Over the past 10 years, agricultural employment has fallen steeply, independent of output decreases or increases (which leads to an actual calculation of an insignificant employment elasticity of 0.07). In times of crisis, however, such a long-term declining trend could well be halted or even reversed, as already seen in the latest aggregate employment figures issued by the Turkish Statistical Institute (TÜİK).
- The actual heads of households losing their employment in the two contracting sectors (low-wage formal and informal nonagricultural sector) are chosen by random assignment.
- For all other sectors (high-wage formal employment, informal agriculture, inactivity, unemployment), it is assumed that the employment status of the household's head does not change.
- To determine the effects on household welfare, the analysis uses the partial correlation coefficient (holding all other potential influencing variables constant) between consumption per capita and the household head being unemployed. The cross-section regression using the 2006 HBS data finds that, on average, an unemployed head of household is associated with an 18 percent lower per capita consumption level for the household. This reduction is then applied to the population living in households where the simulation showed the household heads lost their jobs.

For the other sectors, the following assumptions were made. First, households linked to the high-wage formal sector are assumed to be relatively able to protect their welfare level in real terms (in part because a good many of these workers are unionized, working in the public sector, or both). A reduction equivalent to half of the assumed GDP per capita growth rate was applied to them. Second, the full GDP per capita growth rate was applied to households whose head is unemployed or inactive. Third, the remaining households (those remaining in the informal nonagricultural sector after the above adjustments are made) would then experience a decline in their consumption per capita level that “adjusts,” or, in other words, is equal to the residual between the different assumptions for the other groups and overall GDP per capita growth.

Changes in consumption per household can then be analyzed by comparing the 2008 projected consumption level of the household with the simulated consumption per capita level in 2009 and 2010. This comparison is used to derive a profile of households that are at risk of falling into poverty as a consequence of the economic slowdown.

A.6 Following are definitions for variables (derived from the TDHS) included in table 4.1.

- *Antenatal care*: care provided to a pregnant woman by a doctor or a nurse-midwife through at least one visit. This share is calculated for all most recent births for ever-married women who had a live birth in the five years preceding the survey.
- *Birth certificate*: the child has an identity card as either reported by the mother or verified by the enumerator.
- *Attended birth*: the child’s birth takes places in a public or private sector health facility (the alternative being the respondent’s or someone else’s home).
- *Complete immunization*: immunization against six main vaccine-preventable illnesses—tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles—through receipt of the following vaccinations before the first birthday: one dose of BCG, three doses of DPT and polio, and one dose of measles vaccine (BCG protects against tuberculosis, DPT against diphtheria, pertussis, and tetanus).
- *Iodine deficiency*: test of iodine content of the salt used for cooking indicates the salt is potassium iodized or contains potassium

iodide (at least 15 parts per million); calculated for children under 5 in a sample of households where the iodine content of cooking salt was tested.

- *Stunting*: standardized weight for age below 2 standard deviations of the mean of the reference population.

A.7 The source data and method for calculating approximate coverage rates for ECD programs in Turkey are as follows. Pregnancy monitoring, antenatal care, and immunizations data are calculated from the 2004 TDHS. Growth monitoring and psychosocial development tracking data come from the Ministry of Health, Primary Health Care Directorate General (Mental Health Unit) and refer to December 2008. Coverage of parent training programs originates from the Ministry of Education, Apprenticeship and Nonformal Education Directorate General, and assumes that each parent reaches two children in the 0–6 age group, on average. Public and private preschool coverage rates for the 4- to 6-year-old group come from the Ministry of National Education (MONE). Preprimary education coverage data for the 2008–09 academic year refer to the sum of public nursery classes and public kindergartens. Primary school enrollment rates are from MONE 2008–09 primary school enrollment data. Social Services and Child Protection Agency (Sosyal Hizmetler Çocuk Esirgeme Kurumu, or SHÇEK) community centers, coverage is calculated as 81 community centers, each serving an estimated 500 children in the age group ($81 \times 500 = 40,500$ children).

