BASIC EDUCATIONAL ATTAINMENT IN EGYPT:

TRENDS AND DETERMINANTS

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February 2007

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ABSTRACT

Egypt has committed to providing "education for all" by the year 2015. We use data from the 1988 through 2005 Egypt Demographic and Health Surveys and the proximate determinants of educational attainment framework to assess the trend toward Universal Primary Education (UPE) and to examine in greater detail the determinants of attainment. Over the 18 years studied, the grade 5 completion rate (G5CR), ever-enrollment, and retention of enrollees all increased. Increases were greatest among those most disadvantaged in 1988; the gender gap in education was markedly reduced. However the pattern of disadvantage is more complex than recent reports suggest. Detailed analysis of educational determinants shows that failure to enroll remains a serious problem for girls–particularly poor girls in rural upper-Egypt. On the other hand, for boys–particularly poor urban boys–dropout is the main obstacle to attaining basic education. Approaches to improving grade 5 completion are discussed.

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INTRODUCTION

Among the Millennium Development Goals (MDGs) (United Nations 2005), the nations of the world, including Egypt, have committed themselves to provide "Education for All" (EFA) by the year 2015. The most important goal of the global EFA program is Universal Primary Education (UPE): "ensuring that by 2015 all children … have access to and complete, free and compulsory primary education of a good quality" (UNESCO 2002:44). Egypt has fully committed itself to this goal, pledging not just "education for all", but "excellence for all" (NCERD 2001; UNESCO 2003; NCERD 2004). Another of the education MDGs pledges nations to eliminate "gender disparities in primary and secondary education by 2005" (UNESCO 2002:68).

In this paper we use the proximate determinants framework of educational attainment (Langsten and Hassan 2005) to assess Egypt's progress toward UPE, focusing on gender equality. We examine trends from 1988 through 2005 and assess differentials in basic educational attainment of boys and girls by family wealth and region. Though we analyze only the *quantity* of education, our results provide new information that supplements, clarifies, and corrects the current literature. Finally we discuss what must be done if Egypt is to continue to progress toward UPE.

REVIEW OF THE LITERATURE ON BASIC EDUCATIONAL ATTAINMENT

Although the levels of educational attainment reported by different sources are somewhat inconsistent, all sources show that in the late 1990s Egypt made steady progress toward achieving UPE: both the absolute number of children enrolled in primary school, and

the percentage of children of primary school age currently enrolled (that is, the Net Enrollment Ratio–NER), increased (World Bank 2002; Gazaleh, et al. 2004; Iqbal and Riad 2004). (See Table 1). In 1999, the Egypt Education for All 2000 Assessment asserted that the country was "about to reach the total universalization of children in the primary stage" (NCERD 1999) and a 2004 report claimed an NER of 99 (NCERD 2004). However, the most recent data from the national Egypt Household Education Survey (EHES) found a net attendance ratio[1] (NAR) of just 91 (El-Zanaty & Associates 2006).

In recent years enrollment of Egyptian girls has increased faster than that of boys, thus reducing the gender disparity (UNDP 2003). The National EFA 2000 Assessment asserted that the gender gap "is about to disappear" (NCERD 1999). Recent reports claim that Egypt would achieve gender equality on schedule in 2005 (NCERD 2004; El-Saharty, Richardson and Chase 2005). The EHES, however, found a small remaining female deficit (El-Zanaty & Associates 2006).

Other educationally disadvantaged groups in Egypt include the poor, those who live in rural areas, and upper Egyptians (NCERD 1999; Iqbal and Riad 2004). Several reports state that attainment has increased the most among children in the most disadvantaged groups (World Bank 2002; UNDP 2003; NCERD 2004). As a result gender, wealth, and regional disparities in education have declined over time.

Increased enrollment, particularly among the most disadvantaged, has been linked to extensive school construction beginning in the 1980s, and lasting into the current decade (NCERD 1999; Fergany 2000; UNICEF 2002; Ahlburg, Assaad and McCall 2004; Iqbal and Riad 2004). From 1992 through 2001, more than 11,000 schools were built (NCERD 2004). Other programs such as UNICEF's community schools (Zaalouk 1995; 2004) and government one-classroom schools (UNICEF 2002; UNESCO 2003; NCERD 2004) also helped make

primary education more accessible. About 99 percent of all villages have access to primary schools. The school construction program is said to be largely complete and some believe the problem of access to schools has been solved (World Bank 2002). The current strategy for increasing enrollment and completion of basic education includes more and better community participation and targeted subsidies (El-Saharty, Richardson and Chase 2005). Still, despite school construction and other programs, many children remain out of school, and access and enrollment remain problems for some communities (UNESCO 2003).

The main reasons children do not attend school are said to be monetary costs of education, the low value placed on education, and the need for children to help at home (UNICEF 2002; El-Zanaty & Associates 2006). All of these factors have their greatest impact on girls. In addition, it has long been accepted that customs and traditions limit school attendance by girls, particularly in rural areas and in upper Egypt (NCERD 2004). Some, however, believe that gender disparities in primary school enrollment are increasingly due to practical issues like distance to school, absence of sanitary facilities, and teachers' use of corporal punishment (Iqbal and Riad 2004). When asked, parents report that lack of interest on the part of students, or poor academic performance are the main reasons children leave school before completing basic education (UNICEF 2002; El-Zanaty & Associates 2006). Others, however, maintain that poverty is the root cause for children leaving school early (World Bank 2002). Boys are said to drop out earlier than girls (UNDP 2003; Elbadawy 2006).

In addition to accessible classrooms, the education provided must also be of high quality if demand for schooling is to grow and children are to remain in school and learn useful skills. UNICEF identifies three key areas of educational quality: "the school environment (where students are taught), learning processes (how students are taught), and learning

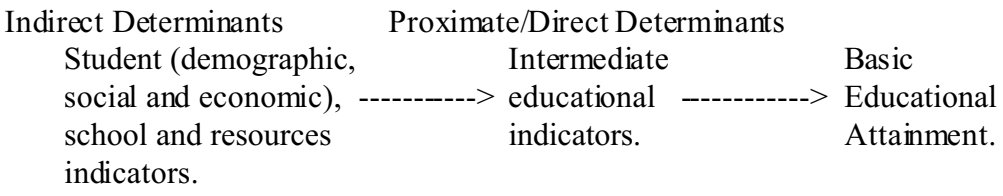
contents (what students are taught)" (UNICEF 2002: 49). The quality of education in Egypt is said to have deteriorated from the 1970s into the 1990s (UNDP 1999). In response, in 1996 the Education Enhancement Program (EEP) was launched (Iqbal and Riad 2004). The main goal of the EEP was improving the quality of student learning (World Bank 2002). Specific programs include: 1) new approaches to training teachers; 2) improved student assessment; 3) reforms of curriculum and teaching methods; 4) provision of modern technologies; 5) better school management; 6) encouragement of community participation through parent-teacher associations and awareness campaigns (World Bank 2002; UNESCO 2003; Iqbal and Riad 2004; El-Saharty, Richardson and Chase 2005). Quality education not only raises test scores, but encourages ever-enrollment and reduces grade repetition and dropout (Lloyd, Mensch, and Clark 2000; World Bank 2002). Moreover, quality has a greater impact on girls' educational attainment than on that of boys (Iqbal and Riad 2004), thus fostering gender equality. While the EEP has been implemented, there have been only scattered and inconclusive efforts to assess its impact (World Bank 2002; Iqbal and Riad 2004; NCERD 2004).

In sum, in the existing literature there is broad agreement that since the beginning of the 1990s Egypt has made substantial progress in expanding the number of children who complete primary education. But this literature paints with very broad strokes: in-depth analysis is lacking. In this paper we provide a more detailed and nuanced description of the progress toward UPE during this period. Specifically, we address such questions as: How much has basic educational attainment changed over time? Which of the proximate determinants has the greatest impact on failure to complete basic education? Have the changes differed by gender, family wealth, or region of residence? Where should resources be targeted if progress is to continue in the future?

MEASURING EDUCATIONAL ATTAINMENT

The proximate determinants framework we use to guide our analysis has been described in detail in Langsten and Hassan (2005). This framework for assessing educational attainment can be represented as in Figure 1.

Figure 1. Schematic Representation of the Proximate Determinants of Basic Educational Attainment.



The analysis gives the absolute levels of: 1) basic educational attainment; and 2) the proximate/direct determinants of attainment. We then partition the failure to achieve basic education, showing the relative role of each of the proximate determinants. We consider three indirect determinants of education: gender, family wealth, and region of residence.

In this section we discuss our outcome measure and the proximate determinants and describe how each is computed.

Basic Educational Attainment

Analyses of education in Egypt, discussed in the literature review above, measure attainment using the Gross and Net Enrollment Ratios (GER - NER), both based on government service statistics, or the Gross and Net Attendance Ratios (GAR - NAR) which are based on survey data. Other reports (Lloyd and Blanc 1996; Filmer and Pritchett 1999; Bruns, Mingat and Rakotomalala 2004), though none focusing specifically on Egypt, use completion rates: the percent of children in a given age group who have completed at least a minimum number of years of schooling (4 or 5 years have been used most frequently in recent

work) or who have completed primary education, per se. Completion rates are sometimes based on service statistics (e.g. Bruns, Mingat, and Rakotomalala 2004), but more commonly use survey data (Lloyd and Hewett 2003). In this work we use the Grade 5 Completion Rate (G5CR) as our outcome indicator measuring basic educational attainment. That is, the number of children 14-15 years of age[2] who have completed 5 or more years of schooling divided by the total number of children aged 14-15 years. In Egypt, between 1988 and 2005, the G5CR is equivalent to primary school completion.[3] While our outcome indicator is grade 5 *completion*, in the partitioning exercise we disaggregate its complement–the failure to complete 5 years of education.

The Proximate Determinants

There are four proximate determinants of educational attainment: 1) ever enrollment / failure to enroll; 2) timeliness of enrollment / late enrollment; 3) timely progress through the grades / grade repetition–interruption of studies; 4) pupil retention / dropout. (Observe that, as with the G5CR, each proximate determinant has a complement that is used in the partitioning.) Two of the determinants (timeliness of enrollment and timely progress) require elaborate computations when using existing data, and the resulting indicators are difficult to interpret[4] (Langsten and Hassan 2005). By combining these two indicators, however, we can use a single measure of "timely progress / delay" which shows whether those currently in school are studying at a level below the age-appropriate grade. Computation of this single measure is straight forward and this timely progress indicator is in a metric consistent with the other indicators used in this paper.

