



Palestinian Central Bureau of Statistics



The World Bank

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## DEEP PALESTINIAN POVERTY IN THE MIDST OF ECONOMIC CRISIS



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## **ACKNOWLEDGMENT**

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## ABBREVIATIONS AND ACRONYMS

DFID	=	Department for International Development
FAO	=	Food and Agriculture Organization
ISI	=	Israel and Israeli Settlements
LCC	=	Logarithm of Consumption Per Capita
LFC	=	Logarithm of Food Consumption Per Capita
MOSA	=	Ministry of Social Affairs
NGO	=	Non-Governmental Organization
NIS	=	New Israeli Shekel
NPS	=	National Poverty Survey
OECD	=	Organization for Economic Co-operation and Development
PA	=	Palestinian Authority
PCBS	=	Palestinian Central Bureau of Statistics
PECS	=	Palestinian Expenditure and Consumption Survey
SH	=	Household Share of Food Consumption
UNDP	=	United Nations Development Program
UNRWA	=	United Nations Relief and Works Agency
WBG	=	World Bank Group
WFP	=	World Food Program
WHO	=	World Health Organization

## TABLE OF CONTENTS

	<b>Page</b>
<b>Executive Summary</b> _____	<b>1</b>
<b>Introduction</b> _____	<b>4</b>
<b>After 3 Years of Intifada, How Large is the Poverty Problem?</b> _____	<b>6</b>
Poverty Lines and Poverty Definitions_____	8
<b>The Palestinian Poverty Profile in 2003:</b>	
<b>What Are the Factors that Make Some People Poor But Not Others</b> _____	<b>10</b>
<b>The Adequacy of Emergency Assistance: Is Emergency Assistance Sufficient?</b>	
<b>Is there Scope to Improve its Allocation?</b> _____	<b>20</b>
<b>To What Extent Could an Economic Recovery Reduce Poverty?</b> _____	<b>28</b>
<b>What Can Be Done to Improve Our Knowledge of Poverty?</b> _____	<b>32</b>
<b>Appendix I: Comparisons With Pre-Crisis Poverty Rates Must Be Treated With Caution</b> _____	<b>33</b>
<b>Appendix II: Definition of the Subsistence Poverty Line</b> _____	<b>35</b>
<b>Appendix III: Correlates of Poverty and Received Emergency Assistance</b> ____	<b>38</b>
<b>Bibliography</b> _____	<b>40</b>

# **DEEP PALESTINIAN POVERTY IN THE MIDST OF ECONOMIC CRISIS**

## **EXECUTIVE SUMMARY**

More than three years of Intifada and closures have plunged the Palestinian economy into deep crisis, causing dramatic declines in living standards. This report – and indeed much of the attention of the donor community – focuses on the situation of the poorest of the poor. We have chosen this focus because the resources available for poverty reduction are insufficient to meet the needs of all individuals below the official poverty line. In the current context, donors and policy makers are naturally concerned that the resources available reach those who are most dependent on emergency assistance. Their concern is reinforced by two perceptions: (i) that the poorest have exhausted their savings and are increasingly vulnerable to malnutrition and permanent poverty traps should they face further economic shocks and (ii) the poorest will be unable to benefit from economic recovery because they tend to be unskilled or unable to work. Throughout the report, we use a subsistence definition of poverty, which includes individuals whose expenditures are less than 205 NIS per person per month. Using this definition of poverty, we find that 16 percent of the Palestinian population of the West Bank and Gaza cannot afford to consume the minimum caloric intake as established by the FAO and WHO.

### **Who are the poor?**

A variety of factors are strongly related with poverty. As other studies have found, we find that the poor tend to have larger families and relatively low levels of education and that poverty is particularly common in Gaza. We also find that poverty is strongly related to unemployment and sporadic (as opposed to regular, permanent) jobs. Interestingly, we find that refugees and those in female-headed households are not significantly more likely to be poor than are others.

### **Has the crisis affected the poor disproportionately?**

The poorest segments of the population do not appear to have suffered disproportionately from the crisis. Although the poor have become increasingly vulnerable and liquidity-constrained, they have also benefited more than other groups from emergency assistance.

In the early months of the crisis, the vast majority of the poor reduced their expenditures and also relied heavily on drawing down savings and selling jewelry as strategies to partially compensate for their reduced income. By the end of 2003, the savings of the poor seem to have been exhausted: the majority of the poor were no longer relying on these strategies, while the non-poor continued to do so.

While the exhaustion of savings and the resulting vulnerability has disproportionately affected the poor, emergency assistance has been reasonably successful in preventing widespread malnutrition and other types of humanitarian crises among the poorest. When we subtract out the value of emergency assistance received, we find that 22 percent of the

population would fall below the (subsistence) poverty line. In other words, emergency assistance has served to lower the poverty rate from 22 percent to 16 percent – a reduction of almost a third.

Those who are poor or would be poor in the absence of emergency assistance – a group we refer to as the “needy” – have benefited disproportionately from emergency assistance. Whereas only 23 percent of the non-needy receive assistance, fully 68 percent of the needy receive assistance. Moreover, 55 percent of the total value of emergency assistance distributed is received by needy individuals.

### **How much of emergency assistance go to the non-needy?**

How concerned should we be that some of the emergency assistance goes to the non-needy? Although some of the non-needy who receive assistance have consumption levels well above the poverty line, the majority has very low consumption levels. Because most of the non-needy who receive assistance are close to being needy, there is little cause for concern that they receive a portion of the assistance. Moreover, an examination of the observable characteristics of non-needy recipients of assistance, does not suggest any simple way to exclude them from benefits.

### **How serious is under-coverage of emergency assistance?**

Whereas 68 percent of the needy receive assistance, a significant portion of the needy – 32 percent -- do not. What are the characteristics of these 32 percent of the needy who are not covered? Needy individuals living in rural areas and in Gaza are much less likely to receive assistance than needy individuals living in other areas. In addition, controlling for other factors, the unemployed and the less educated tend to receive less aid than the employed and the better educated. Interestingly, needy refugees and individuals in female headed-households are more likely to receive assistance than are other needy individuals. This may reflect agencies using refugee status and the gender of the household head as a proxy for need. This is ill advised however, as these households do not have exceptionally high rates of poverty.

### **What can be done to reduce poverty?**

Because economic hardship has increased with the crisis, it may be hoped that a resolution of the crisis would reduce poverty. Unfortunately, even lifting of closures and a return to pre-Intifada levels of unemployment would do little to reduce poverty<sup>i</sup>. By contrast, structural policies aimed at lowering dependency ratios and improving labor productivity could have much larger impacts on poverty rates. In the short term, a significant portion of the Palestinian population is likely to remain poor – and increasingly vulnerable to further shocks as their savings are exhausted. Direct assistance

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<sup>i</sup> More precisely, lifting of closures and a return to pre-Intifada levels of unemployment would do little to reduce *subsistence* poverty, which is the focus of this report. Lifting of closures and a return to pre-Intifada levels of unemployment may, however, have a larger impact on rates of poverty defined on the basis of the official poverty line.

will remain a crucial component of the consumption of the poor. While reducing leakage would be difficult and have limited benefits, increasing the volume of emergency assistance could be an effective solution to fight poverty, if it can reduce under-coverage and systematic biases. This would, in particular, require implementing new programs designed to reach people from Gaza and rural areas, as well as the inactive, unemployed and less educated.

# DEEP PALESTINIAN POVERTY IN THE MIDST OF ECONOMIC CRISIS

## INTRODUCTION\*

**1. More than three years of Intifada and closures have plunged the Palestinian economy into a deep crisis, causing dramatic declines in living standards.** Real per capita income and consumption are believed to have dropped severely between 1999<sup>1</sup> and 2003, approximately by a third.<sup>2</sup> Employment has also fallen significantly. This is reflected in unemployment rates, which rose from 10 percent before the Intifada to 26 percent in 2003.<sup>3</sup> The dependency ratio, measured by the number of people economically supported by one single job, grew from 5.0 to 6.2 during the same period.

**2. This report – and indeed much of the attention of the donor community – focuses on the situation of the poorest of the poor.** We have chosen this focus because the resources available for poverty reduction are insufficient to meet the needs of all individuals below the official poverty line. In this context, donors and policy makers are naturally concerned that the resources available reach those who are most dependent on emergency assistance. This concern is reinforced by two perceptions among donors and policy makers: (i) that the poorest have exhausted their savings and are increasingly vulnerable to malnutrition and permanent poverty traps should they face further economic shocks and (ii) the poorest will be unable to benefit from economic recovery because they tend to be unskilled or unable to work.<sup>4</sup> Throughout the report, we use a subsistence definition of poverty, which includes individuals whose expenditures are less than 205 NIS per person per month. Using this definition of poverty, we find that 16 percent of the Palestinian population of the West Bank and Gaza cannot afford to consume the minimum caloric intake as established by the FAO and WHO.

**3. In addition, we have chosen to focus on the role of emergency assistance<sup>5</sup> for practical reasons.** We are unable to perform a rigorous assessment of long-term

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\* This report was written jointly by staff of the World Bank and the Palestinian Central Bureau of Statistics (PCBS). We hope it will contribute to the debate on poverty by feeding into the knowledge base of the Palestinian Authority and the World Bank's upcoming report, *Forty-Two Months – Intifada, Closures and Palestinian Economic Crisis: An Assessment*.

<sup>1</sup> The Intifada – the Palestinian uprising – started in September 2000. See World Bank (2004a) for a detailed discussion on the economic impact of the Intifada.

<sup>2</sup> Source: World Bank Staff estimates. As of the writing of this note, official national accounts were not available for the period 1999-2003.

<sup>3</sup> Source PCBS, Labor Force Surveys, various issues; Unemployment rates reported are for the periods October 1999-September 2000 and January 2003-December 2003.

<sup>4</sup> In later sections of the report, we present analytical evidence which supports both of these perceptions.

<sup>5</sup> Emergency assistance is defined as assistance provided in response to the current crisis. The National Poverty Survey asks questions about emergency assistance, but not other forms of assistance. In practice, however, households have difficulty distinguishing between emergency assistance and other types of assistance. Unfortunately, the available data does not permit us to consider the full range of assistance or to have complete confidence that we are including only emergency assistance. For more information on the response of the donors to the current crisis, including discussion of various types of assistance, see World Bank (2004).

measures for poverty reduction (e.g. pro-poor growth, education, micro-finance) because the necessary data is currently unavailable. Once the new Palestinian Expenditure and Consumption Survey (PECS) is made available, in the spring of 2005, it will be possible to perform a thorough assessment of the poverty situation and to accurately identify changes that have occurred since the start of the Intifada.<sup>6</sup> In the meantime, the magnitude of the current poverty problems and the demand by donors and policy makers for analysis to inform their prioritization of emergency assistance, makes it worthwhile to our best with the available data. Moreover, pro-poor growth is unlikely to be achievable during the period between now and the time a thorough poverty assessment can be performed.

**4. This report relies primarily on the National Poverty Survey (NPS), recently completed by the PCBS.** A nationally representative survey conducted during December 2003, with a sample of approximately 3,100 households, the NPS provides the most accurate picture of expenditure and consumption poverty since the start of the Intifada.

