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## *Social exclusion: The emerging challenge in girls' education*

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Developed and developing countries alike have recognized the importance of girls' education: the worldwide surge in girls' primary school enrollment over the past two decades is testament to their commitment. The growth in girls' schooling also coincides with the global trend toward mass education that took off after the end of World War II and accelerated in the postcolonial period. Over the past 60 years, most countries have adopted mass education and have accelerated school expansion to accommodate the growing demand for education (Baker and LeTendre 2005). Particular attention has been given to girls' schooling, not only because of its importance in reaching universal education but also because of its demonstrated social benefits.

In much of the world, girls have reached education parity with boys, at both primary and secondary levels, and in some countries—principally in Latin America and the Caribbean and the oil-exporting regions of the Middle East—girls' participation at the secondary level exceeds that of boys. More than half of developing countries had achieved gender parity in primary school by 2002 (table 1.1). At the secondary level, girls' participation lags boys' participation in 46 developing countries, exceeds that of boys in 29 developing countries, and is at parity in the remaining 38 developing countries for which data are available (UNESCO 2005).

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**Table 1.1. Prospects for achieving gender parity in primary and secondary education in 2005 and 2015**

		Gender parity in secondary education		
		Achieved in 2002	Likely to be achieved by 2015	At risk of not achieving the goal by 2015
Gender parity in primary education	<b>Goal achieved in 2002 (gross primary enrollment of 0.97–1.03)</b>	Albania, Armenia, Azerbaijan, Barbados, Belarus, Bulgaria, Chile, China, Croatia, Cyprus, Czech Republic, Ecuador, Georgia, Hungary, Indonesia, Jamaica, Jordan, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia FYR, Mauritius, Moldova, Oman, Romania, Russian Federation, Serbia and Montenegro, Seychelles, Slovak Republic, Slovenia, Ukraine, Uzbekistan	<b>Argentina, Belize, Bolivia, Botswana, Guyana, Kenya</b>	<b>Bangladesh, Colombia, Costa Rica, Dominican Republic, Lesotho, Malaysia, Maldives, Mauritania, Mexico, Mongolia, Myanmar, Namibia, Nicaragua, Palestinian Autonomous Territories, Peru, Philippines, Poland, Rwanda, Samoa, St. Lucia, St. Vincent and the Grenadines, Suriname, The Gambia, Tonga, Trinidad and Tobago, Uganda, Vanuatu, Venezuela, Zimbabwe</b>
	<b>Goal likely to be achieved by 2015</b>	Cuba, Estonia	Egypt, Ghana, Iran, Saudi Arabia	<b>Brazil, India, Lebanon, Nepal, Panama, Senegal, Syrian Arab Republic, Tajikistan, Togo, Tunisia, Zambia</b>
	<b>At risk of not achieving goal by 2015</b>	El Salvador, Paraguay, Swaziland	Cameroon, South Africa, Vietnam	<b>Algeria, Benin, Burkina Faso, Burundi, Cambodia, Chad, Comoros, Côte d'Ivoire, Djibouti, Eritrea, Ethiopia, Guatemala, Lao PDR, Malawi, Mali, Morocco, Mozambique, Niger, Pakistan, Papua New Guinea, Sudan, Turkey, Yemen</b>
Number of countries		38	12	63

*Note:* Prospects for achieving gender parity are assessed on the basis of trend projections of the gross enrollment rate in primary and secondary education, by gender, for 2005 and 2015, consistent with the formulation of the gender goal. Countries shown in bold are those in which enrollment disparities at the expense of boys are observed at both primary and secondary levels.

*Source:* UNESCO (2005).

The countries lagging on girls' education include both those that trail in educating all children and also countries in which women have historically been marginalized.<sup>1</sup> But girls' education lags that of boys in some countries for a third reason: the interaction between gender and culture. In such countries girls who belong to marginalized groups, such as the Hill Tribes in Southeast Asia, indigenous and Afro-descendent populations in Latin America, the lowest castes in India and Nepal, or the Roma in Eastern Europe, suffer disproportionately in education relative to the mainstream population and to boys in their own linguistic or ethnic group. Lewis and Lockheed (2006) estimate that these excluded girls make up more than 70 percent of the millions of out-of-school girls in the developing world. The importance of ethnic and linguistic divisions, their determinants, and the impact on girls' schooling is the subject of this volume of studies. Recent global assessments of education have noted that rural children, low-income children, and children from ethnic minorities are at risk. Some of these assessments have provided estimates of out-of-school children by gender, location, and income (World Bank 2005b; UIS 2005; Wils, Carrol, and Barrow 2005; Lloyd 2005; Birdsall, Levine, and Ibrahim 2005). However, the interaction between gender and these cultural categories has rarely been examined. Hampered by limited data and lack of comparable definitions and measures, the issues surrounding excluded girls and schooling have been recognized but not addressed.

The chapters in this volume represent a first effort to strengthen the analytic underpinnings of the subject. They present cross-country and national evidence on the determinants of school participation and achievement of excluded girls. They go beyond earlier one-way breakdowns looking at participation and achievement only through the lens of location, income, ethnicity, or language to look at the two-way interaction between gender and exclusion. This volume focuses directly on the differential effects of being female within excluded groups.

The chapters also look at family and school characteristics that differentially affect excluded girls' participation and performance. They confirm the importance of mothers' education in girls' school enrollment and the importance of school quality in retention and achievement. School quality, however, also emerges as important in creating the demand for education, with higher demand expressed for better schools. Earlier research in countries as diverse as Peru (McEwan 2004) and Malawi (Dowd 2001) have demonstrated how improvements in school quality have led to higher enrollment and retention rates. The chapters in this volume contribute to this literature.

This chapter defines exclusion, synthesizes the evidence—relying heavily on the case studies—and undertakes cross-country analyses of ethnicity and gender and their relationships with school participation and learning. Drawing on recently available data and information, each of the chapters explores a different facet of exclusion and its impact on girls' education. Chapters 2 through 6 present case studies from

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<sup>1</sup> Many countries in the first group are in Sub-Saharan Africa. In Burkina Faso and Niger, for example, gender parity may arrive before universal enrollment.

countries with large ethnic and linguistic minorities—Lao PDR, China, Pakistan, India, and Guatemala—that illuminate these interaction effects. Chapters 7 and 8, on Bangladesh and Tunisia, analyze achievements of two of the world's most homogeneous countries, both with few if any minority ethnic or linguistic groups. Together with the Republic of Korea (categorized as the most homogeneous country), they have experienced the sharpest increases in girls' educational attainment in the shortest period among developing countries (Alesina et al. 2003).

In chapter 2 Elizabeth King and Dominique van de Walle analyze the first national household survey from Lao PDR, with a focus on the minority populations that make up 33 percent of the population. Enrollment of urban girls is 91 percent, but just 46 percent of rural girls in ethnic minority communities are in school. The case study examines the gender, ethnic, and socioeconomic determinants of school access and school attendance.

