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Child Poverty and Disparity Trends in Egypt During 2000-2008[1]

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Abstract:

Investing in children is the best investment Egypt can make. Children's health and well-being determines to a great extent the country's well-being. The trends in child poverty during 2000 - 2008 will be analyzed in this study for the first time in Egypt for all eight dimensions, namely; income aspect of poverty, as well as seven other dimensions of childhood poverty based on different types of deprivation. This study introduces for the first time in Egypt trends and changes applying the Oxford Poverty and Human Development Initiative Measures (OPHD) for children less than 18 years, this is a new method for measuring multidimensional poverty.

The main objectives of this study is to identify the trends of overall child poverty during 2000-2008, to assess the key correlates that affect the dimensions of poverty, and to investigate the changes in Oxford Poverty Measures during 2000-2008. These objectives facilitate the direction and program planning, evaluation, and policy development activities and types of work needed to reduce child poverty. The main sources of data for child poverty analysis are the Household Income and Expenditure Surveys (HIECS) and the Egypt Demographic Health Surveys (EDHS). These surveys are available for the years 2000, 2005 and 2008 and are used in the analysis of this study.

The results of the study shows that more than half of all children less than 18 years live in income-poor families and the situation has worsened over time. Poverty of all sorts remains a highly rural phenomenon.

Education deprivation for children has decreased over time, indicating a steady improvement in Egypt's educational system. Food deprivation reached alarming levels in 2008; not only for households with few assets but also for wealthy families.

The education level of mothers continues to be one of the most important explanations for most kinds of deprivations and thus one of the greatest opportunities to reduce child poverty. Family size still matters and deprivation remains particularly high in households with more than three children. Sex of child does not affect child poverty. Oxford measurements decreased between 2000 and 2008 in both urban and rural areas. However, they are much higher in rural areas than urban ones and are highest in regions of rural Upper Egypt.

[1] This paper is extracted from a report of the same authors titled "Trends of child poverty and disparities in Egypt between 2000-2008" published by UNICEF 2011

I. Introduction

Investing in children is the best investment Egypt can make. Children's health and well-being determines to a great extent the country's well-being. This study concentrates both on poverty and childhood simultaneously. The study furthermore analyzes poverty from a multi-dimensional perspective, and not only from the perspective of lack of income or low consumption. While income is considered an important dimension of poverty, it is but one of eight poverty dimensions that are measured. The findings based on various levels of disaggregation confirm that income poverty and deprivation are not synonymous.

This study follows an earlier study launched in February 2010 entitled *"Child Poverty and Disparities in Egypt"*. To generate the results seen in this study, the same child poverty definitions were used. The importance of studying trends in child poverty stems from the fact that persistent and high levels of social and economic deprivation during childhood – poor nutrition, untreated illness, lack of access to education – diminishes the capacity for strong and stable human development in ways that are often irreversible.

The trends in child poverty during 2000 - 2008 will be analyzed in this study for the first time in Egypt for all eight dimensions, namely; income aspect of poverty, as well as seven other dimensions of childhood poverty based on different types of deprivation. Additionally, the analysis has been taken a step further by observing trends across all dimensions of poverty and tracing their correlates over the 2000 to 2008 period. ***Furthermore, the study introduces for the first time in Egypt trends and changes applying the Oxford Poverty and Human Development Initiative Measures.***

1.1 Child poverty as a multifaceted phenomenon

Monetary and non-monetary definitions of poverty were considered complementary and both should be given equal measure. The monetary approach is the most widely used in identifying and measuring poverty. However, children living in poverty are deprived of many of their rights: to survive, develop, participate, and to be protected. In order to operationalize the rights-based approach to childhood poverty, this study uses a series of non-monetary indicators – known as the "Bristol Indicators" – to measure children's fulfillment of their basic rights (nutrition, water, sanitation, health care, shelter, education and information). Where a child does not have access to one of these rights – such as basic education - it is deemed a ***Severe Deprivation***. When children experience deprivation in two or more categories, they are considered to be living in ***Absolute Poverty***.

This study furthermore introduces for the first time in Egypt the ***Oxford Poverty and Human Development Initiative*** measures. This is a new method for measuring multidimensional poverty and was developed at the University of Oxford and proposes a counting approach for measuring multidimensional poverty. It satisfies useful properties such as decomposability[2], and by enabling decomposability across individuals and dimensions, the measure is beneficial in guiding good policies.

[2] Decomposability means the ability to be disaggregated by different sub groups. This allows to measure the contribution of each sub group to overall poverty level

1.2 Objectives of the Study

This study is the first attempt to analyze the trend of child poverty -from its different dimensions- in Egypt. Additionally, it introduces for the first time in Egypt the ***Oxford Poverty and Human Development Initiative*** measures for children less than 18 years. It analyzes poverty from a multi-dimensional perspective, and not only from the perspective of lack of income or low consumption.

The empirical analysis presented in this study has four important functions:

1. Identifying the trends of overall poverty and distribution of poverty during 2000-2008, and indicating the direction and types of work needed to reduce it;
2. Isolating key correlates and some of the ways in which they determine and affect dimensions of poverty. This will provide guidance and a testable hypotheses for detailed sector-level work;
3. Investigating the changes in Oxford Poverty Measures during 2000-2008.
4. Highlighting trends that provide invaluable information for needs assessments, program planning, evaluation, and policy development activities.

More specifically, information in this study aims to provide answers to the following questions:

1. What are the trends in the prevalence of various dimensions of poverty during 2000-2008?
2. How much progress has been made in these different dimensions of poverty?
3. What are the main factors affecting different dimensions of child poverty?
4. How have disparities in terms of specific categories such as sex of child, geographic areas, quintiles of wealth, etc. changed over time?
5. What are the main correlates of child poverty across different geographic areas, quintiles of wealth, sex of child, etc.?
6. How does the change in child poverty during 2000-05 compare with changes in child poverty during 2005-08?
7. How much have the Oxford poverty measures changed during 2000 – 2008?

1.3 Data used in the study:

The availability of unit data on highly comparable household surveys allows us to investigate child poverty trends in Egypt. The main sources of data for child poverty analysis are the ***Household Income and Expenditure Surveys*** (HIECS) by the Central Agency for Public Mobilization and Statistics (CAPMAS) and the ***Egypt Demographic Health Surveys*** (EDHS) by the Ministry of Health (MOH). Fortunately these surveys are available for the years 2000, 2005 and 2008 and are used in the analysis of this study.

II. Trends in income poverty

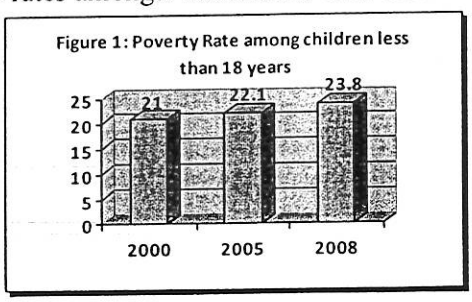
Income poor are defined as people who cannot satisfy their basic food and non-food needs. More specifically, the cost of such essential food and non-food needs is estimated, which defined the "poverty line" and consumptions of various households are measured against this benchmark. If household consumption[3] is below the poverty line, all members of the household are considered poor.

The *poverty rate* represents the proportion of the population that fall below the poverty line or who are classified as "poor." In 2008-09, a person who spent less than LE 1,648 per year (LE 134 per month) in Egypt was considered *extremely poor* and those who spent less than LE 2,223 (LE 185 per month) were considered *poor*. Poverty lines vary according to the number of persons in a household, the age of household members, and regional differences in relative prices.

Monetary poverty is measured at the household level and children living in poor households are considered poor from a monetary perspective. Similar to deprivations in water, sanitation and shelter, monetary poverty rates are defined as the percentage of children living in poor households.

Using the national poverty line as a barometer, during 2000 and 2009, the percentage of children living in households below the poverty line steadily increased from 21.0 percent in 1999-2000 to 22.1 percent in 2004-05. These numbers peaked at 23.8 percent in 2008-09. The number of children living in poverty also increased; in 1999-2000, there were 5.678 million poor children, which increased to 6.278 million in 2004-05 and to 7.0 million in 2008-09. In fact, the number of poor children increased annually by 2.0 percent during 1999-2005 and by 2.9 percent in the 2004-2009 period.

It should be noted that differences in poverty rates amongst households with children and amongst children as a population group are wider in 2000 compared to 2008, suggesting that poorer households have fewer number of children these days. Also, the poverty gap, which is the average distance to the poverty line, increased continuously between 2000 and 2008. This is true for families with children as well as all families in Egypt.



[3] As in previous poverty reports for Egypt and in most developing countries, household consumption is considered as the welfare measure.

Table 1: Income poverty rate and poverty gap (in percentages), 1999/2000-2008/09

	Poverty Rate			Poverty Gap	
	All households	Households with children	Children	All households	Households with children
1999/2000	16.7	18.9	21.0	3.0	3.4
2004/05	19.6	21.7	22.1	3.6	4.0
2008/09	21.6	23.7	23.8	4.1	4.6

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

Table 2: Number of children living in poverty (thousands), 1995/1996-2008/09

Poverty lines	1995-1996	1999-2000	2004-2005	2008-2009
According to the national poverty line	6,036	5,678	6,268	7,030
According to the international poverty line (US$1)	2,389	1,249	1,425	1,442
According to the international poverty line (US$2)	16,981	14,152	14,783	15,630

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

The Gini coefficient increased from 34.5 to 36.2 during 1995-2000, declined to 32 in 2004-05, and fell further to 30 in 2008-09. The share of income and goods consumption by the poorest quintile raised from 8.9 percent to 9.2 percent in the same period, and the share of the top quintile stood at 40.4 percent in 2008-09.

Table 3: Trends in inequality measures (in percentages), 1999/2000-2008/09

Quintiles and Gini coefficient	1999-2000	2004-05	2008-09
Poorest 20%	8.6	8.9	9.2
20-40%	12.1	12.6	13.1
40-60%	15.4	16.0	16.3
60-80%	20.4	20.8	20.9
80-100%	43.6	41.7	40.4
Share of poorest quintile in national consumption	8.6	8.9	9.2
Ratio of share of richest quintile in national consumption to share of poorest quintile	5.1	4.70	4.4
Gini Coefficient among all households	0.34	0.32	0.31
Gini Coefficient among households with children	0.31	0.29	0.28
Gini Coefficient among children	0.31	0.29	0.27

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

Even though poverty seems to be deepening, poverty in Egypt is shallow, meaning that a large percentage of the poor are clustered just below the poverty line while many of the non-poor are found just above it. Therefore, any small change in household consumption can affect the poverty and the consequent poverty rates.

Moreover, declining income distribution is often observed during periods of slow economic growth, and in relation to poverty trend reports in Egypt: when real consumption declines, inequality improves. One explanation for this is that the consumption level of the poor is already low and there is little room for it to fall any lower, which is what happened in Egypt during the two periods under consideration.

There are several reasons for the observed trends in poverty rates and income distribution. First, Egypt experienced positive growth rates in real GDP between 2000 and 2009, but growth was coupled with high inflation, especially for goods and services consumed by the poor. Thus, per capita consumption deflated by the poverty line (as a welfare measure) has declined, which indicates that macroeconomic achievements have not been successful in reducing poverty levels.

Second, in April 2008, the Egyptian Government responded to price increases through expansion of the food subsidy system. Due to the dramatic escalation in food prices in Egypt and around the world, the Government of Egypt introduced several measures to redirect benefits towards those who required them most.