**5. To fully understand poverty, many issues need to be considered, most of which are beyond the scope of this report, which looks at quantitative aspects of poverty.** This report complements other studies that look at other aspects of poverty since the start of the Intifada/closures. (i) The Ministry of Planning, in collaboration with DFID and UNDP documents views of poor Palestinians on their situation, its causes and ways to escape poverty (through a participatory assessment using qualitative methods).<sup>7</sup> (ii) The University of Geneva, for the Swiss Development Agency and various UN agencies looks at the Palestinian households' perception on their living conditions and the adequacy of humanitarian assistance (using quantitative survey methodology).<sup>8</sup> (iii) The World Bank's "Coping Mechanisms During the Conflict" examined the PA's provision of social services in response to deteriorating living conditions. (iv) The World Bank's series of Economic Assessments provide overviews of the extent of closures, their economic and social impact and the institutional responses.<sup>9</sup> (v) The World Bank's socioeconomic impact of donor interventions and external shocks. (vi) The World Bank's Service Delivery study provides a detailed examination of services provided by Palestinian NGOs (including quality of services, and community participation, targeting, and relationship of the NGOs with other organizations.)

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<sup>6</sup> Comparisons of poverty over time will be possible by comparing the 2005 PECS data with the most recent pre-Intifada data taken from the 1998 PECS. At the present time, there is no poverty data which is appropriate for comparison with the pre-Intifada data. See Appendix I for a detailed discussion of comparability of data sets.

<sup>7</sup> See : [www.pppap.org](http://www.pppap.org).

<sup>8</sup> See Bocco (2003).

<sup>9</sup> See World Bank (2003).

## AFTER 3 YEARS OF INTIFADA, HOW LARGE IS THE POVERTY PROBLEM?

**6. Various estimates have been made of the percentage of the population currently living below the official poverty line.**<sup>10</sup> Using macro-economic data, the World Bank estimated a poverty rate ranging between 38 and 51 percent for 2003.<sup>11</sup> The Palestinian Central Bureau of Statistics published a series of “Impact” surveys between 2001 and 2003, in which it reported the proportion of households below the poverty line, a proportion ranging between 61 and 72 percent.<sup>12</sup> It also reported through its quarterly labor force surveys the percentage of employees whose monthly wage was below the poverty line, a proportion between 59 and 61 percent in 2003.<sup>13</sup> The University of Geneva, after conducting various budget and living conditions surveys, estimated that the proportion of poor Palestinians stood at 58 percent in July 2003.<sup>14, 15</sup>

**7. NPS data put the official poverty rate (the proportion of individuals below the official poverty line) at 40.3 percent in December 2003.** The same poverty rate for the full year 2003 could actually be higher, maybe at approximately 47 percent, because winter months – December in particular – are months of higher expenditures than during the rest of the year.<sup>16</sup>

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<sup>10</sup> The official poverty line was established in 1997 by the National Commission for Poverty Alleviation. See Palestinian National Authority (1998).

<sup>11</sup> The World Bank initially reported a poverty rate of 59 percent for 2002 in *27 Months – Intifada, Closures and Palestinian Economic Crisis*. More recent data suggests the overall decline in real per capita consumption between 1998 and 2002 was lower than originally estimated – indicating that the poverty rate in 2002 was probably lower than 59 percent. In comparison to 2002, the year 2003 marked a positive rebound of the economy, which particularly benefited the unemployed, as the number of jobs within West Bank and Gaza grew up by more than 20 percent (source: PCBS Labor Force Surveys, various issues). Assuming the distribution of consumption has remained in its 1998 pattern, and assuming a decline of 30 percent in real per capita consumption between 1998 and 2003, we estimate a poverty rate between 48 and 51 percent. If we assume a smaller decline in consumption – say 20 percent – the implied poverty rate would be between 38 and 41 percent.

<sup>12</sup> Source: PCBS, Impact of the Israeli Measures on the Economic Conditions of Palestinian Households, various rounds. During the fourth Quarter 2003, the proportion of households reporting an income below the poverty line stood at 71.9 percent.

<sup>13</sup> Source: PCBS, Labor Force Surveys, various issues.

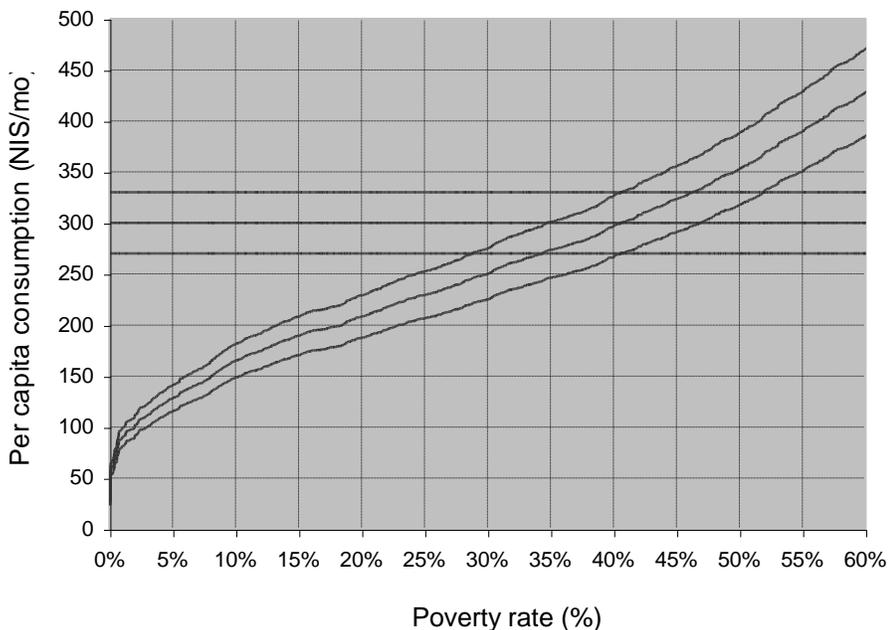
<sup>14</sup> See Bocco (2003).

<sup>15</sup> In addition to the estimates of poverty, other studies have been made which quantify other concepts which, while not identical, are clearly related to the concept of poverty. For example, using focus groups and key informants, the FAO estimates that 40 percent of the population lacked food security as of March 2003, with no significant differences between the West Bank and Gaza Strip. Food security refers to “physical, social and economic access to sufficient, safe, and nutritious food.” See FAO and WFP (2003).

<sup>16</sup> World Bank staff calculations on PECS (Palestinian Expenditures and Consumption Surveys, PCBS) data for the years 1996-1998 indicate that expenditures during the month of December are on average 9.3 percent higher than that of the full year (controlling for Ramadan periods). Reducing household expenditures by 9.3 percent in December 2003 gives a poverty rate of 46.6 percent. The latter, however cannot be strictly compare to the pre-Intifada poverty rates derived from the PECS data (and notably with the poverty rate in 1998, 23.2 percent). As discussed in Appendix I, the difference between PECS and NPS questionnaires renders any comparison speculative. The fact that the NPS questionnaire is less detailed probably means that it underestimates the actual level of household consumption compared with the PECS. However, the extent of the bias is unknown.

**8. Because of relatively equal distribution patterns, estimates of poverty rates are very sensitive to small changes in consumption estimates (and similarly, to small changes in the definition of the poverty line).** Because a large mass of the population lives close to the poverty line, it is not surprising that the various surveys and methodologies result in such divergent estimates of poverty. The diagram below shows an arbitrary poverty line (at approximately the level of the official line) and the (cumulative) proportion of the population at various expenditure levels, using NPS data.<sup>17</sup> The diagram also shows alternative poverty lines and expenditure levels 10 percent higher and lower than these baselines. (Given the varied sources of data, statistical intervals of confidence and definitions of poverty used by donors, policy makers and others, differences of 10 percent are quite likely.) The diagram demonstrates that, even within this narrow range, one poverty estimate can be almost double the size of another estimate: using the lower poverty line and the upper estimate of consumption we would estimate a poverty rate of 28 percent, while using the upper poverty line and lower estimate of consumption we would estimate a poverty rate of 52 percent.

**Poverty rates are highly sensitive in WBG to slight variations in consumption estimates and the choice of a poverty line.**



Source: PCBS and World Bank staff calculations based on NPS.

**9. Whatever the true portion of the population below the official poverty line, it is clearly such a high rate that the distinction between the poor and the non-poor has limited practical relevance for donors and policy makers.** It is unlikely that sufficient resources could be mobilized to address the needs of all of the poor. Even if resources could be transferred to poor households with complete accuracy (perfect

<sup>17</sup> Similar calculations done on distribution patterns using PECS data 1998 lead to very similar conclusions.

targeting) and with no administrative costs (zero channeling costs), about US\$ 400 million per year would be required to bring everyone up to the poverty line. If we allow for typical costs for administering assistance and typical targeting errors, this figure could easily double. This is far above the resources currently devoted by the PA, donors and NGOs to alleviating poverty in the WBG. In 2002, for example, donors disbursed US\$ 200 million for employment generation programs, food and cash assistance.<sup>18</sup> Given limited resources, donors and policy makers are naturally concerned that the resources available are targeted at to the poorest – those who face difficulty maintaining the consumption necessary to subsist.

**10. In order to increase the practical relevance of the analysis, this report concentrates on *subsistence poverty* and means to mitigate it in the short run.** We establish a narrow definition of poverty in order to identify those individuals whose consumption is at or below subsistence levels. Making use of this definition, we then examine issues related to the basic well being of the population and the current risks of humanitarian crises. While recognizing the importance of structural economic and demographic policies to alleviate poverty in the medium run, we focus our attention on what could be undertaken in the short run to prevent a worsening of the current situation.

**11. The subsistence poverty line is based on the cost of satisfying the minimum caloric intake as established by the FAO/WHO, plus a basic allowance for non-food items, such as clothing and shelter.** We rely on the estimate from Shaban and Al-Botmeh (1995)<sup>19</sup> of the average cost of purchasing the minimum caloric intake in the WBG – US\$349 per person per year or 128 NIS per person per month as of December 2003. The allowance of 77 NIS for basic non-food items allowance was based on the non-food expenditures of those whose total budget is near 128 NIS per person per month. The subsistence poverty line – including budget for food and non-food items – is thus set at 205 NIS per person per month.<sup>20</sup>

### Poverty Lines and Poverty Definitions

Various definitions of poverty, corresponding to various poverty lines are used in West Bank and Gaza. As emphasized by the National Commission for Poverty Alleviation, any poverty line -- whether relative or absolute – is ultimately “arbitrary” because it is “essentially a political decision” (Palestine Poverty Report 1998, Palestinian Authority). What matters in the end for social policy is not the levels themselves but the changes in the levels across time and among various demographic groups. Internal consistency, broad public acceptance and ease of measurement are therefore, the most important criteria for setting any poverty line.

**Official Poverty Line.** An official poverty line was set by the National Commission for Poverty Alleviation in 1997. Although initially derived from a “relative” concept of poverty, it was used in subsequent years as an “absolute” measure of poverty. The

<sup>18</sup> Source: World Bank (2003).

<sup>19</sup> Shaban and Al-Botmeh (1995).

<sup>20</sup> For more detailed discussion of the subsistence poverty line, see Appendix II.

poverty line is based on the average consumption of essential goods (food, clothing, housing, housekeeping supplies, utensils and bedding, personal and health care, education and transportation) of the sixth poorest quintile (the poorest 30 percent) of households. (In order to account for the fact that children consume less than adults and for the existence of economies of scale within households – in particular for housing – households are ranked according to their consumption per “adult equivalent.”). As of December 2003, the official Palestinian poverty line corresponded to NIS 1,800 (approximately \$410) per month for a family of two adults and four children (source: PCBS, Impact of the Israeli Measures on the Economic Conditions of Palestinian Households, 7<sup>th</sup> round).

By way of comparison, the official Israeli poverty line for the same family of two adults and four children was set at NIS 5,926 (approximately \$1,350) in 2002 (source: Central Bank of Israel, discussions with Staff). In contrast to the official Palestinian poverty line, the official Israeli poverty line is strictly relative and changes with the evolution of income in the country: it is set each year at 50 percent of the net median income per adult equivalent.