Ever-Enrollment / Failure to Enroll

Ever-enrollment is the number of children 14-15 years of age who have ever attended school divided by the total number of children age 14-15 years. This important determinant of basic education is generally overlooked in analyses based on enrollment and attendance ratios (Langsten and Hassan 2005) and is not a component of the NER based assessment structure (UNESCO n.d.). However, enrollment in primary school is "the most important stage in the schooling career of a young child" (Handa, Simler and Harrower 2004: 25) and failure to enroll has a greater effect on failure to complete grade 5 in more countries than any of the other proximate determinants (Langsten and Hassan 2005). Failure to enroll ends a child's educational possibilities before s/he has had an opportunity to appreciate the advantages of learning.

Timely Progress / Delay

Timely progress through basic education is computed as the number of children 14-15 years of age who are still in school, and who have completed at least 5 years of education, divided by the total number of children aged 14-15 who are still in school. By age 14 children who have progressed normally through the Egyptian school system should have completed at least seven years of education. Thus, ours is a conservative measure of timely progress, allowing a child to be two years behind expected grade level without considering that child to be delayed. Children who are in school can fall behind their age-appropriate grade level by: 1) enrolling in school after the statutory age; 2) repeating grades; or 3) interrupting their studies for a period of time. Almost all Egyptian children enroll within one year of the statutory age (Ahlburg, Assaad and McCall 2004), thus virtually eliminating late enrollment as a cause of serious delay. Grade repetition which is said to have declined during the 1990s (World Bank 2002; NCERD 2004) was found in recent data to be "extremely low", never exceeding 3

percent of children in any one year (El-Zanaty & Associates 2006:13). There are no data on the likelihood that Egyptian students interrupt their studies, but this possibility is also believed to be low. Since all sources of delay are small, there is little harm in combining all these factors into a single measure of timely progress.

Retention / Dropout

For the purposes of our analysis, retention is the number of children 14-15 years of age who have gone to school and who have completed 5 years of education–either because they are still studying, or because they completed basic education before leaving school–divided by the total number of children who ever went to school. All sources agree that the level of dropout from primary education has been declining (or conversely, retention has been increasing) over time (World Bank 2002; Iqbal and Riad 2004; NCERD 2004).

Partitioning the Failure to Complete Basic Education

In addition to measuring the absolute levels of the G5CR and the proximate determinants, as described above, we can partition the percentage of children who have failed to complete basic education. Recall that failure to complete basic education is the complement of the G5CR. For example, in 1988, 77.1 percent of children 14-15 years of age had completed at least grade 5. Thus, we will partition the 22.9 percent of these children who have not completed basic education. The partitioning exercise specifies what proportion of the children who have not completed 5 years of schooling did so because they: 1) never went to school; 2) dropped out before completing grade 5; or 3) remain in school, but have been so delayed as to have not yet attained basic education. These three indicators, the complements of the proximate determinants described above, are mutually exclusive and exhaustive. The

computations involved in partitioning are most readily understood by following the concrete example in the results section below, on page 11.

DATA

For this analysis we use the education variables in Egypt Demographic and Health Survey (DHS) data collected periodically from 1988 to 2005[5]. The DHS are large scale sample surveys of households[6] focusing on fertility and maternal and child health. However, all Egypt DHS begin with a "household listing" that records the name, age, sex, and basic background characteristics, including education, of all members of all sample households. The variables we use for most of the present analysis are simple and few. Our measures of educational attainment and the proximate determinants are based on just five questions:

1. How old is (name)?

For everyone 6 years of age, or older:

2. Has (name) ever been to school?

If (name) has ever been to school:

3. What is the highest level of school (name) has attended?
4. What is the highest grade (name) completed at that level?

For those less than 25 years of age:

5. Is (name) still in school?

In addition, we use information on gender of the child, socio-economic status of the household[7] (divided into quintiles), and region of residence (urban/rural, upper-/lower-Egypt). All of these variables come from the household questionnaire, and are available for all sample households.

Throughout our analysis we use "usual residents" only, and weighted data.

RESULTS

Proximate Determinants

Our results, based on all DHS surveys since 1988, confirm that the educational attainment of Egyptian children has increased (Table 2). Changes in attainment were slow and erratic during the decade of the 1990s, with the G5CR increasing from 77 percent in 1988 to just 82 percent in 2000. Since the turn of the century, however, progress has been faster. By 2005, the most recent year for which data are available, the G5CR had increased to 89 percent, 12 percentage points higher than in 1988. This improvement reflects substantially improved ever-enrollment (84 percent of children 14-15 years of age had ever gone to school in 1988; 94 percent had ever attended in 2005), and smaller gains in retention of students through, at least, grade 5 (in 1988, 93 percent of children 14-15 years of age who had ever attended school had completed 5 years of education; this figure improved to 96 percent in 2005). In all surveys the reported level of timely progress is extremely high, with at least 98 percent of all children 14-15 years old who are still in school having completed 5 years of education. These results are shown in the left-hand panel of Table 2. For each indicator, we also show its complement (i.e. failure to complete grade 5, never enrolled, etc.). These help in understanding the partitioning exercise described in the following paragraphs.

Partitioning shows the proportionate contribution of each proximate determinant to the failure to achieve basic education. For example, consider the results for 1988, when the G5CR of children 14-15 years of age was 77.1 percent. This leaves 22.9 percent of *all* children in this age group who failed to complete 5 years of schooling, as shown in Column 3 of Table 2. We can partition this 22.9 percent into three components: 1) those who never went to school at all (failure to enroll); 2) those who went to school, but who left school before completing 5 years of education (dropout); and 3) those who are still in school, but who, despite being 14-15 years of age, have not yet completed 5 years of education, either

because they began school late, they have repeated grades, or they temporarily withdrew from school, but later returned (delay).

The first step in partitioning the proximate determinants of failure to complete grade 5 is to consider those children 14-15 years of age who never attended school at all–16.5 percent of all children (Column 5, Table 2). Dividing this percentage by the total percentage of all children who failed to complete grade 5 (16.5 / 22.9) shows that about 72 percent of the failure to get a basic education was caused by failure to ever enroll in school.

Computing the effect of failure to enroll is straight forward because the percentage of children who never enrolled is based on *all* children. The percentages of dropout and delay, however, are based on subsets of the children 14-15 years of age: dropout on children who ever enrolled; delay on children still enrolled at ages 14-15 years. Thus to measure the effects of these two determinants we must first ascertain what percent of *all* children dropped out before completing grade 5, and what percent of *all* children are still in school, but have not yet completed 5 years of schooling.

Consider dropout first. In 1988, 83.5 percent of all children 14-15 years of age ever went to school (Column 4, Table 2). Of these children, 6.7 percent dropped out before completing 5 years of school (Column 7, Table 2). Therefore 5.6 percent (.835 X .067) of *all* children 14-15 years of age are classified as dropouts. And thus dropouts account for about 24 percent (5.6 / 22.9) of the failure to complete basic education.

While 6.7 percent of all children who ever went to school dropped out before completing 5 years of education, by the age of 14-15 years many more children had dropped out *after* completing 5 or more years of schooling. Indeed, in 1988, among children 14-15 years of age, just 78.9 percent of the children who had ever gone to school were still studying. As we have seen before, 83.5 percent of children ever went to school and thus only 65.9

percent (.789 X .835) of *all* children 14-15 were still in school. Of the children still in school, 1.3 percent had not completed 5 years of schooling (Column 9, Table 2). Multiplying by the percent of all children still in school, shows that just 0.9 percent (.013 X .659) of *all* children are in school, but have not completed 5 years of education. Dividing this figure by the total percent of children who have failed to complete basic education (0.9 / 22.9) shows that about 4 percent of the failure to complete basic education in 1988 was caused by delay in progressing through school. The results of the partitioning exercise for all years for which data are available are shown in the last three columns of Table 2[8].

Throughout the 18 years from 1988 through 2005 (with the exception of 1995[9]) , failure to enroll was the main determinant of failure to achieve basic education. From 1992 through 2005 (once again, with the exception of 1995) failure to enroll consistently accounts for around 60 percent of the failure to complete grade 5, while dropout is responsible for 36 percent or less. The role of delay is consistently small, never accounting for more than 7 percent of the failure to complete basic education.

Indirect Determinants

The proximate determinants model can include a potentially large number of indirect determinants measuring the characteristics of the students and their school, as well as the resources invested in education. In our current analysis, however, we consider just three key socio-demographic background variables available in all DHS surveys: 1) gender, 2) family wealth, and 3) region of residence.

Gender

As mentioned, one of the MDG goals accepted by the Egyptian government is the elimination of gender disparities in primary education. In the remainder of this paper we will focus on gender differentials in attainment and the proximate determinants.

Table 3 shows that basic educational attainment has increased for both boys and girls. Girls' attainment has increased faster than that of boys, and thus the gender gap has been reduced. In 1988 when just 69 percent of girls and 85 percent of boys had completed basic education; the sex ratio of the G5CR was 124[10]. By 2005, however, the G5CR of girls had increased by 18 percentage points to 87 percent. During the same period the G5CR of boys increased by just 6 points to 91 percent. As a result of the greater increase in girls' education, the sex ratio declined to just 105. (See Table 3.)

Table 3 also shows the gender specific proximate determinants of education. Both ever-enrollment and retention have increased, while levels of timely progress have been consistently high, for both sexes. Ever-enrollment of boys and retention of both boys and girls were already high (92-93 percent) in 1988. These indicators increased by 2-4 percentage points by 2005, and are now in the range of 95-97 percent. The main locus of educational change in the last 18 years has been in ever-enrollment of girls, which increased from 74 percent in 1988 to 90 percent in 2005. Despite the increase, girls' enrollment remains low relative to the ever-enrollment of boys and retention of both boys and girls.

The partitioning results (Table 3) show that, for girls, failure to enroll is the main obstacle to basic education. In the four surveys since 1997, failure to enroll accounts for about three-quarters of the failure of girls to complete grade 5. For boys, on the other hand, since at least the late 1990s dropout is responsible for 50 percent or more of the failure to complete 5 years of schooling. In the most recent data, boys who never enrolled make up only slightly more than one-third of all 14-15 year old boys without basic education.