These measures included separating the production and distribution of Balady bread; re-opening the registration system for newly born children to ensure their inclusion in the ration card system; removal of food items not in demand; increased quotas at higher subsidized rates; the piloting of the smart card system, and expansion of social assistance coverage.

As a result of these changes, the food subsidy bill was increased from LE16.4 billion in 2007-08 to LE21.5 billion in 2008-09, and the government incurred a high fiscal cost of 2.1 percent of GDP in 2008-09 (IMF 2009, Ministry of State for Economic Development and the World Bank 2007, World Bank 2009 and UNDP 2009).

While poverty amongst families without children increased significantly during the period of investigation, the risk of deprivation remains particularly high in households with more than three children; in 2008 almost 41 percent of children living in households with three or more children were poor, compared to 13 percent for households without young children. Although poverty rate increased for all household classifications, poverty rates were disproportionally higher amongst households with one-three children.

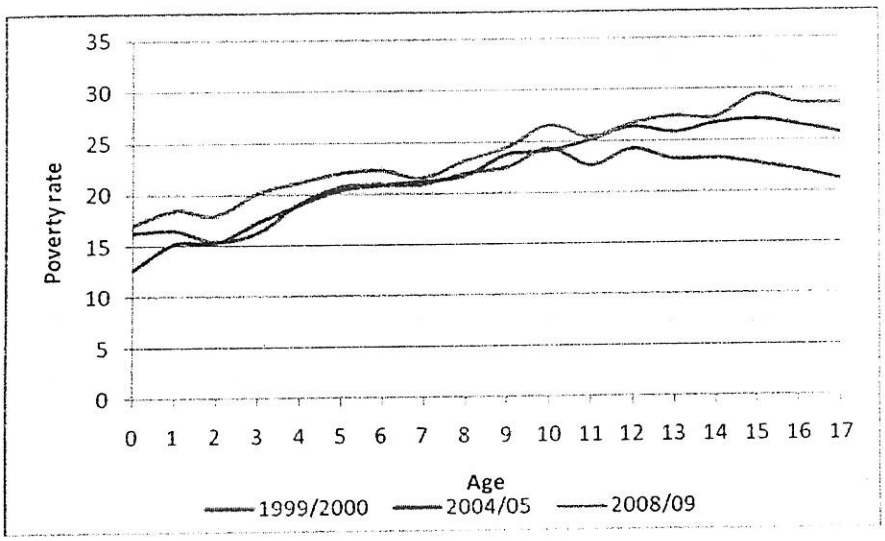
Table 4: Poverty rates according to different types of households (in percentages), 1999/2000, 2004/2005 and 2008/09

	1999/2000	2004/2005	2008/09
Households with no children	3.0	9.3	13.5
Households with 1-3 children	9.9	15.6	19.3
Households with more than three children	34.9	37.8	40.7

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

Although children have higher probability of experiencing income poverty, the risk of poverty increases with age and is highest amongst children in the 15-17 age group. Poverty is higher for children in all age groups in 2008/09, while poverty rates were similar in 2000 and 2005 for children aged less than 10 years.

Figure 2: Poverty rate by age (in percentages), 1999/2000-2008/09



The likelihood of experiencing income poverty increases as household size[4] increases, and this observation holds across all age groups. In 1999-2000, households with seven or more members had the highest poverty rates at nearly 34.4 percent, and these increased over time to reach 44.5 percent in 2008. Although poverty rates increased between 2004-2005 and 2008-09, poverty rates declined in households with less than 5 members.

[4] Household size is different than the number of children in households.

Table 5: Poverty rate by household size (in percentages), 2000-2008

Number of members in household	Poverty amongst children			Poverty in households with children		
	2000	2005	2008	2000	2005	2008
Less than 3	1.5	2.4	1.6	1.5	2.4	1.6
3-4 members	3.6	6.2	6.0	3.4	6.3	6.0
5-6 members	12.7	16.5	17.3	12.0	17.1	17.7
7+	37.4	45.2	45.3	34.4	44.7	44.5

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

In terms of geographic location, children in rural areas of Upper Egypt have a significantly higher probability of experiencing income poverty compared to other regions. The lowest rates of poverty are seen in urban areas in Lower Egypt, which boasted the lowest rate in 2008. Most regions follow the national trend of increased poverty over time, with the exception of urban areas and frontier regions. The ratio between the poverty rates of the most deprived is six times the least deprived regions.

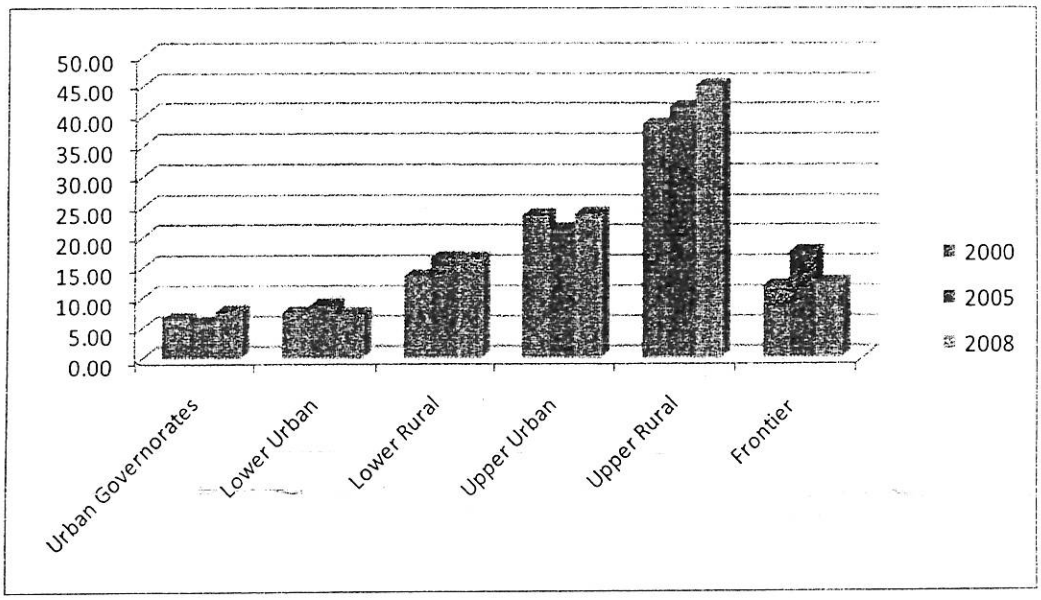
Table 6: Poverty rate by region[5] (in percentages), 2000-2008

	Amongst children			In households with children		
Region	**2000**	**2005**	**2008**	**2000**	**2005**	**2008**
Urban governorates	6.7	6.0	7.9	6.3	6.6	8.1
Lower Urban	7.7	8.9	7.5	7.2	9.7	7.9
Lower Rural	13.7	16.7	16.6	12.9	17.5	17.6
Upper Urban	23.7	21.4	24.0	22.1	21.0	23.7
Upper Rural	38.7	41.5	45.1	36.5	41.4	45.3
Frontier	12.0	17.6	12.5	12.9	18.0	14.5

Source: Author's calculations using Household Income, Expenditure and Consumption Surveys, 1995-96, 1999-2000, 2004-05 and 2008-09.

[5] Geographically, Egypt is divided into seven regions: Urban governorates, Lower Urban and Lower Rural, Upper Urban and Upper Rural, and Frontier Urban and Frontier Rural. Urban governorates region includes Cairo, Alexandria, Port Said and Suez, Governorates, Lower Egypt includes Damietta, Dakahlia, Sharkia, Qalubia, Kafr El-Sheikh, Gharbia, Menufia, Beheira and Ismailia Governorates, Upper Egypt region includes Giza. Beni-Suef, Fayoum, Menia, Assiut, Sohag, Qena, Aswan and Louxor Governorates. Frontier region includes Red Sea, El Wadi El-Gedid, Matrouh, North Sinia and South Sinai Governorates.

Figure 3: Poverty rates amongst children by region, 2000-2008.



III. Trends in Deprivation based-measures

The deprivation based-approach utilizes data from the national Demographic and Health Surveys (DHS) conducted in 2000, 2005 and 2008. Because the data and methods used are consistent, results can be directly compared to each other.

3.1 Education deprivation

Low education levels perpetuate poverty and lead to a vicious cycle of destitution and poor education, which is transferred from one generation to the next. As a result, education is considered one of the most powerful instruments for reducing childhood poverty over time. Previous studies have shown that the importance of education – particularly primary education – in advancing economic and social development and reducing poverty, is well documented.

Education deprivation for children has decreased over time, indicating a steady improvement in Egypt's educational system.

Educationally deprived children, according to the Bristol definition, ***are those above the age of six who never attended school or are not currently enrolled in an academic programme*** (and hold no professional education of any kind). Data presented in Figure 4 show that slightly less than one tenth of all children (almost 1.2 million children nationwide) between the ages of 7-17 experienced education deprivation in 2000. This percentage; however, decreased to 4.3 percent in 2005 (654,000 children aged 7-17) and to 3.2 percent in 2008 (490,000 children). These decreasing numbers provide evidence that Egypt's educational system has steadily improved in terms of expanding the availability and accessibility of education services since 2000.

To further assess the decline in education deprivation over time, the annual percentage change should be examined between the 2000-05 and 2005-08 periods. Data indicates that the annual percentage decline amongst children between 2000 and 2005 reached an average of 0.09 percent. This percent reached 0.08 during the second period. This illustrates that education deprivation amongst children decreased by almost the same pace during the two periods.

High public and private investment in education over the last two decades has increased the educational levels of young Egyptians, both male and female. The new challenges are to improve the quality of education and to ensure the development of a well-functioning labor market that can absorb and benefit from the large number of new – and highly educated – entrants.

In 2004, Egypt participated for the first time in the Trends in Mathematics and Science Study (TIMSS) for 8th grade students, which provided an opportunity for viewing the quality of educational achievement in Egypt on an international scale. Egypt scored a 406 in Math and 421 in Science, which placed the country's 8th graders well below international averages. Between Egyptian students, only 6 percent were "high" performers in Math and 10 percent in Science, and over 40 percent failed to achieve even the "low" benchmark. In sum, Egypt's low end is both low and large, creating a sizable cohort of students not fully prepared for the global economy.

The proportion of pupils who reach the last grade of primary school is a good barometer of quality of education and it is one of the MDG indicators. Since 1999, this indicator has been on a downward trend, and reflects high school drop outs, which resulted from low quality of education, see Figure 4.

3.2 Shelter Deprivation

Overcrowded living conditions are stressful for people from all age groups, and they have a particular impact on poor cognitive development, behavioral problems, low motivation and delayed psychomotor development in children. The impact of such environmental deprivation is especially critical because of the long-term psycho-social development implications it has on children.

Children who are deprived of shelter ***are those under the age of 18 who live in dwellings with five or more people per room (severe overcrowding) or do not have flooring material (e.g. a mud floor).***

Data presented in Figure 4 shows that 28 percent of Egyptian children in the year 2000 lived in homes with a mud floor or in overcrowded conditions, representing over 7 million children under 18. This percentage decreased to 16.6 percent (almost 4.7 million children) in 2005 and to 14.8 percent in 2008 (4.2 million children) as shown in Figure 4. This can be explained by the fact that the average size of households in Egypt decreased over time, while the type of flooring material used has improved. EDHS survey data demonstrates that the average household size decreased from 5.2 persons in 2000 to 4.9 in 2005 and to 4.6 in 2008. Additionally, data confirms the improvement of flooring material used in Egyptian houses, where the percentage of households with a natural floor decreased by more than half from 20 percent in 2000 to only 9.6 percent in 2008.