**Subsistence Poverty Line.** In crisis periods, where subsistence is a serious concern and public resources are scarcer, it becomes particularly relevant to look at absolute poverty, as it gives a better indication on the potential for humanitarian crisis. In that context, we calculate that the average cost of purchasing the minimum caloric intake in the WBG was approximately at NIS 128 per month per person in December 2003. We then look at the share of non-food consumption of those consuming 128 NIS per month, as a way to measure non-food subsistence consumption, and obtain 77 NIS. This amount indeed reflects how much a person is willing to give up on basic nutritive needs to satisfy other essential needs (housing and clothing for instance). We sum the food and non-food subsistence consumption levels and obtain an absolute poverty line of NIS 205 per month per capita. (This is equivalent to approximately \$280 per month for a family of six.) It is worth noting that we are not accounting here for the fact that children consume less than adults and the existence of economies of scale within households, in the absence of information of the cost of purchasing minimum caloric intake by age group. Nevertheless, the calculation of the cost of purchasing minimum caloric intake is based on the demographic patterns in 1995, which have not changed significantly since.

For simplicity, we use a single, national poverty line. However, because the aggregated price level is believed to be lower in Gaza than in the West Bank, the national poverty line probably tends to understate consumption (and overstate the poverty rate) for Gaza, relative to the West Bank.

**Needy.** In a later section of this report, we examine the extent to which emergency assistance reaches the poorest individuals. In that context, we need to compare individuals on the basis of what their consumption levels would have been in the absence of emergency assistance. To do this, we calculate the value of their consumption net of any emergency assistance received. We identify as “needy” those individuals whose

consumption *net of emergency assistance* is below the subsistence poverty line (NIS 205 per month per capita).<sup>21</sup>

**12. Using this definition, we calculate a subsistence poverty rate of 16 percent of the Palestinian population, or approximately 607,000 persons, as of December 2003.**<sup>22</sup> In other words, 16 percent of the population cannot even afford the basics of survival, in spite of large external assistance. The proportion of households below poverty stands at 12 percent, as the average households' size of the poor is larger than that of the non-poor. On average, each poor individual would need an additional NIS 51 (approximately \$11) per month in order to maintain a subsistence level of consumption.

#### **Subsistence Poverty Indicators as of December 2003**

Head Count Index (% of population)	16.2
Poverty Gap (% of population)	4.1
Number of Poor Individuals (thousands)	607
Per Capita Monthly Gap (NIS)	51
Head Count Index (% of households)	12.7
Poverty Gap (% of households)	3.2
Number of Poor Households (thousands)	72
Per Household Monthly Gap (NIS)	462

Source: PCBS and World Bank Staff calculation.

**13. For the remainder of this report, we concentrate on subsistence poverty.** Unless explicitly stated, the word "poverty" will refer to subsistence poverty, as defined above (a monthly per capita consumption below NIS 205).

### **THE PALESTINIAN POVERTY PROFILE IN 2003:**

#### **WHAT ARE THE FACTORS THAT MAKE SOME PEOPLE POOR BUT NOT OTHERS?**

**14. For policy relevance, it is useful to distinguish between permanent and transitory characteristics associated with poverty.** Identifying permanent (or at least long term) characteristics associated with poverty (e.g. demography, education, location, refugee status) are helpful for understanding structural causes and consequences of poverty (e.g. low levels of education) and are often particularly useful for targeting.<sup>23</sup> Transitory characteristics of poverty, particularly those related to labor status, are important to identify as they will help understanding the potential impact of

<sup>21</sup> We implicitly assume the needy consume all of the emergency assistance they receive.

<sup>22</sup> As of year-end 2003, the Palestinian population in WBG was estimated at 3.738 million by the PCBS (source: PCBS, demographic statistics revised estimates, May 23, 2004, www.pcbs.org).

<sup>23</sup> When assistance is provided on the basis of temporary characteristics, there is an incentive for households to identify themselves with those characteristics. (For example, unemployment insurance creates an incentive to quit marginally acceptable jobs and a disincentive to find new employment.) Characteristics which households regard as permanent are useful because targeting on the basis of these characteristics does not create undesirable incentive effects.

macroeconomic and sectoral policies on poverty alleviation in the short run. In the following paragraphs, we consider the likelihood of being poor (or equivalently the poverty rate) for individuals based on a variety of household characteristics. It is to be noted that we cannot verify that causality runs from the characteristics to poverty. In some cases the causality may run from being poor to having the characteristic or causality may run in both directions (e.g. size of household).

**15. As expected, the composition and size of the household affects the likelihood of being poor.** Poverty rates are high among individuals living in households with many children and elderly relative/s to the number of working-aged adults.<sup>24</sup> The reason is simple: children and the elderly are less likely to earning an income than are working-aged adults. Presumably for the same reason, poverty rates for individuals in large households are significantly higher than for individuals in smaller households. Perhaps surprisingly, individuals living in female-headed households are less likely to be poor (7 percent) than are those in male-headed households (17 percent). A large portion of these female-headed households appears to be elderly women who can afford to live alone. The poverty rate among refugee households<sup>25</sup> is slightly higher than non-refugee households (17 percent vs. 15 percent).

**16. The educational level of working-aged members seems to protect individuals against poverty.** Fully one quarter of individuals who live in households whose (working-aged) adults have not finished elementary school are poor. By contrast, only four percent of individuals who live in households with (working aged) adults who have completed secondary school are poor. We know that workers with higher levels of education earn higher wages and this is likely to explain a large part of the phenomenon. It may also be the case that poverty results in lower levels of education, as poor individuals are forced to start working at a younger age.

**17. Poverty rates significantly differ from one place to another.** Individuals living in the Gaza Strip are far more likely to be poor (23 percent) than individuals living in the West Bank<sup>26</sup> – with individuals living in the middle West Bank the least likely to be poor (6 percent). The effect of living in the Gaza Strip appears to be due to the lower earnings of workers in Gaza compared to workers in the West Bank, possibly as a result of lower levels of productive investment and infrastructure in Gaza. It is also possible that part of the seemingly higher poverty rates in the Gaza Strip are actually overestimated because

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<sup>24</sup> An individual at least 16 years but no more than 64 years old is considered to be of working age. Interestingly, poverty rates are low among individuals living in households with no working-aged members. These households are almost always comprised of elderly individuals who can afford to live independently. In this case, it is clearly not the household characteristic which determines poverty status, but rather the poverty status (the relative wealth of some elderly individuals) which determines their household characteristic (their ability to maintain their own household rather than needing to move in with relatives).

<sup>25</sup> A household is considered to be a refugee household if it contains at least one individual who is a (registered or non-registered) refugee.

<sup>26</sup> The poverty rate for the West Bank as a whole is twelve percent.

of the lower price levels found in the Gaza Strip relative to the West Bank.<sup>27</sup> Individuals living in refugee camps<sup>28</sup> are more likely to be poor than individuals living in locations categorized as urban or rural. However, as we will see in paragraph 23, the apparently negative effect of living in a refugee camp disappears when we control for other variables. In other words, living in a refugee camp does not directly lead to poverty. Residents of refugee camps tend to have larger families, higher dependency ratios and are more likely to be living in Gaza – all of which increase the probability of poverty. These findings confirm previous ones based on the PECS<sup>29</sup> and underline the relative permanence of geographical patterns.

**18. Employment of household members reduces the probability of being poor.** Individuals living in households with many non-working dependents (and few workers) are more likely to be poor. This is as we would expect since it means more mouths to feed with a single salary. This effect is quite strong: where there are more than five dependents per worker, poverty rates are four times as high as in cases where dependency ratios are lower (17 percent vs. 4 percent).

**19. Individuals living in households with one or more unemployed members are more than twice as likely (29 percent) to be poor as other households (11 percent).** Because unemployed members count as dependents rather than workers, the effect of having an unemployed member is similar to that of having other types of dependents.

### **Likelihood of being poor**

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Household Size	Not poor	Poor	Total
Seven or fewer members	93	7	100
Eight or more members	76	24	100

Ratio of Children and Elderly to Working-Age Members	Not poor	Poor	Total
More working-aged than non working aged	88	12	100
More non-working-aged than working-aged	80	20	100
no working-aged members	96	4	100

Sex of Household Head	Not poor	Poor	Total
At least one working aged man in household	83	17	100
No working aged men present	93	7	100

<sup>27</sup> As discussed above, the difference in poverty rates between Gaza and the West Bank is likely to be overstated in these estimates. For simplicity, we use a single, national poverty line. However, because the aggregated price level is lower in Gaza than in the West Bank, the national poverty line tends to understate consumption (and overstate the poverty rate) for Gaza, relative to the West Bank. A more accurate estimate of the geographic distribution of poverty can be made by using a more disaggregated price index to create more disaggregated poverty lines.

<sup>28</sup> It is to be noted that not all refugees live in refugee camps. As of June 2003, a total of 1.56 million Palestinians were officially registered as refugees by UNRWA in West Bank and Gaza, out of which 0.66 million living in camps (source: UNRWA, www.unrwa.org).

<sup>29</sup> See Astrup and Dessus (2001).

Refugee Status	Not poor	Poor	Total
Refugee	83	17	100
Non-refugee	85	15	100

Average Education of the Household's Working-Age Adults	Not poor	Poor	Total
Less than elementary	75	25	100
At least elementary but less than secondary	82	18	100
Secondary or more	96	4	100

Location Type	Not poor	Poor	Total
Urban	84	16	100
Rural	85	15	100
Camp	81	19	100

Area	Not poor	Poor	Total
Northern West Bank	84	16	100
Middle West Bank	94	6	100
Southern West Bank	85	15	100
Gaza Strip	77	23	100

Economic Dependency	Not Poor	Poor	Total
Less than 5 dependents per employed person	96	4	100
Five or more dependents per employed person	83	17	100

Unemployment	Not Poor	Poor	Total
No unemployed members	89	11	100
One or more unemployed members	71	29	100

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Source: PCBS and World Bank Staff calculations.

**20. In order to better understand which kinds of workers have been particularly vulnerable to unemployment, it is useful to compare the characteristics of the unemployed to the characteristics of the employed labor force.** Nearly forty percent of the unemployed were previously working in Israel or in Israeli Settlements. For many of these, closures and cancellation of working permits have made them unable to reach their employers thus resulting in the loss of their jobs. The unemployed tend to have less education than do currently employed workers: only 26 percent of the unemployed have a secondary education, compared to 41 percent of currently employed workers. Even when they were working, the jobs many of the unemployed held were sporadic (68 percent). By contrast, the majority of currently employed workers have “regular” jobs with only 31 percent holding sporadic jobs.

## Characteristics of unemployed workers compared to employed workers

Education	Employed	Unemployed
Less than Elementary Education	12	17
At least elementary but less than secondary	47	57
Secondary or more	41	26
Total	100	100

Type of Job Held (for Employed)/ Last Job Held (for Unemployed)	Employed	Unemployed
Regular	66	29
Seasonal	3	3
Sporadic	31	68
Total	100	100

Location of Job Held (for Employed)/Last Job Held (for Unemployed)	Employed	Unemployed
West Bank and Gaza	89	59
Israel and Israeli Settlements	10	39
Total <sup>30</sup>	99	98

Location of Residence	Employed	Unemployed
WB	63	68
Gaza	37	32
Total	100	100

Source: PCBS and World Bank Staff calculations.

