

A Profile of Poverty in Egypt*

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Abstract: This paper presents a profile of poverty in Egypt for 1997. It assesses the magnitude of poverty and its distribution across geographic and socioeconomic groups, provides information on the characteristics of the poor, illustrates the heterogeneity amongst the poor, and helps identify empirical correlates of poverty. This poverty profile is constructed using data from the Egypt Integrated Household Survey (EIHS), which is a nationwide, multiple-topic household survey. One of the more striking set of findings relates to the differences between the poor and the non-poor in their educational attainments. Our results indicate a significant literacy and schooling gap between the poor and the non-poor. On average the poor have 2.6 fewer years of schooling than the non-poor, and their literacy rate is 27 percent lower than the non-poor. Our results also indicate that augmenting educational attainment of the poor does not require building more schools, but reducing the poor's opportunity cost of attending schools and increasing their returns from extra schooling, both suggesting the importance of income generating activities as a policy instrument.

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Résumé: Le présent article dresse un profil de la pauvreté en Égypte pour l'année 1997. Il évalue l'ampleur du phénomène de pauvreté et sa répartition entre les groupes géographiques et socio-économiques, présente les caractéristiques des pauvres, illustre l'hétérogénéité des situations de pauvreté, et aide à identifier les corrélats empiriques de la pauvreté. Ce profil de la pauvreté se fonde sur des données tirées de l'Enquête intégrée sur les ménages en Égypte (EIHS), un sondage national portant sur une multiplicité de sujets. L'un des constats les plus marquants concerne les différences entre les pauvres et les non pauvres en matière de résultats scolaires. Notre enquête révèle un écart significatif entre les taux d'alphabétisation et de fréquentation scolaire des pauvres et des non pauvres. En moyenne, les pauvres vont 2,6 années de moins à l'école que les non pauvres et leur taux d'alphabétisation est de 27 pour cent inférieur à celui des non pauvres. L'enquête révèle également que pour améliorer les performances scolaires des pauvres, il n'est pas nécessaire de construire de nouvelles écoles mais de réduire le coût d'opportunité de la fréquentation scolaire pour les pauvres et d'accroître le rendement de chaque année supplémentaire de fréquentation, deux facteurs qui soulignent l'importance des activités génératrices de revenu en tant qu'instrument de politique.

1. Introduction

Poverty reduction is arguably the ultimate goal of all development, and by implication, of development policy. An important element in the information kit of the policymaker is a poverty profile. A poverty profile is standard methodology to describe the extent and nature of poverty in a country or region. It assesses the magnitude of poverty and its distribution across geographic and socioeconomic domains, provides information on the characteristics of the poor, illustrates the heterogeneity amongst the poor, and helps identify empirical correlates of poverty.

Household surveys are an indispensable tool for studying distributional and poverty issues. This study uses data from the Egypt Integrated Household Survey (EIHS) to construct a profile of poverty in Egypt for 1997. The EIHS is a multi-topic, nationally representative household survey that collects information on household composition, income, consumption, housing characteristics, access to facilities, education, health status, remittances and transfers, and several other categories. There are other household surveys available for Egypt, most notably the Household Income, Expenditure and Consumption Survey (HIECS) for

1995–96. The HIECS surveys are primarily income and expenditure surveys, however, and the range of topics covered in them is considerably smaller than in the EIHS. The EIHS thus provides an important and unique opportunity to construct a considerably richer poverty profile. Also, the opportunity to use household level data from the EIHS enhances the possibilities for analysis in many ways beyond what can be accomplished from grouped tabulated data that are typically available for the HIECS surveys.

This study is organized as follows. The following section describes our primary source of data: the 1997 EIHS. It also briefly describes our key measure of individual welfare, our estimate of the poverty line, and finally provides our national estimates of absolute poverty in Egypt. Section 3 presents our main results on the poverty profile; the ten subsections explore different dimensions of poverty in Egypt. The final section offers a summary and concluding observations.

2. Data, Welfare and Poverty

2.1 Egypt Integrated Household Survey

The primary data used in this paper are from the Egypt Integrated Household Survey (EIHS), a nationwide, multiple-topic household survey carried out by the International Food Policy Research Institute (IFPRI) in coordination with the Ministry of Agriculture and Land Reclamation (MALR) and the Ministry of Trade and Supply (MOTS). Fieldwork began during the first week of March 1997 and concluded in the third week of May 1997. The questionnaire consists of 18 sections on a series of topics which integrate monetary and non-monetary measures of household welfare and a variety of household behavioral characteristics.

The questionnaire was administered to 2500 households from 20 governorates using a two-stage, stratified selection process. The design also stratified selection on the following five regions of Egypt: metropolitan, lower urban, lower rural, upper urban, and upper rural.¹ For more information on the EIHS, including more details on the sample design, strata weights, and fieldwork, see Datt, Jolliffe and Sharma (1998).

2.2 Total Household Expenditure

Throughout this paper, per capita consumption is used as the basic measure of individual welfare. While this measure fails to incorporate

some important aspects of individual welfare, such as consumption of publicly provided goods (for example, schools, health services, public sewage facilities), it is a useful aggregate money metric of welfare which reflects individual preferences conditional on prices and incomes.

The decision to use total expenditure in this paper rather than income as the measure of individual welfare is motivated by the following considerations. First, income can be interpreted as a measure of welfare opportunity while consumption is interpretable as a measure of welfare achievement (Atkinson, 1993). Since all income is not consumed, nor is all consumption financed out of income, consumption is arguably a more appropriate indicator if we are concerned with realized (rather than potential) welfare. Second, individuals use savings and credit to smooth fluctuations in income and therefore consumption provides a more accurate measure of an individual's welfare over time.² Third, some researchers and policymakers hold the belief that survey respondents are more willing to reveal their consumption patterns than they are willing to reveal their income.³ Finally, in developing countries, consumption is also better measured than income because of the difficulties in defining and measuring income for the self-employed who tend to form a relatively larger proportion of the work force in developing countries.

The measure of total consumption used in this paper is quite extensive and draws upon responses to several sections of the household survey. In brief, consumption is measured as the sum of total food consumption, total non-food non-durable good expenses, estimated use value of durable goods, and an actual or imputed rental value of housing. The EIHS data indicate that per capita consumption is LE 238 per month.⁴ Below is a brief description of each of these components. For more details on each component, see Datt, Jolliffe and Sharma (1998).

Food consumption includes food which the household has purchased, grown, and received from other sources for 123 food items. Non-food (non-durable) consumption is the sum of expenditures on 45 non-food items, including expenditures on fuel, clothing, schooling, health, cleaning items, tobacco, and several miscellaneous items.

The use value of durable goods is constructed for 22 items by estimating rates of depreciation for items and using estimated interest rates from the EIHS data. These two estimates are then used to estimate what the rental price of the item would be if the household did not own the item and this is considered as the appropriate pro-rated expense the household incurs for the use of the durable good.

Most of the households in the survey reported how much they pay in rent or, if they own their houses, for how much they could rent the house out. These responses are used as the housing rental expenses. For those respondents who could not answer this question, an imputed rental value of their housing is assigned to them. This imputed value is derived by regressing the rental information on housing characteristics of those who do report a rental value. From this regression and with information on the housing characteristics of those who do not report, it is possible to impute a rental value for the nonreporters.

2.3 Reference Poverty Line

This paper follows the cost of basic needs methodology to construct region-specific poverty lines (Ravallion, 1994). Using this approach, the total poverty line (z) is constructed as the sum of a food and a non-food poverty line. The reference poverty line varies for each of the five regions: metropolitan, lower urban, lower rural, upper urban, and upper rural. Differences in the poverty lines reflect variations in the food and non-food prices across the five regions. They also incorporate regional differences in the size and age composition of the relatively poor households, and their food and non-food consumption preferences.

An initial step in defining the food poverty line is the construction of a minimum food basket, which can be anchored to some normative nutritional requirements. We first estimate minimum caloric requirements for different types of individuals. Using tables from the World Health Organization (1985), caloric needs are separately specified for urban and rural individuals, by sex and 13 age categories. The EIHS data are then used to estimate the number of children and adults within each age-sex category for the average relatively poor household⁵ from each of the five regions. These average household characteristics for each region are then mapped to the caloric needs for each age-sex category which results in the minimum requirements for the typical relatively poor household in each region. Once the minimum caloric needs have been estimated, the next step is to determine how costly it is to obtain the minimum level of calories. We determine the cost of the calories by how they are obtained on average by poor households, rather than by pricing out the cheapest way of obtaining the calories or following a recommended diet. With the price per calorie determined, we then determine the cost of obtaining the minimum caloric intake and set this as the food poverty line.