Family Wealth and Region of Residence

As noted above, earlier work has found that educational attainment has improved the most for children from the most disadvantaged groups. Our analysis of attainment of boys and girls specific for levels of family wealth and region of residence largely confirms this result. In this section we focus on data for 1988 and 2005. Results for all DHS surveys with the necessary data[11] are available in Appendix A.

In both 1988 and 2005, for both boys and girls, level of family wealth is positively correlated with the G5CR. For example, in 1988 educational attainment among boys from families in the poorest quintile was just 70 percent as high as the attainment of boys in the wealthiest quintile. Among girls, the attainment of those in the poorest quintile was very low, a mere 31 percent of that of girls from wealthy families. And, in the poorest quintile, boys were more than twice as likely to complete 5 years of schooling as were girls in that wealth category. By 2005, while the poor, and especially poor girls, remained disadvantaged, the degree of disadvantage was much reduced. Attainment of boys from poor families was 82 percent of that of boys from wealthy families; for girls the relative attainment was 66 percent. The sex ratio of the G5CR in the poorest quintile has dropped from 228 in 1988 to just 124 in 2005. In the fourth wealth quintile, in 1988, boys were 60 percent more likely than girls to complete basic education. By 2005, girls in this wealth category were close to achieving gender parity in the G5CR.

In 1988 poor educational attainment was largely a result of low levels of ever-enrollment. For example, among girls ever-enrollment of those living in families in the poorest quintile was just 38 percent of the ever-enrollment of those from wealthy families. Retention of poor girls, on the other hand, was 82 percent of the retention of wealthy girls–a much smaller disparity than that for ever-enrollment. As a result of this very low level of ever-

enrollment, in 1988 failure to enroll accounted for 90 percent of the failure of poor girls to complete grade 5.

Improvement in ever-enrollment accounts for most of the improvement in the G5CR between 1988 and 2005. Ever-enrollment of girls in the poorest quintile almost doubled, increasing from 37 percent to 72 percent during this interval. Retention, on the other hand, increased by only about 11 percentage points, from 81 percent to 92 percent. However, even in 2005, among girls from families in the poorest wealth quintile, failure to enroll remains the dominant factor in determining achievement of basic education, accounting for 81 percent of the failure to achieve basic education. Even for girls from families in the middle wealth quintile, where the G5CR is 95 percent, and ever-enrollment is 97 percent, failure to enroll is the main reason these girls do not attain 5 years of schooling. (In the top two quintiles, because of high levels of attainment, we are partitioning a very small number of children. [See the Ns for all tables in Appendix D.] Thus these results may be unstable, and should be interpreted with caution. At the same time, even many of the results based on very small Ns conform to overall patterns, suggesting that these patterns are quite robust.)

For poor boys, although, in 1988, the absolute levels of enrollment and retention are higher than those for poor girls, the broad patterns of disadvantage relative to boys from wealthy families and changes over time are similar. However, by 2005 dropout is the most important determinant of the failure to complete grade 5 for boys in all wealth groups, including those in the poorest quintile. Among boys from families in the middle wealth quintile, the levels of the G5CR, ever-enrollment, retention, and timely progress are each virtually the same as the comparable indicator for girls in the same wealth category. But, small differences of just one or two percentage points, with girls less likely to have ever-enrolled and boys more likely to drop out, are sufficient to ensure that for girls, 59 percent of

the failure to achieve primary education is the result of failure to enroll, while for boys dropout accounts for 70 percent of this failure.

The analysis of educational attainment by region (Table 5) has many similarities to the preceding analysis by family wealth. For example, children, and particularly girls, from rural upper Egypt share the pattern of disadvantage and change over time that we have just described for children from the poorest quintile of families. But examination of the educational attainment of children from rural *lower* Egypt also demonstrates the substantial progress that disadvantaged groups have made over time. In 1988, the G5CR of both boys and girls in rural lower Egypt lagged behind the attainment of children in all of the urban regions. The gap for rural lower Egyptian boys was small–their attainment was just 8 to 10 percent lower than the attainment of urban boys. But just 60 percent of rural lower Egyptian girls had completed 5 years of schooling–a rate at least 30 percent below that of girls in any of the urban areas. By 2005, these rural lower Egyptian children had levels of attainment on a par with, or in some cases exceeding, urban children. Only girls in urban lower Egypt maintain an 8 percent advantage in grade 5 attainment over their rural sisters. Moreover, in rural lower Egypt, a gender gap of 35 percent in 1988 was reduced to just one percent in 2005.

Interactions of Indirect Determinants

Further analysis of the effect of the indirect determinants in Table 6 shows the interaction of family wealth, region, and gender on educational attainment. It is not possible to create tables that include a cell for all combinations of wealth, region and gender. Regression analysis, which could include interaction terms, obscures important effects that we prefer to demonstrate explicitly. Therefore, we have created a nine-category variable that

combines the three indirect determinants of education that we are studying. The categories are: a) girls from families in the poorest quintile living in rural upper Egypt; b) girls from families in the fourth wealth quintile living in rural upper Egypt; c) girls from families in the poorest quintile living in rural lower Egypt; d) girls from families in the fourth wealth quintile living in rural lower Egypt; e) girls from families in the poorest 40 percent of families living in urban Egypt; f) girls from families in the wealthiest 60 percent of families in all Egypt; g) boys from families in the poorest 40 percent of families living in rural Egypt; h) boys from families in the poorest 40 percent of families living in urban Egypt; i) boys from families in the wealthiest 60 percent of families in all Egypt. Note that these groups are *not* "symmetrical". Some groups are very detailed–particularly those for poor rural girls. Other groups are very broad; e.g. girls (or boys) from the wealthiest 60 percent of household in all Egypt, both rural and urban, upper and lower. There are six groups for girls, and just 3 groups for boys. In some cases, detailed categories have been grouped in order to ensure an adequate sample size; e.g. poor urban children. In other cases, the grouping was done because differences in sub-categories are small, and not important to our analysis; e.g. children in the wealthiest 60 percent of families[12].

In Table 6 we show the proximate determinants and partitioning results for these 9 groups of 14-15 year old children for 1988 and 2005. (Tables for the remaining years for which data are available are in Appendix B .) These results reinforce our previous findings showing extreme disadvantage in 1988 and substantial progress over time among rural Egyptian girls. The level of basic educational attainment among girls in the two poorest wealth quintiles in rural upper Egypt and in the poorest wealth quintile in rural lower Egypt all increased by more than 130 percent over the 18 years studied. In 1988 attainment of girls in the fourth quintile of rural upper and the poorest quintile of rural lower Egypt were about 35-

37 percent of attainment of girls in the wealthiest 60 percent of Egyptian families. By 2005, the attainment of these two groups of poor rural girls had increased to 81-84 percent of the attainment of girls from wealthier families. Though attainment among the poorest girls in rural upper Egypt increased substantially, it began at a very low level, and in 2005 was still the lowest of any of the nine groups studied, just 62 percent of the attainment of the wealthiest 60 percent of girls.

For all groups of girls the greatest gains were made in ever-enrollment. Despite the enrollment gains, however, failure to enroll accounts for more than 50 percent of the failure to complete grade 5 in all six groups of girls, in both years. And, even in 2005, failure to enroll is responsible for more than 80 percent of failure to complete grade 5 among poor girls in rural upper Egypt, and more than 70 percent of this failure among poor girls in rural lower Egypt. Enrollment persists as the main problem because for all groups of girls, retention is high: in 2005 all groups of girls had levels of retention at, and often substantially exceeding, 90 percent.

As noted in the literature review above, the severe disadvantage and disproportionate progress of girls, particularly poor rural girls has been noted previously. Slow progress among poor urban children–mainly poor urban boys, but to a lesser extent poor urban girls–has gone unnoticed. In 1988, the G5CR of poor urban girls, at 63 percent, was higher than the attainment for any of the groups of poor rural girls. During the 18 years studied, however, attainment of poor urban girls increased only to 69 percent. This level is just 9 percent higher than the attainment recorded in 1988, and lower than the level of attainment achieved by three of the four groups of poor rural girls in 2005[13]. Ever-enrollment of these poor urban girls increased slowly; retention remained essentially stagnant.

Although the progress of poor urban girls was slow, poor urban boys did worse. They are the only group to have experienced an actual *decline* in the level of grade 5 completion over the period studied. Between 1988 and 2005 ever-enrollment of these poor urban boys was basically stagnant ranging from 90 to 94 percent–with the exception of a low of 83 percent in 1992. The main cause of the decline in attainment for boys in this group is a decline in retention, which was lower in all three surveys since 2000, than it had been in either 1988 or 1992. In this group, in 2005, retention was at least 13 percentage points lower than retention in any of the other groups, boys or girls. For this group, in 2005, dropout accounted for 77 percent of the failure to achieve basic education.

Degree to which Determinants are Concentrated

In the analysis to this point we have focused on the "risk" that 14-15 year old children in each group complete 5 years of education; or that they ever-enroll, remain in school at least until completing basic education, or make timely progress. But there is another way to look at these data. We can also assess the degree to which those who share a proximate determinant are concentrated in a specific group.

Take, for example, failure to enroll. We have shown that rural upper Egyptian girls from poor families have particularly low ever-enrollment rates. We now ask the question: of all children who never enrolled in school what percent are rural upper Egyptian girls from the poorest 40 percent of households[14]? In 1988, 34 percent of non-enrollees were poor rural upper Egyptian girls. Over the period studied, of all children 14-15 years of age children, the proportion who never went to school has declined. But, at the same time, poor girls from rural upper Egypt have become an ever larger share of the non-enrollees. By 2005 46 percent

of all children aged 14-15 who had never been to school were rural upper Egyptian girls from the poorest 40 percent of families.