**21. Although unemployment is a crucial determinant of poverty, a significant proportion of the poor are currently working.** For the so-called working poor, creating jobs will not relieve their poverty: for them, poverty reduction requires increasing their productivity and earnings. What kinds of jobs do the working poor hold? The working poor have less stable jobs and earn less due to their lower education. Nearly half (48 percent) of the working poor work only sporadically, compared to one third (30 percent) of other workers. Crucially, the working poor have low levels of education – 20 percent have not even completed primary school, compared to 9 percent of non-poor workers. As a result, the wages earned for every hour worked should be lower for the poor.<sup>31</sup> The working poor are more likely to live (and work) in Gaza (55 percent) compared to non-poor workers (35 percent), which might reflect a lower level of productivity resulting from less investment in Gaza. Other factors have only minor, and often insignificantly, different effects. In particular, the working poor are neither more nor less likely to work in Israel or the Israeli Settlements compared to non-poor workers.

<sup>30</sup> A small number of jobs are identified as being “abroad.”

<sup>31</sup> See Ruppert-Bulmer (2001), who shows the significant impact of education on wages in WBG, running Mincer-type wage regressions.

## **Labor status characteristics of the working poor compared to other workers<sup>32</sup>**

Frequency of Work	Not poor	Poor
Regular	68	50
Seasonal	3	2
Sporadic	30	48
Total	101	100
Hours of Work	Not poor	Poor
Less than 15 hours/week	30	35
Fifteen or more hours per week	71	65
Total	101	100
Type of Work	Not poor	Poor
Employer	8	3
Self-employed	14	15
Unpaid family worker	4	7
Employee	74	76
Total	100	101
Educational Status	Not poor	Poor
Less than elementary	9	20
At least elementary but not secondary	47	59
Secondary or more	44	21
Total	100	100
Location of Residence	Not poor	Poor
West Bank	65	45
Gaza	35	55
Total	100	100
Location of Work	Not poor	Poor
WBG	89	89
IIS	10	11
Total	99	100

Source: PCBS and World Bank Staff calculations.

**22. In order to isolate the net impact on poverty of the various characteristics listed above, econometric estimates are performed on the NPS sample.** Although one cannot infer from this exercise any firm conclusion on the nature of the causal relationship between the different variables tested, it nevertheless permits us to check what characteristics are statistically correlated to the status of poverty. It also permits us to net out the effect of each characteristic on poverty, hence avoiding double accounting.

<sup>32</sup> Some categories do not sum to 100 percent due to rounding error.

The table below reports the marginal impact of various characteristics on the probability of being poor for a typical (average) Palestinian household.

**Marginal impact of various households’ characteristics on poverty**

Number of dependents	3.1%
Number of working aged adults	6.3%
School years of working aged adults	-0.3%
Number of adult males*	0.0%
Living in a refugee camp*	0.0%
Living in a rural area	3.9%
Living in Gaza	21.5%
Living in Northern West Bank	12.6%
Living in Southern West Bank	5.4%
Number of working adults	-2.3%
Number of working adults in the PA	-2.3%
Number of working adults in Israel or Israeli Settlements	-3.3%
Number of permanent jobs	-1.7%
Household business as main source of income	-2.9%

Source: PCBS and World Bank Staff calculations. \* The marginal impact on poverty of non-significant characteristics is set to zero. See Appendix III for detailed results.

**23. Several permanent and transitory characteristics of households are significantly correlated with poverty.** As result suggest, adding one dependent member to the family increases, ceteris paribus, the household’s probability of being poor by 3.1 percentage points. The overall size of the household (dependents plus working aged members) is also significantly associated with higher poverty.<sup>33</sup> The fact that the impact of working aged members (+6.3 percent) is larger than that of children and elderly (+3.1 percent) is counterbalanced by the level of education of working aged adults: each additional school year for a working aged adult in the household reduced its probability of being poor by 0.3 percentage points. Conversely, the number of working aged males in the household does not significantly reduce the probability of being poor.<sup>34</sup> The number of adults holding a job in the household is a strong factor of poverty alleviation. If these workers are employed by the PA or in Israel and Israeli Settlements (ISI) – as opposed to the domestic private sector – or hold a permanent job, the probability of being poor is further reduced. Owning a private business is also a significant factor of poverty alleviation. Living in Gaza – as opposed to the Middle West Bank – augments by 21.5

<sup>33</sup> This result confirms previous findings (based on PECS 1996-98) on the very significant impact of households’ size on poverty (World Bank , 2001b). This result is also robust to an alternative definition of poverty, accounting for economies of scale and households’ composition (children vs. adults). We run a sensitivity analysis in which we define subsistence poverty differently, accounting for the number of adult equivalents in each household, instead of its undifferentiated total number of members (using the formula of the official poverty line, see Appendix II). The poverty line for an adult equivalent is calculated for the average household (according to the NPS sample), comprised of 3.27 adults and 3.34 children. It is set at:  $[205*(3.27+3.34)] / [(3.27+0.46*3.34)]^{0.89} = 335$  NIS. We applied the same logit specification with this alternative definition of poverty and found that both the number of children and the number of working-aged adults remain highly significant correlates of poverty.

<sup>34</sup> The marginal impact on poverty of non significant characteristics is set to zero.

percentage points the probability of being poor, once controlled for other household's characteristics. Living in Northern or Southern West Bank augments it respectively by 13 and 5 percentage points. Living in rural areas – as opposed to urban areas – is also strongly correlated with poverty. On the other hand, living in a refugee camp does not seem to have a significant influence on the poverty status, once controlled for other characteristics.

**THE IMPACT OF THE INTIFADA ON DISTRIBUTION PATTERNS:  
HAS THE ECONOMIC CRISIS AFFECTED ALL HOUSEHOLDS IN THE SAME WAY?**

**24. We would like to know which categories of individuals have suffered the largest decline in well being since the start of the crisis.** Due to data limitations, we must confine ourselves to an analysis of what has happened to the economic status of categories of individuals *relative to the rest of the population*. We begin by examining changes in the distribution of consumption. We then identify changes in the characteristics of the individuals who comprise the poorest in society. We focus on the poorest 16 percent of the population because, as of December 2003, this group fell below the subsistence poverty line.<sup>35</sup> Identifying changes in the characteristics of the individuals who comprise the poorest in society is useful for two reasons. First, it allows us to identify types of individuals who have suffered disproportionately – that is, who were not among the poorest prior to the crisis, but have fallen into the bottom 16 percent since the start of the crisis. Second, it helps us to understand changes in the coping strategies used by the poorest in their efforts to maintain the highest possible consumption levels.

**25. The distribution of consumption has become more unequal since the start of the crisis.** Changes in poverty can be decomposed into (i) changes in average consumption; and (ii) changes in the distribution of consumption across individuals.<sup>36</sup> As discussed in the previous section of this report, there is little doubt that average consumption severely declined with the Intifada. In addition to the decline in average consumption, the said table shows that the distribution of consumption across individuals has changed. The table below compares the share of consumption of various groups between 1998 (from PECS) and 2003 (from NPS).<sup>37</sup> Because the NPS may underestimate (in comparison to the PECS) the consumption of the richest households, it may underestimate the extent of inequalities. Hence what we observe below – a strong increase in inequalities in 2003 compared to 1998 – should be considered a conservative estimate. In addition to total consumption, we calculate shares of food consumption (for which the bias of comparison is believed to be lower than that for total consumption, see Appendix D). The increasing inequality in food consumption further reinforces the finding from total consumption. The following table reads as follows: in 1998, the poorest decile

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<sup>35</sup> Note that, notwithstanding comparability problems, see Appendix I, the average consumption of the bottom 16 percent of the population was most likely higher in 1998 than it was in 2003.

<sup>36</sup> See Ravallion (1992).

<sup>37</sup> Earlier in this report and in Appendix I we argue that it is inappropriate to compare consumption levels drawn from surveys with different degrees of detail. In the present analysis, no difficulty arises, because we are only interested in the ranking of individuals' consumption – not the level of consumption.

(the poorest 10 percent, ranked by per capita consumption) was consuming 3 percent of the total Palestinian consumption. The poorest decile in 2003 consumed only 2 percent of total consumption. Similar patterns exist when we consider the poorest 20 percent, the poorest 30 percent and so on and when we limit the analysis to the consumption of food.

**Per capita total consumption distribution patterns, 1998-2003**

Poorest	5%	10%	15%	20%	30%	50%	70%	90%
1998	1%	3%	6%	8%	14%	29%	48%	75%
2003	1%	2%	4%	5%	9%	19%	35%	63%

Source: PCBS and World Bank Staff calculations.

**Per capita food consumption distribution patterns, 1998-2003**

Poorest	5%	10%	15%	20%	30%	50%	70%	90%
1998	1%	3%	5%	8%	14%	28%	47%	76%
2003	1%	2%	3%	5%	9%	19%	34%	62%

Source: PCBS and World Bank Staff calculations.

**26. Changes in distribution patterns reflect changes in the distribution between richest groups and the rest of the population.** The richest 10 percent of the population used to consume 25 percent of total consumption in 1998, against 37 percent in 2003. As such, the worsening of inequalities can be explained by a deterioration of living conditions of the vast majority of Palestinian compared with the richest. The latter appear to have been relatively less affected by the crisis, possibly deriving most of their income from sources external to the conflict (e.g. pensions and factors income from abroad). The bottom 90 percent of the population consumes lower shares of total consumption in 2003 compared to 1998. On the other hand, the same analysis restricted to the poorest quarter of the population in 1998 and 2003 does not suggest a strong deterioration of inequalities within this group. In other words, the poorest segments of the population did not suffer disproportionately from the crisis. Rather, the increase in inequalities is due to a slippage of the majority compared with the top-end of the population.

**27. The poor have *not* suffered disproportionately.** Although the poor were more vulnerable, and found it increasingly difficult to cope with the economic hardship, they also particularly (more than any other group) benefited from huge formal and informal emergency assistance. As seen below, the poor have exhausted their savings to a greater extent than the non-poor and this has tended to make them disproportionately worse off. At the same time, however, emergency assistance has disproportionately benefited the poor. Taken together, the negative distributional impacts (of savings) and positive distributional impacts (of emergency assistance) have largely balanced each other out.

**28. Three consecutive years of crisis appear to have exhausted the savings of the poor.** In the early months of the crisis, the vast majority of the poor (94 percent) reduced their expenditures. Nevertheless, they also relied heavily on drawing down savings and

selling jewelry as strategies to partially compensate for their reduced income.<sup>38</sup> More than two-thirds drew down savings and nearly a third sold all or part of their jewelry during 2001. By 2003, it would appear that these strategies could no longer be used. In 2003 only 46 percent of the poor were making further reductions in expenditures, 13 percent of the poor were continuing to draw down savings (compared to 70 percent in 2001) and only 17 percent were selling jewelry (compared to 29 percent in 2001.) It is possible that the decreased use of these coping strategies reflect an improvement in their economic situation and, thus, a decreased need for the strategies. This seems unlikely, however, given that average incomes continue to be lower and poverty rates continue to be higher than they were prior to the crisis. In other words, it would appear that the poor had already reduced expenditures as far as possible, and that they had to a large extent exhausted their savings.

**29. While the poor are no longer relying on savings, the non-poor continue to draw down their savings.** Comparing strategies used in 2003 by the poor with those used in the same year by the non-poor, we see that far more of the non-poor (24 percent) than the poor (13 percent) are relying on savings. The poor are more likely to borrow from individuals (60 percent compared to 39 percent for the non-poor) and to rely on friends and relatives (34 percent compared to 19 percent for the non-poor). This comparison (of the poor with the non-poor) is consistent with the idea that the consumption of the poor has been disproportionately reduced because they no longer have savings to smooth their consumption during difficult times. (That is, the poor have become liquidity constrained.)