A.8 The basis for the calculation of central public social expenditures by age group is the functional breakdown of expenditures published by the Ministry of Finance since 2006. The following steps were used to assign 2008 expenditures by age group. First, all centrally funded social expenditures that are not contribution financed were identified. Only Treasury-financed transfers to the social security institution that cover noncontributory programs (like the disability and old-age pension programs) or pension and health insurance deficits were included. Green-card expenditures are included in the Ministry of Health budget. The only item outside the central public budget included in the analysis was the funding for the conditional cash transfer program and other social safety programs of the Social Solidarity Fund (which is financed through

earmarked taxes not centrally collected through the Ministry of Finance). The state contribution to the Unemployment Insurance Fund is also included in the analysis. Second, the guidelines and explanations published by the Ministry of Finance (Guidelines for Analytical Budget Classifications, or *Analitik Bütçe Sınıflandırmasına İlişkin Rehber*) were used to identify the main beneficiary group of the relevant expenditures. Hence, except for general health expenditures, the age-beneficiary relationship was derived from the nature of the programs being financed, as detailed below. Third, to arrive at per capita spending levels, total aggregate social expenditures were divided by age group, with the updated, age-specific population estimates provided by TÜİK.

In the *health sector*, available age-specific beneficiary weights from the Ministry of Health were used to distribute aggregate health expenditures. These same weights were also applied to central government transfers to cover the deficit of the universal health insurance.

For *education*, the following age-specific classification was applied. All preprimary education expenditures are used for ages 5 and 6; primary education expenditures are mostly used for ages 7 through 14, but a small fraction of primary education expenditures are counted under preprimary expenditures because approximately 600,000 preschool children currently are provided services through the MONE primary schools; and all secondary education expenditures are used for ages 15 through 18 (items covered include General Programs of Secondary School, Technical Secondary School, and other “Not Elsewhere Classified”). The salaries of full-time preschool teachers who teach at primary school facilities are included as benefits that accrue to the 5- and 6-year-old age group. This amount (a total of around TL 400 million) is taken from primary school budgets and added to the preprimary level. Tertiary education expenditures are divided into two age groups, 19 to 25, and 26 to 35. Public spending on vocational colleges, or MYOs (*Meslek Yüksek Okulları*), and master studies is applied to the 19- through 25-year-old age group. Government expenditures for doctoral programs are classified for the 26- to 35-year-old age group. The item “education not definable by level” consists of apprenticeship training, public training centers, and public vocational training. These expenditures are distributed according to the approximate participant profiles of different training courses (from MONE). Last, “administrative and

research activities” and “education services not elsewhere classified” are allocated among age groups according to the actual expenditure distribution excluding such items.

The overall centrally funded *social protection* expenditures were distributed across age groups according to the detailed description of the nature of the programs. Sickness and disability transfers, which are provided by the SHÇEK, are distributed in relation to the population weights of the respective age groups. “Old age services,” also provided by the SHÇEK, are largely for those above the age of 65 and were assigned to that age group. “Family and children benefits,” covered primarily under the SHÇEK, are assigned to the 0 through 6 age group and the 7 through 18 age group based on the total number of SHÇEK beneficiaries in respective age groups. “Unemployment benefit” spending (representing the government contribution to the Unemployment Insurance Fund) is distributed according to the weights for the share of the active working age population in the respective age groups. Similarly “Social Inclusion program” spending, covering the poor, immigrants, victims of crimes and violence, and drug and alcohol addicts, is distributed according to population weights of the respective age groups. “Social Protection Not Elsewhere Classified” mainly covers transfers to Social Security Institute (SSI) to cover the pension deficit, the universal health insurance (UHI) deficit, and noncontributory social assistance provided by SSI (including old-age pensions and benefits for the disabled, orphans, and veterans). This item also covers additional payments (*Ek Ödeme*) to all pensioners to cover tax refunds and additional payments to high-level civil servant retirees (like former mayors). The Treasury transfer of the UHI is covered under the health expenditures of the government and is distributed according to the distribution of the health expenditures defined above. The Treasury transfer for pension spending is distributed, using population weights, for groups ages 44 through 64 and 65 and older. Social assistance spending is distributed according to program types and number of beneficiaries. Additional payments to pensioners are distributed by using the weights for the respective ages.