The situation with dropout is different. When assessing dropout we focus on poor urban boys who in 2005 were at the greatest risk of leaving school before completing 5 years of education. In 1988, the risk of dropout for these boys was not exceptionally high. Nor was dropout heavily concentrated in this group: just 9 percent of all dropouts in 1988 were urban boys from families in the poorest 40 percent of households. As we have noted, over the period studied, the risk of dropout increased for these boys, and so did their share of dropout. But, of all dropouts in 2005, poor urban boys contributed only 17 percent. The group contributing the greatest share of dropouts in 2005 was poor rural boys; they accounted for 37 percent of all dropouts, twice as many as the poor urban boys, despite having a much lower risk of dropout. The reason for this apparent inconsistency is the relative size of these two groups. In 2005 there were more than 7 times as many poor rural boys 14-15 years of age, as there were poor urban boys. Dropout is not as concentrated in a specific population group in the way that failure to enroll is.

Regression Analysis

In the analysis just completed we have shown that the three indirect determinants–gender, family wealth, and region of residence–all affect ever-enrollment and retention, the two most important direct determinants of educational attainment in Egypt[15]. For example, boys have higher ever-enrollment rates, while girls tend to have higher retention. There is a direct relationship between family wealth and both ever-enrollment and retention. And, finally, rural areas, and particularly rural upper Egypt have lower ever-enrollment and

retention than do urban areas. In this section we will examine the net effect of each indirect determinant on ever-enrollment and retention.

The results for 1988 and 2005 are shown in Table 7. (Results for the remaining years are in Appendix C.) For each proximate determinant we consider three models: the first including gender and wealth; the second including gender and region; and the third including all three indirect determinants.

In both years, girls' ever-enrollment is significantly lower than that of boys, irrespective of controls for family wealth and region of residence. However, in 1988 there are no significant effects of gender on retention, while in 2005 girls are significantly *more* likely to continue in school through 5 years of education than are boys. Girls' advantage in retention in 2005 persists whether we control for family wealth, region of residence, or both.

Wealth has strong, significant effects on ever-enrollment and retention in both years. Children from the bottom three quintiles are consistently less likely to enroll in school or to stay in school through 5 years of education than are children in the top wealth quintile.

The effects of region are more variable. In 1988, when only gender and region are included in the model, children from rural areas of both upper and lower Egypt are significantly less likely to enroll or to stay in school than are children from the urban governorates. When wealth is added to the model, however, the regional effects are diminished. Only children from rural upper Egypt remain significantly less likely to ever-enroll in school. Region no longer plays a role in retention through the fifth year of primary. In 2005 the impact of region changes even more dramatically when wealth is controlled. For example, children from rural upper Egypt, are significantly less likely than those from the urban governorates to ever-enroll in the absence of a control for wealth. Once wealth is controlled, the effect of living in rural upper Egypt is reversed, though it is not statistically

significant. Controlling for wealth also brings out positive effects of residence in rural lower Egypt for both ever-enrollment and retention.

DISCUSSION

We have used education data from seven DHS studies from 1988 through 2005 to examine trends and determinants of educational attainment in Egypt. Our results confirm earlier findings showing that Egypt has made substantial progress toward the goal of Universal Primary Education, and that the most disadvantaged groups (girls; the poor; rural residents, particularly those from upper Egypt) have made the most progress. However, our results also demonstrate that only children from families in the top three wealth quintiles are approaching UPE. We have specified more clearly than previous work which specific groups remain disadvantaged and the dimensions of the remaining problem. We have also shown for the first time that the main obstacle to basic education for girls is failure to enroll, while for boys it is dropout.

The question remains: what steps are most likely to produce the greatest advances in the future? The results presented in this paper provide a starting point for analyzing this issue.

Table 2 shows that still, in 2005, among all Egyptian children, 60 percent of the failure to complete 5 years of schooling is the result of failure to ever-enroll in school. And Table 3 shows that, while 97 percent of 14-15 year old boys have ever-enrolled, just 90 percent of girls have done so, with failure to enroll accounting for 75 percent of girls' failure to complete basic education. With rates of retention and timely progress exceeding 95 percent for both boys and girls, it is clear that the greatest scope for increasing educational attainment is in improving ever-enrollment of girls. Ever-enrollment is lowest among rural upper Egyptian girls from the poorest wealth quintile of families. In addition, for rural upper Egyptian girls

from the poorest 40 percent of families, failure to enroll accounts for more than 80 percent of their failure to complete basic education. Poor rural upper Egyptian girls make up just 11 percent of all children 14-15 years of age, but account for 46 percent of *all* children who have never gone to school. And the failure of poor rural upper Egyptian girls to ever-enroll accounts for about 28 percent of the overall failure of *all* children to achieve basic education. Therefore, immediate efforts to improve grade 5 completion should focus on helping poor rural upper Egyptian girls to enroll in school. No other obstacle to basic educational attainment is so concentrated in such a specific, and localized segment of the population.

What are the obstacles that prevent these girls from ever-enrolling in school? Some have suggested that conservative customs and traditions prevent rural girls, and particularly those from rural upper Egypt, from attending school (NCERD 2004). However, our regression results in Table 7 indicate that, while these conservative upper Egyptian values may have affected ever-enrollment in the past, failure to enroll is primarily a result of poverty (see also, Assaad, Levinson and Zibani 2006). If poverty is a significant obstacle to school enrollment, there may be several mechanisms through which it operates. School fees and other school related costs may be unaffordable. Poor access to schools may impose time and transportation costs beyond the abilities of poor families to pay. Girls from poor families may have to work–whether in the household, or for wages–to help their families.

We are unable to assess these alternatives with the data available. A recent paper, however, argues that "causal evidence" shows "that lower crude rates of school attendance for Egyptian children are not due to limited access to schools but rather to a substantial burden of work" (Assaad, Levinson and Zibani 2006: 3). On the other hand, anecdotal information from a small project in rural upper Egypt indicates that poor girls living close to schools enroll; as do almost all girls from wealthier families, irrespective of the distance to school. Failure to

attend, and to ever-enroll, is said to be mainly among the poor girls who live far from schools, particularly if they are in a satellite village, isolated by fields from the mother village where the school is located. If this is true, poor access to school may prevent ever-enrollment by poor rural upper Egyptian girls.

We have noted that some maintain that, in Egypt, the problem of access to primary schools has been solved (World Bank 2002). And some argue that, in general, "although increasing school availability can be a tool for increasing enrollments, it cannot typically be expected to have a large effect"–even for poor children (Filmer 2004: 1; see also Burke and Beegle 2004). On the other hand, in some settings, improved school availability has been found to raise enrollment (Duflo 2001; Handa, Simler and Harrower 2004). We hope that in the near future we will have data that will allow us to directly assess the effect of primary school access on ever-enrollment in Egypt.

Table 6 shows that poor urban children have the lowest levels of basic educational attainment with the exception of rural upper Egyptian girls in the poorest quintile. However, the obstacles that prevent these poor urban children from completing grade 5 are likely to be different from those that affect poor rural girls. The main obstacle to basic education for poor urban girls is failure to enroll–just as for their rural sisters. It is unlikely, however, that access to primary schools is an important cause of non-enrollment for the urban girls. Costs, household work, or other factors are more likely to play a more significant role. We are unable to assess these alternatives with the available data.

Poor urban boys are the only group for whom basic educational achievement actually declined over the years studied. The 1988 survey found that 76 percent of these boys had completed 5 years of schooling. From 1992 though 2000, the G5CR declined from 69 percent to 67 percent. In 2003 completion increased to 74 percent, but was just 71 percent in 2005.

(See Appendix B, Table B.3.) In 1988 the G5CR of poor urban boys was about the same as that for poor rural boys. By 2005, the attainment of the rural boys was 21 percent higher than that for urban boys–despite similar levels of ever-enrollment in this year. Poor urban boys' low level of grade 5 completion is caused by exceptionally low levels of retention–levels that have declined over the period studied. While dropout is the main obstacle to basic education for all groups of boys, for the poor urban boys it plays a much greater role than for any other group, accounting for 77 percent of the failure of these children to achieve basic education.

When seeking the reasons that these poor urban boys leave school before completing grade 5 we should, of course, once again consider costs, and the need for these boys to contribution financially to their families. We must, however, also recall that parents report that the main reasons children leave school early are: 1) lack of interest; and 2) poor performance in school (UNICEF 2002; El-Zanaty & Associates 2006). These later factors are related to the quality of education provided.

The Education Enhancement Program, begun in 1996, includes a number of programs meant to improve the quality of student learning. There is almost nothing in the public domain documenting the degree to which these programs have been implemented; the extent of change they have brought about in school management, environment, curriculum, etc; or the impact they have had on student retention and academic achievement. Moreover, the limited existing research has produced mixed results. For example, while one report finds that in-service training reduces girls dropout (Iqbal and Riad 2004), another study finds teachers to have been frustrated in introducing changes into their classrooms after in-service training (Johnson, Monk, and Swain 2000). In general, credible, comprehensive assessments of the links between inputs, process, and outcomes in the educational system are lacking (World Bank 2002; UNESCO 2003).

CONCLUSION

Since 1988 Egypt has made substantial progress toward providing Universal Primary Education. However, poor Egyptian children still remain far from this important goal. Many poor children, particularly poor rural girls, have made great progress. However, poor rural upper Egyptian girls who have never enrolled still account for a substantial proportion (28 percent) of *all* children who have not completed grade 5. These girls provide the greatest scope for increased attainment. With continuing efforts focused on helping these children to ever-enroll in school, it is likely that their levels of achievement will continue to improve. Poor urban children, and particularly poor urban boys, however, may present a substantial, long-term problem. Levels of attainment, and of the proximate determinants, have been extremely erratic, and largely stagnant, for poor urban girls. During the years from 1988 through 2005, poor urban boys experienced stagnant levels of ever-enrollment with declining retention, resulting in an overall decline in grade 5 completion. Thus, continuation of past efforts alone is unlikely to help these groups. And high levels of dropout among poor urban boys suggest a need for a greater focus on the quality of education provided. This focus on quality is also consistent with the education MDG which states not only that all children should complete primary education, but that this education should be of *good quality*.

Continued monitoring of trends in the G5CR and the proximate determinants are required to document progress towards UPE. Research is needed to determine the reasons that girls fail to enroll in school and boys drop out. And, in the future, assessment of the quality of education and how it affects attainment and academic achievement will be essential for achieving UPE of good quality.

ACKNOWLEDGMENTS

This research was partially supported by the Spencer Foundation. Zeinab Khadr, Karen Cowgill, Fatma El-Zanaty,

TABLES

Table 1. Primary Net Enrollment Ratios - Egypt - 1996-2001. Various Sources.