**Evolution of Coping Strategies of the Poor: 2003 Compared to 2001.**

		Friends & relatives	Borrow from individuals	Use savings	Selling jewelry	Reducing expenditures	Work in agricultu re
2001	Yes	n.a.	52%	70%	29%	94%	14%
	No	n.a.	48%	27%	70%	7%	80%
	n.a	n.a.	0%	3%	1%	0%	6%
2003	Yes	34%	60%	13%	17%	46%	13%
	No	66%	40%	68%	70%	54%	49%
	n.a	0%	0%	19%	14%	0%	38%

Source: PCBS and World Bank Staff calculations. Note: we are comparing the coping strategies of the poorest 16 percent of the population in 2001 with those of the poorest 16 percent of the population in 2003.

\*n.a.= not available.

<sup>38</sup> The data for 2001 was taken from the nationally representative PCBS Impact survey. In this table, we compare the poorest 16 percent of the population from the Impact survey with the poorest 16 percent of the population from the NPS.

### Coping Strategies in 2003: Poor Compared to Non-Poor.

		Friends & relatives	Borrow from individuals	Use savings	Selling jewelry	Reducing expenditures	Work in agriculture
Poor	Yes	34%	60%	13%	17%	46%	13%
	No.	66%	40%	68%	70%	54%	49%
	n.a.	0%	0%	19%	14%	0%	38%
Non-poor	Yes	19%	39%	24%	12%	32%	10%
	No.	79%	60%	62%	81%	67%	59%
	n.a.	2%	1%	14%	7%	0%	31%

Source: PCBS and World Bank Staff calculations. Note: we are comparing the coping strategies of the poorest 16 percent of the population in 2001 with those of the poorest 16 percent of the population in 2003. n.a.= not available.

**30. The disproportional impact of the crisis on the poor (via exhaustion of their savings) was offset by a relatively effective targeting of emergency assistance.**<sup>39</sup> In the previous paragraphs, we have argued that lower available savings has had a disproportionately negative impact on the consumption of the poorest. In contrast, the targeting of emergency assistance partially offset the tendency to increased inequality. Most of the emergency assistance went to the poor, or at least to those who would have been poor had they not received emergency assistance. We turn now to a detailed discussion of the targeting of emergency assistance.

#### THE ADEQUACY OF EMERGENCY ASSISTANCE: IS EMERGENCY ASSISTANCE SUFFICIENT? IS THERE SCOPE TO IMPROVE ITS ALLOCATION?

**31. Providers of emergency assistance in the West Bank and Gaza have a range of targeting goals, though these goals are often vaguely defined, due to lack of reliable information that could be used for targeting.** In order to examine the allocation of emergency assistance as a whole and to compare across types of emergency assistance, we focus on the distinction between the poor and the non-poor (based on our

<sup>39</sup> The NPS includes information on the types and quantities of emergency assistance received by households. In the context of the NPS, emergency assistance is defined as assistance specifically intended to offset the impacts of the current crisis (regular assistance, on the other hand, refers to the type of assistance channeled before the Intifada by MOSA and UNRWA to special hardship cases; see World Bank (2002) for a discussion on regular social safety nets. See also World Bank (2001b) for discussion specific to West Bank and Gaza. Three categories of assistance that are *not* included in our calculations are martyr's compensation, budget support to the Palestinian Authority and job creation programs. Martyr's compensation is not included because it is given to families as a one-time lump sum. Budget support might logically be considered a form of emergency assistance especially because a large portion of the budget goes to employee salaries. (See World Bank (2003), for a discussion of the poverty impact of budget support). However, because budget support has other goals as well as emergency assistance, it is not included. Furthermore, since beneficiaries of job creation programs (including the preservation of civil servants jobs through budget support) are often unaware that the jobs are part of an assistance program, job creation programs are not included in our calculations.

subsistence definition of poverty). In this section we examine the allocation of emergency assistance as if all emergency assistance was targeted to the poor. The analysis should not be interpreted as an evaluation of the providers' success in meeting the goals defined by any particular program, because each programs' goals may be slightly different.

**32. The poverty rate would be significantly higher in the absence of emergency assistance.** As we have said in earlier sections, 16 percent of the population had consumption levels below the poverty line even after including the value of the emergency assistance they consumed. When we subtract out the value of the emergency assistance consumed, we find that 22 percent of the population would fall below the poverty line. (To distinguish between these two concepts, we have referred to this 22 percent of the population as "needy.") In other words, emergency assistance has served to lower the poverty rate from 22 percent to 16 percent – a reduction of almost a third.<sup>40</sup>

**33. Emergency assistance covers aggregate needs, but could be better allocated.** In December 2003, emergency assistance exceeded aggregate needs (the distance to the poverty line before emergency assistance) by 40 percent. This means that if emergency assistance could have been perfectly targeted, no one would have had consumption below subsistence level. In reality, however, targeting cannot be perfect and the question of sufficiency of emergency assistance must consider a reasonable amount of targeting error.

**34. Good targeting requires minimizing two types of possible errors.** The first type of error, leakage, is defined as the number of non-needy individuals who receive emergency assistance divided by the total number of individuals who receive emergency assistance.<sup>41</sup> The second type of error is under-coverage of the needy. Under-coverage is the proportion of needy individuals who do *not* receive emergency assistance.<sup>42</sup> As we see in the table below, the leakage rate is 55 percent – that is, 55 percent of those who receive emergency assistance are not needy. It is also useful to consider a related measure – the value of emergency assistance which leaks to the non-needy. In the case of WBG, 44 percent of the total value of emergency assistance goes to the non-needy. The rate of under-coverage is 32 percent -- that is, 32 percent of the needy do not receive emergency assistance. Under-coverage by value is 27 percent. That is, the total aid received by the needy covers 73 percent of the resources required to bring them up to the subsistence poverty line. The under-coverage by value in this case is the remaining 27 percent of needs which are left unmet. In the paragraphs below, we consider the extent of leakage and under-coverage.

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<sup>40</sup> The assertion that emergency assistance has served to reduce the poverty rate from 22 percent to 16 percent assumes other factors, including wage income, would remain unchanged in the absence of emergency assistance. In particular, we are assuming that receipt of emergency assistance is not an effective disincentive for the poor to work. We believe this is a reasonable approximation of reality because (i) at current high rates of unemployment, labor demand appears to be the binding constraint to employment; and (ii) at subsistence levels of consumption, labor supply is likely to be quite responsive to wage income.

<sup>41</sup> Leakage is sometimes referred to as an "error of inclusion."

<sup>42</sup> Under-coverage is sometimes referred to as an "error of exclusion."

### Indicators of Targeting Quality

	Not needy	Needy	Total
Do not receive emergency assistance	89	10	100
Receive emergency assistance	55	45	100
Percent of value of emergency assistance received	44	56	100

	Not needy	Needy
Do not receive emergency assistance	77	32
Receive emergency assistance	23	68
Total	100	100

Source: PCBS and World Bank Staff calculations.

**35. The targeting of emergency assistance compares favorably with programs in other countries.** In the tables below, we provide comparisons of targeting performance for a range of programs from other countries. In terms of both value of leakage and rate of under-coverage, the emergency assistance in WBG performs better than the average for the countries presented. It should be noted, however, that the targeting mechanisms and definitions of poverty used differs by country so they are not strictly comparable.<sup>43</sup>

### Indicators of Targeting Quality for Other Countries

Under-coverage (Percentage of poor who do not receive benefits)	
Romania	25
<i>WBG Emergency Assistance</i>	32
Poland	36
Kyrgyzstan	49
Hungary	54

Source: PCBS and World Bank staff calculations based on Subbarao (1997).

Leakage by value (Percent of value of assistance received by non-poor)	
Serbian Family Assistance	22
Sri Lanka (means tested food stamps)	31
Chile Cash Assistance	35
Mexico	41
Romanian Minimum Income	43
<i>WBG Emergency Assistance</i>	44
Kazakhstan Targeted SA	44
Kyrgyzstan Unified Monthly Benefit	46

<sup>43</sup> The numbers taken from World Bank (2004b) refer to the poorest quintile of the population. The numbers taken from Subbarao (1997) are based on relative national poverty lines.

Armenian Family Poverty	49
Columbia Social Assistance	63
Poland	74
Bangladesh (geographically targeted food)	74
Russian Social Assistance	78
Bulgaria	81

Sources: PCBS and World Bank staff estimates based on Subbarao (1997) for Poland, Hungary, Bulgaria, Bangladesh, and Sri Lanka; World Bank (2004b) for other countries.

**36. The majority of the non-needy who receive emergency assistance are close to the poverty line.** Although a leakage rate of 55 percent appears quite high, this is partly a result of our strict definition of poverty. Approximately a third of the non-needy who receive emergency assistance have per capita monthly consumption levels (before emergency assistance) less than 300 NIS/per person – approximately the level of the official poverty line. If we consider the proportion of recipients whose consumption net of emergency assistance is below the official poverty line (rather than below subsistence), the leakage rate would fall to 33 percent.<sup>44</sup> Nevertheless, there is substantial leakage to those whose consumption is well above the poverty line.

#### **Which non-needy individuals receive emergency assistance?**

Monthly per capita consumption before emergency assistance	does not receive emergency assistance	receives emergency assistance
Less than 205NIS	10	45
205-299 NIS	19	22
300-399 NIS	15	12
400-499 NIS	13	7
500 NIS and above	43	14
Total	100	100

Source: PCBS and World Bank Staff calculations.

**37. Available data does not suggest any simple way to reduce overall rates of leakage.** The probability of receiving emergency assistance when not needy does not seem to be influenced by observable household characteristics. Among the variables tested econometrically (see annex) to explain (i) the amount of emergency assistance to non-needy and (ii) the probability of receiving emergency assistance when non-needy, the most significant one is the needs variable: the lower the needs (i.e., the higher the distance above the poverty line before emergency assistance), the lower the emergency assistance received (and probability to receive some emergency assistance), which confirms that most of the emergency assistance to non-needy goes to individuals close to

<sup>44</sup> Note that the poverty line of 300 NIS per person strictly corresponds to the official poverty line only if the individuals concerned live in a household of two adults and four children (see the Box on poverty lines and poverty definitions). For this reason, the leakage rate of 33 percent obtained here can slightly differ from the one that would be calculated using the official poverty line, taking into account economies of scale and the fact that children consume less than adults.

the poverty line, or equivalently to the near-needy. Consideration of other variables did not reveal any systematic biases of allocation to groups within the non-needy. Reductions in leakage must be addressed at the level of assistance programs where one can bring in additional information (e.g. through use of local organizations which have better information on needs of households or through self-targeting mechanisms.)

**38. There is room to improve coverage of the needy.** As we have seen, 32 percent of needy individuals receive no emergency assistance. In order to improve targeting of emergency assistance, it is useful to understand which among the needy comprise this excluded third. The table below reports the proportion of individuals not receiving emergency assistance based on the characteristics of needy individuals.

**Coverage based on characteristics of the needy**

	No emergency assistance received	Emergency assistance received	Total
Northern West Bank	38	62	100
Middle West Bank	54	46	100
Southern West Bank	38	62	100
Gaza Strip	25	75	100
Urban	32	68	100
Rural	46	55	101
Refugee Camp	17	83	100
Female-headed household <sup>45</sup>	14	86	100
Male headed household	33	67	100
Refugee <sup>46</sup>	25	75	100
Non-refugee	42	58	100
No working members	20	80	100
At least one working member	42	58	100

Source: PCBS and World Bank Staff calculations.

**39. Nearly half of the rural needy receive no emergency assistance of any form.** By contrast – and thanks largely to UNRWA – only 17 percent of needy residents of refugee camps do not receive any emergency assistance. The higher rates of exclusion for the rural needy is a common phenomenon in many developing countries due to the

<sup>45</sup> We consider a household to be female headed if there is no adult male present.

