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### Question of Palestine

## **Economic costs of the Israeli occupation for the Palestinian people: the Gaza Strip under closure and restrictions**

### **Note by the Secretary-General**

The Secretary-General has the honour to transmit to the General Assembly the report prepared by the secretariat of the United Nations Conference on Trade and Development.

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\* [A/75/150](#).



## Report prepared by the secretariat of the United Nations Conference on Trade and Development on the economic costs of the Israeli occupation for the Palestinian people: the Gaza Strip under closure and restrictions

### *Summary*

The present report is submitted pursuant to General Assembly resolution [74/10](#), in which the Assembly requested the United Nations Conference on Trade and Development to continue to report to it on the economic costs of the Israeli occupation for the Palestinian people.

Since Hamas took control of Gaza, 2 million Palestinians have been subject to an prolonged Israeli closure and severe economic and movement restrictions that in effect amount to a blockade in the 365 km<sup>2</sup> Gaza Strip. Moreover, the Gaza Strip has been the subject of three major rounds of military hostilities since 2008. The result is the near collapse of the regional Gaza economy while trade is severely restricted from the rest of the Palestinian economy and the world. Between 2007 and 2017, the poverty rate in Gaza increased from 40 to 56 per cent; the poverty gap increased from 14 to 20 per cent; and the annual minimum cost of eliminating poverty quadrupled from \$209 million to \$838 million (constant 2015 USD).

The endogeneity, overlapping of different causal factors and measurement problems limit the methodologies that could be used to estimate the cost borne by the Palestinian people due to the ongoing prolonged closure and severe economic and movement restrictions on Gaza and the three major military operations that took place during the period 2007–2018. Furthermore, the cost of the closure and restrictions blockade cannot be estimated separately from that of military operations. Nonetheless, an estimation of counterfactual growth paths (scenarios) for Gaza – that is, assuming that the closure, restrictions and military operations did not occur – from 2007 onwards, gives some indication of the economic losses (in terms of Gross Domestic Product (GDP)) by measuring the deviation of the counterfactual scenarios from the historical GDP values.

Focusing on the period 2007–2018, and using econometric analysis of household survey data, the estimated cumulative economic cost of the Israeli occupation in Gaza under the prolonged closure and severe economic and movement restrictions and military operations would amount to \$16.7 billion (constant 2015 USD): equivalent to six times the value of the GDP of Gaza, or 107 per cent of the Palestinian GDP, in 2018. Scenario analysis suggests that, had the pre-2007 trends continued, the poverty rate in Gaza could have been 15 per cent in 2017 instead of 56 per cent, while the poverty gap could have been 4.2 per cent instead of 20 per cent.

Lifting what amounts to the blockade of Gaza is essential for it to trade freely with the rest of the Occupied Palestinian Territory and the world and restore the right to free movement for business, medical care, education, recreation and family bonds. Only by fully lifting the debilitating closure, in line with Security Council resolution [1860 \(2009\)](#), can we hope to sustainably resolve the humanitarian crisis.

## I. Introduction, objective and scope

1. For 13 years, following the take-over of the Gaza Strip by Hamas in June 2007, the Palestinian people living there have been under a prolonged Israeli closure and severe economic and movement restrictions that in effect amount to a blockade. Effectively, nearly 2 million people are mostly confined to a 365 km<sup>2</sup> enclave with one of the highest population densities in the world. The entry of goods into the Gaza Strip has been reduced to only basic humanitarian products.<sup>1</sup> In addition to the prolonged closure and severe economic and movements restrictions, Gaza was the subject of three major rounds of hostilities during a six-year timespan (starting December 2008) that have resulted in the destruction of the productive base, while the ensuing severe crisis has transformed the Gaza Strip into a humanitarian case and condemned it to profound aid-dependency. Moreover, the intra-Palestinian division poses significant challenges to the development of Gaza.

2. Focusing on the period prior to 2012, the United Nations warned that the ongoing trends should be reversed, for Gaza to be “a liveable place” in 2020.<sup>2</sup> Now, in 2020, according to the analysis in the present report, Gaza has witnessed one of the worst economic performances globally and the world’s highest unemployment rate,<sup>3</sup> and more than half of its population lives below the poverty line. The vast majority of the population has no access to clean water, electricity or a proper sewage system, and the Gaza Strip experiences major environmental deterioration. Since the beginning of the closure and severe economic and movement restrictions in 2007, the Palestinian people in Gaza have experienced 13 years of continued deterioration in the conditions surrounding them. Efforts at revival have been made, with interventions focused on humanitarian relief and large infrastructure and other development projects.