Although China is rapidly approaching universal primary education, progress on secondary enrollment is uneven across gender and income. In chapter 3 Emily Hannum and Jennifer Adams examine the reasons for this and the role of aspirations, school performance, and the school environment in keeping children in school. They draw on two rounds of the Gansu Survey of Children and Families (in 2000 and 2004), a multisite survey that interviewed 2,000 students, parents, and schools in rural Gansu Province, one of China's poorest regions.

In chapter 4 Cynthia Lloyd, Cem Mete, and Monica Grant assess the disadvantage of girls in school enrollment and explore correlates of girls' schooling. They use a longitudinal survey that followed nearly 600 women from 1997 to 2004 in 12 rural villages in Northwest Frontier and Punjab provinces of Pakistan and a nationally representative survey of adolescents and youth in 2001/02. The authors find that as of 2002, fewer than 60 percent of girls 10–14 had ever attended school and that rural girls are much less likely to attend school than their urban counterparts. Indeed, Pakistan lags far behind the other countries included in this volume, continuing to struggle to reach universal primary schooling while the other countries are turning their focus to the challenge of lower secondary.

In chapter 5 on India Kin Bing Wu, Peter Goldschmidt, Christy Kim Boscardin, and Mehtab Azam analyze gender, caste, and tribal differences in school enrollment and performance in both primary and secondary school. They analyze ninth-grade math and science achievement in two large states in India, drawing on a recent survey of 3,418 students in Rajasthan and 2,856 students in Orissa. On average girls scored significantly lower than boys in both states. The authors examine features of teachers and schools that serve to reduce the gap between the performance of girls and boys as well as the gap between the performance of students from scheduled castes and scheduled tribes on the one hand and majority students on the other. They find that girls' achievement is positively correlated with opportunities to learn and with basic school inputs, such as textbooks.

In chapter 6 Kelly Hallman and Sara Peracca rely on a rich household survey from Guatemala, a Latin American country with a large indigenous population and

one that is lagging behind the rest of the region in education, to analyze the determinants of enrollment and school attainment of excluded girls. At age seven, only 54 percent of indigenous girls are enrolled in school. The figure is far lower than the 71 percent of indigenous boys and 75 percent of nonindigenous girls enrolled. The authors also explore school dropout, child labor, and poverty.

Chapters 7 and 8 discuss two stellar performers in girls' education, Bangladesh and Tunisia. In chapter 7 Sidney Ruth Schuler provides results from 15 years of in-depth, anthropological interviews with men and women in three Bangladeshi communities to understand the evolving perceptions of and demand for female education. These factors influenced the observed shifts in women's roles, family perceptions of education, educational aspirations, and employment opportunities that shaped the behavior changes underlying the sharp rise in girls' primary and secondary enrollment. Bangladesh has attained a primary school enrollment rate of 84 percent, with the highest rate (87 percent) among rural girls. Girls' enrollment overtook that of boys in 2004.

In chapter 8 Marlaine Lockheed and Cem Mete examine school participation at the secondary level in Tunisia, which achieved a 96 percent net female primary enrollment rate as early as 1996, as an outcome of strong central policies requiring school participation. They draw on three data sets, a household and school matching survey, a school survey, and national administrative records of student performance on primary school leaving examinations, which they match at the school level to explore reasons for the observed gender equity at the primary level and the emergence of gender inequalities at the secondary level. They focus on the disadvantaging aspects of high-stakes selection examinations at the end of primary school in determining girls' subsequent school participation.

## **Social exclusion and education**

The concept of social exclusion emanated from European dissatisfaction with perceived failures of the welfare system in the face of persistent poverty and slow economic growth in the early 1990s. It mirrors concern in the late 1970s in the United States regarding the emergence of an underclass that appeared unable to climb out of poverty. The socially excluded are those who receive inadequate support from public institutions and whose opportunities remain constrained due to structural and cultural factors.

Exclusion arises from multiple sources, some endogenous and some exogenous. Social exclusion from immutable factors, such as gender, ethnicity, and race, contributes to low educational participation for girls and members of subgroups. Social exclusion from external factors, such as poverty, contributes to low educational participation and to a cycle of exclusion based on poverty. Concatenating factors of exclusion lead to what is often called multiple exclusion.

Social exclusion of groups is rare, albeit not unknown, in homogeneous societies (Meerman 2005). It is common in heterogeneous, stratified societies, across ethnic groups, languages, and customs, with groups sometimes separated by geography. What distinguishes social exclusion from simple separatism are the invidious social evaluations (in terms of differences in honor, respect, esteem, and the like) that are accorded the excluded group by a dominant social group and that may even be shared by the excluded group (box 1.1). These evaluations lead to differences in expectations for a range of behaviors, including those related to education. In many parts of the world, exclusion reflects a history of colonization or enslavement, as that by European colonists in North and South America, Africa, and Asia that created the excluded groups of Native Americans and blacks in the United States and the Maori in New Zealand, among others. Ethnic populations or subgroups whose mother tongue is distinct from a national official language often remain outside the mainstream economy and society.

Guatemala, India, Lao PDR, and Pakistan all have “ranked” linguistic and ethnic subgroups that lag economically and socially behind the majority population (Meerman 2005; Lewis and Lockheed 2006). Subsistence agriculture and geographic isolation effectively separate certain groups from the mainstream society, but as development occurs, these communities inevitably come in contact with the larger society, which accords them less respect than it gives to the majority population. Traditional status hierarchies, such as caste rankings in India and Nepal, lead to exclusion of those lower in the hierarchy by those higher in the hierarchy. In some societies poverty has significance that goes beyond simple economic well-being to include disparagement

### **Box 1.1. What are socially excluded groups?**

Socially excluded groups are defined as cultural subgroups that are marginalized due to one or more of the following phenomena:

Stigmatization by recent historical trauma at the hands of the majority population (for example, a history of slavery or dispossession of a homeland).

Ethnic differences, including differences in ethnic group, language, and religion.

Low status, such as caste, as excluded groups are “ranked” or subordinated in the social hierarchy below the majority population.