Looking at the relative change in the numbers between the two time periods, the data demonstrate that the annual percentage decline of children who experienced shelter deprivation was 0.08 percent during 2000-05, and slowed even further during 2005-08 to only 0.04 percent annually. This means that while shelter deprivation is the most common dimension that children are prone to, the reduction in shelter deprivation became less critical since 2005.

3.3 Water and sanitation deprivation

Access to clean, safe water and adequate sanitation are vital for the survival and healthy development of children, and increasing access to improved drinking water is one of the MDGs that Egypt, along with other nations worldwide, has adopted. Children under 18 who experience water deprivation are those ***using water from an unimproved source such as unprotected well in residence or yard or public, surface water (as, Nile and canals), tanker truck or cart with small tank or whom it takes 30 minutes or more to get water and come return home.*** Children who suffer from sanitation deprivation ***are those who live in houses with pit latrine, bucket toilet or no facility.***

There is a marked decline in the prevalence of sanitation deprivation amongst children between 2000 and 2008, while no significant decline is observed regarding water deprivation between 2005 and 2008.

Data presented in Figure 4 show the steady improvement in Egyptian sanitation facilities between 2000 and 2008, where the number of children who experienced sanitation deprivation in 2000 fell from 7.4 percent (1.9 million children), to 2.6 percent in 2005 (722,000 children) and less than one percent (226,000 children) in 2008. Regarding the annual percentage change amongst children who experience sanitation deprivation, data indicates that the percentage of children suffering from sanitation deprivation decreased by 0.13 percent per year during 2000-05 and 0.23 percent during 2005-08.

The situation is different for water, where the percentage of children who experienced water deprivation declined significantly between 2000 and 2005, while the reduction is almost trivial between 2005 and 2008. The prevalence of water deprivation amongst children under 18 in 2000 was 5.1 percent (1.3 million children), and this percentage decreased to 3.7 percent in 2005 (one million children) and then decreased to only 3 percent in 2008 (857,000 children). However, looking at the annual percentage change for children who suffer from water deprivation, data shows that there is no difference since the annual reduction rate reached 0.06 percent in both periods.

3.4 Food deprivation

Food poverty is one of the biggest challenges out of all eight dimensions of poverty. Nutritional status is a primary determinant of a child's health and well-being, and one of the main causes of child poverty is malnutrition, which affects the future educational level of children and potential for future development.

Severe food deprivation is measured by ***the proportion of children under five whose height and weight for their age are below minus three standard deviations from the***

median of the WHO International Reference Population indicators. The levels of stunting, wasting and underweight for children seen in EDHS surveys between 2000 and 2008 indicate that both chronic and short-term malnutrition is prevalent amongst Egyptian children.

There is both chronic and short-term malnutrition amongst Egyptian children under the age of 5, which has increased steadily over time.

Regarding stunting, EDHS data demonstrates that the prevalence has remained constant between 2000 and 2005, before increasing significantly in 2008. For wasting and underweight children, data indicates there has been a steady increase in these cases over time. The prevalence of severe food deprivation was 6.7 percent in 2000 (509,000 children under the age of five), and this figured jumped to 17 percent in 2008 (1.5 million children).

As will be explained in more detail later, trends in food deprivation show high correlation with income poverty trends. These results may thus be explained by factors that affect malnutrition, and which may be a consequence of low income levels. However, there are many reasons for an increase in the prevalence of severe food deprivation. One possible explanation could have been the anthropometric measures adopted in 2006 by the World Health Organization, and applied for the 2008 EDHS, are different from the years before.

However, even when the old reference population was applied, the percentage of stunted children still increased in 2008 if compared to the percentage of children who suffered from stunting in 2000 and 2005. Accordingly, the percentage of children who experienced food deprivation increased in 2008 but to a lesser extent. As El-Zanaty and Way, (DHS Report 2008) mentioned "One factor which may in part be responsible for the increase was the abrupt distribution in the supplies of poultry and eggs that followed the culling of millions of chickens and other poultry in response to the Avian flu outbreak Egypt experienced in 2006."

The data shows that the percentage of children under five who suffered from severe food deprivation increased on average by 0.02 percent per year during the period 2000 and 2005, compared to a 0.43 percent annual increase between 2005 and 2008.

3.5 Health Deprivation

There are a number of underlying causes for the poor health status of children under 5. Most of these causes can be prevented through immunizing children against preventable diseases and ensuring that they receive appropriate treatment when they become ill. Children who experience severe health deprivation are defined ***as those children aged between one and five years who had not been immunized against any diseases, or children under the age of five who had recently suffered from an illness involving diarrhea or pneumonia and had not received any medical advice or treatment*** (for diarrhea: any homemade treatment including Oral Rehydration Therapy).

Data in Figure 4 shows that the risk of experiencing health deprivation increased from 2.9 percent to 5.4 percent between the 2000 and 2005 period (223,000 and 492,000 children respectively), while it decreased again by almost 45 percent in 2008 to

bottom out at 2.4 percent (216,000 children under 5). This can be explained by the short decrease in the number of children immunized between 2000 and 2005 (as indicated by EDHS reports), then a marked increase in immunizations in 2008, immunization coverage increased again due to the national expansion of the national Expanded Programme of Immunization.

Regarding the annual percentage change amongst children who experienced health deprivation, data reveals that the percentage of children under five who suffered from severe health deprivation increased annually by 0.16 percent during 2000 and 2005, before declining by a higher 0.19 percent during the 2005 and 2008 period.

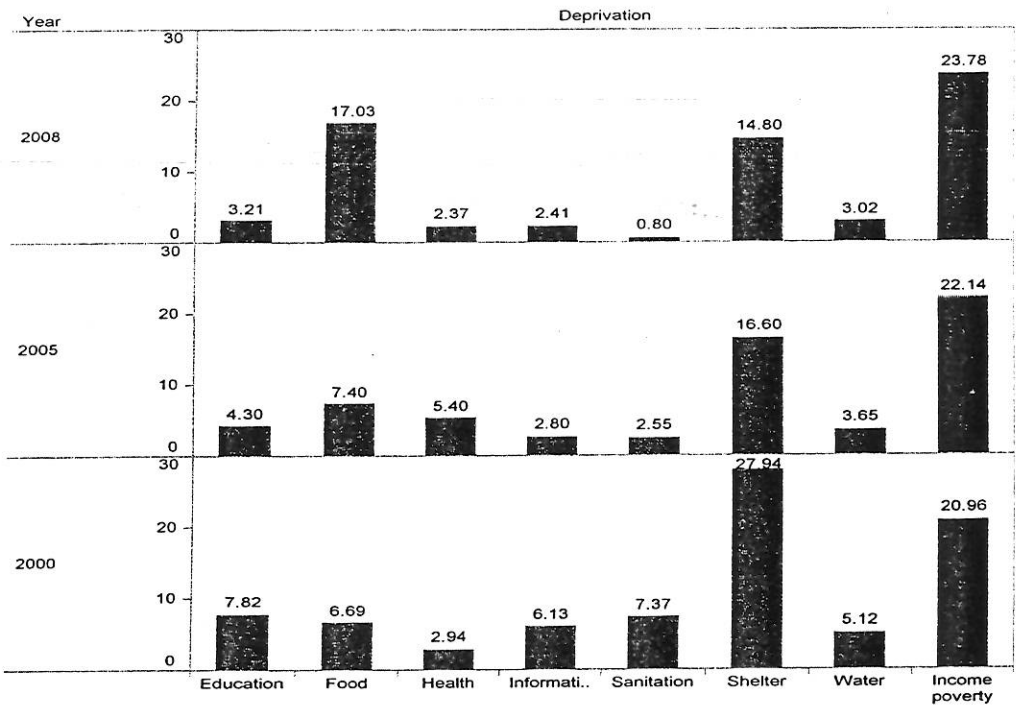
3.6 Information deprivation

The exposure of children to broadcast and print media is very important, as mass media is extensively used in Egypt to convey health and education messages, as well as economic and political information. Information helps to create capacity development opportunities for children.

Children experiencing severe information deprivation are defined as ***those who above 2 years who live in households with no radio, television, telephone, and computer at their homes.*** Data presented in Figure 4 shows that severe information deprivation decreased by more than half between 2000 and 2005 from 6.1 percent (1.36 million children) to 2.8 percent (639,000 children). This strong improvement came to a halt in the next period, where we observe only a very small change.

Data indicates that the number of children who experienced information deprivation decreased by 0.11 percent per year during 2000-2005, while the pace of decline slowed between 2005-2008 as it reached 0.05 percent annually.

Figure 4: The prevalence of different dimensions of deprivations amongst children under 18 (in percentages), 2000-2008



IV. Factors affecting child poverty (Income and Non-Income poverty)

4.1 Wealth quintiles

The Demographic and Health Surveys carried out in Egypt collect information about durable goods ownership and housing conditions that are required to calculate the wealth index. The wealth index is a reliable proxy to gauge the long-term standard of living within a household, and households are divided into five quintiles with the same number of households in each (i.e. approximately 20 percent of the household population is in each wealth quintile).

Less than one percent of children found in the wealthiest quintile are at risk of experiencing any type of deprivation.

Data presented in Figure 5 shows that the wealth status of households represented by the assets approach has a substantial effect on the deprivations children experience over time. The risk of deprivation is highest for children who live in households with the least amount of wealth, while children in the richest households rarely experience any kind of deprivation. Very small percentages of children (less than one percent) from the wealthiest quintile are at risk of water, shelter and educational deprivation. Additionally, no children in the wealthiest quintile are at risk of experiencing information and/or sanitation deprivation.

With reference to education deprivation, data from 2000 shows that 20.5 percent of children in the poorest quintile were at risk of education deprivation, while this percentage dropped to 12.7 and 9 percent in 2005 and 2008 respectively. In contrast, these percentages reached only 0.5, 0.6 and 0.8 percent respectively amongst children in the richest quintile. Accordingly, we can conclude that household wealth is a strong explanatory factor for education deprivation.