While the cost of the minimum food bundle is derived from estimated physiological needs, there is no equivalent methodology for

determining the minimum non-food bundle. In this paper we follow two methods for determining the non-food bundle, one of which is used as our reference poverty line while the other is deemed to be an extreme poverty line. For our reference poverty line, the cost of basic non-food consumption is defined as the amount of non-food spending by the typical household whose per capita expenditure on food is just equal to the food poverty line. For the second, more severe non-food poverty line, the cost of basic non-food consumption is defined as the amount of non-food spending by the typical household whose *total* expenditure is just equal to the food poverty line. It is notable that the reference and the extreme poverty lines differ only in their allowance for basic non-food consumption; the reference line permits a more generous allowance for non-food consumption.

Table 1 lists by region the food poverty line, the reference and extreme poverty lines as well as the implicit spatial price indices. By definition, the differences observed in the poverty lines reflect different costs of obtaining minimum consumption bundles in the five regions, and thus the ratio of poverty lines reflects spatial price differences. In this paper the poverty line for the metropolitan region is treated as a baseline and the spatial price index is the ratio of each region's poverty line to the poverty line for the metropolitan region. Again, to see more details on the assumptions made in constructing these lines, see Datt, Jolliffe and Sharma (1998).

Table 1: Poverty lines and spatial price index by region

Regions	Food poverty line	Reference poverty line	Extreme poverty line	Relative price index
Metropolitan	50.18	129.19	75.36	1.000
Lower urban	45.94	101.72	67.52	0.787
Lower rural	44.29	85.38	64.76	0.661
Upper urban	45.19	101.36	67.51	0.785
Upper rural	40.36	82.81	53.37	0.641

Notes: Poverty lines are monthly, per capita figures in Egyptian pounds. The metropolitan poverty line is used as a base line to create the relative price index, which is simply the ratio of each region's reference poverty line to the base line.

2.4 Poverty in Egypt: 1997

In this paper, we use three poverty indices: the head-count, poverty gap, and squared poverty gap. All three are members of the Foster, Greer and Thorbecke (1984, hereafter referred to as FGT) class of poverty indices. The FGT measure of individual poverty is

$$p_{\alpha,i} = [\max((1 - x_i/z), 0)]^\alpha \quad \alpha \geq 0$$

in which x_i is the consumption level of the i th person in a population of size n , z denotes the poverty line, and α is a non-negative parameter. Aggregate poverty is simply the mean of this measure across all persons.

The head-count index is obtained when $\alpha = 0$ and is the percentage of the population in households with a consumption per capita less than the poverty line. This index measures the incidence of poverty. The poverty gap index is obtained when $\alpha = 1$, and defined by the mean distance below the poverty line expressed as a proportion of that line, where the mean is formed over the entire population, counting the non-poor as having zero poverty gap. This reflects the depth of poverty, as well as its incidence. The squared poverty gap index has $\alpha = 2$, and is defined as the mean of the squared proportionate poverty gaps. Unlike the poverty gap index, this measure reflects the severity of poverty, in that it will be sensitive to distribution amongst the poor.⁶

Using the reference poverty lines and per capita consumption, 26.5 percent of the Egyptian population or 15.7 million persons were living in poverty in 1997.⁷ The poverty gap index for the nation is 6.7, which implies an average poverty deficit for the poor (the proportionate shortfall of their average consumption from the poverty line) of 25 percent of the reference poverty line. For details on the geographic distribution of the poor, the importance of the spatial-price index to the poverty measurement, and a comparison of the estimate of the incidence of poverty with other research, see Datt, Jolliffe and Sharma (1998).

3. Characteristics of the Poor

3.1 Household Composition and Headship

Table 2 shows the average household size and composition for poor and non-poor households. The results are presented for Egypt as a whole as well as by sector. The overall average household size in Egypt is 5.82. We find that poorer households tend to be relatively larger; the average household size declines from about 8.0 for the extreme poor to about 5.4 for the non-poor. These differences are statistically significant. Thus, on average there are more than two extra persons in the extreme-poor household relative to the non-poor household. This finding is consistent with similar evidence for Egypt and other countries, whenever per capita indicators are used as measures of individual welfare.⁸ Per capita indicators of course do not

Table 2: Household size, composition and dependency ratios for the poor and non-poor households

	Number of household members in the age group						Dependency ratios			
	Average household size	Less than 5 years (1)	5 to 15 years (2)	15 to 60 years (3)	More than 60 years (4)	Age missing (5)	Total (6)	Child (7)	Aged (8)	Number of observations (9)
Urban										
Poor	6.33 (0.19)	0.71 (0.07)	1.62 (0.13)	3.47 (0.11)	0.36 (0.06)	0.17 (0.05)	77.5	67.1	10.4	194
Non-poor	4.68 (0.10)	0.45 (0.03)	0.91 (0.05)	2.82 (0.06)	0.34 (0.02)	0.16 (0.03)	59.5	47.6	11.9	919
All	4.98 (0.11)	0.50 (0.03)	1.04 (0.06)	2.93 (0.06)	0.35 (0.02)	0.16 (0.03)	64.5	52.6	11.9	1113
Rural										
Poor	7.84 (0.26)	1.29 (0.08)	2.34 (0.09)	3.42 (0.13)	0.39 (0.03)	0.41 (0.09)	117.5	106.1	11.4	333
Non-poor	6.26 (0.21)	0.84 (0.05)	1.59 (0.07)	3.30 (0.11)	0.41 (0.02)	0.13 (0.02)	86.0	73.6	12.4	982
All	6.65 (0.20)	0.95 (0.05)	1.78 (0.06)	3.33 (0.10)	0.40 (0.02)	0.20 (0.03)	94.0	82.0	12.0	1315
All Egypt										
Extreme poor	7.98 (0.25)	1.41 (0.10)	2.44 (0.13)	3.37 (0.14)	0.43 (0.08)	0.33 (0.11)	127.0	114.2	12.8	157
Poor	7.21 (0.18)	1.05 (0.06)	2.04 (0.08)	3.44 (0.09)	0.38 (0.03)	0.31 (0.06)	100.8	89.8	11.0	527
Non-poor	5.44 (0.11)	0.64 (0.03)	1.24 (0.04)	3.05 (0.06)	0.37 (0.02)	0.14 (0.02)	73.7	61.6	12.1	1901
All	5.82 (0.11)	0.72 (0.03)	1.41 (0.04)	3.13 (0.06)	0.37 (0.02)	0.18 (0.02)	79.9	68.1	11.8	2428

Notes: The total dependency ratio is defined as the ratio of the number of members in the age groups 0–15 years and above 60 years to the number of members of working age 15–60 years, i.e. [(2)+(3)+(5)]*100/(4). The child dependency ratio is the ratio of the number of members in the age groups 0–15 years to the number of members of working age 15–60 years, i.e. [(2)+(3)]*100/(4), while the aged dependency ratio is the ratio of the number of members above 60 years to the number of members of working age 15–60 years, i.e. (5)*100/(4). Standard errors (corrected for sample design) in parentheses.

allow for economies of household size in consumption, but the results do indicate that such economies would have to be substantial to reverse the observed positive relation between poverty and household size. This positive relation holds for both the rural and urban sectors, although average household sizes tend to be higher in the rural areas.

The typical Egyptian household has 1.5 adult males of working age (15–60 years), 1.6 adult females of working age, 0.7 children under age 5, 1.4 children between the ages of 5 and 15 years, and 0.4 elderly persons above 60 years of age.⁹ (The information on age is missing, on average, for 0.2 household members.) Like household size, household composition also differs by the level of poverty. The key result is that poorer households tend to have higher dependency ratios. The dependency ratio is defined as the ratio of the number of members in the age groups 0–15 years and above 60 years to the number of members of working age 15–60 years. The ratio is expressed as a percentage. The dependency ratio is 127 percent for the extreme poor, 101 percent for the poor (who include the extreme-poor) and 74 percent for the non-poor. This pattern also holds for the urban and rural sectors individually.