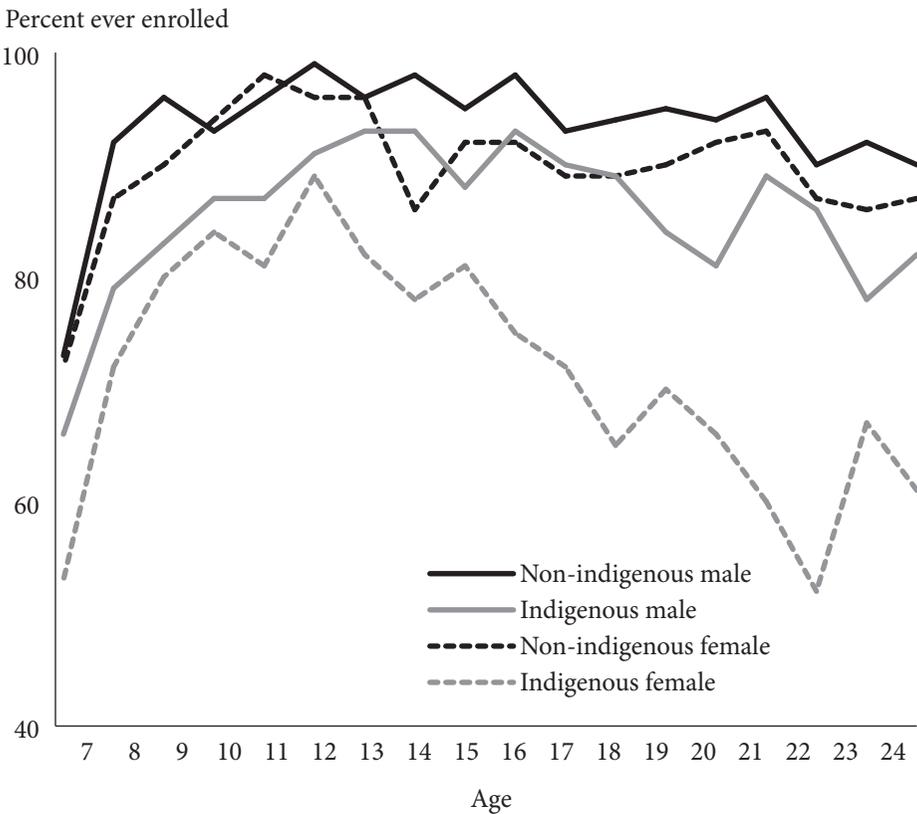
Involuntary minority status (in contrast to immigrant groups that are voluntary minorities) (Meerman 2005).

Social exclusion sidelines certain population groups, preventing them from receiving the social rights and protections meant to be extended to all citizens and restricting their economic mobility. Discrimination against such groups by the majority population excludes them to varying degrees from mainstream activities, such as education and employment.

and marginalization of the poor by the wealthy, perpetuating the cycle of poverty due to limited economic and social mobility.

Girls in excluded groups suffer not only as members of the excluded group but also as girls. Whether exclusion is additive or multiplicative is not known. Some sociological research suggests that it is additive (Ridgeway and Erickson 2000; Ridgeway 1991), and the studies in this volume provide limited evidence of interaction effects. All studies indicate a severe education disadvantage from multiple sources of exclusion: girls from impoverished families, girls from tribal, ethnic, or linguistic “minority” communities, girls living in remote settings, and girls from lower castes are less likely to participate in education and more likely to stay in school only briefly if they enroll at all (Lewis and Lockheed 2006). The extent of their disadvantage can be seen in primary schooling figures across

**Figure 1.1. Guatemala school enrollments by gender and age, 2000**



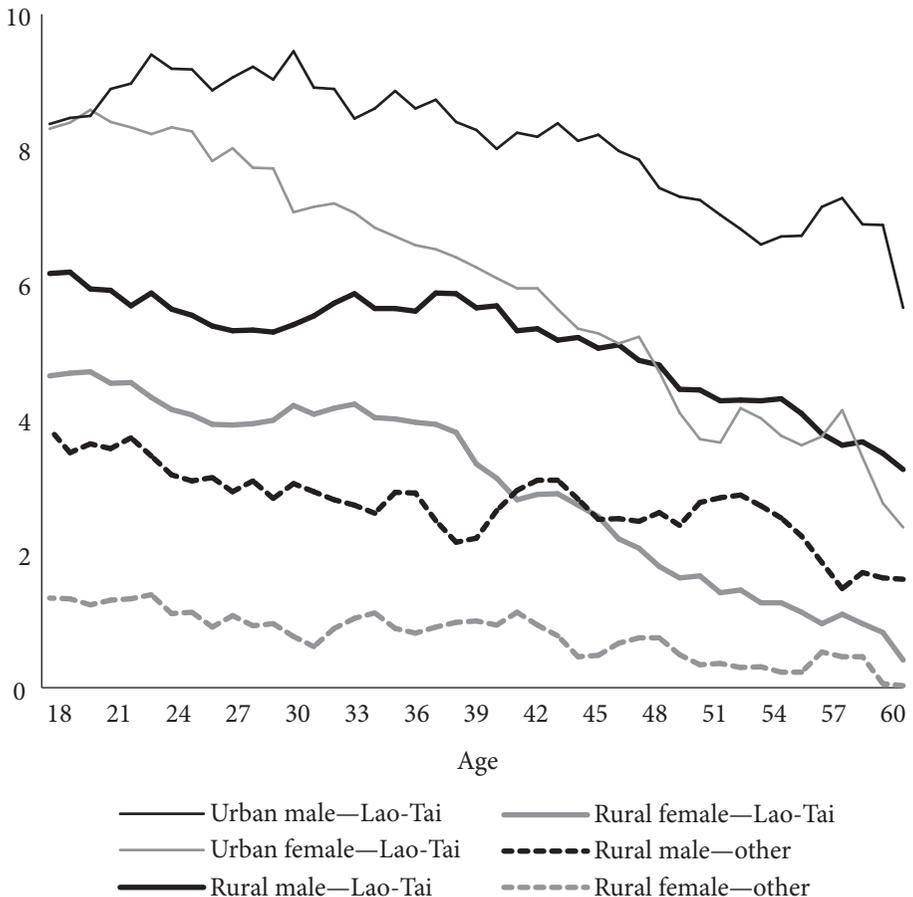
Note: Weighted means.

Source: Hallman and Perraca, this volume.

age, gender, ethnicity, and location in Guatemala and Lao PDR (figures 1.1 and 1.2). The schooling of all children is improving, but indigenous girls, especially those living in remote communities, still lag well behind the others. It is this population that needs to be reached if gender parity and universal education goals are to be realized.

**Figure 1.2. Average years of schooling among population 18–60 in Lao PDR, by gender, ethnicity, and location, 2002/03**

Average years of schooling



*Note:* Figures represent three-age moving average. Data for the urban non-Lao-Tai population are not plotted because of small sample size. Because the number of observations dwindles with age due to mortality, only data for those up to 60 are plotted. Lao-Tai are majority.

*Source:* King and van de Walle, this volume.

## Evidence on exclusion and schooling in developing countries

Very few country studies have taken up the combined issue of gender, exclusion, and schooling, although interest is growing because the excluded are increasingly the target population for ensuring universal schooling. The chapters in this volume bring fresh perspectives to the topic. The review here draws on country studies on Bangladesh (chapter 7 of this volume); Bolivia (Jimenez 2004); China (Hannum 2002); Gansu Province, China (chapter 3 of this volume); Ecuador (Garcia Aracil and Winkler 2004); Guatemala (chapter 6 of this volume; Edwards and Winkler 2004); India (chapter 5 of this volume); Lao PDR (chapter 2 of this volume); Mexico (de Janvry and Sadoulet 2006); Nepal (Stash and Hannum 2001); Pakistan (chapter 4 of this volume); Peru (Cueto and Secada 2004); Tunisia (chapter 8 of this volume); and Vietnam (van de Walle and Gunewardena 2001).