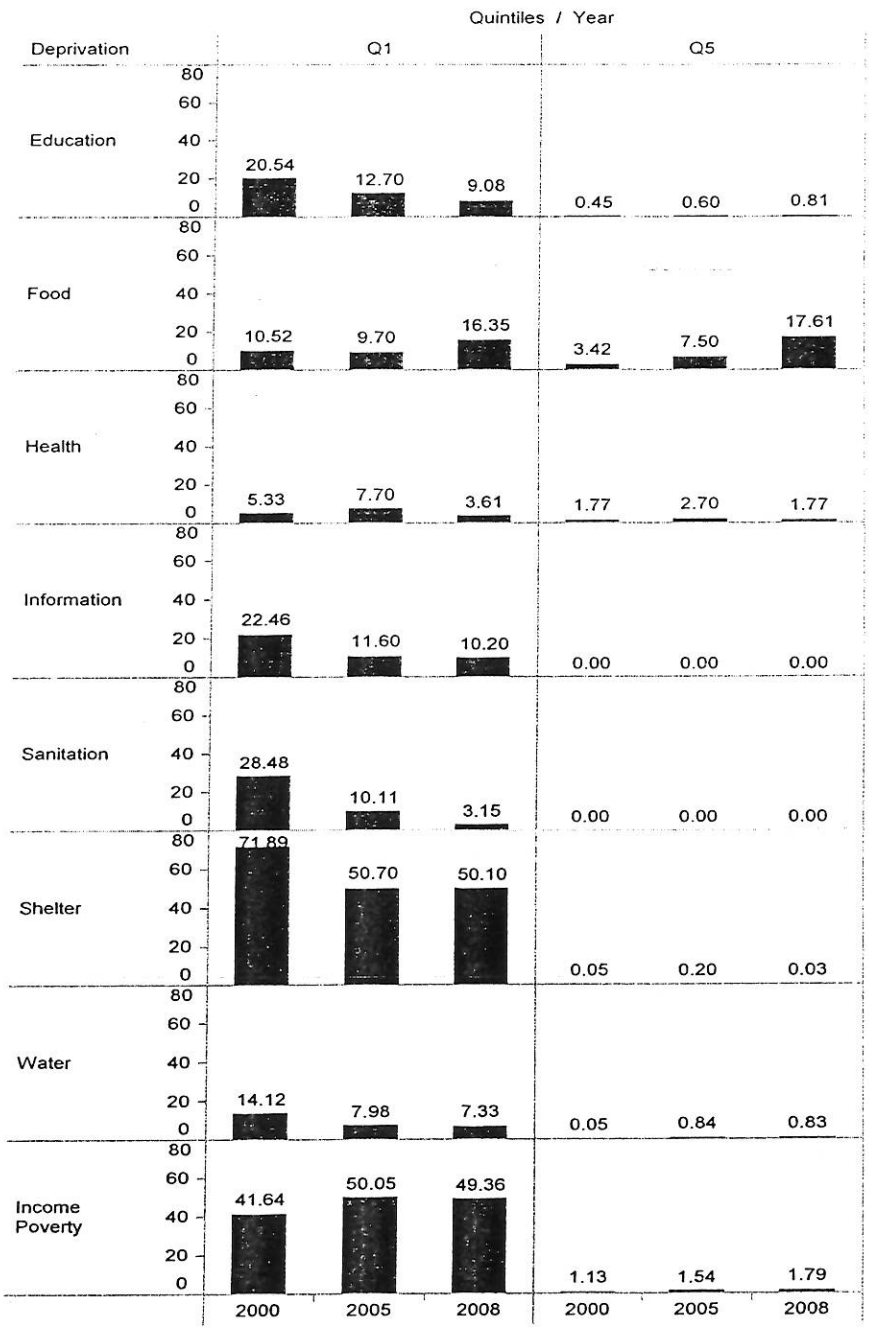
Shelter deprivation is also highly correlated with the wealth index as shown in Figure 5. Almost no children in the richest quintile experienced shelter deprivation, while close to three quarters of children in the poorest quintile in the year 2000 experienced shelter deprivation. This percentage decreased over time, and dropped to 50 percent by 2008.

The improvement in reducing the number of children at risk of sanitation deprivation is markedly apparent in Figure 5. While a decade ago 28 percent of children in the poorest quintile suffered from sanitation deprivation, only 3 percent of children in the same quintile suffered from similar sanitation risks in 2008. Comparable results were observed regarding information deprivation. The risk of food deprivation is the only measure that has not improved over time and where the percentage of children who experienced food deprivation actually increased, particularly amongst children in the fifth quintile. It should also be noted that food deprivation was strongly correlated with wealth in 2000, but data in 2008 does not show any correlation between food and wealth indicators.

There is a considerable difference in the percentage of income poverty seen amongst children in the poorest and wealthiest quintiles, which indicates a high association

between income poverty and asset poverty that represents a proxy of long term poverty. Almost half of all children in the poorest quintiles are considered poor according to income poverty standards, while less than 2 percent of children in the wealthiest quintile are deemed poor when using the monetary definition.

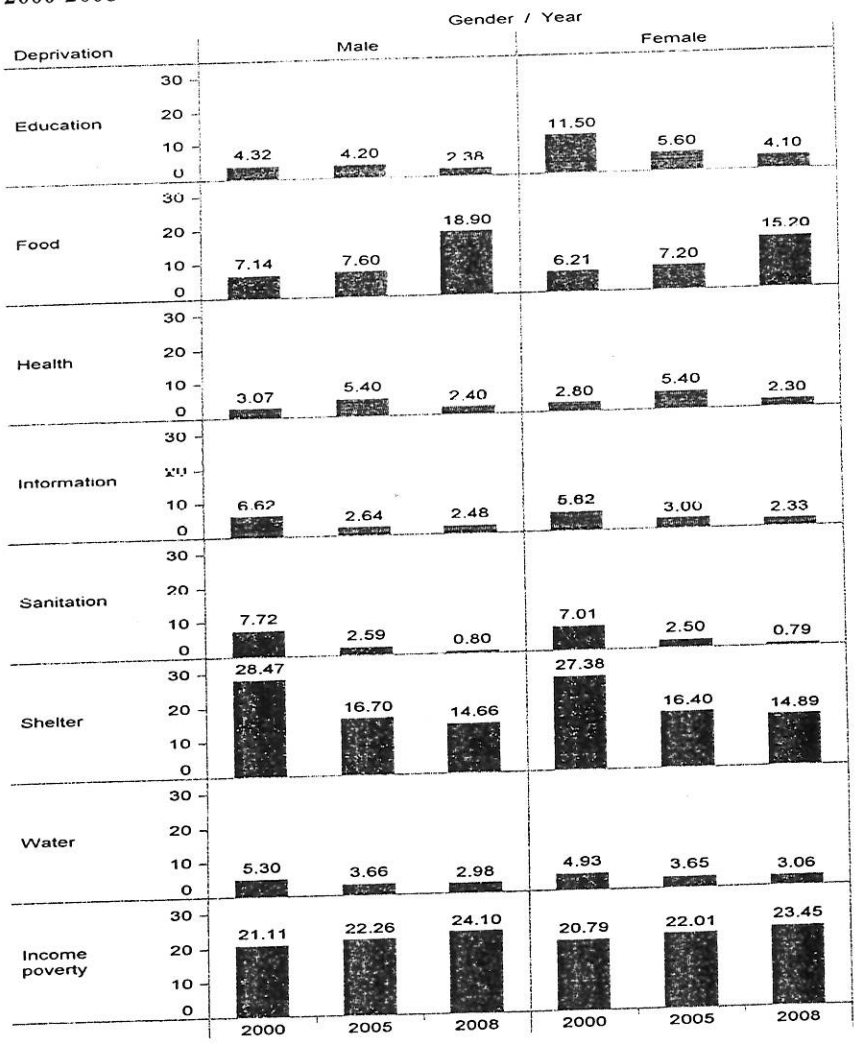
Figure 5: The different dimensions of deprivation amongst children under 18 years (in percentages), by wealth quintiles, 2000 -2008



4.2 Sex of the child

Data presented in Figure 6 shows the disparities between boys and girls who experienced different types of deprivation, and the data suggests that there are only slight differences between male and female children concerning all dimensions of childhood poverty at any point in time. It should be noted; however, that most of the deprivations are calculated at the household level, namely: income, shelter, sanitation. water and information deprivation, and no differences could be observed. On the other hand, when other forms of deprivation are calculated taking deprived children into consideration, certain aspects can be distinguished according to sex. There are differences in the percentage of education, food and health deprivation between boys and girls. Regarding education, for example, girls are more deprived than boys, and the percentage of girls who experienced education deprivation in the year 2000 reached 11.5 percent, and this decreased to 5.6 percent in 2005 and 4.1 percent in 2008. The corresponding figures for boys are 4.3 percent, 4.2 percent and only 2.4 percent. Accordingly, the percentage of girls who experienced education deprivation is almost twice that of boys in the same time period. Looking at the gender gap over time, data shows that the gap decreased from 2.7 percent in 2000 to 1.7 percent in 2008.

Figure 6: The different dimensions of deprivation amongst children under 18 , by sex, 2000-2008



4.3 Mother's educational level

The educational level of a child's mother is strongly correlated with the child's overall well-being. Parental awareness regarding health-care given to children, including nutrition, education, etc., is highly correlated with the educational level of parents, mothers in particular. This trend is seen in all years under observation and the data confirm that a lack of education is transferred from one generation to the next.

Improving educational level of mothers is one of the most powerful ways to reduce childhood poverty regardless of the dimension of poverty used; the only exception being food deprivation, which is not affected by mother's education.

Figure 7 shows that almost 13 percent of children whose mothers have no education experienced varying levels of education deprivation in the year 2000, while this percentage is equal to only 0.25 percent amongst children whose mothers have secondary education or higher in the same year. These results remained constant during the 2000 to 2008 period.

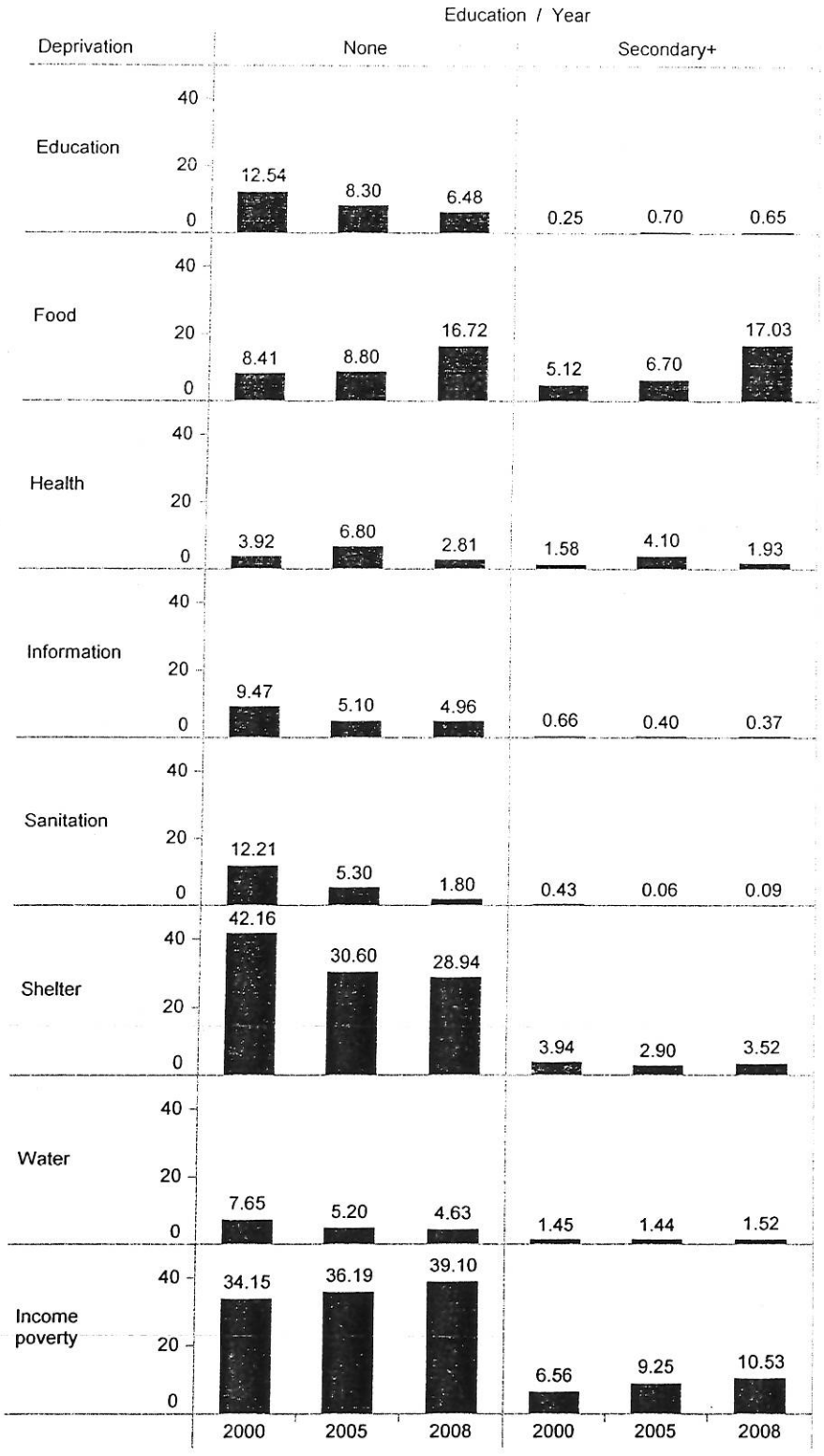
Interestingly enough, the educational level of a child's mother does not increase or decrease the potential for children to suffer from food deprivation. Data presented in Figure 7 shows that there has been a slight decline in the percentage of children who experience food deprivation especially for children with non-educated mothers.