The total dependency ratio is defined as the sum of the child dependency ratio (the ratio of 0–15 year olds to those of working age) and aged dependency ratio (the ratio of above 60 year olds to those of working age). Table 2 shows that the difference between the poor and the non-poor households' total dependency ratios is almost entirely on account of the difference in the child dependency ratio rather than the dependency ratio for the aged, which is quite flat at about 11–12 percent across the poor and the non-poor. On average, relative to the non-poor, the poor households have one extra child to support for every four adult members of working age.

Table 3 presents poverty indices by gender of the head of the household for the rural and urban sectors separately. Except for average per capita real total consumption per month, all measures imply a higher level of poverty among female-headed households, especially in the urban sector. The head-count index in the urban sector is almost 12 percentage points higher for female-headed households than for male-headed households and this difference is statistically significant (at $\alpha = 0.10$ level). In the rural sector, the head count index is about 8 percentage points higher for female-headed households, but this difference is not statistically significant (at $\alpha = 0.10$ level). Both the poverty gap and the squared poverty gap indices indicate a higher intensity of poverty for female-headed households. The differences are small, however, and are not statistically significant in both the urban and the rural sectors.

Table 3: Poverty rates by sex of household head

Household type	Average per capita real total consumption per month	Head count index	Poverty gap index	Squared poverty gap index	Number of observations
Urban					
Female-headed households	271.50 (33.10)	33.46 (5.00)	7.34 (1.78)	2.55 (0.85)	104
Male-headed households	258.78 (11.44)	21.79 (2.03)	5.44 (0.77)	1.98 (0.32)	960
Rural					
Female-headed households	201.56 (10.95)	36.27 (5.15)	9.69 (1.67)	3.89 (0.76)	206
Male-headed households	203.74 (6.45)	28.13 (2.54)	7.17 (0.90)	2.81 (0.49)	1121
All Egypt	227.70 (6.39)	26.50 (1.67)	6.69 (0.61)	2.56 (0.31)	2451

Notes: Household headship is self-reported. Standard errors are in parentheses and are corrected for both the stratification and two-stage design of the sample. For details of the method used to estimate and correct the standard errors, see Jolliffe and Semykina (1999).

The computed average per capita real total consumption per month is nearly LE 13 higher for female-headed households than for male-headed households in the urban sector; however, this difference is not statistically significant (at $\alpha = 0.10$ level). The near equality of per capita expenditures combined with a higher head-count index for female-headed household possibly implies a higher degree of income inequality among female households compared to male households.

3.2 Dwelling Characteristics

Table 4 provides information on the type of dwelling by poverty levels. Two types of dwelling characteristics are chosen for analysis: ownership of dwellings, and structure of dwellings. In the EIHS survey, each household is asked whether it owns the dwelling it resides in. They are also asked to identify the main materials used in the construction of the dwelling. Since the outer walls and the roof form the main part of the dwelling, information on these are utilized. Information on the walls and roofs classifies these as whether they were made from permanent or non-permanent materials. Permanent roofing materials are those constructed from concrete, cement, tiles,

Table 4: Dwelling characteristics

	Structure of dwelling				Ownership of dwelling			
	Roofing material		Structure of walls		Number of observations	Percent that own	Percent that rent	Number of observations
	Permanent	Non-permanent	Permanent	Non-permanent				
Urban								
Poor	92.70	7.30	94.59	5.41	197	46.57	53.43	197
Non-poor	97.81	2.19	97.36	2.64	927	56.79	43.21	923
All	96.63	3.37	96.72	3.28	1124	54.43	45.57	1120
Rural								
Poor	75.26	24.74	75.80	24.11	334	91.67	8.33	334
Non-poor	88.98	11.02	84.53	15.47	993	92.42	7.58	991
All	84.99	15.01	82.02	17.98	1327	92.20	7.80	1325
All Egypt								
Extreme poor	79.06	20.94	82.70	17.30	159	75.78	24.22	159
Poor	81.74	18.26	82.84	11.16	531	74.91	25.09	531
Non-poor	92.93	7.07	90.27	9.73	1920	76.51	23.49	1914
All	90.80	9.20	89.30	10.80	2451	76.08	23.92	2445

Notes: Permanent roofing materials are those constructed from concrete, cement, tiles/slates, and wooden planks. Non-permanent roofing materials are those constructed from straw/thatch or mud. Permanent walls are those constructed from cement, brick, stones or concrete. Non-permanent walls are those constructed from unbaked bricks or wood/branches.

slates, or wooden planks. Non-permanent roofing materials are those constructed from straw, thatch or mud. Likewise, permanent walls are those constructed from cement, brick, stones or concrete. Non-permanent walls are those constructed from unbaked bricks, wood or branches.

Table 4 indicates that ownership of dwelling varies substantially by rural and urban sectors. Ownership rates are about 90 percent in the rural sector (for both poor and non-poor) while only approximately one half of the urban dwellers own their dwellings. Also, ownership in the urban sector is about 10 percentage points higher for the non-poor (56.79 percent) compared to that for the poor (46.57).

A somewhat similar pattern is observed in the case of structure of dwellings. Most dwellings in Egypt are made from permanent materials. However, dwellings are more likely to be built of permanent materials in the urban (about 97 percent for both roofs and walls) compared to the rural areas (84.99 percent for roofs and 82.02 percent for walls). But in both urban and rural areas, the percentage of persons living in dwellings without permanent structures (roofs or walls) is higher for the poor than for the non-poor. This difference between the poor and the non-poor is greater in the rural sector than in the urban sector. In the rural sector, while the poor and non-poor do not differ much in the ownership of their dwellings, there is greater difference in the types of dwellings they own and live in. In contrast, though relatively fewer of the poor in urban areas own the dwellings they live in, differences in basic dwelling structures are small.

3.3 Education

Table 5 lists average years of schooling and literacy by sector and gender for the poor and non-poor. All information presented in this section is only for those individuals who are over 15 years of age. This is to ensure that our analysis does not capture many continuing students; it also allows for comparability with other published tables.

The differences in schooling between the poor and non-poor are quite stark and statistically significant.¹⁰ The average years of schooling for the non-poor is 7.0 years while the poor have attended school for 4.4 years on average. This education gap between the poor and non-poor exists across all four levels of analysis: poor females, poor males, poor urban residents, and poor rural residents all have significantly less schooling than their non-poor counterparts. For example, non-poor women average 5.7 years of schooling, while poor women have 45 percent less schooling, or 3.1 years. There are also

Table 5: Years of schooling and literacy by sector, gender and nation

	Average years of schooling	Percentage who can read	Percentage who can write	Number of observations
Urban				
Poor	5.65 (0.29)	60.60 (2.86)	59.31 (3.06)	736
Non-poor	8.76 (0.26)	80.00 (1.49)	79.23 (1.52)	2833
All	8.10 (0.26)	75.85 (1.52)	74.97 (1.57)	3569
Rural				
Poor	3.47 (0.23)	39.23 (2.38)	38.27 (2.43)	1218
Non-poor	5.42 (0.22)	54.03 (1.83)	53.06 (1.86)	3574
All	4.93 (0.20)	50.31 (1.66)	49.35 (1.72)	4792
Male				
Poor	5.74 (0.24)	63.53 (2.33)	62.01 (2.42)	945
Non-poor	8.36 (0.19)	79.08 (1.19)	77.94 (1.21)	3204
All	7.77 (0.18)	75.52 (1.15)	74.29 (1.19)	4149
Female				
Poor	3.14 (0.21)	34.01 (2.40)	33.30 (2.47)	1009
Non-poor	5.67 (0.19)	53.86 (1.67)	53.26 (1.67)	3203
All	5.06 (0.17)	49.13 (1.46)	48.50 (1.50)	4212
All Egypt				
Extreme poor	3.14 (0.30)	37.18 (3.32)	36.01 (3.43)	580
Poor	4.40 (0.19)	48.35 (2.01)	47.25 (2.09)	1954
Non-poor	7.02 (0.18)	66.45 (1.31)	65.58 (1.33)	6407
All	6.41 (0.16)	62.22 (1.21)	61.30 (1.24)	8361

Notes: 'Can read' and 'can write' are listed in percentages. Figures are for individuals 15 years of age and older using responses to questions 1, 6, 7 and 8 in section 1 part b 'Education and Literacy' of the EIHS male questionnaire. 'Average years of school' is the total number of school years attended. Zero values are assigned for never attending school.

significant differences in years of school attendance across different types of poor people. While poor women and rural residents have on average just over three years of schooling, poor men and urban residents have on average more than 5.5 years of schooling.