The UNESCO Institute of Statistics (UIS 2005) reanalyzed Demographic and Health Surveys from 68 countries to identify household and child correlates of child school attendance. All other factors held equal, girls were less likely to attend school than boys in 30 countries. Children in households from the lowest income quintile were less likely to attend school than children from higher income quintiles in 34 countries, and children of unschooled mothers were less likely to attend school than children whose mothers had any formal schooling in 63 countries (UIS 2005: table 5A.2).

The UIS undertook more detailed multivariate analyses of the probabilities of school attendance in Nigeria and India, adding information on the child's ethnicity—proxied by language for Nigeria and tribal status for India—along with controls for maternal and paternal education, household size, household wealth, region, religion (India only), caste status (India only), and urban/rural residence. From these analyses it is possible to compute the combined effect of gender and ethnicity on the probability of school attendance. They are substantial. In India tribal girls had a 9.4 percent lower probability of attending school than non-tribal boys. The size of the difference in India is about the same size as the difference between the probability of attending school in the most highly literate state (Kerala) and all other states. In Nigeria, Hausa-speaking girls had a 35.4 percent lower probability of attending school compared with Yoruba-speaking boys.

Demographic and Health Survey data sets report school attendance, which is only one indicator of school participation. Other indicators used in this volume include school enrollment, repetition, grade attainment, primary school completion, and transition to and completion of secondary school. Most studies examine more than one of these indicators.

A common thread across research findings is the distinct disadvantage of indigenous<sup>2</sup> girls in terms of enrolling and staying in school, even when controlling

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2 This volume uses the term "indigenous" to include Native Americans and tribal groups in Asia and South Asia.

for other family characteristics. Indigenous children are less likely to enroll in school than nonindigenous children in virtually all studies that have considered this factor, and they are more likely to repeat a grade than nonindigenous children. In Bolivia, for example, the first grade repetition rate of indigenous children is 30 percentage points higher (43.4 percent) than that of nonindigenous children (13.7 percent). In India there has been marked progress in primary school enrollment of all children, including scheduled tribes and scheduled castes, over the last decade, and in 2005 only 6.9 percent of girls and 5.5 percent of boys were out of school. Nonetheless, roughly 50 percent more boys than girls attend secondary school.

Grade repetition often leads to dropout, fewer years of school attainment, and lower school completion rates; in many contexts retention in school is a more important signal than enrollment. Indeed, retaining children in school often poses a greater challenge than merely convincing parents to send their children to school. The evidence suggests significantly lower school retention for indigenous children, particularly girls. In Bolivia both Quechua- and Aymara-speaking indigenous girls are less likely to enroll in school and more likely to discontinue their schooling prematurely than nonindigenous girls or boys. The primary completion rate of indigenous children is lower (55 percent versus 81 percent for nonindigenous students). Controlling for residence and socioeconomic status, the school completion rate for indigenous girls in Guatemala is half that of Ladina girls and only one-third that of all boys. At age 16 only 25 percent of indigenous girls are in school, in contrast to 45 percent of indigenous boys and more than half of all Ladino children. When controlling for socioeconomic factors, ethnicity, and location, indigenous females are less likely to attend or complete primary school or enroll in secondary school, and indigenous males are less likely to ever attend or complete secondary school (chapter 6 of this volume). In Ecuador being indigenous raises the probability of rural dropout by almost 30 percent.

Indigenous communities tend to be isolated geographically, which affects not only whether a school is available in the community but also the quality of that school. In Vietnam restrictions on mobility and inequities in school provision lead to significantly less education among rural minorities. Absence of schools is also correlated with the absence of other essential infrastructure, such as roads and access to markets. In Lao PDR, so few indigenous hill-tribe families live in urban areas that the effects of isolation cannot be separated from indigeneity. However, the quality of schools is significantly higher in urban areas than in rural communities, where dilapidated schools (schools with leaking roofs and no electricity) discourage girls from enrolling. Moreover, the effect of isolation appears to be greater for girls than for boys: in Lao PDR girls who reside in the highlands and in disadvantaged “priority districts” are less likely to enroll in school than boys in the same communities. Location and schooling characteristics are thus key for minority girls but not for majority Lao-Tai children (chapter 2 of this volume).

In China the probability that Han children would enroll in primary school was higher than that of minority children in 1992, with about half the difference in the probability of enrolling due to differences in family background and county of residence. In rural counties where minorities accounted for roughly one-third of the population, minority participation rates were substantially lower than those of Han children. However, girls' participation was inconsistent across the minority groups. Among 10 minority ethnic groups, five were more likely to enroll girls in primary school, while four were less likely to do so. Among Han children and children from one minority group, no gender differences in enrollment were observed (chapter 3 of this volume).

In Guatemala children's school enrollment rates were no lower in rural areas than in urban areas, but rural residence was correlated with a higher age for primary school entry, lower grade for age, lower rate of primary completion, and lower secondary enrollment. In Ecuador the probability of primary school dropout was higher for girls in rural than in urban areas, and ethnicity was a factor explaining dropout from rural but not urban schools. Girls living in urban areas, whether indigenous or not, were 34 percent more likely to stay in school than males but 35 percent less likely to be in school than males in rural areas. The interaction of indigenous females with rural residence strengthens the negative effects on primary and secondary enrollment and depresses grade for age enrollment in Guatemala (chapter 6 of this volume).

In some countries, rural residence is confounded with other bases of exclusion (such as ethnicity, caste, tribe, and poverty), so that controlling statistically for these characteristics often completely eliminates the independent association between rural residence and school participation. The UIS analyses of household data from India (controlling for tribal and caste status as well as household wealth) and Nigeria (controlling for language as well as household wealth) found that rural children (including rural girls) were not at a disadvantage in attending school. In rural Pakistan girls' school attendance rates are 45 percentage points below those of boys in the lowest income group but only 15 points below boys in the highest income group, suggesting the greater importance of income in explaining school participation.

Lack of nearby schools in rural areas is often responsible for lower school participation. In several countries—Bolivia, Ecuador, and Peru—disparities in school attendance between urban and rural communities largely disappear when the availability of a local school is taken into account (Hall and Patrinos 2006). In a few countries, significant efforts have been made to provide schools in rural areas; these efforts have led to universal primary school participation in Indonesia, for example (Duflo 2000 and Jayasundera 2005). Efforts to improve the quality of the poorest performing schools have had spillover effects on rural schools attended by indigenous children in Chile, for example (McEwan 2006).