Almost 9 percent of children with uneducated mothers experienced food deprivation in 2000 and 2005, while these percentages stood at 6.7 percent for children with mothers who have secondary education or above. In the year 2008, the percentage of children who experienced food deprivation reached 17 percent for both illiterate and educated mothers. The high rate of food deprivation in 2008 was previously explained by the introduction of a new reference population in that year, as well as the use of innovative methods to calculate the stunting level amongst children under the age of 5.

All housing characteristics are highly affected by mother's education. The data demonstrates that the number of children who suffer from sanitation, water and shelter deprivation are highly affected by the educational level of their mothers.

Differentials in income poverty between children with illiterate mothers and those with educated mothers show that more than one third of children with illiterate mothers are income poor. This is in contrast to the percentage of children whose mothers have secondary education or above, as the percentage who live in poverty reached 6.6 in the year 2000 and increased to around 10 percent in both 2005 and 2008.

Figure 7: The different dimensions of deprivation amongst children under 18 , by mother's educational level, 2000-2008



4.4 Place of residence

Breaking down the deprivations measure according to place of residence, the data reveals that disparities in childhood poverty are clear, especially between urban and rural residences. The percentage of children who experienced any type of deprivation varied considerably according to their place of residence, with the exception of food and health deprivation. The percentage of children who experienced food deprivation in 2005 reached 7.5 percent and increased to 17 percent in 2008 in both urban and rural settings, as shown in Figure 8. However in the year 2000, the prevalence of food deprivation in urban areas was only half of what it was in rural areas (4.4 percent and 8.2 percent respectively).

The percentage of children who experienced any type of deprivation varied considerably according to place of residence in all indicated years except for food and health deprivation.

Concerning all other types of deprivation, the data reveal there has been a marked decline in the percentage of children who suffered from one or more deprivations between 2000 and 2005, while between 2005 and 2008 the decline is much less in both urban and rural areas.

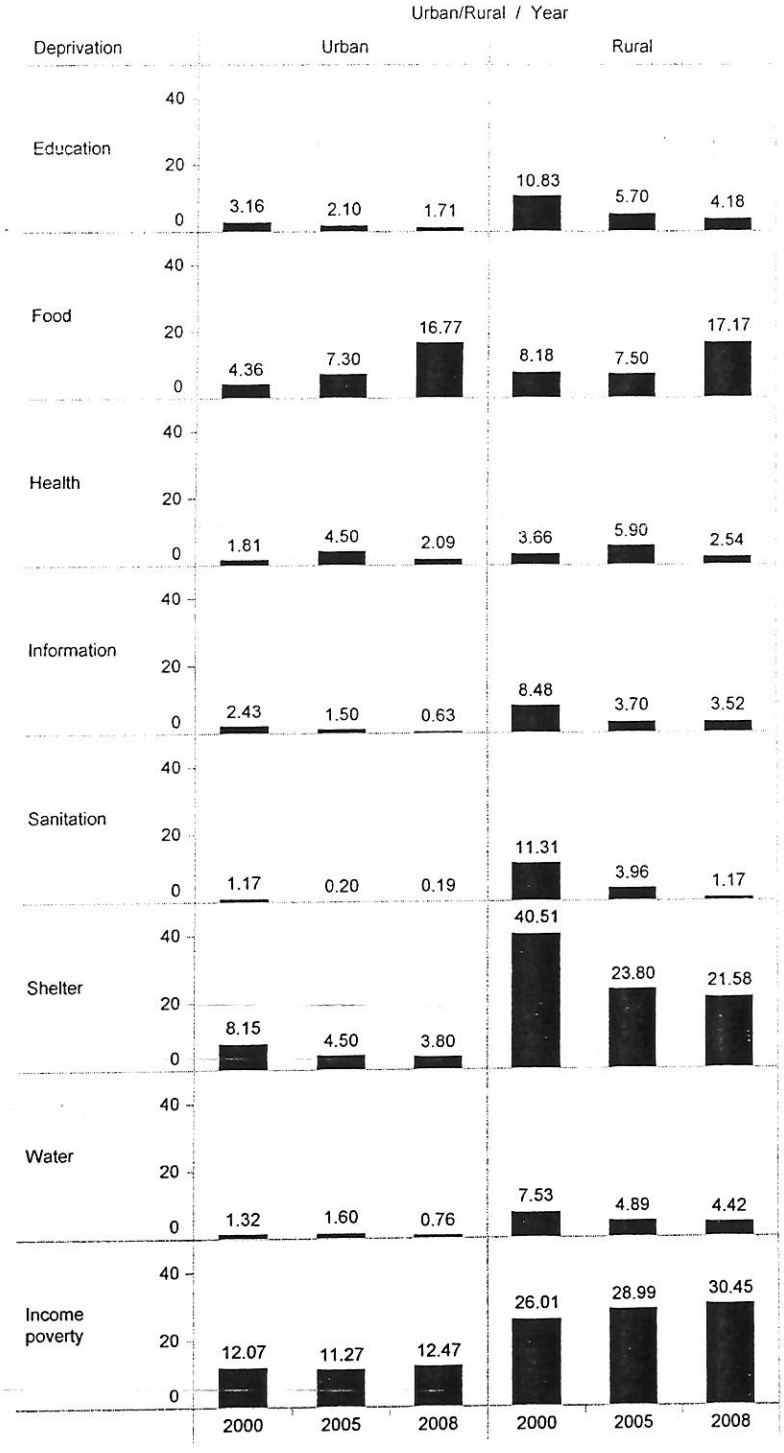
Regarding sanitation, water and shelter indicators, the data tell us that children living in rural areas are at a much greater risk of deprivation than those living in urban areas. For example, the percentage of children who experienced water deprivation reached 7.5 percent in rural areas in 2000, while this percentage decreased to 1.3 percent in urban areas in the same year. Comparatively, in 2008 the percentage of children who suffered from water deprivation in rural areas reached 4.4 percent, while this percentage was less than one percent amongst children in urban areas.

As expected, the percentage of children who suffered from shelter deprivation varied considerably between urban and rural areas; however, the risk of deprivation declined significantly over time. While the percentage of rural children at risk of shelter deprivation reached 40 percent in the year 2000, in urban areas the rate was much less (8 percent). These percentages decreased to 21.6 percent in rural areas and 3.8 percent in urban centers in 2008.

Fundamentally, income poverty is much higher in rural areas than in urban ones. Additionally, there are no changes in poverty rates amongst children who live in urban areas as the percentage of poor children held steady at 12 percent between 2000 and 2008. This percentage did; however, increase in rural areas, where it reached 26 percent in 2000 and rose to 30.5 percent in 2008.

Income poverty did not change amongst children in urban areas, while it increased over time in rural areas.

Figure 8: The different dimensions of deprivation amongst children under 18 , by place of residence, 2000-2008


Urban/Rural / Year
Deprivation
Urban
Rural
Education
3.16
2.10
1.71
10.83
5.70
4.18
Food
4.36
7.30
16.77
8.18
7.50
17.17
Health
1.81
4.50
2.09
3.66
5.90
2.54
Information
2.43
1.50
0.63
8.48
3.70
3.52
Sanitation
1.17
0.20
0.19
11.31
3.96
1.17
Shelter
8.15
4.50
3.80
40.51
23.80
21.58
Water
1.32
1.60
0.76
7.53
4.89
4.42
Income poverty
12.07
11.27
12.47
26.01
28.99
30.45
0
20
40
2000
2005
2008

4.5 Regions

Looking at the disparities between regions, data demonstrates that there are considerable disparities in Egypt, and the differentials between urban governorates and those in rural Upper Egypt reflect more than a simple urban-rural disparity. Figure 9 shows the differences between these two regions taking into consideration all types of deprivation over time.

Food deprivation in urban areas increased such that it now stands at even higher levels than in rural Upper Egypt.

Regarding the risk of food deprivation, the percentage of children who suffered from food deprivation in urban governorates increased from 2.4 percent in 2000 to 15.6 percent in 2008. This means that the percentage of children who experienced chronic or short-term malnutrition increased considerably during the 2000-2008 period in these urban settings. However, the situation is different in rural Upper Egypt where the percentage of children suffering from malnutrition in 2000 was 11.6 percent, and increased in 2008 to only 12.5 percent.

Concerning the risk of information deprivation, Figure 9 shows that a large gap remain between Upper Egypt and urban governorates. The number of children who were exposed to severe information deprivation in rural Upper Egypt was 11.6 percent in 2000 and decreased to 6.2 percent in 2008. In urban governorates, the percentages reached only 1.3 percent and 0.5 percent respectively. These numbers show that children in rural Upper Egypt are severely deprived from accessing most types of information and have little to no access to different types of mass media compared to their peers in urban governorates.

There has been an improvement in the availability of sanitation facilities in deprived regions during the 2000-2008 period, while providing children and their families with access to clean and safe water has not improved overtime.

Although safe drinking water and the availability of adequate sanitation facilities are vital for the health of children, there is still a large gap between rural Upper Egypt and urban governorates regarding the risk of severe water and sanitation deprivation. In spite of this; however, there has been a clear improvement in sanitation facilities over time, while almost no improvement has been seen regarding the risk of water deprivation. Figure 9 tells us that although 20 percent of children in rural Upper Egypt in the year 2000 experienced severe sanitation deprivation, this percentage decreased to 2.2 percent in year 2008. This demonstrates the improvement in the availability of sanitation facilities in deprived regions between 2000 and 2008. The situation is different; however, regarding the risk of water deprivation, where almost 5 percent of children in rural Upper Egypt experienced severe water deprivation during the same period. This confirms that access to clean and safe water has not improved over time.