The results on literacy are very similar in nature. At the national level, 66.5 percent of the non-poor can read (65.6 percent can write) while only 48.4 percent of the poor can read (47.3 percent can write). As with years of schooling attendance, overall, women have lower literacy levels than men, and significantly fewer rural residents can read or write than urban residents. The gap in literacy between the poor and non-poor is also significant across all four levels of analysis, and poor women and poor rural residents have the lowest literacy levels with only about 34 percent of poor women and 39 percent of the poor rural residents being able to read or write.

In Datt, Jolliffe and Sharma (1998), we present data on the highest class completed by sector, gender, and the nation for the poor and non-poor. Overall in Egypt, 48 percent of individuals over 15 years of age have not completed primary schooling. For the poor, 64 percent have not completed primary schooling and for the extreme poor it is 76 percent, while 44 percent of the non-poor have not completed. The failure to complete primary schooling is significantly worse for the poor across gender and sector categories. Poor women are the worst off with less than 26 percent of them completing primary school or better.

Table 6 lists the primary reasons stated for leaving school for those finished with schooling and the reason for never attending for those who have no schooling. Table 5 shows clearly that the poor obtain significantly less schooling than the non-poor, and a reasonable policy goal is to reduce this gap. Table 6 provides important evidence on the likely success of various policies to increase school attainment. In particular, table 6 makes it very clear that school accessibility is not at all the reason for not continuing in school, and only 10 percent of the poor state accessibility as a reason for never attending.

In contrast, all of the financially related reasons (such as need to work at home or schooling too expensive) are important determinants both for never attending and for leaving school. There are few differences between the poor and non-poor for the stated reasons for never attending school, with one of the exceptions being that financial reasons are somewhat more important for poor men and poor rural residents than their non-poor counterparts.

For those who have attended school in the past and have left school, there are important poor–non-poor differences. Of the non-poor, 20 percent state financial reasons for leaving school while these account for 31 percent of the poor leaving school. Similarly, the poor are more

Table 6: Primary reason for leaving school or never attending (percentage)

	Completed schooling	School not accessible	Financial reasons	No desire to continue	Other reasons	Number of observations
<i>A. Primary reason for leaving school (of those who have attended some schooling)</i>						
Male						
Poor	37.90	1.13	35.48	25.01	0.47	517
Non-poor	58.17	0.80	22.24	17.84	0.96	2088
All	54.11	0.86	24.88	19.28	0.86	2605
Female						
Poor	38.62	0.90	24.85	31.33	4.31	304
Non-poor	55.26	0.84	16.34	16.05	11.52	1443
All	52.28	0.85	17.86	18.78	10.23	1747
All Egypt						
Extreme poor	23.95	0.91	40.78	32.56	1.80	199
Poor	38.18	1.04	31.42	27.43	1.93	821
Non-poor	56.96	0.82	19.79	17.10	5.34	3531
All	53.36	0.86	22.01	19.08	4.69	4352
<i>B. Primary reason for never attending school</i>						
Male						
Poor	—	10.97	62.30	23.84	2.89	319
Non-poor	—	9.38	57.02	30.84	2.76	645
All	—	9.91	58.79	28.50	2.80	964
Female						
Poor	—	8.84	46.14	44.57	0.45	649
Non-poor	—	7.38	43.43	47.74	1.46	1477
All	—	7.82	44.25	46.78	1.15	2126
All Egypt						
Extreme poor	—	6.35	56.64	35.92	1.09	344
Poor	—	9.55	51.55	37.63	1.27	968
Non-poor	—	7.98	47.55	42.61	1.85	2122
All	—	8.48	48.80	41.05	1.67	3090

Notes: Reasons listed are in percentages for individuals 15 years of age and older. Reason for leaving school is from responses to question 3 in section 1 part b 'Education and literacy' of the male questionnaire. Reason for never attending school is from responses to question 5 in section 1 part b 'Education and literacy' of the male questionnaire. 'School not accessible' refers to the case where respondents report that no further schooling is available and/or school is too far away. 'Financial reasons' include the cases where respondents report that school is too expensive, they had to help at home, they had to support the family and/or help with family business. 'No desire to continue' includes the cases where respondents report that they are not willing to attend school, their parents did not want them to continue school and/or poor academic progress. 'Other reasons' include all male teachers and leaving school for marriage.

likely to state that they have no desire to continue schooling (27 percent of the poor state this reason) than the non-poor (of whom 17 percent state this reason). The importance of financial factors suggests that higher income levels for the poor would help to reduce the poor–non-poor gap in school attainment. The lack of desire to continue schooling is more difficult to interpret. This could possibly be linked to school performance of the poor or their perceived returns from extra schooling.

The information on accessibility and financial reasons suggest that increasing years of schooling for the poor does not require building more schools but requires reducing the opportunity cost of going to school. Attending school is too costly for the poor either via direct costs or by reducing the amount of time they can work at home. These costs are evidently high for the poor relative to the perceived pecuniary and non-pecuniary returns from further schooling. Augmenting household income of the poor seems to be an important means of addressing the policy goal of reducing the schooling deficit of the poor.

3.4 Labor Force Participation and Unemployment

Table 7 presents results on the pattern of labor force participation among the poor and the non-poor by gender and by rural and urban sectors. Because persons enter the labor force at an early age in most developing countries, choosing age cutoff points to determine labor force status is anything but straightforward. Men, women and children work in rural Egypt; likewise, child labor in urban-based enterprises is also widely prevalent, especially in the informal sector. Because of these considerations, an age band that arbitrarily (and, therefore, potentially wrongly) classifies younger and older persons as not part of the labor force was not used in this analysis. Instead we used data on the primary occupation of all household members above six years of age over a 12-month recall period. We then made an initial distinction between those who participate in the labor force and those who do not. Full time students and those who responded as being unavailable for work (for whatever reasons) during the past 12 months were classified as not being in the labor force. On the other hand, any individual who was reported to be working or available for work during the past 12 months was classified as belonging to the labor force. Those in the labor force were further classified as either being currently employed or currently unemployed. Hence, each row of the table provides the percentage of persons age six and above across the different labor participation status categories.

Table 7: Labor force participation

	Percentage in labor force			Percentage not in labor force			Number of observations
	Currently working (1)	Currently unemployed (2)	Total (3=1+2)	Student (4)	Unavailable (5)	Total (6=4+5)	
Urban							
Male							
Poor	51.44	5.13	56.57	32.67	10.75	43.42	537
Non-poor	53.32	4.77	58.09	31.78	10.12	41.90	1,863
All	52.89	4.85	57.74	31.99	10.27	42.26	2,400
Female							
Poor	12.26	6.03	18.29	29.34	52.36	81.70	505
Non-poor	15.97	5.63	21.60	30.40	48.00	78.40	1,815
All	15.13	5.72	20.85	30.16	48.98	79.14	2,320
All urban	34.28	5.28	39.56	31.09	39.35	70.44	4,720
Rural							
Male							
Poor	54.41	3.93	58.34	32.69	8.97	41.66	960
Non-poor	57.30	3.28	60.58	32.10	7.32	39.42	2,545
All	56.52	3.46	59.98	32.26	7.77	40.03	3,505
Female							
Poor	8.31	5.76	14.07	24.90	61.02	85.92	1,011
Non-poor	9.75	5.12	14.87	25.90	59.22	85.12	2,516
All	9.34	5.30	14.64	25.62	59.73	85.35	3,527
All rural	32.82	4.38	37.20	28.92	33.87	62.79	7,032
All Egypt							
Extreme poor	31.08	5.05	36.13	29.88	31.88	61.76	945
Poor	31.41	5.14	36.55	29.63	33.82	63.45	3,013
Non-poor	34.17	4.65	38.82	29.96	31.22	61.18	8,739
All	33.46	4.78	38.24	29.88	31.88	61.68	11,752

Notes: Based on 11,752 responses for persons of age 6 years or older.

In general, the table indicates that differences in participation status are more closely associated with gender than with poverty levels. It is also suggestive of some differences across urban and rural sectors. Labor force participation rates for females are only a small fraction of that for males. In the urban sector, 58 percent of males above six years of age report themselves to be in the labor force. The corresponding rate for females is only 21 percent, less than half the male rate. The difference is even greater in the rural sector where only 15 percent of females reported to be participating in the labor force, compared to 60 percent of males. Further, participation rates remain essentially the same across poverty levels in both the rural and urban sectors. At the national level they only vary from 36 percent for the extreme poor to 39 percent for the non-poor.