<sup>46</sup> A household is considered to be a refugee household if it contains at least one registered or non-registered refugee.

administrative costs of distributing assistance. In rural areas where the population is spread out, it can be significantly more expensive to deliver goods and services than it would be in the more densely populated refugee camps or urban areas. In the Palestinian context of high restriction on movement of people and goods, needy from rural areas are particularly disfavored by their inability to reach dense centers.

**40. Nearly half of the needy in the Middle West Bank are excluded from emergency assistance, compared to only one quarter of the needy in Gaza.** However, this apparent discrimination against residents of the Middle West Bank (and to a lesser extent those of the West Bank as a whole) disappears when we control for other characteristics. Rather, the exclusion of needy residents of the West Bank is largely due to the fact that more of them live in rural areas, rather than due to their residence in the West Bank per se.

**41. Needy non-refugees, and needy individuals living in male-headed households or households with working members are less likely to receive emergency assistance.** Only 14 percent of the needy living in female-headed households do not receive aid, compared to a third of the needy living in male-headed households.<sup>47</sup> This may reflect agencies using absence of working-aged men as a proxy for poverty. Such a proxy would be ill advised, however, because individuals in female-headed households are less likely to be poor than those in male-headed households.<sup>48</sup> Needy refugees are more likely to receive aid than needy non-refugees. A quarter of needy refugees are excluded compared to 42 percent of needy non-refugees. As with female-headed households, it would appear that refugee status is used as a proxy for poverty. Needy individuals living in households with no working members are more likely to get emergency assistance than members of other needy households. Among needy individuals in households with no working members, only 20 percent do not receive emergency assistance, compared with 42 percent of needy individuals in households with at least one working member. It should be noted, however, that when we control for other characteristics, households with a larger number of working adults receive *more* emergency assistance, rather than less as would be presumed on the basis of the table above.<sup>49</sup>

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<sup>47</sup> We consider a household to be female-headed if there is no adult (working-aged) male present.

<sup>48</sup> As noted earlier, 3 percent of female-headed households are poor compared to 13 percent of male-headed households. These numbers, can be misleading, however, because they reflect consumption levels which include the aid received. It is more relevant to compare consumption levels *net of aid – the needy*. Although the difference between male and female-headed households is smaller when looking at need than when looking at poverty, we still find that female-headed-households have significantly lower rates of need (14 percent) than male-headed households (20 percent). These results actually confirm those obtained on pre-Intifada (PECS) data. See World Bank (2001b), which suggested that the probability of being poor did not depend on the gender of the head of household.

<sup>49</sup> There are three possible explanations for this seeming inconsistency. First, while it is true that the working needy are less likely to receive emergency assistance than the non-working needy, their exclusions is not due to work status per se, but rather due to the fact that many of the working needy live in Gaza. That is, it is their place of residence rather than their work status that makes them less likely to receive aid. Second, whereas the analysis in paragraph 41 considers whether or not *any* emergency assistance was received, the analysis in paragraph 42 considers the *amount* of emergency assistance received. Third, whereas the analysis in paragraph 41 is based on the number of needy individuals, the analysis in paragraph

**42. Econometric analysis permit to identify significant and systematic biases of allocation of emergency assistance within the needy.** In the preceding paragraphs, we examined the characteristics of households which receive emergency assistance and those which do not. However, addressing the characteristics one by one cannot isolate the impact of each characteristic on the probability to receive emergency assistance, which remains a necessary information to improve its targeting efficiency. In order to examine the relationship between a households' characteristics and the quantity of emergency assistance received controlling for all other characteristics, we run a regression for the amount of emergency assistance received by a needy household as a function of a series of characteristics.

**The determinants of emergency assistance received by needy households (NIS)**

Emergency assistance received irrespective of its characteristics (NIS):	709.6
Living in Northern West Bank (1 if yes, 0 otherwise)*	0.0
Living in Southern West Bank (1 if yes, 0 otherwise)*	0.0
Living in Gaza (1 if yes, 0 otherwise)	-214.6
Need of the household (NIS)	1.1
Number of household members	-92.2
Living in a rural area (1 if yes, 0 otherwise)	-170.6
Living in a refugee camp (1 if yes, 0 otherwise)*	0.0
Number of inactive adults	-93.2
Number of unemployed adults	-218.5
Working age adults years of schooling	13.7

Source: PCBS and World Bank Staff calculations.\*: the marginal impact on assistance received of non-significant characteristics is set to zero. See Appendix III for detailed results.

The table above reads as follows: a needy household receives, *ceteris paribus*, the equivalent of 110 percent of its needs, plus NIS 710. But some characteristics reduce this amount: the number of household members, the number of inactive or unemployed members, or the fact of living in a rural area or in Gaza. The number of school years of working age adults, on the other hand, is a positive factor for receiving emergency assistance.<sup>50</sup> In other words, large households living in Gaza or rural areas receive less emergency assistance. Finally, well-educated needy households seem to benefit more than less educated households from emergency assistance programs. Rebalancing emergency assistance towards these disfavored groups would hence help in increasing the targeting efficiency of emergency assistance within the group of the needy.

42 is based on the number of needy households. Further investigation is required to understand which of these three possibilities explain the different conclusions implied by paragraphs 41 and 42.

<sup>50</sup> For example, a Gazan urban household comprised of 3 children, 1 inactive, 1 unemployed and 1 employed, who gather collectively 30 years of schooling (10 years for each adult), and whose monthly consumption (before aid) is NIS 835 will typically receive 476 NIS worth of emergency aid per month:  $709.6 + -214.6*1 + 1.1*(205*6 - 835) - 92.2*6 - 170.6*0 - 93.2*1 - 218.5*1 + 13.7*30 = 475.6$

**43. A range of targeting quality is observed across types of emergency assistance.** Only cash and food assistance reach a large segment of the needy. As is typical in other countries, programs such as medical care cover only a small proportion of those in need.<sup>51</sup> According to international standards, provision of cash assistance appears to function reasonably well in WBG. (International experience shows that cash assistance programs tend to reach 5-25 percent of the population with 35-55 percent of benefits going to the poorest 20 percent of the population. In the case of WBG, cash assistance reaches 19 percent of the population, with 55-60 percent of the benefits going to the poorest 16 percent of the population.<sup>52</sup>

#### Targeting by type of emergency assistance

	Leakage	Leakage by value	Under-coverage	Under-coverage by value <sup>53</sup>
Food	58	56	66	87
Medical care	61	35	98	98
Clothing	38	37	95	99
Cash	45	41	54	46
Health insurance	37	44	88	98
Other	35	33	99	100
Total	55	45	32	27

Source: PCBS and World Bank Staff calculations.

**44. Increasing the volume of emergency assistance could reduce under-coverage.** If the total amount of emergency assistance currently distributed to households was perfectly targeted to the poor, everyone could have at least subsistence level of consumption, and subsistence poverty would be eliminated. In reality, however, this is not possible. As we have discussed, some needy poor get no emergency assistance and some who are not needy do get emergency assistance. Although it is preferable to minimize both the errors of exclusion (the poor who do not receive emergency assistance) and the errors of inclusion (emergency assistance going to the non-poor), some degree of imperfection in targeting will always exist. Indeed, because targeting can be costly, there is a trade-off between well-targeted programs with very large administrative budgets on the one hand and less-perfectly-targeted programs with much smaller administrative budgets<sup>54</sup>. In the context of the current crisis in the West Bank and

<sup>51</sup> See World Bank, Poverty Reduction Strategy Sourcebook. Available online at <http://www.worldbank.org/poverty/strategies/sourcons.htm>

<sup>52</sup> Fifty-five percent of cash assistance beneficiaries are needy. (The table below shows that 45 percent of the cash assistance beneficiaries are non-needy, implying that 55 percent *are needy*.) Fifty-nine percent of the value of cash assistance goes to needy individuals. (The table below shows that 41 percent of the value of cash assistance goes to non-needy, implying that 59 percent goes to *needy individuals*.)

<sup>53</sup>To understand the significance of under-coverage by value, consider the following. Total aid received by the needy covers 73 percent of the resources needed to bring them up to the subsistence poverty line. The under-coverage by value in this case is the remaining 27 percent.

<sup>54</sup> Some targeting mechanisms are less costly than others. A discussion of the cost efficiency of various types of aid is beyond the scope of this report. The interested reader should refer to Grosh (1994), or

Gaza, reducing leakage would be difficult and have limited benefits (because most of the leakage goes to the near-poor). Rather, scaling up the level of emergency assistance might actually prove to be a more effective solution to fight poverty, if it could reduce under-coverage and the systematic biases identified above. This would call in particular for implementing new programs designed to reach people from Gaza and rural areas, as well as inactive and unemployed adults.

#### TO WHAT EXTENT COULD AN ECONOMIC RECOVERY REDUCE POVERTY?

**45. Because economic hardship on the Palestinian population as a whole rose with the political crisis, it is hoped that a resolution of the crisis would reduce poverty.** In particular, a lifting of internal and external closures<sup>55</sup> could possibly help alleviating poverty in West Bank and Gaza, as it is believed to be the main cause of the current economic hardship. The extent to which an easing of the political situation would reduce the rate of poverty in the short run is the topic of this section, which aims at informing decision-makers on the needs for various types of assistance (in particular emergency assistance vs. development assistance programs) under different scenarios.

#### Household characteristics

	Poor	Non-Poor	Total
Workers per households (%)	8.6	15.8	14.6
Labor force participants per household (%)	17.1	21.7	20.9
Unemployed per household (%)	8.5	5.9	6.3
Unemployed from ISI per household (%)	2.9	1.6	1.8

Source: PCBS and World Bank Staff calculations. Note: figures on unemployment are from the NPS, and, as such, might not be directly comparable with that of Labor Force Surveys.

**46. Broadly speaking, poor can be differentiated by their ability to benefit or not from an economic recovery in the short run.** As we have already observed, some transitory households characteristics – notably unemployment – have an influence on the probability of being poor. Other characteristics, like the location, the composition of the household or its education level, are more permanent, and are hence unlikely to be affected in the short run. The potential for the poor to benefit from an economic recovery depends on the extent to which their transitory characteristics – labor status in particular – can be modified. In households without working-aged members, for instance, an economic recovery is unlikely to have a direct impact on poverty. All in all, the potential of the poor to benefit from recovery should be greater than that of non-poor, as the unemployment rate of the former is about twice larger than that of the latter (see table

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Subbarao et al. (1997) for international experience or the on-going study on Service Delivery by NGOs for discussion of WBG experience.

<sup>55</sup> Internal and external closures refer respectively to the imposition of check points, roadblocks and travel permits limiting the movements of people and goods *within* West Bank or Gaza and *between* West Bank, Israel, and Gaza. The erection of the separation barrier within the West Bank and the imposition of curfews (which force people to stay at home) can be considered as extreme forms of internal closures.

below). On the other hand, the lower participation rate in poor households is a more permanent obstacle to poverty alleviation. The table below depicts some of these characteristics, as of December 2003.

**47. We simulate three scenarios of short run economic recoveries driven by lifting of closures, taking into account the initial characteristics of each household in the sample (micro-simulations).**<sup>56</sup> A first scenario envisages a modest economic recovery, driven by the lifting of internal closures (i.e., with a continued limited access to the Israeli labor market). A second, more optimistic, scenario envisages greater access to the Israeli labor market as well. When simulating these scenarios, we control for the initial conditions of each household, in particular regarding unemployment. That is, we assume increased employment occurs through the re-employment of those currently unemployed (in the sector where they used to be employed, if relevant), hence accounting for differences in the capacities of households to benefit from an economic recovery.