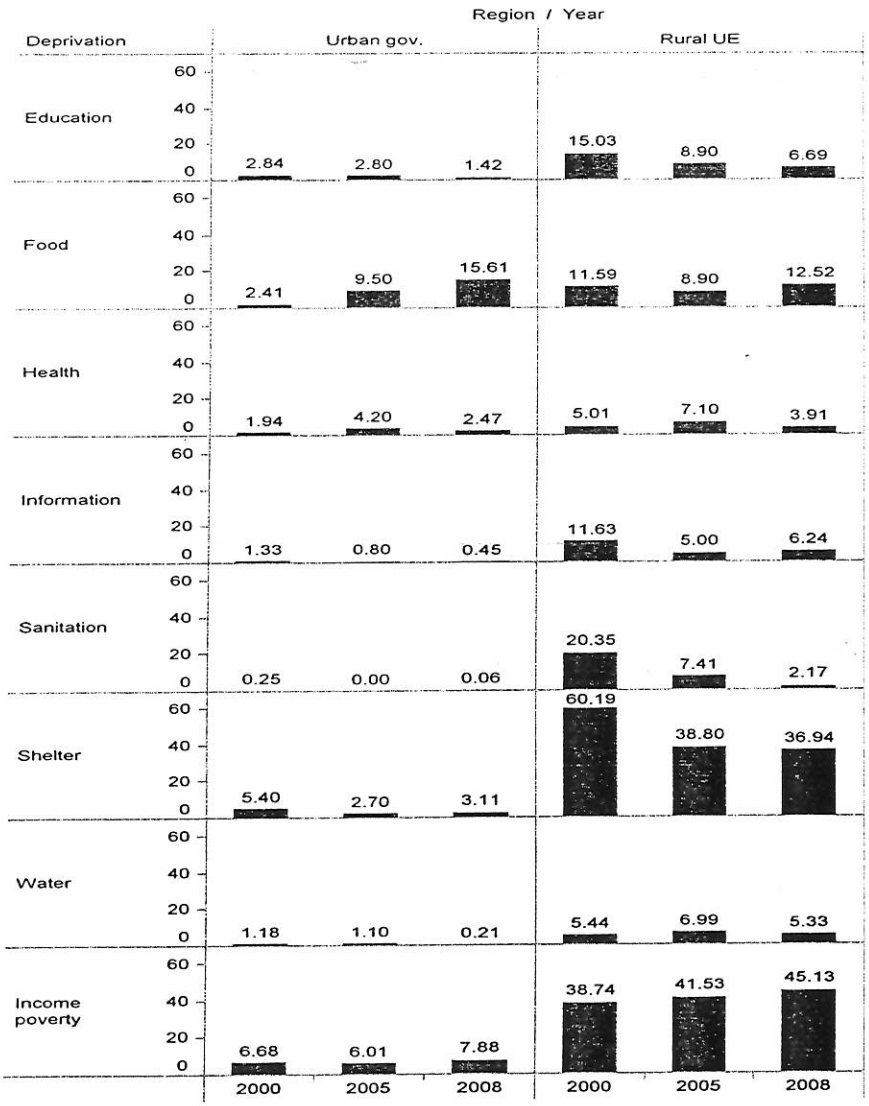
Inspite of steady progress in lowering the risk of shelter deprivation amongst children in rural Upper Egypt between 2000 and 2008 (60 percent vs. 37 percent respectively), more than one third of children in this region continues to live in overcrowded houses

or houses with mud floors. The corresponding figures in urban governorates are 5.4 percent and 3.1 percent respectively.

Large gaps in income poverty between children in urban and rural governorates have increased over time.

As previously mentioned, income poverty did not change in urban areas, though it did increase amongst children in rural areas. The situation becomes clearer when taking a close look at the regions. Figure 9 shows that children living in income poverty remained steady at 7 percent in urban governorates, while it increased from 38.7 percent in 2000 to 45.1 percent in 2008 amongst children living in rural Upper Egypt.

Figure 9: The different dimensions of deprivation amongst children under 18, by region, 2000-2008



V. Percentage Change in Child Poverty

This section presents the changes seen in children being at risk of poverty during the 2000-2008 and 2005-2008 periods. The risk of poverty is measured by three dimensions: income poverty, severe deprivation and absolute poverty. Children who experience at least one of the seven non-income dimensions of deprivation are considered severely deprived. If a child experiences two or more types of non-income deprivation, that child is categorized as living in absolute poverty.

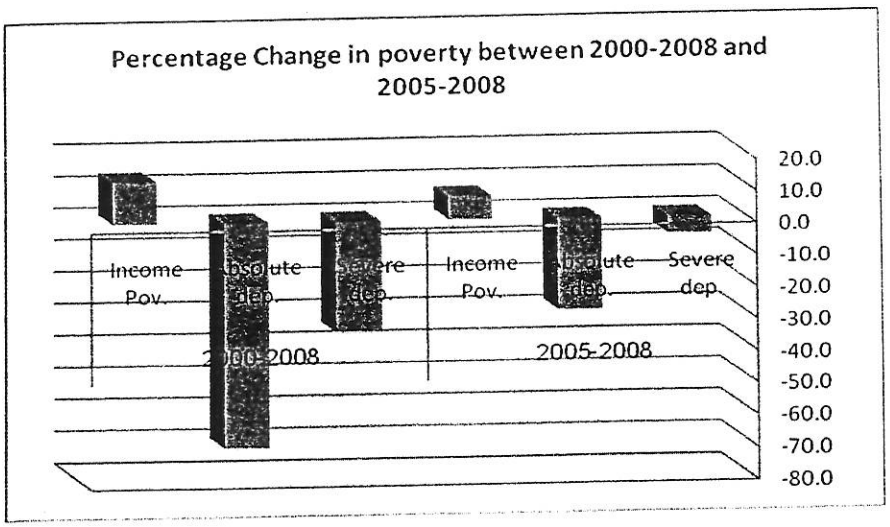
The aim of the comparison between the two indicated periods is to note any improvements or regression in the prevalence of poverty measured by the three dimensions, and the relation of this improvement (or decline) according to children's characteristics such as mother's level of education, wealth quintiles and place of residence.

Figure 10 shows that severe and absolute poverty alone do not capture the income poverty level of children, and while data suggest that income poverty amongst children increased over time (2000-2008), poverty, as measured through types of deprivation, decreased during the same period.

Income poverty amongst children aged under 18 years increased, though the number of children who suffered from severe or absolute types of deprivation decreased over time, particularly during the 2000-2005 period.

Data presented in the figure show that income poverty increased between 2000 and 2008 by 13.5 percent, the percentage of children who suffered from at least one severe deprivation decreased by 35 percent, and those who suffered from absolute poverty decreased by 70 percent. These percentages are much less for the 2005-2008 period, and this indicates that most improvements in deprivation poverty occurred between 2000 and 2005.

Figure 10: Changes in severe, absolute and income poverty between 2000-08 and 2005-08



5.1 Percentage Change in poverty according to Mother's Level of Education

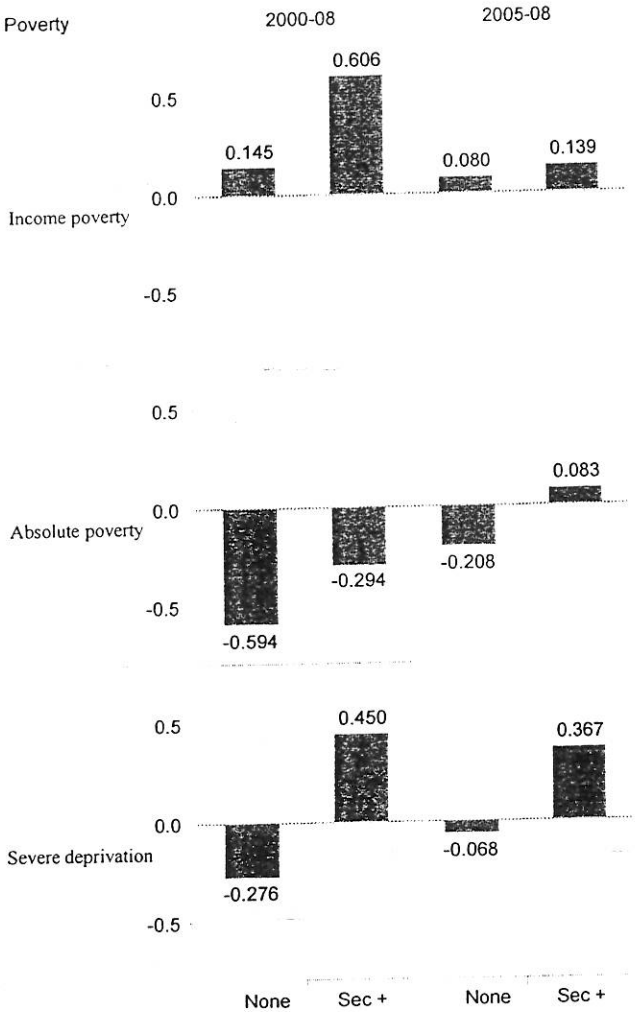
Figure 11 summarizes the percentage change in income poverty, severe deprivations and absolute poverty according to the educational level of the mother in the household. The data suggests that although income poverty is much higher amongst children with illiterate mothers, the percentage change in income poverty is higher for children with educated mothers than those with illiterate mothers (61 percent vs. 15 percent respectively), although these changes were less profound in the second period.

Data presented in Figure 11 also illustrates that the percentage of children whose mothers have secondary education or higher were still at risk of severe deprivation and the number actually increased by 45 percent between 2000 and 2008. The biggest jump occurred during the 2005-2008 period (37 percent), and may be due to the percentage increase in food and health deprivation amongst children with educated mothers over time.

On the contrary, the percentage of children who suffered from severe deprivation, and whose mothers are illiterate, decreased by 28 percent and most of this decline occurred between 2000 and 2005.

There has been a large improvement in the percentage of children with illiterate mothers who suffered from absolute deprivation, where the percentage of those children decreased by 59 percent during the 2000-2008 period. Possible explanation for this result is due to immunization campaigns on TV and radio that increase awareness and access to information facilities.

Figure 11: Changes in severe deprivation, absolute poverty and income poverty levels for 2000-08 and 2005- 08, by mother's educational level



5.2Percentage change in poverty according to wealth quintile

Figure 12: Changes in severe deprivation, absolute poverty and income poverty levels for 2000-08 and 2005- 08, by wealth quintiles

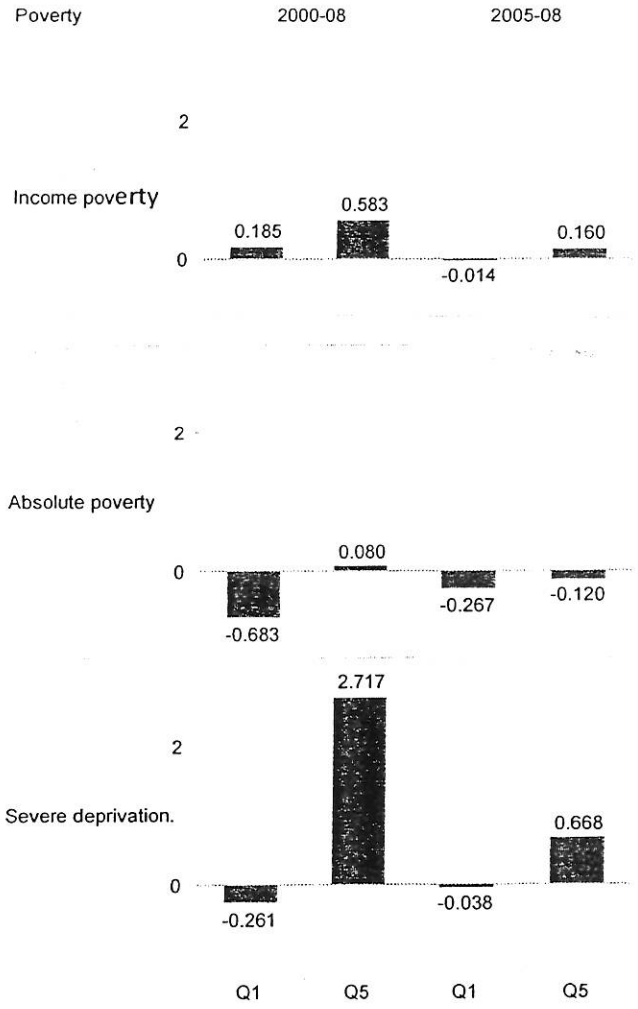


Figure 12 shows the percentage change in poverty between 2000 and 2008, and during 2005 and 2008 according to wealth quintiles. Surprisingly, all measures of poverty: income poverty, severe deprivation and absolute poverty increased amongst children in the wealthiest quintile during the 2000-2008 period, with most increases taking place during 2000-2005. The percentage of children in the wealthiest quintile

All measures of poverty increased amongst children in the wealthiest quintile during 2000-2008, while severe and absolute deprivation decreased for children in the poorest quintile during the same period, in spite of deceleration during 2005-2008.

who experienced severe deprivation increased almost three-fold between 2000 and 2008. This happened while children in the poorest quintile who experienced a decrease in absolute poverty and a slight increase in income poverty.