In many countries cultural factors work to remove rural and indigenous girls from school, particularly after primary school. Evidence from Guatemala suggests

that parental concerns over allowing adolescent girls to mix with boys overwhelm other reasons for keeping girls at home. In addition, school leavers often attribute their departure to disaffection or boredom with school, as in China, or to lack of interest, as in Guatemala (chapter 6 of this volume). Sentiments of parental concern for their daughters and children's dissatisfaction with school have been echoed in Mexico and Vietnam. They may help explain the difficulties associated with encouraging minority households to send their children, especially their daughters, to school.

Cultural factors should have been expected to play a role in reducing schooling for girls in Bangladesh, but unlike in other countries in South Asia (with the exception of Sri Lanka), girls no longer trail boys in education. This dramatic shift over the past two decades can be attributed to a number of factors. Its effects have altered cultural practices. Coeducational schools made universal education affordable. In contrast, the need for separate-sex schools in every village in Pakistan has restricted growth.

More important from the perspective of cultural shifts, educated Bangladeshi girls have become more desirable marriage partners and face less abuse from mothers-in-law and husbands than do illiterate wives. Their education—which enables them to earn an income—has become a substitute for a dowry. Education has given women greater access to the labor market and raised their value in the marriage market, improving their life chances and future well-being. This evidence shows that cultural shifts can and do occur, but they take time and effort on multiple fronts. Education is a critical part of this effort.

Religion can make it harder to reach girls, but it is not always clear whether the issue is religion *per se* or cultural practices grounded in religious rhetoric. In Pakistan the proliferation of single-sex primary schools in response to religious priorities raised the costs of girls' schools, reduced their quality, and slowed the process of universal education. Ironically, the large increase in enrollment for girls between 1997 and 2002 occurred in coeducational private schools, suggesting some combination of rising unmet demand by the public sector, the declining effects of religion, or altered preferences of parents.

Islam should not be an impediment to girls' schooling. Two large countries where Islam is nearly universally practiced—Indonesia and Malaysia—have achieved gender equity at both the primary and secondary levels. In Malaysia girls are somewhat more likely than boys to be in secondary school. Religion has not impeded girls' educational progress in Bangladesh, where girls attend coeducational schools and are more likely to be enrolled than boys. Islam did not block progress in Tunisia, where girls' participation now exceeds that of boys in secondary education. In India religion appears to have had no effect on school attendance, after controlling for caste and other socioeconomic factors (UIS 2005).

There are, however, exceptions. In Nigeria, where girls are 12 percent less likely to attend school than boys, Hausa-speaking children from Muslim northern Nigeria are 23 percent less likely to attend schools than Igbo- or Yoruba-speaking children,

who are largely Christian. Thus, it can be inferred that Muslim girls are 35 percent less likely to attend school than Christian boys. As this analysis controls for other socioeconomic factors, it is possible that religion is playing a role in these differences, although other unmeasured cultural factors may be involved as well.

Caste status (which is associated with occupational status) is an important factor in Nepal, where it overwhelms all other factors in explaining children's school enrollment or years of completed schooling; its effect is only slightly mitigated by household characteristics. In India the UIS study found no effect for caste status on school attendance, but other research confirms the salience of caste (Hoff and Panday 2005) and children from scheduled castes are less likely to be enrolled in school than children from higher status castes (chapter 5 of this volume).

Poverty compounds the effects of isolation and ethnicity in lowering school participation. In three-quarters of the 68 countries studied by the UIS (2005), children in households from the lowest income quintile were less likely to attend school than children from middle or higher income quintiles, with children in middle income quintile households more than twice as likely to attend school as children in the lowest income households. Combining poverty with ethnicity and gender often greatly reduces the likelihood of girls going to school. In Nigeria, the UIS study suggests that Hausa-speaking girls in the lowest income quintile are half as likely to attend schools as Yoruba-speaking boys in the highest income quintile. When controlling for other household characteristics, poverty has a larger effect on school attainment than ethnicity or gender. Still, poor minority families are often more likely to invest in the education of sons than daughters.

In Guatemala poor Mayan females have the lowest school participation and are least likely to remain in school. By age 16 only 4 percent of extremely poor indigenous girls attend school, compared with 20 percent of poor indigenous girls and 45 percent of nonpoor indigenous girls. Indeed, poverty is the most persistent and significant reason why children do not enroll in or complete primary or secondary school. In one multivariate analysis, an interaction term for indigenous females and poverty is significantly correlated with female school attendance, suggesting that the gender-poverty effects are greater than the sum of the two characteristics considered independently (chapter 6 of this volume). Speaking Spanish raised the probability of indigenous boys enrolling in school, but it was not a factor in raising enrollment of girls from two out of five indigenous groups (Edwards and Winkler 2004).

In rural Pakistan household wealth is strongly associated with the probability of ever having enrolled in school, for both boys and girls. In addition, children from the least developed communities are far less likely than children from more developed communities to have enrolled in primary school, and the effect of community development is stronger in the case of girls' school participation. In part, this is because higher income communities (mid-high and high categories) are more likely to have schools (public single-sex schools as well as private coeducational schools). But the

community and household wealth effects are strong even when controlling for the presence of a school.

In Lao PDR household income has a strong impact on the probability of minority girls going to school. The greatest gender disparities in enrollments exist among the Chine-Tibetan, who face the highest rates of poverty in the country. Among non-Lao-Tai minorities, 30–45 percent of parents of boys and 45–53 percent of parents of girls cite poverty and the costs associated with school as reasons for not sending their children to school.

Since families often cite cost as the most important factor in determining whether they send their children to school, many programs have sought to offset the direct costs of schooling to families. Girls have often benefited, at least initially. Under the Mexico *Progresa/Oportunidad* program, girls benefited more than boys from the conditional cash transfers in the first year, when the program attracted female dropouts back to school.<sup>3</sup> However, indigenous males living in communities without a secondary school disproportionately gained from the expansion in secondary education, with an enrollment increase of 23 percent. In a similar conditional cash transfer program in Ecuador, enrollment among program participants was 3.7 percentage points higher than among nonparticipants, and dropouts declined. The program did not have a differential effect on girls or minority students, however (Schady and Araujo 2006).<sup>4</sup>

Girls suffer more than boys from economic shocks to households. In rural Pakistan unanticipated economic shocks, such as crop losses, reduce the likelihood that girls but not boys are in school. In rural Uganda negative income shocks (as proxied by rainfall variations) are associated with sharp declines in girls' school enrollment and girls' performance on the primary school-leaving examination; the impact on boys is much smaller and only marginally significant (Bjorkman 2006).

Education of parents or household head should affect enrollment—and it does in most circumstances. In 93 percent of the countries analyzed by the UIS, maternal education was a significant correlate of whether a child attended school. Children of mothers who had ever attended formal schooling were much more likely to attend school than children of mothers who had not been to school. In Guatemala both mothers' and fathers' educational attainment has a sizable and significant impact on enrollment, especially if they completed primary school (chapter 6 this volume). Education of the head of household has a larger and more significant effect on

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3 *Progresa* allows families to enroll separately in the different components of the program. The uptake for those eligible for cash transfers under the propensity scoring criteria was 95 percent, but the uptake for the education transfer was only 76 percent. Families could enroll in the income transfer program and enroll all, some, or none of their children under the education component. Not enrolling in the education transfer program cost families roughly \$200 per child per year in foregone income.