3. The objective of the report is to elaborate on the situation and to estimate the economic cost of the Israeli closure and restrictions and recurrent hostilities for the Palestinian people in the Gaza Strip, with a focus on the socioeconomic conditions of households during the period 2007–2018.<sup>4</sup> First, the report uses the household expenditure and consumption survey and census data to estimate the impact of the Israeli closure, restrictions and military operations on (a) the rate and gap of poverty at the household level; and (b) the minimum cost of eliminating poverty. Second, the report estimates the economic cost in terms of the potential economic growth that could have been realized if the closure, restrictions and military operations had not occurred. Third, the report proposes a set of recommendations to mitigate the impact of the ongoing closure and restrictions on Gaza.

4. It should be emphasized that the scope of estimates in the report is limited to the economic cost of the Israeli occupation that resulted from the prolonged closure, severe economic and movement restrictions and recurrent military operations during the period 2007–2018. The estimates do not assume an end to the occupation and all the restrictive measures it imposes on the Occupied Palestinian Territory. In other words, the estimates account only for a part of the total cost of the Israeli occupation for the Palestinian people in Gaza.

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<sup>1</sup> United Nations, “Gaza ten years later”, July 2017.

<sup>2</sup> United Nations, “Gaza in 2020: A liveable place?”, August 2012.

<sup>3</sup> International Labour Office (ILO), *The Situation of Workers of the Occupied Arab Territories*, ILC.107/DG/APP (Geneva, 2018).

<sup>4</sup> The present report covers that period because it comprises the two most recent censuses, produced by the Palestinian Central Bureau of Statistics, as well as the most up-to-date macro data available at the time of writing.

## II. Gaza: the cost of closure, restrictions and recurrent hostilities

5. Many restrictions were imposed on the Gaza Strip in the early 1990s. Following its takeover by Hamas in June 2007, Israeli restrictions were intensified to what in effect amounted to a blockade, when the occupying power severely tightened the restrictions on the movement of goods and people in and out of Gaza. Despite some fluctuations over the years, restrictions on movement remain tight.<sup>5</sup>

### A. Closure: land, sea and airspace

6. Prior to 2007, Gaza had five border crossing points with Israel for pedestrians and goods: Karam Abu Salem (Kerem Shalom) for goods; Beit Hanoun (Erez) for pedestrians; the Ash Shuja'iah (Nahal Oz) fuel pipeline, closed since 2010; Al Montar (Karni), closed since 2007; and the Sufa crossing point, closed since 2008. Only the first two crossing points remain open, partially and for special cases. From June 2007, Gaza crossing points were closed for nearly the entirety of the working day; in 1999, they had been fully open. Effectively, the prolonged closure and severe movement restrictions tightly confine 2 million people in an area of 365 km<sup>2</sup>. The economic significance is that trade and factors of production (labour or production inputs) are allowed to move in or out of the Gaza Strip in a severely restricted manner.

7. In addition to its control over the commercial and pedestrian land crossings of the Gaza Strip, Israel controls its sea and airspace. According to the Office for the Coordination of Humanitarian Affairs, Israel has defined a risk zone that ranges from 100 to 500 metres into Gaza near the border and has instituted an access-restricted area or "buffer zone" that ranges from 100 to 300 metres into Gaza, in which farmers' access is permitted only on foot, with a 100-metre no-go zone along the border with Israel.<sup>6</sup> Moreover, agricultural land near the fence has been subject to destruction.<sup>7</sup> At sea, the area agreed upon in the Oslo Accords to be open to fishing extends to 20 nautical miles (NM) from the coast, but has rarely exceeded 12 NM in practice. The area in which fishing has been permitted by Israel has ranged between 3 and 6 NM since 2006, with occasional extensions to 9 NM for a few weeks at a time and more recently to 12 to 15 NM. People working in the fishing industry are subjected to frequent violence, and those deemed by the Israeli navy to have exceeded the boundaries are arrested, have their boats confiscated and are sometimes shot at, killed or injured.<sup>8</sup>

### B. Restrictions on the mobility of people and goods

8. Only two crossings are currently used for pedestrian travel in and out of Gaza: Beit Hanoun (Erez) to Israel and Rafah to Egypt. The Erez crossing is controlled by Israel and mainly limited to humanitarian cases or people with special permits, in addition to traders and businessmen. It is the only gateway to the West Bank and East

<sup>5</sup> United Nations, "Gaza ten years later".