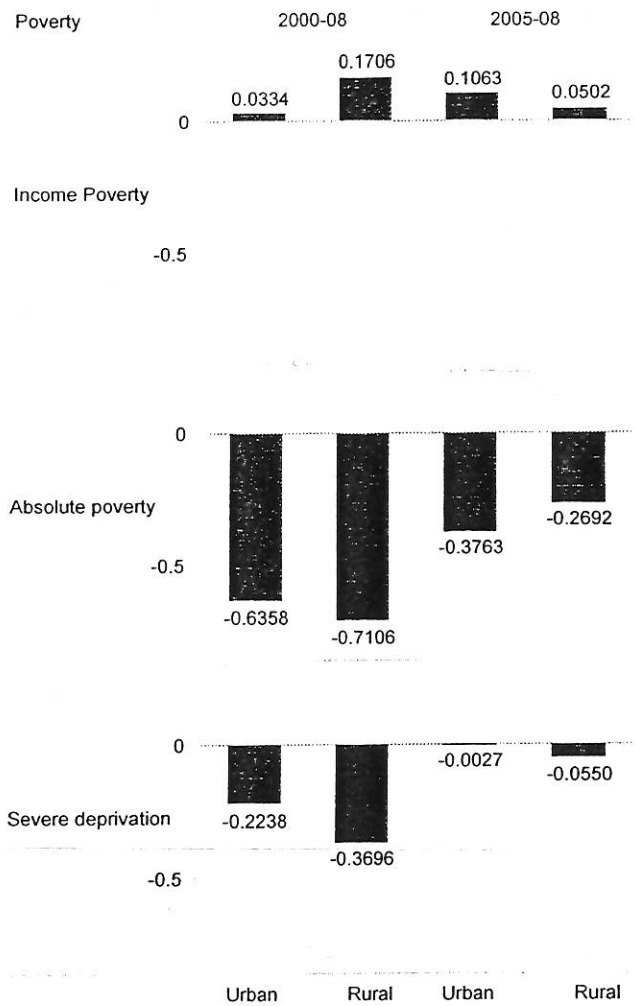
5.3Percentage change in poverty according to place of residence

Figure 13 shows the percentage change in different measures of poverty over time according to place of residence. The figure illustrates that income poverty increased in both urban and rural areas between 2000 and 2008, but by different rates. Income poverty increased by 17 percent in rural areas and 3 percent in urban areas; however, the situation is reversed between 2005 and 2008, where income poverty increased by 5 percent in rural areas and 11 percent amongst children in urban areas. This indicates that income poverty decreased in urban areas during 2000-2005, while it increased in rural areas.

Poverty remains a rural phenomenon although urban income poverty has increased significantly more and deprivation decreased markedly less during the last decade.

Looking at the levels of absolute poverty, Figure 13 shows that the percentage of children who experienced absolute deprivation decreased by 71 percent in rural areas and 64 percent in urban areas between 2000 and 2008. Similar results were observed in children who experienced severe deprivation.

Figure 13: Changes in severe deprivation, absolute poverty and income poverty for 2000-08 and 2005- 08, by place of residence



VI. Determinants of different dimensions of deprivations

In order to investigate the main determinants that affect child poverty; whether income or non-income poverty, eight logistic regression models were estimated for the eight dimensions of child poverty. For each model, the characteristics of children, in addition to the effectiveness of time on deprivation, were used as explanatory variables. The results of these models are presented in Table 7 and Table 8, where Table 7 presents the determinants of the 7 dimensions of deprivations, while Table 8 looks at the determinants of income poverty.

6.1 Common factors

The results of the logistic models show that there are common factors that affect children and cause them to suffer from deprivations. These common factors are the level of household wealth, place of residence and time.

- **Wealth index**

Results from all models show that the wealth index is considered the determining factor that allows children to experience deprivation across all dimensions of poverty. This was an expected result since the wealth index is constructed using household assets in addition to household-related characteristics, which include sources of drinking water, sanitation facilities and flooring material. Children from the wealthiest quintiles are less likely to be deprived holding all other factors remain constant. Although the wealth index affects all different kinds of deprivation, food and health deprivation are least likely to be affected by the wealth index.

- **Time**

Children in the wealthiest quintile and those living in urban areas are most likely not to experience deprivation, and this likelihood of non-deprivation has increased over time.

One of the indicators that affect children and their likelihood of experiencing any type of deprivation is time. Holding all other factors constant, the likelihood of poverty decreased over time with the exception of food deprivation and income poverty. The results presented in the table illustrate that the probability of children enduring information deprivation decreased by almost 68 percent in 2008. Additionally, the results show that the likelihood of education deprivation decreased by 60 percent in 2008 compared to 2000. Sanitation deprivation was affected greatly by time factor where the likelihood of suffering from sanitation deprivation decreased by 93 percent over time (from 2000 to 2008). However, the risk of food deprivation increased three-fold between 2000 and 2008 after holding all other variables constant. Moreover, logistic regression for income poverty shows the probability of being poor in 2000 was 38.8 percent less likely than in 2008. There is no statistical difference in the likelihood of being income poor between the years 2005 and 2008.

- **Place of residence**

Individuals and households in the same location often retain similar demographic and socio-economic characteristics, and the same risk of poverty is incurred depending on the region in which children live. As expected, children living in urban areas are less likely to be deprived than children in rural areas. Sanitation and water deprivation are affected by place of residence more than any other type of deprivation, and children who live in rural areas are 3.5 times more likely to experience sanitation deprivation than children who live in urban areas. In contrast, children in rural areas are less likely to be deprived of food than other children.

6.2Other factors

- **Household size**

Larger families are more likely to be poor than smaller families; however, not all households succumb to the different types of deprivation. The determinants that change significantly according to household size are access to information, shelter, education and water. Children in large households, for example, are twice as likely to suffer from education deprivation as those from smaller homes.

- **Mother's educational level**

Holding all children's characteristics constant, mother's educational level is one of the strongest determinants of all dimensions of poverty except for food and health deprivation. The results show that the likelihood of children to suffer from education deprivation decreased by 77 percent among children whose mothers have secondary education or above compared by children with illiterate mothers. Same result is observed regarding all other dimensions of poverty, for example; the probability of children to experience sanitation deprivation decreased by 70 percent among children with mothers have secondary education compared by those with illiterate mothers. Besides, the likelihood of income poverty experienced by children living with illiterate head is 6.7 times that of those who live with secondary graduate head.

- **Sex of the child**

The sex of the child does not affect any type of deprivation except for food and education deprivation (as explained earlier, several of the dimensions of deprivation are measured at the household level). The likelihood for children to experience education deprivation increased three fold for girls, while the likelihood of experiencing food deprivation decreased by 16 percent amongst girls compared to boys.

- **Sex of the head of household**

The sex of the head of household affects whether individuals will experience some types of deprivation, the foremost being information, sanitation, shelter and education. The likelihood of children suffering from information and education deprivation increased amongst female headed households, while the probability of children experiencing sanitation and water deprivation decreased among female headed

households. Moreover, Table 7 shows that children in female headed households are 1.2 times as likely to be income poor.

Table 7: Results of the Logistic Regression Models (Odds Ratios) to assess the main factors affecting the 7-dimension of deprivations among children under age 18

	Information	Health	Sanitation	Shelter	Food	Education	Water
Male (Ref)							
Female	.973	.978	.973	1.021	.843	2.897	.996
Household Size							
Less than 3 (Ref)							
3-4 members	1.412	1.423	1.366	1.517	.838	1.208	1.397
5-6 members	.868	1.286	1.295	2.277	.837	1.255	1.526
7+ members	.751	1.183	1.216	2.475	.833	1.904	1.152
Mother's education							
Illiterate (Ref)							
Some Primary	.755	1.196	.734	.854	.854	.358	.909
Some Secondary	.914	.977	.552	.748	.949	.178	1.245
Secondary+	.820	.868	.300	.566	.897	.228	.874
Male headed (Ref)							
Female headed	1.542	1.116	.901	1.034	1.106	1.109	.691
Wealth Index							
Poorest (Ref)							
Q2	.083	.827	.149	.305	.863	.403	.476
Q3	.025	.687	.039	.057	.793	.185	.241
Q4	.002	.592	.002	.010	.766	.138	.092
Richest	.000	.463	.000	.001	.796	.089	.078
Both parents work	.966	.806	1.186	1.276	1.049	1.257	1.000
Both parents not work	1.150	.696	1.374	.954	1.096	1.375	1.061
Child is orphan	.820	.000	.252	2.309	1.463	.900	.735
Child has single parent	.621	1.191	1.129	.992	.822	.849	1.384
Availability of elder	.846	1.049	.857	1.206	.889	.907	.914
High dependency ratio	1.593	.411	.831	.880	1.375	1.500	1.052
Region							
Urban Gov. (Ref)							
Urban Lower	.917	.591	2.030	.362	1.257	.482	1.245
Rural Lower	.296	.587	.359	.309	1.364	.209	.917
Urban Upper	.819	1.166	3.783	1.156	.889	.626	.843
Rural Upper	.439	.971	2.441	1.300	1.314	.402	.830
Frontier	1.393	.957	3.124	.304	1.019	.556	9.044
Urban(Ref)							
Rural	1.116	1.303	3.406	1.422	.827	1.742	2.179
Year							
2000 (Ref)							
2005	.378	1.873	.255	.309	1.039	.509	.689
2008	.316	.809	.074	.267	2.909	.406	.551
Constant	.853	.035	.069	1.225	.109	.163	.060

Table 8: Results of Logistic Regression Model (Odds Ratios) to assess the main factors affecting income poverty of children under 18

	Odds Ratios
Household Size	1.354
Child not work (Ref)	
Child Work	1.136
Male Headed household (Ref)	
Female Headed household	1.2
Education of household head	
Illiterate (Ref)	
Some Primary Education	6.697
Some Secondary	4.048
Higher than Secondary education	2.547
Year	
2000 (Ref)	
2005	0.388
2008	1
Both parents work	0.672
Household head employed	0.651
Household head not labour force	0.619
Child with single parent	1.138
Constant	0.008

VII.Multi-Dimensional Child Poverty Measurements: OPHI

A great deal of attention has been placed on the aggregation step in the poverty measurement through which data is combined into an overall indicator of multidimensional poverty. The Oxford Poverty & Human Development Initiative (OPHI) aims to build and advance a more systematic methodological and economic framework to measure multidimensional poverty which is grounded in people's experiences and values. This study applied the seven non-income dimensions of poverty to evaluate the OPHI measurements. The OPHI measurements are based on a methodology suggested by Alkire and Foster (2007). It is a counting approach that follows the method of aggregation proposed by Foster, Greer, and Thorbecke (1984) in the sense that it is built on the same family of measures that satisfy a certain number of axioms such as symmetry, replication invariance, decomposability, ...etc.