Non-participation in the labor force does not preclude work at home (that is not directly devoted to income generating activities). A large proportion of the female population is not in the labor force because they are not available for work outside the home. This result also holds across poverty levels and across rural and urban sectors. About 49 percent of females six years or older are reported to be unavailable for work in the urban sector. About 60 percent of them are not available for work in the rural sector.

The proportion of persons who are not in the labor force because they are full-time students is fairly uniform across gender or poverty levels. However, amongst females, this proportion varies slightly across rural and urban sectors. About 26 percent of females in the rural areas are students while the corresponding percentage for urban areas is about 30 percent.

The proportion of unemployed persons in the population aged six years and above is 4.78 percent for Egypt as a whole. This proportion also does not vary significantly across poverty levels (5.05 percent for the extreme poor compared to 4.65 percent for the non-poor). It is, however, one percentage point higher in the urban sector, but the sectoral differences are not significant. It is also marginally higher for females in both the rural and urban sectors, though the differences are, again, not significant. It should be noted that percentages of the unemployed amongst the population aged six years and above are different from the usual notion of unemployment rates, which are expressed as percentages of those participating in the labor force. Thus, for instance, given the large gender differences in participation rates, the implied unemployment rates (amongst those participating in the labor force) for males and females turn out to be about 8 and 27 percent respectively in the urban sector and about 6 percent to 36 percent respectively in the rural sector. Hence there is more than a

three-fold difference between female and male unemployment rates in Egypt.

3.5 Distribution of the Labor Force

Table 8 presents our results on the distribution of the labor force (those working or available for work) across various types of employment by sector, gender and poverty levels. Employment type has been classified into five categories: casual labor, farming, salaried work, self-employment, and unemployed. The analysis is based on data for the 4448 individuals who responded as participating in the labor force during the 12 months prior to the survey. The results are indicative of important differences in type of employment across the poor and the non-poor, and also across gender and sector categories. For this reason, gender differences are tabulated up to the national level.

The poor are more likely to be casual wage laborers than the non-poor. This is a result that is persistent across the urban and rural sectors as well as across gender. In the urban sector, about 42 percent of the male poor work as casual laborers compared to 18 percent for the non-poor. Likewise, the percentage of poor females working as wage laborers in the urban sector (19 percent) is more than three times higher than non-poor female (6 percent). These differences are carried over to the rural sector, though the magnitude of the differences is not as high. This is because the proportion of non-poor engaged in casual labor, both males and females, is higher in the rural sector. Note that though casual labor is the most important source of employment for poor males in both the urban and the rural sectors, such is not the case for females in the urban sector: more poor females are employed as salaried workers (31 percent) than as casual laborers. For poor women in the rural sector, however, casual labor is the most important employment source. It is also noted that at the national level, the proportion of the work force working as casual laborers is highest among the extreme poor for both males and females.

The pattern in salaried work is the reverse of that in casual laboring. In the urban sector, about 60 percent of the non-poor women and 52 percent of the non-poor men are salaried workers. The proportion of the poor working as salaried workers is lower by almost half for both males and females. The relative importance of salaried work drops for both the poor and the non-poor in the rural sector, especially for females. While salaried work, as noted before, is the most important source of employment for poor females in the urban areas, it is the least important source for this group in the rural sector.

Table 8: Distribution of labor force by type of employment

	Percentage working as				Percentage unemployed	Number of observations
	Casual wage laborer	Farmer	Salaried employee	Self-employed		
Urban						
Male						
Poor	41.74	3.27	27.36	18.56	9.07	303
Non-poor	17.70	2.19	51.67	20.23	8.21	1082
All	23.13	2.43	46.18	19.85	8.41	1385
Female						
Poor	18.68	3.63	30.95	13.75	32.99	90
Non-poor	5.78	1.78	60.42	5.97	26.05	392
All	8.33	2.14	54.58	7.51	27.42	482
Rural						
Male						
Poor	39.42	24.90	21.34	7.61	6.73	556
Non-poor	24.39	28.21	30.78	11.22	5.41	1534
All	28.35	27.33	28.29	10.27	5.76	2090
Female						
Poor	20.18	17.67	9.07	12.16	40.93	138
Non-poor	11.99	21.31	24.05	8.20	34.45	353
All	14.20	20.32	19.99	9.28	36.20	491
All Egypt						
Male						
Extreme poor	42.32	21.05	19.35	10.78	6.50	269
Poor	40.34	16.28	23.74	11.97	7.67	859
Non-poor	21.39	16.55	40.14	15.25	6.67	2616
All	26.08	16.48	36.08	14.44	6.91	3475
Female						
Extreme poor	29.07	7.51	4.27	15.96	43.19	70
Poor	19.51	11.41	18.82	12.87	37.39	228
Non-poor	8.59	10.61	43.97	6.98	29.85	745
All	11.13	10.80	38.11	8.35	31.61	973
All male and female	22.7	15.2	36.5	13.1	12.5	4448

Notes: Percentages are based on responses from 4448 individuals who reported to be either working or available for work.

Though the poor–non-poor difference in the proportion of the labor force engaged in farming is not as strong as in the case of casual laboring, there is nevertheless an interesting urban–rural difference. In the urban sector, this proportion is slightly greater for the poor, both male and female, while the opposite is the case in the rural sector. The poor–non-poor difference is also larger in the rural sector.

The proportion of those working who are self-employed is higher among males than among females, especially in the urban sector.

While the proportion of self-employed is higher for the non-poor than for the poor among males in both the rural and urban sectors, however, the reverse is true for females. Poorer females are more likely to be self-employed than less-poor females in both the rural and urban sectors.

Unemployment rates, here defined as the proportion of those in the working force that are unemployed, are strikingly higher for females than for males in both the urban and rural sectors. At the national level, an overall unemployment rate of 6.9 percent for males contrasts with a rate of 31.6 percent for females. The rates are consistently higher for the poor than for the non-poor for both males and females in the urban as well as the rural sectors. Overall, table 8 suggests that the poor — because of their low skills — tend to be concentrated in relatively low paying jobs in the casual labor market. Poor females in the urban sector, however, appear to be able to find low-paying salaried work.

3.6 Poverty Levels by Industry of Employment

In constructing poverty profiles by industry of employment, it is commonplace to classify households according to the principal occupation of the head of the household. This practice neglects occupational diversity within the household (not to mention multiple occupations for the individuals themselves). We construct an occupational poverty profile which does not ignore this diversity. We first assign all working *individuals* to their reported industry of employment.¹¹ Poverty measures for each industry of employment are then computed assuming each individual's consumption is given by the per capita consumption of the household to which they belong (which is consistent with the standard of living indicator we have been using), and each individual's weight given by the ratio of household size to the number of working individuals in the household. The poverty rate for any industry can thus be interpreted as referring to the population dependent on that industry for their livelihood. Table 9 reports the three poverty measures — the head-count index, the poverty gap index, and the squared poverty gap index — by industry of employment. These measures are shown for the reference as well as the extreme poverty line.

Construction, agriculture, and trade and services appear to be the industrial sectors that are characterized by higher levels of poverty relative to the rest. These three industrial sectors exhibit head-count indices upwards of 30 percent. The head-count index is higher in the construction sector (35.56 percent) compared to trade and services

Table 9: Poverty rates by industry

Industry	Average real per capita total consumption per month (LE)	Poverty line			Extreme poverty line			Number of observations
		Head-count index	Poverty gap index	Squared poverty gap index	Head-count index	Poverty gap index	Squared poverty gap index	
Agriculture, forestry	197.52 (7.75)	30.50 (2.38)	8.23 (1.01)	3.30 (0.54)	12.18 (2.01)	3.00 (0.64)	1.05 (0.26)	1067
Manufacturing	208.70 (7.33)	26.80 (3.07)	6.58 (0.97)	2.46 (0.46)	7.22 (1.44)	1.56 (0.43)	0.60 (0.25)	667
Construction	201.65 (11.39)	35.56 (4.55)	8.71 (1.59)	3.44 (0.87)	7.82 (2.62)	2.36 (0.88)	1.15 (0.52)	300
Trade and service	231.89 (11.27)	30.61 (3.01)	8.02 (1.06)	3.08 (0.52)	10.41 (2.07)	2.42 (0.60)	0.76 (0.28)	514
Community	275.64 (14.48)	14.63 (2.29)	3.12 (0.58)	1.16 (0.28)	3.15 (0.91)	0.83 (0.30)	0.29 (0.12)	689
Others	224.9 (9.37)	25.81 (3.03)	6.12 (0.85)	2.11 (0.36)	9.95 (1.85)	1.38 (0.33)	0.33 (0.11)	522
All Egypt	224.64 (6.47)	26.87 (1.71)	6.76 (0.63)	2.59 (0.33)	8.77 (1.10)	1.99 (0.38)	0.70 (0.17)	3799

Notes: Poverty indices are computed at the household level. Whenever a household had members working in more than one industry, household size was allocated to different industrial sectors in proportion to the number of members working in each industrial sector. There were a limited number of households for which information on employment source was missing. For this reason, the 'All Egypt' estimates in this table vary slightly from the national estimates reported in the text. Standard errors are in parentheses and are corrected for both the stratification and two-stage design of the sample. For details of the method used to estimate and correct the standard errors, see Jolliffe and Semykina (1999).