<sup>6</sup> See United Nations, Office for the Coordination of Humanitarian Affairs, "Gaza Strip: access and movement map", December 2018. Available at [www.ochaopt.org/content/gaza-strip-access-and-movement-december-2018-0](http://www.ochaopt.org/content/gaza-strip-access-and-movement-december-2018-0).

<sup>7</sup> Gisha, "Gaza up close", 2019.

<sup>8</sup> United Nations, Office for the Coordination of Humanitarian Affairs, "Gaza's fisheries: record expansion of fishing limit and relative increase in fish catch; shooting and detention incidents at sea continue", Humanitarian Bulletin: Occupied Palestinian Territory, October 2019. See also, Gisha, "Gaza up close".

Jerusalem. Between 2007 and 2018, the Rafah crossing was open for 2,126 days and closed for 2,257 days, with the closure mainly occurring from 2014 to 2017.<sup>9</sup>

9. By 2010, three of the four crossings for goods between Gaza and Israel had been shut down. From 2007 to 2010, Israel imposed additional restrictions, allowing into Gaza only basic humanitarian products “vital for the survival of the civilian population”. From June 2007 until June 2010, an average of 2,400 trucks per month entered Gaza from Israel, compared with 10,400 in 2005.<sup>10</sup> In 2018, that average increased to 8,970, but it is still below the 2005 figure, when the population of Gaza was 33 per cent smaller than its level in 2018.

10. According to the Israeli human rights organization Gisha, according to documents from the Israeli Ministry of Defense, between 2007 and 2010, Israel employed mathematical formulas to determine the minimum amount of goods that could be allowed into Gaza. Those formulas were based on an estimate of the inventory of basic goods and products, the daily per capita consumption for each good and the number of inhabitants of Gaza. When a low warning limit was reached for some products, the Israeli authorities increased the inflow of those products, unless there was an intentional reduction policy.<sup>11</sup>

11. Another constraint on productive activities is the list of “dual-use” civilian goods that Israel does not allow Palestinians to import because they might have potential military applications. The list contains 56 items requiring “special approval” to be brought into Gaza and the West Bank, including civilian machinery, spare parts, fertilizers, medical equipment, appliances, telecommunication equipment, metals, chemicals, steel pipes, milling machines, optical equipment and navigation aids. For Gaza the list contains an additional 61 items, including construction materials; raw material for the productive sectors, for example wood and pesticides; medical equipment; and water pumps, which are used during seasonal flooding. Despite some easing of restrictions, in particular for construction materials, since the 2014 military operation, applications for the import of other items on the dual-use list have been subject to frequent rejections or significant delays.<sup>12</sup> In recent months, Israel has granted one-off permits for certain items, particularly in Gaza.<sup>13</sup>

### C. Impact of recurrent hostilities

12. In addition to the prolonged closure and severe economic and movement restrictions, the Gaza Strip was the subject of three consecutive major hostilities over six years that claimed the lives of 3,804 Palestinians and 95 Israelis.<sup>14</sup> In October 2014, the Secretary-General said that the destruction following the operation between 8 July and 26 August had been “beyond description”.<sup>15</sup>

<sup>9</sup> For more information on movement through the Rafah and Erez crossing points, see United Nations, Office for the Coordination of Humanitarian Affairs, Gaza Crossings: Movement of People and Goods database, available at [www.ochaopt.org/data/crossings](http://www.ochaopt.org/data/crossings).

<sup>10</sup> Gisha, “Gaza up close”.

<sup>11</sup> After prolonged legal proceedings, Gisha received official documents from the Israeli Ministry of Defense (in Hebrew) containing the criteria according to which the Gaza closure was implemented until mid-2010, see [www.gisha.org/UserFiles/File/MatpashDoc.pdf](http://www.gisha.org/UserFiles/File/MatpashDoc.pdf).

<sup>12</sup> World Bank, “Economic monitoring report to the Ad Hoc Liaison Committee”, 19 March 2018.

<sup>13</sup> World Bank, “Economic monitoring report to the Ad Hoc Liaison Committee”, 26 September 2019.