	Source		
Year	World Bank 2002	Gazaleh, et al. 2004	Iqbal & Riad 2004
1996	92	91	86
1997	94	92	
1998	95	92	
1999	97	93	91
2000	97		

Table 2. Educational Attainment, Proximate Determinants and Partitioning of Failure to Achieve Basic Education for Children 14-15 Years of Age, Egypt: 1988 - 2005.

	Basic Educational Attainment		Enrollment		Retention		Pace of Progress		Partitioning of Failure to Complete Basic Education		
Year (1)	G5CR (2)	Failure to Complete Grade 5 (3)	Ever (4)	Never (5)	Still or Drop After Grade 5 (6)	DropOut Before/In Grade 5 (7)	Timely (8)	Delayed (9)	Failure to Enroll (10)	Drop Out (11)	Delay (12)
1988	77.1%	22.9%	83.5%	16.5%	93.3%	6.7%	98.7%	1.3%	71.9%	24.4%	3.7%
1992	80.1%	19.9%	88.4%	11.6%	91.9%	8.1%	98.4%	1.6%	58.3%	36.2%	5.4%
1995	76.8%	23.2%	88.7%	11.3%	87.2%	12.8%	99.1%	0.9%	48.5%	48.9%	2.6%
1997	78.7%	21.3%	86.9%	13.1%	92.0%	8.0%	98.4%	1.6%	61.6%	32.8%	5.5%
2000	81.8%	18.2%	89.2%	10.8%	92.7%	7.3%	98.9%	1.1%	59.5%	35.9%	4.6%
2003	87.6%	12.4%	92.2%	7.8%	95.7%	4.3%	99.3%	0.7%	63.1%	32.2%	4.7%
2005	89.1%	10.9%	93.6%	6.4%	96.1%	3.9%	99.1%	0.9%	59.3%	33.7%	6.9%

Table 3. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Gender. Egypt: 1988 - 2005.

Year	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning					
													Failure to Enroll		Drop Out		Delay	
	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
1988	85.4%	68.6%	124.5	92.5%	74.4%	124.3	93.5%	93.0%	100.5	98.5%	99.1%	99.4	51.4%	81.7%	41.1%	16.6%	7.5%	1.7%
1992	84.9%	75.1%	113.0	93.3%	83.4%	111.9	92.3%	91.4%	101.0	98.4%	98.5%	99.9	44.4%	67.2%	48.0%	29.0%	7.6%	3.8%
1995	82.1%	71.3%	115.1	94.9%	82.4%	115.2	87.5%	86.9%	100.7	98.8%	99.5%	99.3	28.5%	61.3%	66.6%	37.6%	4.9%	1.1%
1997	83.4%	73.8%	113.0	93.2%	80.2%	116.2	91.1%	93.9%	97.0	98.0%	98.8%	99.2	40.8%	75.7%	50.0%	21.1%	9.2%	3.2%
2000	85.8%	77.5%	110.7	94.3%	83.7%	112.7	92.1%	93.4%	98.6	98.7%	99.2%	99.5	40.0%	72.8%	52.7%	24.7%	7.3%	2.6%
2003	91.3%	83.7%	109.1	96.6%	87.5%	110.4	95.2%	96.2%	99.0	99.3%	99.4%	99.9	39.2%	76.9%	53.8%	20.2%	6.9%	2.9%
2005	91.3%	86.9%	105.1	96.9%	90.2%	107.4	95.3%	97.1%	98.1	98.9%	99.2%	99.7	35.9%	74.9%	53.2%	20.1%	10.8%	4.9%

Table 4. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Family Wealth and Gender. Egypt: 1988 and 2005.

Year and Wealth Quintile	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Drop Out		Delay	
1988	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	98.1%	95.9%	102.3	99.5%	97.4%	102.2	99.1%	98.9%	100.2	99.5%	99.4%	100.1	26.1%	62.0%	49.3%	24.8%	24.6%	13.2%
Sec'd 1/5	94.9%	93.6%	101.4	98.3%	95.7%	102.7	97.8%	98.2%	99.6	98.5%	99.5%	99.0	33.5%	66.7%	41.9%	26.6%	24.5%	6.7%
Mid 1/5	86.4%	81.2%	106.4	95.1%	85.9%	110.7	92.1%	94.5%	97.5	98.4%	100.0%	98.4	36.1%	74.9%	55.6%	25.1%	8.3%	0.0%
Fourth 1/5	82.3%	51.6%	159.5	91.2%	62.2%	146.6	91.7%	85.1%	107.8	98.1%	96.7%	101.4	49.9%	78.1%	42.9%	19.2%	7.2%	2.7%
Poor 1/5	68.5%	30.0%	228.3	79.8%	37.2%	214.5	87.6%	81.4%	107.6	97.8%	100.0%	97.8	64.5%	89.9%	31.7%	10.1%	3.8%	0.0%
2005	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	98.6%	98.9%	99.7	99.5%	99.5%	100.0	99.3%	100.0%	99.3	99.5%	99.5%	100.0	30.7%	50.6%	39.7%	0.0%	29.7%	49.4%
Sec'd 1/5	98.2%	96.1%	102.2	99.2%	98.3%	100.9	99.0%	97.8%	101.2	100.0%	100.0%	100.0	43.5%	43.6%	56.5%	56.4%	0.0%	0.0%
Mid 1/5	95.6%	94.9%	100.7	98.8%	97.0%	101.9	97.1%	98.0%	99.1	100.0%	99.8%	100.2	29.7%	58.8%	70.3%	37.8%	0.0%	3.4%
Fourth 1/5	88.2%	85.6%	103.0	97.1%	89.6%	108.4	92.5%	97.1%	95.3	98.5%	98.5%	100.0	25.3%	73.4%	63.8%	18.3%	10.9%	8.3%
Poor 1/5	80.9%	65.4%	123.7	91.9%	72.0%	127.6	90.6%	92.1%	98.4	96.7%	98.4%	98.3	42.9%	81.0%	45.2%	16.4%	11.9%	2.6%

Table 5. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Region and Gender. Egypt: 1988 and 2005.

Year and Region	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Drop Out		Delay	
1988	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	92.7%	90.8%	102.1	97.2%	94.1%	103.3	96.1%	97.2%	98.9	99.1%	99.2%	99.9	38.2%	64.2%	52.0%	28.7%	9.8%	7.0%
Urb L Eg	92.0%	92.6%	99.4	98.4%	95.6%	102.9	95.1%	97.7%	97.3	97.9%	99.1%	98.8	19.9%	59.8%	59.8%	30.0%	20.3%	10.2%
Rur L Eg	81.7%	60.3%	135.5	91.1%	68.3%	133.4	91.1%	88.8%	102.6	98.1%	99.5%	98.6	48.5%	79.8%	44.4%	19.6%	7.1%	0.6%
Urb U Eg	88.5%	85.6%	103.4	96.2%	89.2%	107.8	93.1%	96.0%	97.0	98.6%	100.0%	98.6	33.1%	75.0%	57.5%	25.0%	9.4%	0.0%
Rur U Eg	78.5%	37.8%	207.7	84.9%	45.5%	186.6	93.7%	85.3%	109.8	98.5%	96.7%	101.9	70.3%	87.6%	25.1%	10.8%	4.6%	1.6%
2005	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	94.8%	90.8%	104.4	97.8%	95.8%	102.1	97.7%	96.0%	101.8	99.4%	99.3%	100.1	43.6%	48.5%	45.7%	44.6%	10.7%	6.9%
Urb L Eg	94.5%	98.8%	95.6	98.8%	99.2%	99.6	96.0%	99.2%	96.8	100.0%	100.0%	100.0	23.4%	49.2%	76.6%	50.8%	0.0%	0.0%
Rur L Eg	92.7%	91.9%	100.9	98.6%	94.6%	104.2	95.4%	97.5%	97.8	98.5%	99.5%	99.0	19.5%	66.1%	62.3%	28.6%	18.2%	5.3%
Urb U Eg	89.7%	90.5%	99.1	98.7%	93.3%	104.8	91.7%	97.9%	93.7	100.0%	98.9%	101.1	21.3%	70.1%	78.7%	20.2%	0.0%	9.7%
Rur U Eg	87.9%	74.1%	118.7	94.2%	78.7%	119.7	94.9%	95.5%	99.4	98.1%	98.7%	99.4	47.8%	82.9%	39.7%	13.7%	12.5%	3.4%

Table 6. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education by Gender, Family Wealth, and Region of Residence. Egypt: 1988 and 2005.

	1988							2005						
					Partition the Failure to Complete Grade 5							Partition the Failure to Complete Grade 5		
	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	25.8%	31.3%	82.5%	100.0%	92.7%	7.3%	0.0%	60.2%	66.8%	91.8%	98.2%	83.8%	13.9%	2.3%
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	31.7%	45.5%	76.1%	87.0%	79.7%	15.9%	4.3%	81.3%	85.1%	97.7%	98.0%	81.5%	10.5%	8.0%
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	33.3%	43.5%	77.8%	100.0%	84.9%	15.1%	0.0%	78.4%	84.7%	94.0%	98.4%	70.9%	23.7%	5.4%
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	58.0%	68.0%	86.1%	98.7%	76.1%	22.5%	1.4%	92.0%	94.3%	98.0%	99.4%	70.3%	23.4%	6.3%
Gender: Female Wealth: Poorest 2/5 Region: Urban	63.5%	68.3%	93.0%	100.0%	87.0%	13.0%	0.0%	69.3%	79.4%	90.0%	96.3%	66.7%	25.8%	7.5%
Gender: Female Wealth: Wealthy 3/5 Region: All	89.3%	92.3%	97.1%	99.6%	71.8%	25.2%	3.0%	96.5%	98.3%	98.6%	99.7%	52.4%	39.3%$	8.0%
Gender: Male Wealth: Poorest 2/5 Region: Rural	76.3%	84.9%	90.9%	98.6%	63.7%	32.6%	3.7%	86.1%	94.4%	93.4%	97.3%	40.1%	44.9%	15.0%
Gender: Male Wealth: Poorest 2/5 Region: Urban	75.8%	92.3%	85.7%	94.3%	31.8%	54.5%	13.7%	71.2%	93.5%	76.6%	100.0%	22.7%	77.3%	0.0%
Gender: Male Wealth: Wealthy 3/5 Region: All	92.7%	97.5%	96.1%	98.8%	34.4%	52.1%	13.5%	97.3%	99.2%	98.4%	99.8%	30.9%	62.0%	7.2%

Table 7. Multivariate Analysis of the Impact of Gender, Family Wealth and Region of Residence on Ever-Enrollment and Dropout, for Children 14-15 Years of Age. Egypt: 1988 and 2005.