**48. Lifting internal closures could reduce the poverty rate by about one percentage point.** Compared with the 12 months before the Intifada (October 1999-September 2000), there were some 133,000 additional unemployed in West Bank and Gaza in 2003.<sup>57</sup> Let's assume (scenario 1) that half of these new unemployed could be absorbed within West Bank and Gaza, leaving the number of Palestinian workers in ISI (as well as other sources of income, including assistance) unchanged at their 2003 levels. Under this scenario, the unemployment rate would go down to 17 percent of the labor force (against 26 percent on average for 2003). In this case, micro-simulations suggest that the poverty rate could decline by about 1 percent, from 16 to 15 percent of the population, with some 35,000 people lifted out of poverty.

**49. A rapid return to the pre-Intifada situation could bring down the poverty rate by 3 percentage points.** A second scenario (scenario 2) envisages that (i) the unemployment rate drops back to its pre-Intifada level –10 percent (against 26 percent in 2003); (ii) the participation rate rises back to its pre-Intifada level – 42 percent (against 40 percent in 2003); and (iii) that the number of Palestinians working in ISI rises back to its pre-Intifada level (140,000 against 57,000 in 2003). Under this second scenario, micro-simulations suggest the poverty rate could decline by about 3 percentage points, from 16 to 13 percent of the population, with some 120,000 people lifted out of poverty.

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<sup>56</sup> To perform the simulations, we use a variant of the logit regression of the determinants of poverty presented in the main text. We substitute the number of unemployed workers previously working in ISI to the total number of workers in the household, so as to better capture the potential impact at the household level of a re-opening of the Israeli labor market. At the macro-level though, this estimation is strictly equivalent to the one presented in the main text.

<sup>57</sup> Since the outbreak of the Intifada, some 40,000 jobs were lost. 43,000 jobs were created in West Bank and Gaza, but 83,000 jobs were lost in ISI. During the same time, the labor force grew by 93,000. The participation rate dropped from 42 percent to 40 percent, and some 20,000 workers left the labor force. Source: World Bank and PCBS Staff calculations based on PCBS Labor Force Surveys.

## Simulation results

Scenarios	Ref.	1	2	3
Poverty Rate (%)	16.2	15.3	13.1	12.5
Number of poor (thousands)	607	572	490	465
Unemployment rate (%) a/	25.6	17.2	9.9	9.9
Unemployment rate of the poor (%) a/	42.2	28.3	16.4	0.0

Source: PCBS and World Bank Staff calculations. a/ adjusted to match LFS unemployment rates.

**50. At the extreme, eliminating unemployment for the poor would only slightly improve their situation in the short run.** Let's finally assume that all unemployed poor find a job, maybe as a result of a strong economic recovery combined with (very) efficient labor policies to target the poor (scenario 3). Under such extreme assumptions, the poverty rate would still remain well above 10 percent of the population (12.5 percent). The weak response of poverty rates to new job opportunities is due to low participation rates among the poor and the fact that a large proportion of poor participants are currently working (see paragraph 21 on the working poor). By way of comparison, structural determinants of poverty remain far more important: bringing down the average poor household size (8.8 members) to that of non poor (6.3 members) would reduce the poverty rate by 7 percentage points; raising the education level of poor adults (8.2 years of schooling) to that of the non-poor (9.5 years of schooling) would bring down the poverty rate by another 2 percentage points.

**51. The simulations described above illustrate the limited impact of job creation on poverty alleviation in the short run.** One might argue that the simulations were overly pessimistic because they assumed no change in real wages. Indeed, a significant increase in real wages would not only increase the marginal impact of holding a job on the poverty status, but would also increase the participation rate in the labor market.<sup>58</sup> However, while a reduction in closures is likely to increase the number of jobs, we believe it is unlikely to result in increased wage rates. Consider the impact on wages and jobs over the course of the current crisis. Between 2000 (the start of the Intifada) and 2002 real wages in WBG remained almost unchanged, while most of the adjustment on the labor market took place in the form of a reduction in the number of jobs. Symmetrically, the year 2003 witnessed a significant rebound in the number of jobs in WBG (+21 percent; source: PCBS Labor Force Surveys), while real wages declined 3 percent. Various reasons have been suggested to explain why real wages have not played a market-clearing role during the Intifada.<sup>59</sup> Whatever the reason, a return to pre-Intifada

<sup>58</sup> See Astrup and Dessus (2002), who estimate econometrically the impact of real wages on the labor participation rate, and find a positive and statistically significant relationship between the two.

<sup>59</sup> With the Intifada, the usual negative relationship between real wages and unemployment (which was significant over the period 1995-2000) broke down: real wages grew in tandem with unemployment. This was notably attributed to greater segmentation of labor markets as closures and curfews reduced their capacity to match demand and supply (World Bank 2003). Workers were unable to reach their workplace and remained unemployed as movement restrictions prevented them from seeking employment elsewhere, while firms were facing a shortage of labor and were hence disinclined to reduce workers' compensation. In contrast, as the easing of closures and curfews in 2003 facilitated labor mobility, a partial de-segmentation of labor markets may have exerted a downward pressure on domestic wages. A composition

labor market conditions is unlikely to cause a significant increase in real wages, unless accompanied with significant productivity gains. Moreover, a reduction in closures will not result in pre-Intifada levels of productivity due to destruction of infrastructure, loss of external markets and the severance of economic networks that have accompanied the crisis.

**52. Potential creation of high wage jobs for the employable poor is ultimately linked to the overall Palestinian economic development agenda.** In its last poverty assessment, the World Bank (2001) argued that “the potential creation of high wage high-productivity jobs for the poor lies in the development of an export-oriented private sector. Higher exports could directly benefit the poor who are probably already heavily represented in low wage occupations in the tradable goods sectors of agriculture and industry.... For an economy as small as the Palestinian economy, long run development depends crucially on the creation of strong linkages with external markets. Without expanding its foreign markets, the Palestinian economy will find it difficult to attract new investment, and to increase the worker productivity. Being constrained by the slow growth of its domestic demand, the rapid rise in labor supply will translate into decreasing real wages, increasing unemployment, and consequently, higher poverty rates”. These considerations are probably more valid today than ever, at a time where (low) job opportunities for Palestinian workers on the Israeli market cannot offset anymore the Palestinian limited ability to trade with the World (including Israel). While trading opportunities cannot guarantee increased productivity, it is certainly a necessary condition to modernize the Palestinian economy, as it would play a catalyst role on investment (public and private), competition and resource allocation. It would also magnify the benefits of PA’s current efforts to improve governance. Two major constraints continue to hinder WBG’s trade opportunities. First, transaction costs are very high, attributable primarily to internal closures, border restrictions and security clearances imposed by Israel. Second, WBG has very limited access to the inexpensive inputs supplied on world markets as a result of the de facto customs union regime currently in place with Israel (which adds a harmful wedge to the world price of imports from the rest of the world).<sup>60</sup>

**53. In the longer run, educational and natality policies will be crucial to sustainable poverty reduction.** As underlined in paragraph 50, education achievements and the number of dependents in each household are the two most important correlates of poverty reduction. In this context, the provision of education for all remains a key element of any poverty reduction program because of its impact on productivity and in lowering birth rates. Raising education levels by itself, however, may not be sufficient to

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effect might also explain why real wages did not decline drastically with unemployment in 2001-2 (and did not increase in 2003): low-paid (unprotected, vulnerable) jobs decreased relative to total employment in 2001-2 (and increased in 2003), thereby exerting a mechanical upward pressure on *average* wage levels.

<sup>60</sup> While such a regime could represent a first best solution in a pacified environment, where economic integration would be the main engine for convergence in productivity between WBG and Israel (World Bank, 2002b), it is less defensible in the current and foreseeable political environment (Aix Group, 2004).

reduce birth rates,<sup>61</sup> and additional efforts to curb population growth rates is crucially needed to alleviate poverty in a sustainable manner.

**54. In the foreseeable future, though, poverty will remain prevalent in WBG, and direct assistance will continue to be needed.** As discussed in this report, emergency assistance has responded rather well (by international standards) to the current situation (even if its coverage could be enlarged), and an economic recovery could reduce the need for such an assistance. But a significant share of the poor – perhaps 10 percent of the population - will not benefit from a recovery in the short run, because they are structurally poor (as opposed to temporarily poor). As such, the agenda to reduce structural poverty remains pressing. In particular, continued attention should be paid to improve and scale up the efficiency of the two main institutional vehicles for structural poverty reduction, MOSA and UNRWA Special Hardship Cases programs, which remain largely under-funded (World Bank, 2002a).

#### WHAT CAN BE DONE TO IMPROVE OUR KNOWLEDGE OF POVERTY?

**55. Careful construction of an absolute poverty line would improve the accuracy and comparability over time of poverty estimates.** For the current report, we have relied on a consumption basket based on the diet of an “average” Jordanian diet and based on prices from Bethlehem in the mid 1990s. Future estimates of poverty in the West Bank and Gaza could be improved by the construction of a poverty line which is (i) based on a Palestinian diet; (ii) considers the differences in diet between adults and children, (iii) based on average prices for West Bank and separately, average prices for Gaza. This last point is important because, due to lack of mobility of goods, the West Bank and Gaza are not a single market and prices diverge significantly.

**56. Regular expenditures surveys remain essential for anti-poverty policy formulation.** Regular and consistent monitoring of expenditures and consumption would provide useful information about changes in poverty and allow policy makers and donors to respond to such changes. It is recommended that the PCBS field surveys on a regular basis. Of course, an expenditure and consumption survey (such as the PECS) is ideal, but costly. A simplified expenditure survey, along the lines of the NPS, could be usefully implemented between rounds of the PECS. To allow comparability, the PECS and NPS questionnaires must be designed to include some overlap in expenditure data.

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<sup>61</sup> The significant educational progresses achieved over the last four decades in WBG did not significantly bring about a reduction in birth rates.

**APPENDIX I:**  
**Comparisons with Pre-Crisis Poverty Rates Must Be Treated With Caution**

**A1.1 To assess the impact of the crisis on poverty, estimates of current poverty are often compared to pre-crisis poverty rates derived from the Palestinian Expenditure and Consumption Survey (PECS) from 1998.** This survey, conducted by PCBS includes detailed information on almost 750 categories of goods and services consumed by households and is the best source of data on pre-crisis rates of poverty. Using PECS's data, the World Bank estimated a poverty rate of 23 percent for 1998.<sup>62</sup> Given the fact that macroeconomic indicators (including real per capita income and employment) continued to improve from 1998 until September 2000, it is likely that the poverty rate was even lower than 23 percent on the eve of the crisis.

**A1.2 Unfortunately, estimates of current poverty are not comparable to the pre-crisis rates derived from the PECS.** Macro-based estimates of poverty, such as those performed by the World Bank,<sup>63</sup> are subject to uncertainties resulting from their necessary reliance on two simplifying assumptions. First, due to lack of information on the current distribution of consumption, the macro-based estimates have assumed this distribution has remain unchanged since 1998 and that only the average consumption affects poverty rates.<sup>64</sup> Second, the macro-based estimates rely on the estimate of private consumption, which is generally estimated residually and is, therefore, also subject to error.

**A1.3 For several methodological reasons, the survey-based estimates cannot be compared to the PECS.** Beyond macro-based poverty estimates, several estimates of poverty were obtained through the conduction of various surveys since October 2000. For several reasons, these poverty estimates are not comparable to those obtained with the PECS. As such, it is difficult to apprehend accurately the dynamics of poverty since the outbreak of the Intifada. First, experience shows that when surveys are less detailed (e.g. one question on *total* income in the Impact surveys vs. the nearly 750 questions of the PECS) households tend to underestimate their consumption.<sup>65</sup> This underestimation can potentially be large for the wealthiest households due to the complexity of their consumption patterns (with a bias particularly large for non-food consumption). As a result, estimates of poverty rates based on less-detailed questionnaires generally tend to be higher than the estimates based on more-detailed questionnaires. The second reason for incompatibility is that the PECS includes data on consumption while most of the more recent surveys use data on income. Although in the long term household consumption is strongly tied to household income, in the short term, consumption and income often

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<sup>62</sup> See World Bank (2001b)

<sup>63</sup> Macro-estimates of poverty were reported by the World Bank in its two assessments of the Intifada. (See World Bank (2004a) and World Bank 2003). The first assessment reported a poverty rate of 21, 33 and 46 percent of the population in 1999, 2000 and 2001 respectively. The second assessment reported a poverty rate of 20, 31, 46 and 59 percent of the population in 1999, 2000, 2001 and 2002 respectively.