<sup>14</sup> For more information on casualties during the three military operations, please refer to United Nations, Office for the Coordination of Humanitarian Affairs, Data on Casualties database, available at [www.ochaopt.org/data/casualties](http://www.ochaopt.org/data/casualties); and B’Tselem, Fatalities since Operation Cast Lead database, available at [www.btselem.org/statistics/fatalities/after-cast-lead/by-date-of-event](http://www.btselem.org/statistics/fatalities/after-cast-lead/by-date-of-event).

<sup>15</sup> See United Nations News, “In war-ravaged Gaza, Ban urges ministers of new government to unite on ‘building one Palestine’”, 14 October 2014.

13. In its report, the United Nations country team said that the three military operations had had the following impacts:<sup>16</sup>

(a) During the hostilities that lasted from 27 December 2008 to 18 January 2009, nearly 1,400 Palestinians and 13 Israelis were killed. In addition, 5,380 people were wounded,<sup>17</sup> and some 60,000 homes were damaged or destroyed, leaving some 20,000 people homeless;

(b) During the eight-day hostilities in November 2012, 174 Palestinians, including 107 civilians, and 6 Israelis, including 3 civilians, were killed, and some 10,000 homes damaged;

(c) During the hostilities from 8 July to 26 August 2014, 2,251 Palestinians, including at least 146 civilians, and 71 Israelis, of whom 5 were civilians, were killed, and 171,000 homes were damaged, 17,800 of which were rendered completely uninhabitable, thereby displacing their 100,000 inhabitants.

### III. Gaza: closure, restrictions, recurrent hostilities and the economy

14. In the 24-year period from 1994 to 2018, the real GDP of Gaza grew by 48 per cent (see figure 1 below), while its population grew by 137 per cent, resulting in a 37 per cent drop in real GDP per capita. The latter plummeted from the equivalent of 96 per cent of the West Bank GDP per capita in 1994 to 30 per cent in 2018. Meanwhile, unemployment in Gaza jumped by 22 percentage points, reaching 52 per cent, among the highest rates in the world (see figure 1).<sup>18</sup>

Figure 1

#### Gaza Strip: real GDP growth and unemployment rates, 1995 to 2018

(Percentage)



Source: Palestinian Central Bureau of Statistics, national accounts and labour market data.

#### A. Palestinian economy in the Gaza Strip, 1994 to 2018

15. The Palestinian economy in Gaza has gone through three structural phases. During the period 1994–1999, following the signing of the Oslo Accords, optimism prevailed for a final status solution; the regional Gaza economy grew on average by 6.1 per cent

<sup>16</sup> United Nations, “Gaza ten years later”.

<sup>17</sup> State of Palestine, Ministerial Committee for the Reconstruction of Gaza, *Detailed Needs Assessment (DNA) and Recovery Framework for Gaza Reconstruction* (2015).

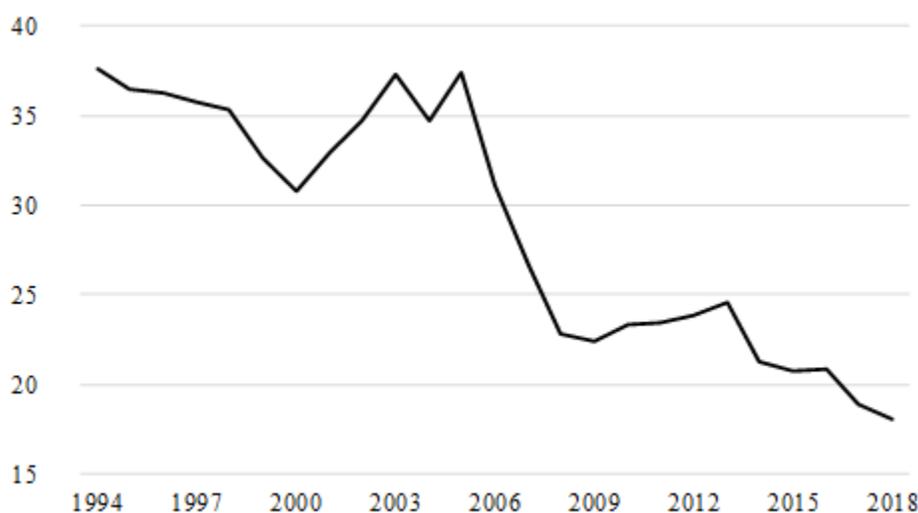
<sup>18</sup> ILO, *The Situation of Workers of the Occupied Arab Territories*.