	1988						2005					
Independent Variables	Ever-Enrolled			Retention			Ever-Enrolled			Retention		
Gender												
Girl	0.18**	0.20**	0.17**	0.78	0.85	0.78	0.26**	0.27**	0.25**	1.54*	1.66**	1.55*
Wealth												
Second 5th	0.50		0.56	0.50		0.50	0.38		0.31	0.17		0.14*
Middle 5th	0.14**		0.21**	0.14**		0.13**	0.23*		0.17**	0.12*		0.06**
Fourth 5th	0.05**		0.08**	0.08**		0.07**	0.07**		0.05**	0.05**		0.02**
Poorest 5th	0.02**		0.04**	0.06**		0.05**	0.02**		0.02**	0.03**		0.01**
Region												
Urban Lower Egypt		1.47	1.82		0.94	1.20		3.34	2.86		1.27	1.41
Rural Lower Egypt		0.16**	0.70		0.31**	1.05		0.96	4.00**		.86	4.07**
Urban Upper Egypt		0.55*	1.08		0.57	0.97		0.73	1.47		.57	1.33
Rural Upper Egypt		0.07**	0.36**		0.33**	1.24		0.21**	1.30		.63	4.20**
N	2536	2550	2536	2121	2132	2121	4868	4868	4868	4528	4528	4528

Significance Level: ** <.01; <=.01 * < .05.

APPENDIX A

Table A.1. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Family Wealth and Gender. Egypt: 1992 and 1995.

Year and Wealth Quintile	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Drop Out		Delay	
1992	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	99.1%	95.5%	103.8	99.1%	99.5%	99.6	100.0%	98.6%		100.0%	97.6%	102.5	100.0%	12.1%	0.0%	33.0%	0.0%	54.9%
Sec'd 1/5	91.2%	91.4%	99.8	96.9%	96.9%	100.0	96.0%	95.1%		97.6%	99.2%	98.4	34.8%	36.2%	43.3%	56.1%	21.9%	7.6%
Mid 1/5	89.2%	85.7%	104.1	97.1%	93.4%	104.0	92.9%	91.8%		98.6%	100.0%	98.6	27.0%	46.6%	63.6%	53.4%	9.4%	0.0%
Fourth 1/5	80.6%	65.4%	123.2	92.2%	76.3%	120.8	88.8%	86.9%		98.1%	98.5%	99.6	40.3%	69.1%	53.3%	28.7%	6.5%	2.2%
Poorest 1/5	70.9%	43.4%	163.4	83.5%	55.5%	150.5	86.2%	81.6%		97.5%	94.0%	103.7	56.5%	78.7%	39.1%	18.1%	4.4%	3.2%
1995	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	97.6%	97.6%	100.0	100.0%	99.5%	100.5	97.9%	98.1%		99.7%	100.0%	99.7	0.0%	21.4%	88.5%	78.6%	11.5%	0.0%
Sec'd 1/5	90.9%	90.8%	100.1	98.7%	98.4%	100.3	93.3%	92.8%		98.9%	99.4%	99.5	14.6%	17.4%	75.2%	77.3%	10.1%	5.3%
Mid 1/5	79.3%	73.9%	107.3	96.7%	89.1%	108.5	83.8%	83.2%		97.3%	100.0%	97.3	15.9%	42.0%	75.2%	58.0%	8.9%	0.0%
Fourth 1/5	77.5%	57.0%	136.0	94.3%	74.9%	125.9	83.4%	78.2%		98.2%	98.2%	100.0	25.3%	58.3%	69.5%	39.7%	5.2%	1.9%
Poorest 1/5	66.8%	40.4%	165.3	84.7%	50.8%	166.7	79.2%	79.8%		99.5%	100.0%	99.5	46.1%	82.6%	53.1%	17.4%	0.8%	0.0%

Table A.2. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Family Wealth and Gender. Egypt: 2000 and 2003.

Year and Wealth Quintile	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Drop Out		Delay	
2000	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	99.2%	98.6%	100.6	99.2%	99.4%	99.8	98.9%	99.4%	99.5	100.0%	99.7%	100.3	100.0%	41.2%	0.0%	39.0%	0.0%	19.8%
Sec'd 1/5	96.3%	95.7%	100.6	98.2%	97.4%	100.8	96.0%	98.6%	97.4	100.0%	99.6%	100.4	48.8%	65.9%	51.2%	25.0%	9.2%	0.0%
Mid 1/5	92.7%	88.8%	104.4	96.6%	93.2%	103.6	94.3%	92.7%	101.7	99.3%	100.0%	99.3	46.3%	60.6%	45.6%	39.4%	8.1%	0.0%
Fourth 1/5	86.1%	77.6%	111.0	92.8%	81.1%	114.4	87.5%	93.0%	94.1	99.8%	100.0%	99.8	52.0%	85.1%	46.9%	14.9%	1.1%	0.0%
Poorest 1/5	82.7%	52.2%	158.4	88.9%	59.5%	149.4	87.9%	83.0%	105.9	99.0%	99.1%	99.9	64.0%	84.6%	32.1%	14.6%	3.9%	0.8%
2003	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Wealth 1/5	99.2%	100.0%	99.2	100.0%	100.0%	100.0	99.2%	100.0%	99.2	100.0%	100.0%	100.0	0.0%	--	100.0%	--	0.0%	--
Sec'd 1/5	95.3%	95.9%	99.4	99.1%	98.6%	100.5	97.4%	98.2%	99.2	98.6%	99.5%	99.1	19.0%	38.1%	54.0%	49.6%	27.0%	12.3%
Mid 1/5	91.6%	89.8%	102.0	97.3%	94.0%	103.5	94.5%	95.9%	98.5	99.2%	99.6%	99.6	30.8%	58.8%	61.3%	37.9%	7.8%	3.3%
Fourth 1/5	89.5%	75.2%	119.0	95.8%	83.4%	114.9	93.5%	90.9%	102.9	100.0%	98.9%	101.1	40.2%	67.1%	59.8%	30.0%	0.0%	2.9%
Poorest 1/5	80.6%	59.6%	135.2	89.7%	62.2%	144.2	91.0%	92.1%	98.8	98.1%	98.4%	99.7	52.7%	93.4%	40.3%	4.4%	7.0%	2.2%

Table A.3. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Region and Gender. Egypt: 1992 and 1995.

Year and Region	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Drop Out		Delay	
1992	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	94.8%	90.6%	104.6	97.6%	95.5%	102.2	97.1%	94.9%		100.0%	100.0%	100.0	46.4%	48.1%	53.6%	51.9%	0.0%	0.0%
Urb L Eg	87.3%	92.0%	94.9	98.8%	98.1%	100.7	89.5%	95.6%		97.8%	97.8%	100.0	9.2%	22.8%	77.3%	54.2%	13.5%	23.0%
Rur L Eg	85.6%	76.3%	112.2	94.0%	84.8%	110.8	92.3%	91.6%		98.5%	97.9%	100.6	42.2%	64.3%	50.7%	30.3%	7.1%	5.4%
Urb U Eg	82.5%	82.9%	99.5	91.0%	91.8%	99.1	94.0%	92.5%		96.9%	97.5%	99.4	53.5%	46.8%	32.3%	41.6%	14.2%	11.6%
Rur U Eg	76.6%	49.7%	154.1	87.8%	60.8%	144.4	88.5%	82.7%		97.9%	98.6%	99.3	51.6%	78.0%	42.5%	20.9%	5.8%	1.1%
1995	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	86.1%	87.0%	99.0	98.5%	97.3%	101.2	88.6%	89.4%		98.0%	100.0%	98.0	10.6%	20.8%	79.2%	79.2%	10.2%	0.0%
Urb L Eg	85.9%	89.1%	96.4	98.6%	96.4%	102.3	87.1%	92.5%		100.0%	100.0%	100.0	9.8%	33.2%	90.2%	66.8%	0.0%	0.0%
Rur L Eg	83.4%	70.8%	117.8	97.7%	84.2%	116.0	86.2%	84.9%		98.8%	99.0%	99.8	13.8%	54.2%	80.9%	43.6%	5.3%	2.1%
Urb U Eg	87.5%	84.1%	104.0	95.8%	94.4%	101.5	94.5%	89.5%		96.8%	99.4%	97.4	34.9%	35.0%	43.6%	62.1%	21.6%	2.9%
Rur U Eg	73.2%	45.0%	162.7	86.0%	56.2%	153.0	85.3%	80.3%		99.4%	99.5%	99.9	51.8%	79.6%	46.8%	20.0%	1.4%	0.3%

Table A.4. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education, for Children 14-15 Years of Age, by Region and Gender. Egypt: 2000 and 2003.