4 The fact that indigenous groups make up only 6 percent of the Ecuadorian population led to a small sample of indigenous families, which may have contributed to the limited impact measured by the program.

enrollment in urban than rural areas in Lao PDR; mother's education has a significant impact only in rural areas. In rural Pakistan whether a mother ever attended school dramatically and significantly increases the probability that her daughter is enrolled but has no effect on sons. Fathers with lower-status occupations (agriculture or blue collar) are less likely to have daughters enrolled in school, controlling for school availability.

Even in rural China, where school participation at the primary level is near universal, mothers' educational attainment is associated with higher enrollment by their children. Mother's education helps predict secondary school enrollment, but mother and teacher expectations are equally important. In contrast, in Nepal the educational attainment of the household head has no effect on gender equity in enrollment, although children of mothers with some formal education are 2.5 times more likely to attend school than children of mothers lacking formal education

Demographic factors also affect enrollment. In Lao PDR the larger the number of children under six, as well as the more men relative to women in the household, the less likely any child goes to school, and the effect is greater for girls. Age is associated with completion in Guatemala for indigenous boys but not for indigenous girls, who are more likely to drop out early (Hallman, personal communication). More than 50 percent of children and 75 percent of indigenous boys and girls are over-age for their grade, reflecting a combination of late entry, repetition, and dropout/re-entry. In Guatemala family size and a recent birth in the family decrease the probability of attending school for girls but not boys (Edwards and Winkler 2004). In India and Nigeria children from families with more children under the age of five are significantly less likely to attend school than children with fewer young siblings (UIS 2005).

Aspirations and school performance have a bearing on whether girls stay in school and continue beyond primary school. In China mothers' education level, mothers' aspirations, and teacher expectations are the best predictors of secondary school enrollment. Being male and scoring better in math are only marginally significant factors. Among children in school, their aspirations for school attainment are most influenced by their math performance and their mothers' education, with wealth and gender largely insignificant. Male teachers have a small marginally significant effect on student aspirations, and the interaction of males and male teachers has a strong positive effect. Aspirations of mothers and expectations of teachers largely substitute for mother's education in explaining children's expectations for themselves. In the Indian states of Rajasthan and Orissa parental expectations and previous performance in math are significantly associated with achievement when controlling for student, classroom, and school effects. Once family background is controlled for, coming from a scheduled caste or tribe does not directly affect student's academic achievement. Only the highest performers even take the test so selection effects also play a role in these results, but it suggests that girls are actually in functional schools and are being taught roughly on par with boys.

In Bangladesh a combination of factors, including aspirations, were at work in the stunning rise in girls' schooling. Nongovernmental organizations played a signature role in making schools accessible to girls and boys in rural areas; expansion of government schools at the primary and secondary levels contributed, as did shifts in economic opportunities for girls in garment factories and elsewhere, which signaled positive returns to female education. Public policy also played a major role in raising aspirations of parents for their daughters through the secondary school stipend program as well as related efforts to encourage girls to enroll and continue in school and to delay marriage. Anthropological work has indicated how girls' education has become an objective for Bangladeshi parents who two decades ago saw no point in sending their daughters to school. The lack of tribal and linguistic differences, however, may well be important in the government's successful efforts to encourage girls' schooling. This does not diminish the value of those efforts. It suggests, however, that it may be more feasible for a committed government to make progress in a homogeneous setting.

In sum, the results show considerable divergence across and within countries. What determines enrollment often varies across subgroups. Poverty and isolation play a role, as do parental characteristics, but the importance of ethnicity and community characteristics of indigenous groups persists across all countries. In Nepal socioeconomic factors and location have no impact, as caste overwhelmingly determines girls' enrollment. This suggests the difficulty of reaching certain populations and the need to experiment with alternative ways to engage and include girls who are outside the mainstream. The evidence base is thin, as are the data with which to analyze exclusion, particularly exclusion of marginalized girls. More and better data, broader experimentation to engage hard to reach groups, and more in-depth research will be required to develop an adequate evidence base that can guide policy.

### **Cross-country evidence on girls' education and exclusion**

Heterogeneity within a country—on the basis of gender, ethnicity, residence, wealth, and well-being—contributes to variations in school participation and performance. Can heterogeneity also explain cross-country variations in education?

Heterogeneity is defined as “ethnolinguistic fractionalization,” an index taken from Alesina and others (2003), based on the work of ethnologists and anthropologists, that captures the degree of racial and linguistic heterogeneity in 190 countries. It allows cross-country comparisons of fractionalization of ethnicity and language.

We focus on three main schooling variables: the female primary completion rate, the difference between the male and female primary completion rates, and a learning score. The learning score measure is based on Crouch and Fasih's (2004) “imputed learning scores” for countries, based on actual performance on a range of

**Table 1.2. Descriptive statistics and their sources, circa 2000**

<b>Variable</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>N</b>	<b>Source</b>
Female primary completion rate	78.91	26.43	129	World Bank (2005a)
Difference in the male and female primary completion rate (percentage of relevant age group)	3.67	8.73	129	World Bank (2005a)
Learning score	383.43	96.49	56	Crouch and Fasih (2004)
GDP per capita (log)	8.10	0.90	130	World Bank (2005a)
Ethnolinguistic fractionalization	0.46	0.25	136	Alesina and others (2003)
Ethnolinguistic fractionalization squared	0.27	0.24	136	Alesina and others (2003)
Average years of schooling, female (age 25+)	2.98	1.62	73	Barro and Lee (2000)
Education expenditure (percentage of GDP)	4.44	2.21	124	World Bank (2005a)
Female labor force participation rate	37.34	10.28	133	World Bank (2005a)
Socialist dummy	0.22	0.42	150	Authors
Road density (total network/land area)	38.74	57.22	145	World Bank (2005a)
Rural population (percentage of total population)	51.62	20.43	146	World Bank (2005a)

international tests and equated to a common measure: the Trends in International Mathematics and Science Study (TIMSS) in the mid-1990s.<sup>5</sup> The analyses also control for selected economic and development indicators. The small number of countries reporting data for average years of female schooling (73) and learning scores (55) combined with the uneven country coverage of other variables produces substantial differences in the number of observations for each model (table 1.2). The strong correlation among factors also poses difficulties. Correlations between the primary completion

5 The TIMSS is sponsored by the International Association for the Evaluation of Educational Achievement (IEA), a nongovernmental organization that has sponsored cross-national assessments of achievement on a four-year cycle, typically for students who have completed four to eight years of school. The most recent assessment, in 2003, involved 46 education systems, including 26 from low- and middle-income countries.