annually, while the West Bank grew by 10.7 per cent. In 2000, following the outbreak of the second intifada, Israel prohibited Palestinian workers from Gaza from working in Israel. Between 2000 and 2006, much of the Palestinian public and private infrastructure and institutions was destroyed, and the movement of Palestinian workers and goods was severely restricted. The Gaza economy grew by just 2 per cent annually between 2000 and 2006. Gaza continues to suffer from severe restrictions on land, air and maritime movement, coupled with recurrent hostilities since July 2007. From the onset of the imposition of the closure and severe economic and movement restrictions from 2007 to 2018, the economic growth of Gaza fluctuated sharply and grew on average by just 0.8 per cent annually, while the West Bank – also under occupation and facing restrictions, measures and control – grew by 6.6 per cent annually.

16. The share of Gaza in the Palestinian economy halved from 37 per cent in 1995 to 18 per cent in 2018 (see figure 2). Prior to 2007, its share in the Palestinian economy had never dropped below 31 per cent and averaged around 35 per cent. Moreover, investment in Gaza virtually disappeared, falling from 11 per cent of GDP in 1994 to just 2.7 per cent in 2018.<sup>19</sup> Non-building investment remained minimal, at 0.2 per cent of GDP.

Figure 2  
**Share of the Gaza Strip in the Palestinian economy**

(Percentage of GDP)



Source: Palestinian Central Bureau of Statistics, national account data.

17. The performance of the regional Gaza economy has always been far below its potential owing to the occupation and its accompanying restrictive measures. The closure and severe economic and movement restrictions imposed on the Gaza Strip since 2007 and the subsequent recurrent hostilities continue to impede the realization of its full economic potential and have cultivated a profound economic and humanitarian crisis. Table 1 presents some economic indicators for 2006 (before) and 2018 (after).

18. In the 11-year period from 2007 to 2018, the economy of Gaza grew by just 4.8 per cent. Its share in the Palestinian economy contracted by 13 percentage points, from 31 per cent in 2006 to 18 per cent in 2018; GDP per capita shrank by 27 per cent, unemployment increased by 49 per cent and poverty increased by 42 per cent. Almost all GDP components remain below their 2006 levels.

<sup>19</sup> In late 2019, the Palestinian Central Bureau of Statistics revised its national accounts data back to 2004, see [www.pcbs.gov.ps/Portals/\\_Rainbow/Documents/E\\_Na\\_accounts\\_2014\\_2015\\_constant.html](http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/E_Na_accounts_2014_2015_constant.html).

Table 1  
**Economy of Gaza before and after the imposition of the closure  
(selected indicators)**

<i>Indicator</i>	<i>2006</i>	<i>2018</i>	<i>Percentage change</i>
Population (thousands)	1 349	1 933	43
Population density (people/km <sup>2</sup> )	3 696	5 296	43
Real GDP (millions of 2015 USD)	2 691	2 819	4.8
Share of Gaza in Occupied Palestinian Territory GDP (%)	31.1	18.1	-42
Real GDP per capita (millions of 2015 USD)	1994	1 458	-26.9
Investment share in Occupied Palestinian Territory GDP (%)	9.5	2.7	-71.6
Unemployment rate (%)	34.8	52	49.4
Poverty (%)	39 (2007)	55.4 (2017)	42.1

*Source:* Palestinian Central Bureau of Statistics.

## B. Negatively affected productive sectors

19. In addition to the above-mentioned severe restrictions imposed on the agricultural and fishing sectors, the agriculture and manufacturing (tradable goods) sectors have also been hindered by restrictions on imports of technology and raw materials, which have limited their ability to expand, maintain competitiveness and create jobs. Certain fertilizers and a range of common pesticides feature on the Israeli “dual-use” list. Similarly, the inputs necessary for even basic manufacturing have been severely restricted, as they also feature on the list.

20. The destruction of infrastructure in Gaza by prolonged closure, severe economic and movement restrictions and recurrent rounds of hostilities have had a grave impact on access to electricity and clean water, as well as on the environment. Electricity shortages have severely suppressed key productive activities. In 2017 and 2018, electricity supply was restricted to 4 to 6 hours a day, and shortages continued to disrupt everyday life and hinder the delivery of basic services.<sup>20</sup> The availability of electricity in the whole Gaza Strip increased from about 6 hours per day in January 2018 to about 11 hours in January 2020.<sup>21</sup> However, that does not mean that an average household in Gaza has access to electricity for 11 hours per day, as the electricity supply is insufficient to power all households at the same time.