Year and Region	G5CR			Ever-Enrolled			Retention			Timely Progress			Partitioning Results: Failure to Enroll		Partitioning Results: Drop Out		Partitioning Results: Delay	
2000	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	88.4%	90.4%	97.8	94.6%	95.8%	98.7	94.3%	95.3%	99.0	99.1%	99.0%	100.1	46.3%	44.0%	47.4%	47.0%	6.3%	9.0%
Urb L Eg	85.0%	94.9%	89.6	97.6%	98.4%	99.2	88.7%	96.8%	91.6	98.0%	99.1%	98.9	16.9%	28.7%	73.6%	56.8%	10.4%	14.4%
Rur L Eg	86.6%	77.2%	112.2	95.4%	84.5%	112.9	91.1%	91.9%	99.1	99.3%	99.6%	99.7	33.8%	68.5%	62.2%	30.2%	4.0%	1.3%
Urb U Eg	87.8%	88.9%	98.8	96.1%	93.5%	102.8	92.7%	95.5%	97.1	98.2%	100.0%	98.2	31.2%	60.8%	56.6%	39.2%	12.2%	0.0%
Rur U Eg	82.8%	58.5%	162.7	90.7%	65.7%	138.1	93.0%	90.3%	103.0	98.1%	98.4%	99.7	54.2%	82.7%	37.1%	15.3%	8.7%	2.0%
2003	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Male	Female	Male	Female
Urb Govs	88.9%	97.5%	91.2	98.1%	99.0%	99.1	91.1%	98.5%	92.5	98.9%	100.0%	98.9	16.4%	40.1%	75.7%	59.9%	7.9%	0.0%
Urb L Eg	94.0%	92.0%	102.2	98.2%	97.6%	100.6	95.7%	94.3%	101.5	100.0%	100.0%	100.0	30.0%	30.0%	70.0%	70.0%	0.0%	0.0%
Rur L Eg	92.7%	88.4%	104.9	96.7%	93.3%	103.6	96.4%	95.7%	100.7	99.4%	99.0%	100.4	45.5%	57.9%	47.5%	34.9%	7.1%	7.2%
Urb U Eg	94.2%	91.0%	103.5	98.8%	94.8%	104.2	95.3%	97.6%	97.6	100.0%	98.3%	101.7	20.4%	58.1%	79.6%	24.9%	0.0%	17.0%
Rur U Eg	88.7%	66.5%	133.4	93.7%	69.9%	134.0	95.9%	95.5%	100.4	98.4%	99.6%	98.8	55.4%	89.9%	32.9%	9.4%	11.8%	0.7%

APPENDIX B

Table B.1. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education by Gender, Family Wealth, and Region of Residence. Egypt: 1992 and 1995.

	1992							1995						
					Partition the Failure to Complete Grade 5							Partition the Failure to Complete Grade 5		
	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	33.1%	43.7%	77.4%	97.1%	84.2%	14.7%	1.0%	27.9%	36.9%	75.8%	100.0%	87.6%	12.4%	0.0%
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	40.4%	53.5%	75.4%	100.0%	78.5%	21.5%	0.0%	39.7%	50.6%	78.5%	100.0%	81.9%	18.1%	0.0%
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	56.5%	67.3%	88.7%	92.7%	76.2%	17.4%	6.4%	51.8%	65.1%	79.6%	100.0%	72.5%	27.5%	0.0%
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	76.2%	86.1%	90.2%	97.6%	58.5%	35.4%	6.1%	67.4%	85.6%	80.5%	97.0%	43.9%	50.7%	5.4%
Gender: Female Wealth: Poorest 2/5 Region: Urban	67.8%	81.6%	84.5%	97.8%	57.2%	39.2%	3.6%	59.4%	81.3%	73.1%	100.0%	46.2%	53.8%	0.0%
Gender: Female Wealth: Top 3/5 Region: All	90.5%	96.3%	95.0%	99.1%	39.9%	52.4%	7.8%	86.5%	95.2%	91.1%	99.8%	35.7%	63.2%	1.2%
Gender: Male Wealth: Poorest 2/5 Region: Rural	77.4%	89.2%	87.9%	98.1%	47.6%	47.3%	5.1%	73.8%	89.6%	83.4%	98.7%	39.8%	57.1%	3.2%
Gender: Male Wealth: Poorest 2/5 Region: Urban	69.3%	83.0%	86.3%	95.7%	55.7%	37.1%	7.2%	68.5%	93.7%	73.1%	98.5%	19.6%	78.3%	2.2%
Gender: Male Wealth: Top 3/5 Region: All	92.7%	97.7%	95.9%	98.7%	31.3%	54.2%	14.5%	88.7%	98.3%	91.2%	98.7%	15.0%	75.8%	9.3%

Table B.2. Grade 5 Completion, the Proximate Determinants, and Partitioning of Failure to Complete 5 Years of Education by Gender, Family Wealth, and Region of Residence. Egypt: 2000 and 2003.

	2000							2003						
					Partitioning the Failure to Complete Grade 5							Partitioning the Failure to Complete Grade 5		
	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay	G5CR	Ever-Enrolled	Retention	Timely Progress	Failure to Enroll	Drop Out	Delay
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	38.3%	47.8%	81.4%	97.7%	84.4%	14.4%	1.2%	39.2%	41.7%	94.0%	100.0%	95.3%	4.7%	0.0%
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	66.3%	71.3%	94.6%	98.1%	85.3%	11.5%	3.3%	63.8%	67.8%	93.7%	100.0%	88.7%	11.3%	0.0%
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	59.9%	71.8%	84.1%	99.1%	71.0%	27.8%	1.2%	82.7%	83.8%	98.5%	100.0%	92.9%	7.1%	0.0%
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	78.7%	85.1%	92.9%	100.0%	71.1%	28.9%	0.0%	83.6%	94.3%	90.4%	97.8%	35.8%	53.7%	10.4%
Gender: Female Wealth: Poorest 2/5 Region: Urban	75.9%	85.4%	88.9%	100.0%	60.4%	39.6%	0.0%	81.8%	92.4%	91.8%	95.8%	41.8%	41.8%	16.5%
Gender: Female Wealth: Top 3/5 Region: All	92.3%	96.3%	96.6%	99.2%	48.1%	42.7%	9.1%	94.6%	97.2%	97.7%	99.7%	52.5%	42.4%	5.1%
Gender: Male Wealth: Poorest 2/5 Region: Rural	80.4%	91.0%	89.7%	98.4%	46.0%	48.1%	5.9%	87.8%	93.0%	95.2%	99.1%	57.5%	36.6%	5.9%
Gender: Male Wealth: Poorest 2/5 Region: Urban	67.1%	90.0%	76.5%	96.9%	30.4%	64.3%	5.4%	73.8%	94.0%	78.5%	100.0%	22.7%	77.3%	0.0%
Gender: Male Wealth: Top 3/5 Region: All	93.3%	97.9%	96.1%	99.1%	31.7%	56.1%	12.2%	95.0%	98.7%	96.9%	99.3%	25.7%	61.6%	12.7%

Table B.3. Grade 5 Completion Rate (G5CR) Among Children 14-15 Years of Age, by Gender, Wealth, and Region. Egypt: 1988 - 2005.

	1988	1992	1995	2000	2003	2005
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	25.8	33.3	27.9	38.3	39.2	60.0
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	31.7	40.4	39.7	66.3	64.1	81.3
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	33.3	56.5	51.8	59.9	83.1	78.4
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	58.2	76.2	67.4	78.7	83.6	92.1
Gender: Female Wealth: Poorest 2/5 Region: Urban	63.5	68.2	59.4	75.9	81.8	69.5
Gender: Female Wealth: Top 3/5 Region: All	89.4	90.6	86.7	92.2	94.5	96.5
Gender: Male Wealth: Poorest 2/5 Region: Rural	76.2	77.0	73.8	80.4	87.9	85.9
Gender: Male Wealth: Poorest 2/5 Region: Urban	75.8	69.3	68.5	67.1	73.8	71.4
Gender: Male Wealth: Top 3/5 Region: All	92.7	92.7	88.8	93.4	94.9	97.4
Total	77.2	80.1	76.8	81.9	87.5	89.1

Table B.4. Ever-Enrollment Among Children 14-15 Years of Age, by Gender, Wealth, and Region. Egypt: 1988 - 2005.

	1988	1992	1995	2000	2003	2005
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	31.3	43.8	36.9	47.8	41.7	66.6
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	45.5	53.5	50.6	71.3	68.4	85.1
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	43.5	67.3	65.1	71.8	84.3	84.7
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	68.2	86.1	85.6	85.1	94.3	94.4
Gender: Female Wealth: Poorest 2/5 Region: Urban	68.3	81.8	81.3	85.4	92.4	79.7
Gender: Female Wealth: Top 3/5 Region: All	92.3	96.3	95.3	96.3	97.0	98.3
Gender: Male Wealth: Poorest 2/5 Region: Rural	85.0	88.8	89.6	91.0	93.0	94.4
Gender: Male Wealth: Poorest 2/5 Region: Urban	92.3	83.0	93.7	90.0	94.0	93.6
Gender: Male Wealth: Top 3/5 Region: All	97.5	97.7	98.4	97.9	98.6	99.2
Total	16.4	88.3	88.8	89.3	92.1	93.7

Table B.5. Retention Among Children 14-15 Years of Age, by Gender, Wealth and Region. Egypt: 1988 - 2005.

	1988	1992	1995	2000	2003	2005
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	82.5	77.7	75.8	81.4	94.0	91.8
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	76.1	75.4	78.5	94.6	93.8	97.7
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	77.8	88.7	79.6	84.1	98.6	94.0
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	86.2	90.2	80.5	92.9	90.4	98.0
Gender: Female Wealth: Poorest 2/5 Region: Urban	93.0	84.7	73.1	88.9	91.8	90.2
Gender: Female Wealth: Top 3/5 Region: All	97.1	95.0	91.1	96.5	97.7	98.6
Gender: Male Wealth: Poorest 2/5 Region: Rural	90.7	88.0	83.4	89.7	95.2	93.3
Gender: Male Wealth: Poorest 2/5 Region: Urban	85.7	86.3	73.1	76.5	78.5	76.6
Gender: Male Wealth: Top 3/5 Region: All	96.1	95.9	91.2	96.2	96.9	98.4
Total	6.7	91.9	87.2	92.7	95.6	96.1

APPENDIX C.

Table C.1. Multivariate Analysis of the Impact of Gender, Family Wealth and Region of Residence on the G5CR, Ever-Enrollment and Dropout. Egypt - 1988 -2005.

	1992						1995					
Independent Variables	Ever-Enrolled			Retention			Ever-Enrolled			Retention		
Gender												
Girl	0.30**	0.34**	0.29**	0.78	0.84	0.76	0.20**	0.21**	0.17**	0.86	0.91	0.86
Wealth												
Second 5th	0.22*		0.22*	0.14*		0.14*	0.14**		0.21**	0.27**		0.25**
Middle 5th	0.13**		0.14**	0.08**		0.07**	0.03**		0.05**	0.10**		0.09**
Fourth 5th	0.03**		0.04**	0.05**		0.04**	0.01**		0.02**	0.09**		0.07**
Poorest 5th	0.01**		0.02**	0.04**		0.03**	0.00**		0.01**	0.08**		0.06**
Region												
Urban Lower Egypt		2.09	3.54*		0.52	0.79		0.85	0.80		1.03	1.25
Rural Lower Egypt		0.29**	1.32		0.47**	1.43		0.21**	0.68		0.73	1.69*
Urban Upper Egypt		0.36**	0.69		0.56	0.82		0.42*	0.50		1.34	1.79*
Rural Upper Egypt		0.10**	0.49*		0.26**	0.80		0.05**	0.16**		0.61**	1.55*
N												

Table C.2. Multivariate Analysis of the Impact of Gender, Family Wealth and Region of Residence on the G5CR, Ever-Enrollment and Dropout. Egypt - 1988 -2005.