(30.61 percent) and agriculture (30.50 percent). This ranking is largely maintained when the poverty gap measures are used: construction has the highest poverty rates no matter which poverty measure is used, but rank reversals occur between agriculture and trade. The differences in the measured rates between agriculture and trade, however, are very small. In fact, we are unable to reject the hypothesis that poverty rates (using any of the three measures) are the same across the construction, agriculture, and trade industrial sectors. It is noted that the average level of real per capita total consumption expenditure is significantly higher in the trade and services sector compared with the agriculture and the construction sector. Because poverty rates are similar in the three sectors, this possibly implies a higher degree of inequality within the trade and services sector.

The manufacturing sector has a head-count index of 26.8 percent, a poverty gap index of 6.58, and a squared poverty gap index of 2.46; none of these is as high as the corresponding indices for agriculture, construction, and trade and services. Poverty levels in the community and personal services sector are distinctly lower than any of the other industrial sectors for all poverty measures. The poverty measures for this sector are at least less than one half of those in the agriculture, construction, and trade and services. These differences *are* statistically significant.

When the extreme poverty line is used, the poverty rates in all industries are of course lower relative to those for the reference poverty line, but the rankings of industries in terms of the point estimates of extreme poverty also change somewhat. For instance, while the least poor industry of employment continues to be community and personal services, the extreme poor head count indices in both the agriculture and forestry sector (12.18 percent) and the trade and services sector (10.41 percent) are higher than that in the construction sector (7.82 percent). As in the case of the reference poverty line, however, the differences in poverty rates across industrial sectors are mostly insignificant with the exception of the community and personal services sector which has significantly lower poverty rates than all the other industrial sectors.

3.7 Child Immunization

Table 10 reports results on the immunization of 1–5 year old children from poor and non-poor households in Egypt. The results are based on self-reported immunization information from the EIHS households and show that nearly 90 percent of all children have had at least some

Table 10: Immunization of children from poor and non-poor households

	Percentage of 1–5 year old children								Number of observations
	Ever immunized	Fully immunized	Partially immunized	Who have immunization card	Whose place of most recent immunization was:				
					Primary health center	Hospital	Private clinic/other	Missing/not applicable	
Urban									
Poor	89.7	61.1	28.8	79.6	79.2	7.0	3.7	10.1	129
Non-poor	88.0	65.4	22.7	84.6	78.1	6.0	4.0	11.9	405
All	88.5	64.3	24.2	83.4	78.4	6.2	3.9	11.5	534
Rural									
Poor	89.2	59.7	29.5	80.7	82.4	4.7	1.9	11.0	417
Non-poor	88.2	63.0	25.1	80.3	80.3	6.2	1.5	12.0	786
All	88.5	61.9	26.7	80.4	81.0	5.7	1.7	11.6	1203
Male									
Poor	88.5	61.3	27.2	81.6	79.6	6.4	2.5	11.5	268
Non-poor	87.4	63.9	23.5	81.0	79.6	6.2	1.4	12.8	590
All	87.7	63.1	24.6	81.2	79.6	6.2	1.8	12.4	858
Female									
Poor	90.2	58.8	31.5	79.2	83.3	4.3	2.3	10.1	278
Non-poor	88.9	64.0	24.9	82.8	79.4	6.0	3.5	11.1	601
All	89.3	62.4	27.0	81.7	80.6	5.5	3.1	10.8	879
All Egypt									
Extreme poor	84.6	58.8	25.8	77.9	74.9	5.4	4.0	15.8	201
Poor	89.4	60.0	29.3	80.4	81.5	5.3	2.4	10.8	546
Non-poor	88.1	63.9	24.2	81.9	79.5	6.1	2.5	12.0	1191
All	88.5	62.7	25.8	81.4	80.1	5.9	2.4	11.6	1737

Notes: Full and partial immunization are self-reported. The 'missing/not applicable' category includes children who were never immunized.

vaccination. About 63 percent were reported to have had full immunization, while about 26 percent had partial immunization.¹² Following the WHO guidelines, the Egypt Demographic and Health Survey (DHS) 1995 defined full immunization as comprising of a BCG and measles vaccination, and three doses of the DPT and polio vaccines. Using this definition, the Egypt DHS 1995 estimated a full immunization rate of 68.4 percent amongst the 12–59 month old (El-Zanaty *et al.*, 1996). This is fairly comparable with the EIHS estimate of 62.7 percent.

The percentage ever immunized is about the same for children from poor and non-poor households. However, poverty seems to make some difference to the completion of the immunization program. Full immunization is reported for about 59 percent of the extreme poor children, 60 percent of the poor and 64 percent of the non-poor children.¹³ Thus, there is a suggestion that partial immunization is more of a problem for the poor and the extreme poor than the non-poor, but the differences are not large. That 37 percent of all Egyptian children fail to be fully immunized is probably more of a policy concern than the poor–non-poor difference in obtaining immunizations.

There is not much variation to this pattern across rural and urban sectors. Similarly, there is also no evidence of gender differentiation in the rates of full or partial vaccination. The poor–non-poor differences in the full immunization rate also persist across both sectors and both genders, although the poor–non-poor differential is somewhat higher for 1–5 year old girls than relative to the 1–5 year old boys.

In general, if a child was ever immunized, there also exists an immunization card for her or him. Overall, immunization cards exist for about 80 percent of the 1–5 year old children; this proportion is quite similar across sector, gender and the poor–non-poor groups. There is almost universal reliance on the primary health centers (PHCs) for getting the children vaccinated. For Egypt as a whole, in about eight of every nine cases, the PHCs are reported to be the place of the most recent vaccination. This proportion is also highly uniform across sector, gender and the poor–non-poor categories.

3.8 Transfers

Households were asked about transfer payments and receipts over the 12 months prior to the date of interview. Table 11 shows the value of transfers per capita per month, including the value of both cash and in-kind transfers. The transfers have been adjusted for spatial price

Table 11: Transfers receipts and payments by poor and non-poor households (LE/person/month at 1997 Metro region prices)

	Mean expenditure per capita	Mean transfer receipt per capita	Mean transfer payment per capita	Mean net transfer receipt per capita	Number of observations
Urban					
Poor	97.53 (1.82)	3.61 [19.2] (0.92)	0.26 [5.6] (0.14)	3.35 [23.2] (0.90)	197
Non-poor	308.90 (11.85)	9.18 [21.9] (3.03)	1.71 [14.0] (0.41)	7.46 [30.9] (2.84)	927
All	260.17 (12.29)	7.90 [21.2] (2.36)	1.38 [12.1] (0.32)	6.52 [29.1] (2.22)	1124
Rural					
Poor	96.04 (2.25)	4.14 [21.8] (1.07)	0.42 [11.0] (0.12)	3.72 [25.6] (1.04)	334
Non-poor	247.53 (6.18)	5.62 [20.6] (1.05)	1.43 [18.8] (0.28)	4.18 [29.4] (1.05)	993
All	203.49 (6.35)	5.19 [21.0] (0.87)	1.14 [16.6] (0.21)	4.05 [28.3] (0.85)	1327
All Egypt					
Extreme poor	69.49 (1.61)	3.71 [17.1] (1.39)	0.37 [9.0] (0.17)	3.34 [20.9] (1.39)	159
Poor	96.59 (1.57)	3.94 [20.8] (0.75)	0.36 [9.0] (0.09)	3.58 [24.7] (0.73)	531
Non-poor	274.97 (6.43)	7.21 [21.2] (1.47)	1.56 [16.7] (0.24)	5.65 [30.1] (1.40)	1920
All	227.71 (6.39)	6.34 [21.1] (1.13)	1.24 [14.6] (0.18)	5.10 [28.7] (1.07)	2451

Notes: The transfer receipts and payments include both cash and in-kind transfers. The figures in square brackets are the percentages of population (in households) reporting non-zero transfers. The standard errors are given in parentheses. The standard errors take into account sample stratification and clustering.

differences, and are expressed in the Metro region prices. The average value of transfers (including cases without any reported transfers) received by an Egyptian household is only about LE 6.34 per capita per month, the average transfer payment is LE 1.24, thus implying a net transfer receipt of LE 5.10 per capita per month. This net transfer represents about 2.2 percent of the mean per capita expenditure. An overall positive net average transfer for all households in Egypt probably reflects, in part, a surplus of transfer receipts from abroad over transfer payments abroad.