<sup>64</sup> Between 1996 and 1998, changes in the distribution patterns contributed to the reduction of the poverty rate by 1.7 percentage point.

<sup>65</sup> See for instance World Bank (2001c)

diverge.<sup>66</sup> Finally, differences in the time of year when surveys are conducted further complicate comparison. The PECS data, which was collected over a full year, shows important seasonal consumption patterns. While it is possible to account for seasonality when estimating poverty from with the more recent surveys, in practice this is rarely done. For all the reasons discussed above, the poverty rates from the Impact, labor force, and University of Geneva surveys are not valid comparisons with the pre-crisis poverty rate (from the PECS)

**A1.4 The National Poverty Survey, which we use in this report, is more comparable to the PECS than are the other surveys, but still suffers from problems related to level of detail and seasonality biases.** While the 36 categories of consumption in the NPS are preferable to a single question, it is a far cry from the level of detail in the PECS. As a result, the poverty rate calculated from a survey like the NPS can be higher than the poverty rate calculated from a survey like the PECS, even if the consumption of actual households has not changed at all. Besides, the fact that the NPS was conducted over a single month – December – by opposition to a complete calendar year for the PECS, further limits their comparability. In this case though, it is likely that the poverty rate directly derived from the NPS overestimates the actual yearly consumption of households, due to seasonality effects. In the period between 1996 and 1998, real per capita consumption was approximately 10 percent higher than the average for the year.

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<sup>66</sup> Moreover, the relationship between income and consumption changes as economic conditions change. Consumption tends to be less than income during good times when households can afford to save part of their income. During bad times, however, households tend to draw down their savings in order to maintain consumption at levels greater than their current income.

## **APPENDIX II: Definition of the Subsistence Poverty Line**

### **The official poverty line**

**AII.1 The official poverty line includes a number of non-food elements.** The official poverty line (referred to in the first section of this report) is the official Palestinian Authority line, which allows for consumption of a basket of goods including food, clothing, housing, utensils and bedding, housekeeping supplies, health care, personal care, transportation, and education. It does not include luxury items such as entertainment. The allowed spending on this basket of items is the spending observed by the 30<sup>th</sup> percentile of the Palestinian population in the 1996 and 1997 household PECS (with households ranked according to their expenditures on the basket).

**AII.2 The poverty line was set considering households' economies of scale and the difference between children and adults' needs.** The line can then be adjusted for different sized households and different composition of children vs. adults. Children are assumed to consume less than adults and, while larger households will consume more than smaller households, spending by larger households is not a simple multiple of spending by smaller households because items, such as housing, are shared. (For example, the housing costs for a family of six are greater than the housing costs for a family of three, but is something less than twice what the family of three would spend.) The calculation to adjust the poverty line for different households is the following:

$$E = (A+0.46*C)^{0.89}$$

Where  $E$  is the expenditure level corresponding to the poverty line for that household type,  $A$  is the number of adults, and  $C$  is the number of children. The functional form follows Cutler and Katz (1992) and Citro and Michael (1995). The values of the parameters for the Palestinian population were estimated using the PECS data and turns out to be very close to the widely used OECD equivalency scale. (See Palestine Poverty Report 1998 for details.)

### **The subsistence poverty line.**

**AII.3 The subsistence poverty line is taken from Shaban and Al-Botmeh (1995) and Shaban (1997).** This line is based on the cost of satisfying nutritional requirements (as established by the FAO/WHO) plus a multiplier to allow consumption of other essential items. The specific basket of food items to satisfy nutritional requirements was taken from a study of poverty and nutrition in Jordan. Given the similarity in consumption habits between the Palestinian and Jordanian population, this food basket can serve as a reasonable basis for the Palestinian poverty line. The cost of purchasing the basket of food items was calculated using retail prices that prevailed in the Bethlehem area in June 1995. The cost of satisfying nutritional requirements for an average Palestinian person is thus calculated to be \$251 per year or 128 NIS per month in December 2003.

**AII.4 The minimum non-food allowance is obtained by calculating the share of non-food consumption of those exactly consuming 128 NIS per month.** We obtain a figure of 77 NIS, using two different methods: (i) the average non-food consumption of those around 128 NIS; and (ii) by estimating two econometric relationships of the link between food consumption and total consumption. Both methods produced a figure very close to 77 NIS.

**AII.5. We first look at the per capita food consumption of those whose total consumption is 128 NIS plus or minus 15 percent (i.e. comprised between 108.8 NIS and 147.2 NIS).** Their average non-food expenditures are 77 NIS, which we consider to be the non-food subsistence minimum. Adding it to the food subsistence minimum, 128 NIS, gives a subsistence poverty line of 205 NIS per month per person.

**AII.6 Using the information contained in the full sample (3103 observations) leads to the same result.** A first econometric regression consists in regressing the logarithm of food consumption per capita (*LFC*) on the logarithm of consumption per capita (*LCC*). Observations are weighted according to their relative weights in the sample. The results are reported below.

Dependent variable: LFC

Number of observations: 3103

Mean of dependent variable = 5.24173

Std. dev. of dependent var. = .901916

Sum of squared residuals = 573.596

Variance of residuals = .184971

Std. error of regression = .430083

R-squared = .772683

Adjusted R-squared = .772609

Durbin-Watson statistic = 1.65012

Sum of weights = 3103.00

F-statistic (zero slopes) = 10540.7

Schwarz Bayes. Info. Crit. = -1.68302

Log of likelihood function = -1892.83

	Estimated Coefficient	Standard Error	T-statistic
C	-1.05017	.061768	-17.0017
LCC	1.02003	.993520E-02	102.668

Source: World Bank and PCBS Staff calculations based on NPS

Hence, an individual with a total consumption of 128 NIS will typically devote 49.4 NIS [  $49.4 = \exp(-1.05 + 1.02 \cdot \ln(128))$  ] to food consumption and the remainder, 78.6 NIS to non-food consumption, which is very close to the result obtained above, 77 NIS.

**AII.7 A second econometric method consists in regressing the household's share of food consumption (*SH*) on total consumption divided by the food subsistence minimum (*LREL*) (World Bank 1999).** The non-food subsistence minimum is given by  $Z_f(2-c)$ , where  $Z_f$  is the food subsistence minimum, 128 NIS and  $c$  the intercept of the estimation. Observations are weighted according to their relative weights in the sample. The results are reported below

Dependent variable: SH  
 Number of observations: 3103

Mean of dependent variable = .428535  
 Std. dev. of dependent var. = .156299  
 Sum of squared residuals = 75.0249  
 Variance of residuals = .024194  
 Std. error of regression = .155543  
 R-squared = .995814E-02  
 Adjusted R-squared = .963888E-02  
 Durbin-Watson statistic = 1.60635  
 Sum of weights = 3103.00  
 F-statistic (zero slopes) = 31.1908  
 Schwarz Bayes. Info. Crit. = -3.71712  
 Log of likelihood function = 1263.09

	Estimated Coefficient	Standard Error	T-statistic
C	.402120	.549252E-02	73.2123
LREL	.020067	.359315E-02	5.58487

Source: World Bank and PCBS Staff calculations based on NPS

Using this method, the poverty line is set at  $128*(2-0.40212) = 205$  NIS and the non-food subsistence minimum at 77 NIS, which confirms previous results.

**AII.8 Based on these three different methods, we set the poverty line at 205 NIS.** The total budget for the subsistence poverty line – 205 NIS per person per month – allows the minimum caloric intake and a basic allowance for non-food items such as shelter and clothing. All those below the subsistence poverty line are, thus, unable to afford even this basic level of consumption.

**APPENDIX III:  
Correlates of Poverty and Received Emergency Assistance**

**AIII.1 In order to estimate the impact of various households characteristics on poverty, we use a logit model.** The household's probability of being poor is here regressed against various households' characteristics. Compared with a quantitative estimation of consumption levels, a logit model is believed here to be more appropriate to estimate correlates of poverty given the low incidence of the latter (13.2 percent of the sample, as we consider here households and not individuals, before re-weighting). Using quantitative estimates would bear the risk to explain only determinants of consumption levels of non-poor, which constitute by far the largest share of the sample (and its variance).

Dependent variable: Poverty rate (0 for non-poor; 1 for poor)  
Number of observations: 3103.

Log of Likelihood Function = -967.920  
Number of Cases = 3103  
Number of Choices = 6206  
Sum of Squared Residuals = 293.702  
R-squared = 0.174735  
Fraction of Correct Predictions = 0.871415

Parameter	Estimated Coefficient	Std. Error	T-statistic
Intercept	-4.70589	0.25701	-18.31
Number of dependents	0.36674	0.02737	13.40
Number of working-aged adults	0.65255	0.07453	8.76
School years of working aged adults	-0.04318	0.00642	-6.72
Number of adults males	-0.09706	0.08995	-1.08
Living in a refugee camp	-0.00185	0.15418	-0.01
Living in a rural area	0.44421	0.14802	3.00
Living in Gaza	1.57967	0.20859	7.57
Living in Northern West Bank	1.09981	0.21626	5.09
Living in Southern West Bank	0.58355	0.26378	2.21
Number of working adults	-0.36780	0.10816	-3.40
Number of working adults in the PA	-0.36050	0.17626	-2.05
Number of working adults in ISI	-0.57429	0.22274	-2.58
Number of permanent jobs	-0.25329	0.13415	-1.89
Household business as a main source of income	-0.49041	0.22594	-2.17

Source: PCBS and World Bank Staff calculations based on NPS.

**AIII.2 We report below the correlates of assistance received by the needy.** The dependent variable, *AIDH*, is the amount of emergency assistance received by households. Observations are weighted according to their relative weights in the sample. Households needs, *NEEDH*, are measured by the difference between the poverty line and

the consumption before assistance. Observations are weighted according to their relative weights in the sample. The results are reported below.

Dependent variable: AIDH  
 Number of observations: 579

Mean of dependent variable = 753.463  
 Std. dev. of dependent var. = 1432.51  
 Sum of squared residuals = .24745E+09  
 Std. error of regression = 660.432  
 R-squared = .791128  
 Adjusted R-squared = .787451  
 F-statistic (zero slopes) = 215.137  
 Schwarz Bayes. Info. Crit. = 13.0875  
 Log of likelihood function = -4594.85

Variable	Estimated Coefficient	Std. Error	T-statistic
Intercept	709.6050	132.7680	5.34
Living in Northern West Bank*	-118.8120	107.3700	-1.11
Living in Southern West Bank*	-35.6180	125.0580	-0.28
Living in Gaza*	-214.6480	109.5330	-1.96
Need of the Household (NIS)	1.0865	0.0241	45.02
Number of Household members	-92.1703	12.9348	-7.13
Living in a rural area*	-170.6110	70.6083	-2.42
Living in a refugee camp*	-21.8276	76.3973	-0.28
Number of inactive adults	-93.1540	25.1436	-3.70
Number of unemployed adults	-218.4730	34.5491	-6.21
Working age adults years of schooling	13.6660	2.1997	6.21

Source: PCBS and World Bank Staff calculations based on NPS. \*:1 if yes, 0 otherwise.

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