**Table 1.3. Elasticities of primary completion and learning and ethnolinguistic fractionalization**

Independent variable	log (Female PCR)	log (Male PCR) – log (Female PCR)	log (Learning score)
Ethnolinguistic fractionalization, log	-0.22*** (-4.27)	0.09*** (3.99)	-0.17*** (-3.65)
Constant	4.06*** (62.80)	0.17*** (6.46)	5.74*** (101)
Number of observations	118	118	55
$R^2$	0.14	0.12	0.20

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

Note: Figures in parentheses are *t*-statistics.

Source: Alesina and others (2004); Crouch and Fasih (2004); World Bank (2005a).

rate and GDP per capita (0.73) and average years of schooling (0.74) are particularly troublesome. We attempt to address the problem with instrumental variables; we report different models to try to ferret out the effects of the correlated variables.

All three estimates of the elasticities (percent change) for completion measures and learning due to differences in ethnolinguistic fractionalization are highly significant, with the largest for female primary completion (table 1.3).<sup>6</sup> The greater the within-country heterogeneity, the lower the female primary completion rate for the country, with a 1 percent increase in ethnolinguistic fractionalization leading to a .22 percent decrease in female primary completion, suggesting the importance of a homogeneous society in fostering girls' education. Although the importance of ethnolinguistic fractionalization on male-female disparities in primary school completion is somewhat lower, a 1 percent increase in the degree of fractionalization leads to a .09 percent increase in male primary completion rate advantage. Heterogeneous societies also slow learning, as measured by performance on international tests. For every 1 percent increase in ethnolinguistic fractionalization, learning scores are .17 percent lower, indicating that here too the composition of the society influences learning performance. Thus countries with multiple ethnic and language groups are likely to have lower primary completion rates for girls, a widening gap between male and female completion rates, and lower overall achievement.

Given that countries also vary in other measures of development that could affect school participation and learning, we next move to multivariate models. We

<sup>6</sup> The dependent variable on the difference in primary school completion is calculated as  $\log(\text{male}/\text{female})$  to avoid the loss of observations where the male-female difference is less than or equal to zero.

**Table 1.4. Determinants of female primary school completion (percentage of relevant age group)**

<b>Independent variable</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Ethnolinguistic fractionalization	-42.10*** (3.93)	-16.59* (1.83)	-35.95*** (3.70)
Average years of schooling, female (age 25+)		8.38*** (4.66)	
Education expenditure (percentage of GDP)	0.83 (0.77)	-1.18 (1.23)	0.97 (0.98)
Female labor force participation rate	-0.37 (1.59)		
Socialist dummy		-14.19 (1.35)	14.66*** (4.30)
Road density (total network/land area)	0.08** (2.46)		
Rural population (percentage of total population)		-0.22 (1.67)	-0.45*** (3.87)
Constant	106.72*** (10.13)	80.08*** (8.30)	111.84*** (15.42)
Number of observations	94	53	100
R <sup>2</sup>	0.27	0.65	0.44

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

*Note:* Figures in parentheses are t-statistics.

*Source:* See table 1.2.

provide results for three different models of the determinants of girls' primary completion rate (table 1.4; all results are not reported). Model 1 shows the importance of ethnic and language heterogeneity in decreasing the likelihood of girls completing primary school. The ethnolinguistic fractionalization coefficient value is large, negative, and significant. The sign of the coefficient for road density (a measure of the ease of reaching rural and remote populations) is positive and significant, but the effect is small. The adjusted  $R^2$  of 0.26 is modest, suggesting that these three variables explain only part of the variation in girls' primary completion rate. Ethnolinguistic fractionalization retains the expected sign and coefficient size in other estimations;

road density (not shown) keeps its sign, but its significance is highly sensitive to the model selected.

In model 2 the average years of female schooling for women over 25 has a strong, positive effect on the female primary completion rate, but its inclusion reduces the coefficient size and level of significance for ethnolinguistic fractionalization and removes the significance of rural populations and the socialist dummy. However, model 2 uses data from only 53 countries, compared with the 94 countries of model 1. Together with the high correlation between average years of schooling and the female primary completion rate (0.74), this suggests the need for caution in interpreting the results. Indeed, comparisons between the two models may not be justified.

Model 3 tests the relevance of education expenditures and rural location on the female primary completion rate. The percentage of the population that is rural is not significant for the smaller (with average years of schooling) sample but becomes significant with the expected sign for the larger sample with less biased estimates. The socialist dummy produces significant and positive coefficients, reflecting the considerable emphasis placed on education for all children in the former Soviet Union and Eastern Europe. Ethnolinguistic fractionalization remains negative and highly significant, suggesting the robustness of the factor.

These results bolster the hypothesis that ethnic heterogeneity slows progress in education for girls. It is important in explaining both the lagging performance of girls and their lower relative completion of primary school, consistent with the simpler results presented in figures 1.1 and 1.2.

We tested the determinants of the disparity between completion rates of boys and girls using four different models (table 1.5). The findings show a strong effect of GDP per capita, average years of schooling, and particularly ethnolinguistic fractionalization; the ethnolinguistic fractionalization and ethnolinguistic fractionalization squared combination is significant, a configuration that was consistently unimportant in the female primary completion rate regressions.<sup>7</sup> Model 2 suggests that the effect of ethnolinguistic fractionalization is exponential, since higher levels of heterogeneity show stronger positive effects on gender disparity in completion. Model 3 has more overall explanatory power, as indicated by an  $R^2$  of 0.60, despite its smaller sample size (due to average years of schooling). It includes a socialist dummy and a marginally significant coefficient for location. Models 2, 3, and 4 include an insignificant education expenditure variable, a finding emerging in virtually every regression. Model 1 shows location to be insignificant, but inserting location in the model produces mixed results (other model formulations not shown), possibly because it captures the average rural population rather than pockets or remote areas in countries, which are associated with low educational attainment.

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<sup>7</sup> Unlike the high correlation between the female primary school completion rate and both GDP per capita and average years of schooling, the gender disparity in the primary school completion rate variable is not highly correlated with either of them.

**Table 1.5. Determinants of gender disparity in primary school completion**

Variable	Difference between male and female primary completion rates			
	Model 1	Model 2	Model 3	Model 4
GDP per capita (log)	-2.93*** (2.88)	-3.18*** (3.46)		
Ethnolinguistic fractionalization	10.61*** (3.01)	-18.32* (1.77)	16.43*** (3.52)	17.88*** (4.42)
Ethnolinguistic fractionalization squared		31.69*** (2.72)		
Average years of schooling, female (age 25+)			-2.93*** (4.49)	
Education expenditure (percentage of GDP)		-0.32 (0.92)	0.13 (0.24)	-0.44 (1.39)
Female labor force participation rate				0.10 (1.41)
Socialist dummy			11.59*** (4.86)	
Road density (total network/land area)			0.02* (1.89)	0.00 (0.45)
Rural population (percentage of total population)	0.04 (1.15)			
Constant	20.77** (2.06)	30.52*** (3.60)	2.75 (0.77)	-7.04** (2.44)
Number of observations	111	97	53	94
R <sup>2</sup>	0.39	0.46	0.60	0.30

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

Note: Figures in parentheses are *t*-statistics.