The small size of average transfers reflects the fact that only a relatively small proportion of the population reports receiving or making transfer payments. More than 70 percent of the population in Egypt lived in households who neither received nor made any transfer payments. There is little variation in this proportion across urban and

rural sectors, although the proportion tends to be higher for the non-poor than for the poor. While the proportion of the population reporting receiving transfers is quite similar for the poor and the non-poor, a significantly larger proportion of the latter report making transfer payments.

In absolute terms, per capita net transfer receipts are larger for non-poor households (LE 5.65 per person per month) than for poor households (LE 3.58), although the reverse is true for net receipts as a proportion of per capita expenditure (2.1 percent against 3.7 percent respectively for the non-poor and the poor respectively). However, the differences are neither large nor significant.

3.9 Agricultural Landholdings

In order to examine the relationship between land, agriculture and poverty, poverty indices are presented for households differentiated by their access to or use of agricultural land. About 39 percent of the households in the rural sector report agricultural cultivation. A very small number of households in the urban sector also report agricultural cultivation but these were not included in the analysis because urban households face significantly different economic opportunities (especially in the labor market) and including them is likely to confound relationships.

Table 12 tabulates poverty indices by cultivator status as well as by the size of land cultivated. Rural households cultivating any positive amount of land, including rented or sharecropped land, are classified as cultivators. The rest are classified as non-cultivators. Cultivating households are then ranked by per capita land cultivated and classified as 'small' if they are below the 25th percentile, 'medium' if they are between the 25th and the 75th percentile, and 'large' if above the 75th percentile. Within rural Egypt, the incidence of poverty is significantly higher amongst non-cultivators than among cultivators. Nearly 35 percent of the non-cultivators live below the poverty line while only 22.84 percent of the cultivators fall into this category. Both severity measures — the poverty gap index and the squared poverty gap index — are also significantly higher for non-cultivators compared to cultivators.

The head-count index bears a negative relationship with the size of land cultivated, falling from a high of 35.28 percent for small farmers to 23.82 percent for medium farmers to 7.08 percent for large farmers. The difference in the head-count index between large and small cultivators is statistically significant. Both the poverty gap and the squared poverty gap indices also bear a clear negative association with

Table 12: Poverty rates by agricultural landholding characteristics

Landholding status	Average per capita real total consumption per month (LE)	Head-count index	Poverty gap index	Squared poverty gap index	Number of observations
Cultivator status					
Cultivator households	209.95 (8.47)	22.84 (2.75)	5.23 (0.96)	1.96 (0.47)	510
Non-cultivator households	197.61 (7.90)	34.76 (2.97)	9.49 (1.18)	3.82 (0.64)	817
Rural Egypt	203.49 (6.35)	29.07 (2.19)	7.46 (0.89)	2.93 (0.48)	1327
Farm size status					
Large farms	267.28 (17.38)	7.08 (2.88)	2.15 (0.89)	0.86 (0.39)	140
Medium farms	204.15 (11.53)	23.82 (3.54)	4.93 (1.02)	1.71 (0.49)	239
Small farms	168.94 (7.90)	35.28 (5.61)	8.63 (2.15)	3.45 (1.09)	131
All farms (rural Egypt)	209.95 (8.47)	22.84 (2.75)	5.23 (0.96)	1.96 (0.47)	510

Notes: Urban households are excluded. Poverty rates by farm size are obtained only for cultivator households. Cultivator households are classified as 'small' if per capita cultivated land is less than 0.07 feddan, 'medium' if per capita cultivated land is between 0.07–0.24 feddan, and 'large' if per capita cultivated land is 0.25 feddan or greater. Standard errors are in parentheses and are corrected for both the stratification and two-stage design of the sample. For details of the method used to estimate and correct the standard errors, see Jolliffe and Semykina (1999).

the size of cultivated land. As with the head-count index, the difference in severity of poverty between the large and small cultivators is statistically significant.

Land cultivated per capita controls for family size and therefore provides a more accurate description of a household's ownership of or access to land. Hence the use of per capita landholding rather than total cultivated area per household in table 12. Nonetheless, we also construct poverty estimates using total area operated. The head-count indices when using total area cultivated were the following: 32.63 percent for small cultivators, 22.81 percent of medium cultivators, and 13.97 percent for large cultivators (using the same definition of small, medium and large as before). However, it should be noted that ignoring household size involves the extreme assumption of perfect (or infinite) economies of household size in access to land. In any case, both results (based on either per capita or total area cultivated) indicate that access to land and the opportunities to undertake agricultural

cultivation has an important bearing on the well-being of the rural Egyptian household.

3.10 Access to Community Facilities

Table 13 lists information on access to nine community facilities.¹⁴ For this table, we categorize individuals by three categories: those whose travel time to facility is one half hour or less, those who typically travel for more than half an hour, and missing values.¹⁵ We present missing values as a category because one possible explanation of a missing value is that the respondent does not know how long it takes to travel to the facility and this can be interpreted as meaning that the facility is further than one half hour away.¹⁶

More than 85 percent of all persons are within half an hour of schools, hospital, bus stop, road, local shops, and a weekly bazaar. Between 65 percent and 75 percent of all individuals are close to the other facilities, including: market center, agricultural extension center, agricultural cooperative office, village bank, and commercial bank. In comparing travel time to facilities, there is only one significant difference in the distribution of responses for the poor and non-poor.¹⁷ Travel time to a commercial bank is different for the poor (71 percent of the poor are within half an hour) and non-poor (77 percent of the non-poor are within half an hour travel time). Otherwise there are no significant differences at all between the poor and non-poor in terms of travel time to a community facility.¹⁸

In contrast, there are significant differences in the distribution of travel time across those who are extreme poor and those who are not. The extreme poor have substantially more limited access to facilities such as schools, hospitals, and markets, but have closer access to agricultural extension and cooperatives, and village banks. For eight of the nine facilities presented in table 13 there are significant differences in travel time to facility. The difference in the percentage of the extreme poor and non-extreme poor who are within half an hour of a facility is largest for market center, agriculture extension center, agricultural cooperative office, village bank, and commercial bank.