	2000						2003					
Independent Variables	Ever-Enrolled			Retention			Ever-Enrolled			Retention		
Gender												
Girl	0.27**	0.28**	0.26**	1.09	1.19	1.11	0.23**	0.25**	0.22**	1.27	1.29	1.22
Wealth												
Second 5th	0.25*		0.26*	0.26*		0.23*	----		----	0.22		0.18*
Middle 5th	0.11**		0.12**	0.10**		0.08**	0.22*		0.28*	0.11**		0.06**
Fourth 5th	0.04**		0.04**	0.07**		0.04**	0.09**		0.12**	0.06**		0.03**
Poorest 5th	0.02**		0.02**	0.05**		0.03**	0.03**		0.05**	0.08**		0.03**
Region												
Urban Lower Egypt		2.59*	3.77**		0.73	1.06		0.73	1.16		1.08	1.41
Rural Lower Egypt		0.45**	1.78*		0.60*	2.00**		0.29*	1.32		1.39	4.37**
Urban Upper Egypt		0.93	1.52		0.89	1.28		0.49	0.95		1.43	2.18
Rural Upper Egypt		.017	0.78		0.65	2.34**		0.07**	0.32**		1.29	4.02**
N												

APPENDIX D

Table D.1. Ns for Tables 2 and 3, Children 14-15 Years of Age. Egypt: 1988 - 2005.

Year	G5CR & Ever-Enrolled[a]			Retention[b]			Timely Progress[c]			Partitioning[d]		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1988	1286	1257	2543	1189	935	2124	935	741	1676	188	394	582
1992	1481	1455	2936	1382	1213	2595	1059	919	1978	223	362	585
1995	2108	2063	4171	2001	1699	3700	1527	1282	2809	377	592	969
1997	913	864	1777	851	693	1544	763	601	1304	152	226	378
2000	2349	2185	4534	2215	1828	4043	1873	1574	3447	334	491	825
2003	1287	1213	2500	1243	1061	2304	1103	949	2052	112	198	310
2005	2489	2389	4878	2412	2156	4568	2105	1925	4030	217	314	531

[a] The G5CR and Ever-Enrollment are based on the total number of children 14-15 years of age living in sample households. The total column is the basis for Table 2. The male and female columns are the basis for Table 3.
[b] Retention is based on children 14-15 years of age who ever-enrolled.
[c] Timely progress is based on children 14-15 years of age who were still enrolled in school.
[d] The partitioning is based on children 14-15 years of age who did not complete grade 5.

Table D.2. Ns for Table 4. Children 14-15 Years of Age, by Family Wealth and Gender. Egypt: 1988 and 2005.

Year and Wealth Quintile	G5CR & Ever-Enrolled		Retention		Timely Progress		Partitioning	
1988	Male	Female	Male	Female	Male	Female	Male	Female
Top 1/5	212	193	211	188	200	178	4	8
Sec'd 1/5	235	233	231	223	195	201	12	15
Mid 1/5	265	276	252	237	187	180	36	52
Fourth 1/5	317	312	289	194	212	122	56	151
Poor 1/5	252	234	201	87	138	55	79	163
2005	Male	Female	Male	Female	Male	Female	Male	Female
Top 1/5	438	442	436	440	422	431	6	5
Sec'd 1/5	388	414	385	407	358	378	7	16
Mid 1/5	501	467	495	453	447	403	22	24
Fourth 1/5	548	501	532	449	454	391	65	72
Poor 1/5	614	565	564	407	423	321	117	196

Table D.3. Ns for Table 5. Children 14-15 Years of Age, by Region of Residence and Gender. Egypt: 1988 and 2005.

Year and Region	G5CR & Ever-Enrolled		Retention		Timely Progress		Partitioning	
1988	Male	Female	Male	Female	Male	Female	Male	Female
Urb Govs	288	304	280	286	231	246	21	28
Urb L Eg	125	136	123	130	97	114	10	10
Rur L Eg	393	379	358	259	268	186	72	150
Urb U Eg	182	139	175	124	141	105	21	20
Rur U Eg	298	299	253	136	198	90	64	186
2005	Male	Female	Male	Female	Male	Female	Male	Female
Urb Govs	364	335	356	321	323	287	19	31
Urb L Eg	254	242	251	240	227	232	14	3
Rur L Eg	711	758	701	717	617	652	52	61
Urb U Eg	319	315	312	294	267	263	33	30
Rur U Eg	808	710	761	559	646	471	98	184

Table D.4. Ns for Table 6. Egypt: 1988 and 2005.

	1988				2005			
	G5CR & Ever-Enrolled	Retention	Timely Progress	Partitioning	G5CR & Ever-Enrolled	Retention	Timely Progress	Partitioning
Gender: Female Wealth: Poorest 1/5 Region: Rural Upper	128	40	26	95	328	219	167	131
Gender: Female Wealth: Fourth 1/5 Region: Rural Upper	101	46	23	69	208	177	153	39
Gender: Female Wealth: Poorest 1/5 Region: Rural Lower	85	37	21	56	176	149	127	38
Gender: Female Wealth: Fourth 1/5 Region: Rural Lower	169	115	78	71	212	200	180	17
Gender: Female Wealth: Poorest 2/5 Region: Urban	63	43	29	23	126	100	79	39
Gender: Female Wealth: Wealthy 3/5 Region: All	702	648	559	75	1308	1285	1199	46
Gender: Male Wealth: Poorest 2/5 Region: Rural	478	406	297	113	1107	951	781	140
Gender: Male Wealth: Poorest 2/5 Region: Urban	91	84	53	22	139	130	85	40
Gender: Male Wealth: Wealthy 3/5 Region: All	712	694	582	52	1310	1300	1213	35

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ENDNOTES

1. The NER and NAR are effectively the same measure–the former based on service statistics, and the latter on survey data. To compute the NER and NAR take the number of children of primary school age who are currently studying in primary school, and divide by the total number of children of primary school age in the population / sample. For a description of the GER and the NER and how they are computed see UNESCO (n.d). El-Zanaty & Associates. (2006) provides a description of the GAR and NAR

2. Other age groups (particularly 15-19 years of age) have been used. However, we find the 14-15 year age group to be appropriate for our needs. See: Langsten and Hassan (2005).

3. Beginning in 2005, primary education in Egypt will once again last for 6 years (NCERD 2004). However, children 14-15 years of age should have completed primary schooling some years earlier. Therefore, Grade 5 Completion remains primary school completion for this age group in 2005.

4. Although it is difficult to compute good measures of delayed enrollment and grade repetition using the variables currently found in most DHS household listings, some recent DHS studies include questions that provide straightforward measures of these indicators. Two very good questions are in the EdData module that collects detailed education data for children 6-15 years of age and is included in the woman questionnaire in some countries. They ask: 1) the age when the child first started going to school (timeliness of enrollment), and 2) whether the child has ever repeated a grade (repetition). These questions permit computation of timeliness of enrollment and grade repetition for the same age group (14-15 years) as is used for the G5CR and the other proximate determinants. Though currently these questions are part of the woman questionnaire, and thus potentially subject to selectivity bias (mothers of some eligible children will be older than the eligible woman age range), the questions could, without difficulty, be added to the household listing.

5. These surveys for the years 1988, 1992, 1995, 2000, 2003, and 2005 are downloadable from Macro International's DHS website (http://www.macroint.com/content/research/). An interim survey was conducted in 1997. We have been given access to basic data from this survey, but do not have the data necessary to compute the family wealth index, nor the region of residence variable. Therefore, the 1997 results are used only in Tables 2 and 3. Subsequent tables require data that are not available to us.

6. DHS data are collected from representative samples of households. In Egypt DHS of 1988 through 1995, the lightly populated frontier governorates were excluded from the sample frame. Therefore, we have excluded this region from our analysis for all years. However, all other households are eligible for selection using probability sampling techniques. Although the main focus of most DHS analyses is women 15-49 years of age, the household listing data set includes information for all selected households, whether or not there is a resident "eligible" woman. Therefore, the samples of children used in this work are representative of all children in the population who are resident in households. Children who live on the street or who are institutionalized are not included in the sample.

7. Wealth is estimated using the methodology described by Filmer and Pritchett (2001).

8. There are some small differences between the numbers in this example, and those shown in Table 2. These differences result from rounding error, and have no meaningful impact on the results presented.

9. The results for 1995 consistently have unusually low levels of retention (or conversely, high levels of dropout)–see Table 2. We believe this is a quirk of the 1995 data, and not a short-lived shift in actually educational behavior. Despite this quirk, most of the broad educational differentials by gender,

family wealth and region of residence we examine in this paper are found in the 1995 data. Therefore, we have retained them throughout the analysis.

10. The sex ratio of educational attainment is computed by dividing the percent of boys who have completed 5 years of education by the percent of girls who have completed that level of schooling–e.g. 85.4/68.6 = 124.5. A sex ratio greater than 100 shows that boys have higher educational attainment, lower than 100 shows that girls are advantaged. The computation of sex ratios for the proximate determinants is analogous.

11. Recall from Endnote 5, above, that data from the 1997 DHS are not available for the analysis of family wealth and region of residence.

12. In some cases, analysis was conducted on smaller categories than shown in this paper. Sub-categories were collapsed only if the analysis showed no meaningful effects.

13. The indicators for the poor urban girls are exceptionally unstable from one survey to the next. (See Tables B.3 - B.5 in Appendix B.) Thus their progress may not be as bad as depicted by focusing on the first and last surveys available. At the same time, even if we were to consider the results for 2003, the year in which the results for poor urban girls are the best, the progress of these girls had not matched the gains made by poor rural girls, and both groups of poor girls from rural lower Egypt had higher attainment in that year.

14. For the sake of convenience, for this analysis we have combined the two poorest quintiles.

15. In this section we will ignore the role of timely progress because its role in affecting the G5CR is consistently relatively small.