Last, spending outlays of the Social Solidarity Fund for conditional cash transfers (CCT) to families are divided according to their different beneficiary groups: all pregnancy and health aids are assigned to the 0 through 6 age group; education support is allocated for primary school (ages 7 through 14) and separately for secondary school (ages 15 through 18) using the respective population weights. Other

spending outlays of the General Directorate of Social Assistance and Solidarity (SYDGM) are classified as transfers to MONE for free books for primary school children; free lunch provision, and transportation support for disabled children; educational assistance to the poor other than CCT; and other social assistance spending for the poor. In-kind transfers for primary school children are counted under social protection spending for the 7 through 14 age group. Education spending other than the CCT is distributed to social protection expenditures for age groups from preprimary to tertiary education according to their respective population weights. Other SYDGM activities with a poverty focus are distributed to social protection expenditures according to population weights of the respective ages.

A.9 Pensions and other income transfers are distributed across household members using the 2006 household budget survey (HBS) data set provided by TÜİK. These transfers are classified under pension benefits (*emekli_yl*), social assistance transfers (*sosy_yl*), and non-contributory old-age pensions (*yasli_yl*). In the first step, all benefits received by members of the household at the household level are summed. This total value of benefits is then divided by the number of people in each household to calculate the per capita benefits received in each household. Finally, the benefits received are aggregated by age level. A distribution of benefits that accrue to each age category is derived that can then be applied to aggregate expenditure data from the Ministry of Finance.

A.10 The microsimulation is obtained using the methodology proposed by Bourguignon, Ferreira, and Lustig (2005) and Bourguignon, Ferreira, and Leite (2008). The microsimulations rely on out-of-sample predictions based on the statistical relationships, observed in the 2006 HBS, between a set of observable characteristics and the determinants of income and poverty, including attained levels of education, fertility choices, occupation, and labor earnings.

A model is estimated for each one of these outcomes and used for simulating the effects of an increase in educational attainments:

- The current relationship between a set of individual and family characteristics and educational attainment is estimated using an ordered probit model. This model is used for predicting the increases in educational attainments accruing to each individual under the examined educational expansion scenario. (This is done by translating the cutoff points of the ordered probit model, see Bourguignon,

Ferreira, and Leite 2008). Individual heterogeneity is taken into account by drawing individual residuals from the distribution assumed by the model, which is a normal distribution in the case of the ordered probit. This process incorporates the idea that, whatever the mean expansion at the national level, some individuals have unobserved characteristics that may or may not be favorable to the acquisition of education. (This heterogeneity is taken into account in the same way in the other equations of the model.)

- The observed relationships between educational attainments, other individual and family characteristics, and labor earnings are estimated using linear regression models. Labor earnings are estimated separately for formal wage earners and for informal wage earners or independent workers. These estimates are used for predicting the increases in labor earnings in each occupation accruing to individuals who reach higher educational attainments. It is assumed here that the returns to education conditional on family and individual characteristics remain unchanged. This assumption rests on the nonendogeneity of attainments regarding the unobserved determinants of earnings and on the absence of general equilibrium effects. Further simulations could explore alternative scenarios on the changes in the returns to education.
- Fertility choices, measured by the number of children per woman, are modeled using an ordered probit as a function of family and individual characteristics, including educational attainments. These estimates allow analysts to predict the change, and likely reduction, in the number of children chosen by each woman after the increase of her educational attainment.
- Occupational choices, measured by a categorical variable indicating unemployment, formal wage employment, and informal wage or independent employment, are modeled using a multinomial logit as a function of family and individual characteristics, including educational attainments and the number of children. This model of occupational choices can be viewed as a reduced form of a structural model of labor supply because potential earnings are not included among the independent variables. These estimates allow predictions of the direct effect of the increase of educational attainments and also its indirect effect through fertility changes.