4. Summary and Conclusions

About 15.7 million persons, or about 26.5 percent of the population, are deemed to be poor in Egypt in 1997. Of these, 5.1 million are considered to be extreme poor. Using per capita consumption as the

Table 13: Travel time to nearest facility

	Half an hour or less (%)	More than half an hour (%)	Missing (%)	Number of observations	<i>P</i> values
Middle school					
Extreme poor	93.30	6.70	0.00	159	0.003
Non-extreme poor	97.18	2.50	0.32	2291	
Nation	96.94	2.77	0.30	2450	
Secondary school					
Extreme poor	85.63	13.67	0.70	159	0.033
Non-extreme poor	90.35	8.15	1.50	2291	
Nation	90.05	8.50	1.45	2450	
Hospital					
Extreme poor	93.78	5.61	0.61	159	0.004
Non-extreme poor	97.25	1.92	0.83	2291	
Nation	97.03	2.16	0.81	2450	
Bazaar					
Extreme poor	89.15	7.81	3.04	159	0.305
Non-extreme poor	91.13	5.15	3.72	2291	
Nation	91.00	5.32	3.68	2450	
Market					
Extreme poor	64.92	14.28	20.80	159	0.024
Non-extreme poor	74.23	11.49	14.28	2291	
Nation	73.65	11.66	14.69	2450	
Ag. Extension					
Extreme poor	74.66	7.79	17.55	159	0.000
Non-extreme poor	64.63	3.92	31.45	2291	
Nation	65.27	4.16	30.57	2450	
Ag. Cooperative					
Extreme poor	78.69	5.97	15.34	159	0.000
Non-extreme poor	67.15	2.97	29.87	2291	
Nation	67.88	3.16	28.96	2450	
Village bank					
Extreme poor	74.69	9.66	15.65	159	0.000
Non-extreme poor	65.65	3.78	30.57	2291	
Nation	66.22	4.15	29.63	2450	
Commercial bank					
Extreme poor	68.15	16.19	15.66	159	0.002
Non-extreme poor	76.42	15.47	8.11	2291	
Nation	75.90	15.51	8.59	2450	

Notes: Tabulation is from responses to question 2 section 3, *Access to Facilities*, from the female questionnaire. All responses are in percentages. Tabulation does not include four facilities because the travel time for more than 95 percent of the responses (by both poor and extreme poor) is less than half an hour. These excluded facilities are: Primary school, bus stop, road and local shops. *P*-values are to test the hypothesis that the response distribution across the three categories (less than half an hour, more than half an hour, and missing) for the extreme poor differs from that of the non-extreme poor. Low *p*-values indicate that we can reject the hypothesis that there is no difference in distributions.

measure of individual welfare, the poor tend to have larger household sizes and higher dependency ratios. The higher dependency ratios for the poor, however, are almost entirely on account of extra children, rather than the aged. We find that the poor are more likely to live in

dwelling without permanent walls or roofs, and the urban poor are somewhat more likely to live in dwellings they do not own. The poor's access to infrastructure and public facilities (measured by the travel time to the nearest facility) tends to be similar to that of the non-poor. The relevant distinction here seems to be between the extreme poor and the rest. The extreme poor have substantially more limited access to facilities such as schools, hospitals, and markets, but have closer access to agricultural extension and cooperatives, and village banks.

We also find that female-headed households are more likely to be poor and also have higher measures of the depth and severity of poverty. In the urban sector, 33 percent of female-headed households are living in poverty, while about 22 percent of male-headed households are poor. In the rural sector, the head-count indices are 36 percent for female-headed and 28 percent for male-headed households. The differences in the measures of the depth and severity of poverty are not statistically significant (reflecting in part the relatively small number of female-headed households in the sample), while the difference in the incidence of poverty across male- and female-headed households is statistically significant.

The poor and the non-poor tend to have similar rates of labor force participation, although female participation rates are only about one-fourth to one-third the male participation rates. On the other hand, of those who are labor force participants (either working or available for work), unemployment rates tend to be higher for the poor than for the non-poor. Far more striking, however, are the differences in the male and female unemployment rates, the latter being more than four times higher, despite the already low female participation rates.

In terms of the primary occupation, the poor tend to be concentrated in relatively low-paying jobs in the casual labor market. This is particularly true of poor males. Poor women, if they are not unemployed, tend to be evenly split between casual wage and regular salaried employment. Poverty rates are found to be highest amongst those dependent on the agricultural, construction, and the trade and services sectors for their livelihood. We do not find evidence of a sharp poverty profile by industry of employment, though we do find that those dependent on the community and personal services sector have significantly lower rates of poverty than those dependent on agriculture, construction, and trade and services. These results suggest that policies promoting the latter three sectors are likely to be more important to the poor.

Within the rural sector, we find that non-cultivators are significantly poorer than cultivators, and conditional on cultivation, there is an inverse relation between per capita land cultivated and consumption poverty.

One of the more striking set of findings relates to the differences between the poor and the non-poor in their educational attainments. Our results indicate a significant literacy and schooling gap between the poor and the non-poor. On average the poor have 2.6 fewer years of schooling than the non-poor, and their literacy rate is 27 percent lower than the non-poor. The poor–non-poor education gap cuts across sector and gender categories. Equally there is a stark gender education gap which cuts across sector and poverty levels. Thus, only one-third of the poor females (15 years and older) can read or write, while more than 60 percent of poor males can read and write. Better education is an important non-income dimension of welfare, and hence there is a strong case for raising educational attainments nationwide. The case for closing the education gap of the poor is even stronger. Our results also indicate that augmenting educational attainment of the poor does not require building more schools, but reducing the poor's opportunity cost of attending schools and increasing their returns from extra schooling, both suggesting the importance of income generating activities as a policy instrument.

Poverty profiles are descriptive tools of analysis that provide broad pointers to policymakers, and are arguably an indispensable first stage of sound policy analysis. Due to the unique breadth of the EIHS, the characterization of poverty in Egypt presented in this study is considerably richer than other existing profiles, and therefore is able to provide more examples of such pointers for targeting poverty-alleviation policies.

Notes

1. This regional classification for Egypt has often been used in the tabulation of data from the Household Income and Expenditure Surveys conducted by the Central Agency for Public Mobilization and Statistics (CAPMAS). It has also been commonly deployed in the Egypt poverty literature; see, for instance, El-Laithy and Osman (1996), Korayem (1994), and Ali *et al.* (1994).
2. Economic theory suggests that individuals respond to fluctuations in income streams by saving in good periods and dis-saving in lean periods. Even though the permanent income hypothesis is often rejected by available data, there is enough consumption smoothing performed by households to render consumption a better measure of long-term welfare. This consideration is likely to be more important for a survey like the EIHS, which obtains measures of income and consumption at only one point in time.

3. A result, which lends some support to this conjecture, is that household survey data have sometimes found that direct estimates of household savings are greater than savings estimated as income *minus* consumption. But there also exist examples where the reverse is true. See Kochar (2000) for a discussion of this issue.
4. Table 3 provides this estimate as well as the estimated level of average consumption in urban and rural sectors by male- and female-headed households. Table 9 lists estimated consumption by industry of employment, table 11 provides consumption estimates by urban and rural sectors and by poor and non-poor households.
5. The term *relatively poor* here indicates all households whose per capita nominal expenditure is less than the median level of nominal per capita expenditure for the entire sample.
6. A transfer of income from a poor person to a poorer person (for example) will not alter either the head-count index or the poverty gap index, but it will decrease the squared poverty gap index. Furthermore (and unlike the Sen, 1976, or Kakwani, 1980, distribution sensitive measures of poverty), the squared poverty gap index satisfies the 'subgroup consistency' property, namely that if poverty increases in any subgroup (say the urban sector), and it does not decrease elsewhere then aggregate poverty must also increase (Foster and Shorrocks, 1991).
7. The population estimate used for 1997 is the 1996 CAPMAS census population estimate.
8. For a documentation of the evidence on this see Lipton and Ravallion (1995). Also see Lanjouw and Ravallion (1995) for a discussion of how poverty-household size relation is modified by the presence of economies of size in consumption.
9. This is the notion of working age commonly used by demographers (see for instance, Shryock *et al.*, 1976). The actual working age of individuals of course depends in part on their standard of living, and can often be lower especially for the poor in developing countries.
10. All differences in school attainment and literacy discussed in this section are statistically significant with *p*-values less than 0.01.
11. Industries are classified into six categories: agriculture and forestry, manufacturing, construction, trade and services, community and personal services, and others. All industries except community and personal services are self-explanatory. The

- community and personal services sector includes activities such as public administration and defense, personal and household services, as well as activities related to recreation and culture.
12. We are unable to assess exactly what partial immunization implies, but it is likely to be context-dependent, and we should expect regional variations in what it represents.
 13. Strictly speaking, children from extreme poor, poor and non-poor households.
 14. Four facilities (primary school, bus stop, paved road, and local shop) are excluded from the table because the travel time for more than 95 percent of the responses (by both poor and extreme poor) is less than half an hour.
 15. This measure of time ignores the mode of transportation. The measure of time to facility only captures travel time and does not control for whether someone travels by foot or vehicle to the facility.
 16. Our presumption is that even if someone does not often use a facility but it is within a half hour, they will know the travel time.
 17. We test for joint differences in the distribution of the three categories (less than half an hour, more than half an hour, and missing) across the two types of persons (either poor and non-poor or extreme poor and not extreme poor). The (non-parametric) test used is the χ^2 test for independence of distributions.
 18. Due to the lack of significance, the poor-non-poor differences are not reported in table 13.

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