Source: See table 1.2.

Heterogeneity would also be expected to affect learning outcomes, through mechanisms operating between schools (to reduce school inputs) and within schools (to discriminate against “minority” children). The other variables explaining school

**Table 1.6. Determinants of learning**

Variable	Learning score			
	Model 1	Model 2	Model 3	Model 4
Ethnolinguistic fractionalization	-129.90*** (-3.64)	-35.42 (-0.61)	-109.20*** (-2.92)	-45.60 (-0.87)
Female primary completion rate (instrumented)		2.36** (2.65)		1.96** (2.33)
Socialist in 1990	104.60*** (5.51)	103.90*** (4.77)		
Female labor force participation rate			4.72*** (5.38)	4.51*** (5.56)
Road density (total network/land area)	0.26 (1.52)	-0.01 (-0.06)		
Rural population (percentage of total population)			-3.06*** (-5.79)	-2.30*** (-3.49)
Constant	409.80*** (20)	177.20* (1.88)	399*** (10.5)	178.20* (1.73)
Number of observations	55	46	54	46
R <sup>2</sup>	0.52	0.62	0.62	0.67

\* Significant at the 10 percent level.

\*\* Significant at the 5 percent level.

\*\*\* Significant at the 1 percent level.

Note: Figures in parentheses are *t*-statistics.

Source: See table 1.2.

completion would also be expected to influence learning. However, for estimating correlates of achievement at the country level, it is important to take into account differences across countries in the share of children in school. In countries in which not all children attend school, those who continue in school are likely to be both more advantaged and better performers. To control for these variations, we add to the learning regressions the primary completion rate for girls. However, since the female primary completion rate is highly correlated with the learning variable, we use an instrumented variable, the primary completion rate of females as predicted by two variables: the log GDP per capita, and educational expenditure as a percentage of GDP. In all four regressions the effects of ethnolinguistic fractionalization are in the expected negative direction (table 1.6). In models 1 and 3, they are large and highly significant. In

models 2 and 4, the female primary completion rate (instrumented) is positive and significant, even when controls for socialist history and female labor force participation are included. This effect suggests that education systems with greater participation of girls are also more effective in teaching all children.

Models 1 and 2 include an indicator for socialist history, which is strongly and significantly related to learning achievement at the national level, whether or not the instrumental variable is included. This indicator captures past investment in schooling in many Eastern European countries. Models 3 and 4 demonstrate the positive effect of female labor force participation on learning, possibly also an effect of past socialist history. The effect of female labor force participation on learning also suggests that the more women leave the household and are employed, the greater the potential returns to their education and hence the greater the motivation for girls' learning. The negative effect of having a large share of the population living in rural communities is expected, given the more limited access to and lower quality of available schooling outside of urban areas.

The cross-country analysis suggests the importance of income, ethnicity, location, women's labor force participation, and a history of educating women in explaining both primary school completion for girls and the observed disparity in primary school completion between girls and boys. All these factors except ethnicity also explain learning. These findings bolster much of the country-level evidence produced in the case studies and provide a sense of aggregate performance across developing countries.

## **Policy implications and areas for further research**

What policy levers are needed to reach excluded girls and bring them into school? A range of critical policy options is needed. While there are some hints regarding possible action, better understanding is needed on how to reach, engage, and support excluded girls in obtaining an education.

### ***Improving school quality and upgrading underperforming schools***

School quality is an important element in attracting and retaining children from excluded groups in school. It is particularly important for girls because parents are more reluctant to send their daughters to school. Upgrading schools, integrating programs that involve the community, and ensuring basic standards will be critical to bringing the remaining children into school. Functioning infrastructure, availability of books, trained teachers who show up for class, and tolerance toward minorities and girls represent some key elements that require attention.

Programs focused on underperforming schools have been shown to have spillover effects on underserved populations, as in Chile (McEwan 2006). By focusing

directly on underperforming schools and providing support to these schools to create local solutions for underperformance, such programs can reach the excluded groups that suffer from poor school quality without seeming to discriminate on the basis of race, ethnicity, or other exclusionary characteristic.

### ***Providing bilingual education***

One of the proven means for bringing linguistically excluded children into school is by initially teaching them in their mother tongue before phasing in the national language; bilingual teachers and high-quality instructional materials and books in both languages are essential. A major factor behind progress in educational attainment of language minority groups in Canada (First Peoples) and New Zealand (Maori), early bilingual programs have worked in developing country settings as well, although they are often unavailable (Lewis and Lockheed 2006). Only a third of rural children in Guatemala have access to bilingual schools. In Morocco Berber-language instruction has been introduced only recently in a set of pilot schools. Language has been a major impediment to school enrollment among Roma in Eastern Europe who do not speak the national language (Ringold, Orenstein, and Wilkens 2003), among minority groups in Lao PDR, and in certain communities in Latin America (Hall and Patrinos 2006).

### ***Involving the community***

Involving the community and meeting specific concerns of parents—the opportunity cost of lost labor, unaffordable schooling costs, unease at allowing girls to walk to or even attend school because of safety reasons—are critical. Supporting outreach programs to community leaders and parents; bringing parents into classrooms; providing scholarships, in-kind supplies, and school meals for students; and in some cases paying households through conditional cash transfers that compensate parents for allowing children to attend school can help break the chain of illiteracy among women.

### ***Offering special programs for excluded groups***

Compensatory investments that bring excluded children up to the same level as the mainstream population (through preschool programs, after-school and summer programs, or special assignments, for example) can be effective. Scholarships to encourage enrollment for girls, tutoring, and prizes for good performance are possible approaches. Affirmative action on a limited scale and for a limited period may be useful, but the approach can often backfire if it is too generous or creates too much disadvantage for the majority population.

### ***Conducting more focused research on excluded groups***

The evidence base on excluded groups and schooling is uneven. Why are some girls from excluded communities in school and others out of school? Are there circumstances that make schooling more or less attractive?

Research and evaluations of different interventions are a priority. We know very little about successful interventions that attract excluded girls into primary school or keep them there through secondary school. Because the focus has traditionally been on generic problems, existing knowledge can be useful, but it is unlikely to be enough in fashioning policies that meet the needs and concerns of parents and children from excluded communities. Indeed, there is some evidence that traditional incentives are insufficient for many groups and extra efforts are needed. Where demand for education is low, poor-quality schools can accelerate dropout among the excluded. Experience in New Zealand and the United States with excluded groups reflects this, as does experience with the Roma in Eastern Europe and some immigrant groups in Europe (Lewis and Lockheed 2006).

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