The simulated changes in earnings, fertility, and occupational choices provide predictions of the effects of educational expansion

on the structure of employment and the distribution of earnings and family income, including poverty. (The poverty rate is computed using per capita income, instead of consumption, and the poverty line used by TÜİK.) Per capita income depends on the occupations of each of the members of the household, the earnings they receive in those occupations, and family size (which depends on the number of children). Household nonlabor income is assumed to remain unchanged. Fertility changes thus have indirect effects on welfare through occupational choices and household size.

The simulated educational expansion considered here consists of an increase in the mean attainment of individuals ages 20 to 39 years old by one year (a variable for educational attainment in completed years is constructed using the categorical variable for completed levels of education available in the 2006 HBS survey). Depending on characteristics, the educational attainment of each individual changes by a different amount. This age group is chosen to examine the long-run effects of an educational expansion benefiting the cohorts born during two decades. An average increase in attainments by one year corresponds to the estimated impacts of the past early child development programs in Turkey. Alternative scenarios of educational expansion can be explored, however.

- A.11 A simple model of labor force participation and income earnings regressions was used to assess the possible consumption and poverty impacts of an increase in female labor force participation in Turkey.

Step 1: Using the household budget survey for 2006, for all women age 15 and above, a probit regression was estimated of labor force participation, controlling for all available individual (such as education, age) and household characteristics (household size, marriage status, number of children).

Step 2: This regression was then used to calculate the expected probability for each woman in the survey to be participating in the labor market (hence working or looking for a job).

Step 3: Gender-specific wage-income regressions were calculated using a two-stage estimation procedure to correct for the first-stage decision as to whether women participate in the market.

Step 4: Using different target rates for the female labor force participation (such as 29 percent, the specified short-term target of the

government, and 40 percent, a longer-term target), the number of women that would additionally enter the labor market was computed, and then the resulting additional women who were *not* participating before but who had the highest probability of participating according to the previously calculated probabilities (from steps 1 and 2) were “moved” into the labor force.

Step 5: Hypothetical incomes were estimated for these women using the Mincer equations and the estimated parameter values from step 3. It was assumed that the returns to education and other assets do not change even though the labor force supply increases. Such an assumption is justifiable given that most of the women entering the labor market would earn relatively modest incomes and that the labor demand curve for relatively low incomes is elastic (World Bank 2009).

Step 6: Last, the change in household income and consumption was calculated under the assumption that the additional household income would increase actual consumption in full. The simulation is thus able to assess the change in overall income of all households (which would provide a lower-bound estimate because multiplier effects are not taken into account) as well as changes in the poverty rate.

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Children in Turkey have vastly different odds of success. Their paths are affected by factors over which they have no control, such as how wealthy or educated their parents—and even grandparents—are. By investing in its children and youth, Turkey can create a virtuous cycle whereby these children and youth contribute more to their country's economic growth and social development, helping to realize its ambitious goals.

Written to contribute to the public policy debate, *Life Chances in Turkey: Expanding Opportunities for the Next Generation* notes that girls are at a particular disadvantage. Compared with a boy born to well-off, highly educated parents in one of the urban centers of the country's west, a girl born in a remote eastern village to poor parents with primary school degrees is four times as likely to suffer from low birth weight, one-third as likely to be immunized, and ten times as likely to have her growth stunted as a result of malnutrition. She has a one-in-five chance of completing high school, whereas the boy will likely attend college.

With child development trajectories thus diverging early in life, pro-equity policies should focus on reaching the most disadvantaged children early, ideally before birth. Turkey, with the active involvement of nongovernmental organizations, has piloted a number of highly successful programs to reach and support disadvantaged children. But it can do more: only 6 percent of the country's total public social spending reaches children below the age of six. About four times more is spent on a middle-aged or elderly person than on a child.

Life Chances finds that if today's under-40 Turkish adults had all benefited from one year of preschool education when they were 6 years old, family incomes could be up to 8 percent higher, one-tenth of poor families would not live in poverty today, and about 9 percent more women—in other words, millions—could be working or looking actively for a job.



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