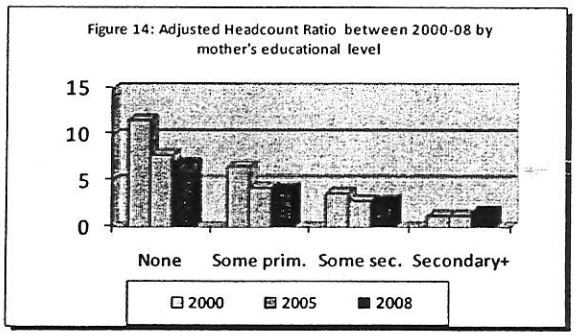
In accordance with the OPHI methodology, some measurements were calculated to reflect multidimensional poverty in children under 18 rather than one dimensional income poverty or other single non-income individual dimensions of deprivation. These measures are the percentage of poor children according to deprivation criterion (the headcount ratio) (H), the average poverty gap or the average deprivation share (A) and the adjusted headcount ratio (M_o). The average poverty gap is calculated by finding the sum of the proportions of total deprivations each child suffers from, and dividing this by the total number of poor children according to deprivation criterion. The adjusted headcount ratio is the total number of deprivations experienced by poor children divided by the maximum number of possible deprivations that could be experienced by all children. It is calculated by multiplying the average poverty gap by the percentage of poor children.

Table 9 presents the results of the Oxford Measures according to children's individual profiles in 2000, 2005 and 2008. Overall, the results show that child poverty has improved over time, and the average poverty gap decreased from 0.2 in 2000 to 0.17 in 2008. Although the change is very small it represents a 15 percent improvement in the gap. However, like with many other analyses we have shown thus far, the pace of change becomes slower in later period 2005-2008. Regarding the adjusted headcount poverty measure, findings presented in the table validated previous results, where M_o reached 7.6 in 2000, decreased to 4.5 in 2005 and declined further to 4 in 2008.

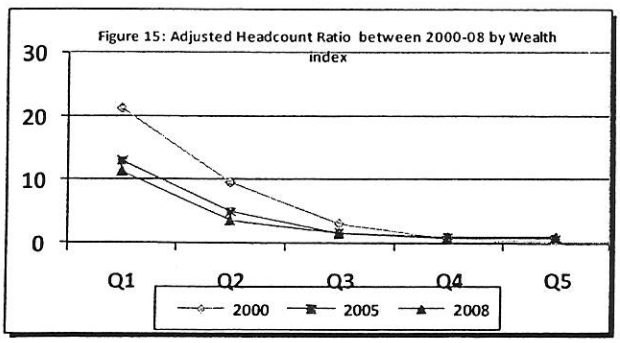
Disaggregating OPHI by child and household characteristics can identify factors that are driving child poverty and assess whether gaps between different groups have widened. Results presented in Table 9 show that sex does not affect the Oxford Poverty Measures, and there are no significant differences between boys and girls under 18.

The mother's educational level again is a key factor in identifying determinants of multidimensional poverty. The adjusted headcount ratio decreased from 11.7 for children with illiterate mothers in 2000 to only 1.3 for children with mothers who have a secondary education or higher. This pattern also holds for 2005 and 2008, but with a marginal effect. Changes in poverty were not homogeneous for all levels of a

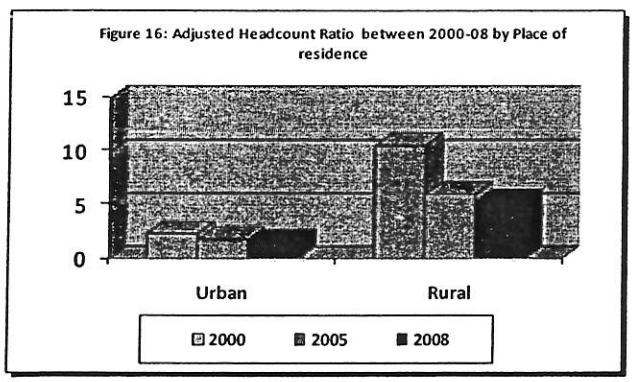
mother's education. While there is a drastic reduction in the adjusted headcount ratio amongst children with illiterate mothers, (41 percent between 2000 and 2008), there are almost no significant differences in the adjusted headcount ratio over time for children with mothers who hold a secondary education or above, see Figure 14.



The results also demonstrate that between 2000 and 2008, the improvements achieved in the Oxford Measures amongst children with illiterate mothers decreased faster than in other groups, thereby indicating that the impact of education on poverty became smaller and gaps between child deprivation, according to a mother's education, had declined. One reason could be the widespread availability of public services and the impact of media campaigns in raising mother's awareness about the health of their children.



Oxford measures are also highly affected by the wealth levels of households. Data presented in Figure 15 show that adjusted headcount ratios declined regardless of wealth indicators, and the distance between the poorest and the richest became smaller. Looking at different years, the data also reveals that the adjusted headcount ratio decreased significantly between 2000 and 2005, especially in poorer quintiles. It is worth noting that Oxford poverty rates are almost zero amongst children in the richest quintile.



Regarding the place of residence, data suggests that all Oxford measurements decreased between 2000 and 2008 in both urban and rural areas. However, they are much higher in rural areas than urban ones and are highest in regions of rural Upper Egypt for all children under the age of 18.

Additionally, results presented in Table 9 show that the percentage change is much higher amongst children in rural areas than in urban areas. The adjusted headcount ratio decreased by 31 percent amongst children in urban areas between the years 2000

and 2008, while it decreased by 49 percent for children living in rural areas during the same period.

One explanation for this is the expansion of public education and health services in rural areas while these services were already available in urban areas. However, despite the observed achievements in rural areas, they are still lagging behind. In 2008, the headcount ratio and the adjusted headcount in rural areas are three times the rate in urban areas.

Values for Oxford poverty measures decreased significantly between 2000 and 2008, in particular amongst children with illiterate mothers, and for those who live in poor households and in rural areas.

Table 9: Oxford Poverty & Human Development Initiative Measures, according to child characteristics, 2000, 2005 and 2008

	2000			2005			2008		
	H (Headcount ratio)	A	M_0 (Adjusted H)	H (Headcount ratio)	A	M_0 (Adjusted H)	H (Headcount ratio)	A	M_0 (Adjusted H)
Total	**36.1**	**0.21**	**7.58**	**24.9**	**0.18**	**4.48**	**23.6**	**0.17**	**4.01**
Gender of child									
Male	36.6	0.20	7.32	24.6	0.18	4.43	23.8	0.17	4.05
Female	35.5	0.21	7.46	25.3	0.18	4.55	23.4	0.17	3.98
Mother's educational level									
None	53.1	0.22	11.68	41.2	0.19	7.83	38.4	0.18	6.91
Some primary	34.75	0.19	6.60	25.64	0.17	4.36	26.62	0.16	4.26
Some sec.	20.93	0.18	3.77	18.35	0.16	2.94	18.08	0.16	2.89
Secondary +	8.23	0.16	1.32	8.72	0.15	1.31	11.93	0.15	1.79
Wealth quintiles									
Q1	84.95	0.25	21.24	65.27	0.20	13.05	62.82	0.18	11.31
Q2	55.62	0.17	9.46	30.96	0.16	4.95	24.06	0.15	3.61
Q3	20.00	0.15	3.00	10.99	0.15	1.65	10.29	0.15	1.54
Q4	5.55	0.15	0.83	5.59	0.15	0.84	6.95	0.14	0.97
Q5	1.83	0.14	0.26	4.08	0.15	0.61	6.81	0.14	0.95
Regions									
Urban governorates	9.09	0.17	1.55	9.07	0.16	1.45	8.90	0.15	1.34
Urban LE	11.69	0.16	1.87	4.58	0.15	0.69	8.71	0.15	1.31
Rural LE	34.36	0.18	6.18	15.49	0.16	2.48	18.37	0.16	2.94
Urban UE	20.40	0.18	3.67	15.53	0.18	2.80	13.17	0.17	2.24
Rural UE	67.75	0.23	15.58	51.21	0.19	9.73	47.15	0.18	8.49
Frontier governorates	41.50	0.32	13.28	31.51	0.19	5.99	26.60	0.18	4.79
Place of residence									
Urban	13.23	0.18	2.38	10.30	0.17	1.75	10.27	0.16	1.64
Rural	50.58	0.21	10.62	33.74	0.18	6.07	31.89	0.17	5.42

Source: Authors' calculations from EDHS for 2000, 2005 and 2008

VIII. Conclusion

The main objective of this study is to contribute to policy making that is child friendly and based on solid evidence. It also aims to stimulate the debate on what poverty really is, and argues for a multidimensional approach to the calculation of child poverty. This study has concentrated on the statistical analysis of child poverty with no attempt to link these changes with developments in terms of legislative and policy reform, programmes directed to children and budget allocations to these programmes. It nevertheless has important lessons to be drawn for future policy making in Egypt.

The study is a follow up on the 2010 Child Poverty and Disparities in Egypt study, it used a multidimensional approach to poverty with seven dimensions of deprivation in addition to the commonly used income poverty dimension.

The focus of this study is to shed light on the trends in child poverty during the first decade of the millennium, from many different angles. The study looked at trends in each of the dimensions per se, analyzed correlations between each of these dimensions and with certain household characteristics. The changes in income poverty and absolute poverty during the first eight years of this decade were also evaluated. Lastly, for the first time in Egypt, this study introduced the aggregation approach developed by the Oxford Poverty & Human development Initiative.

Poverty estimations in a given year only provide a still picture, while trend analyses deliver a motion picture. The importance of trend analysis is clearly underscored by the findings of these analyses. Changes in child poverty have been different for different periods. Progress in poverty reduction has been varied for various dimensions and households characteristics.

At the same time, several manifestations of poverty have not changed over time. Children are disproportionately poor. Income poverty amongst children is higher than the average and is in fact increasing. Also, poverty of all sorts remains a highly rural phenomenon. Notwithstanding, although income poverty has been increasing more in urban areas, and improvements in non-income deprivation has been higher in rural areas. The education level of mothers continues to be one of the most important explanations for most kinds of deprivations and thus one of the greatest opportunities to reduce child poverty. Family size still matters and deprivation remains particularly high in households with more than three children.

Other findings may have been less intuitive. In spite of high GDP growth in recent years, reduction in deprivation of non-income dimensions slowed was lower during 2005-2008 then during 2000-2005, when most of the improvement occurred. Also, food deprivation reached alarming levels in 2008; not only for households with few assets but also for wealthy families categorized as the highest quintile in terms of wealth index.

It is hoped that these findings of persistent manifestations and in particular the counterintuitive results of this study can play its role in making the lives of children brighter. And the brighter the lives of our children, the brighter the future of our nation.

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