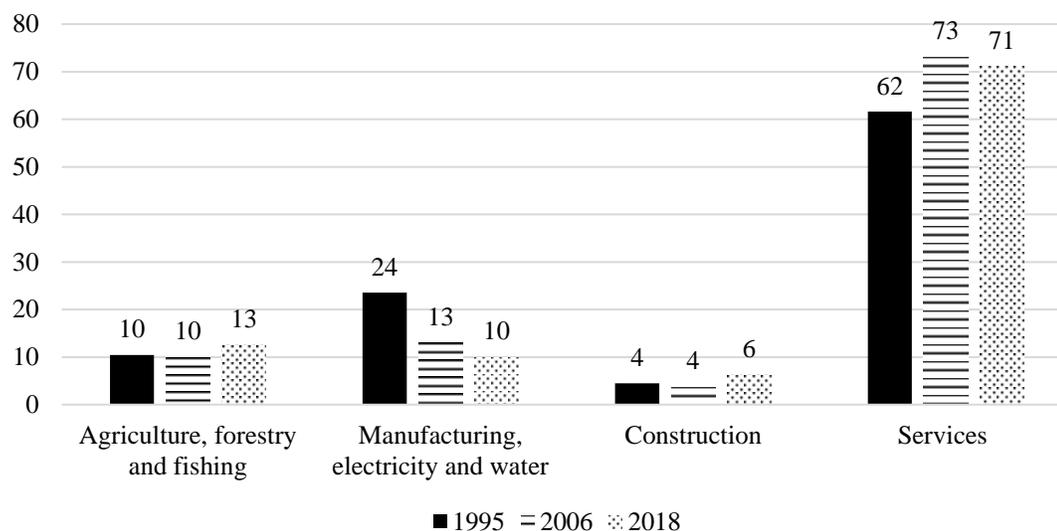
21. Consequently, the Gaza economy has undergone a reversal in industrialization and agriculturalization. The share of agriculture and manufacturing in the regional Gaza economy declined from 34 per cent in 1995 to 23 per cent in 2018 (see figure 3 below), while their contribution to employment fell from 26 to 12 per cent. This raises a serious concern related to the future development of the economy of the Gaza Strip and its capacity to realize economies of scale and expand employment.

22. Section IV below further elaborates on the impact of the closure, restrictions and recurrent hostilities in Gaza, with a focus on how poverty has spread and deepened between 2007 and 2017.

<sup>20</sup> United Nations, Office for the Coordination of Humanitarian Affairs, “Occupied Palestinian Territory: 2019 humanitarian needs overview”, December 2018.

<sup>21</sup> United Nations, Office for the Coordination of Humanitarian Affairs, Gaza Strip Electricity Supply database, available at [www.ochaopt.org/page/gaza-strip-electricity-supply](http://www.ochaopt.org/page/gaza-strip-electricity-supply).

Figure 3  
**Sectoral structure of the regional Gaza economy (1995, 2006 and 2018)**  
 (Percentage of regional Gaza economy)



#### IV. Impact of the closure, restrictions and recurrent hostilities on poverty in Gaza

23. Using the Palestinian Central Bureau of Statistics surveys and census data,<sup>22</sup> the present section traces the deterioration of household living conditions and welfare in Gaza between 2007 and 2017. The impact that the prolonged closure, severe economic and movement restrictions and military operations have had in terms of the cost for the Palestinian people will be assessed with respect to the poverty headcount and the poverty gap.<sup>23</sup> This makes it possible to estimate the increase in the minimal cost required to lift all households out of poverty, between 2007 and 2017.<sup>24</sup>

##### A. Poverty in Gaza between 2007 and 2017<sup>25</sup>

24. The sections below contain an analysis of the evolution of the level and depth of poverty in Gaza over the period 2007–2017 by applying two analytical methods:

<sup>22</sup> See [www.pcbs.gov.ps/default.aspx](http://www.pcbs.gov.ps/default.aspx).

<sup>23</sup> “Headcount” refers to the proportion of households below the poverty line. Headcounts are an inaccurate measure of poverty in that they do not reflect its depth, and confound all households below the poverty line, without considering the fact that the degree to which different poor households fall below the poverty line may differ greatly. For example, the headcount poverty index would count a household as being below the poverty line whether it was \$0.01 below or \$100 below. The “poverty gap” addresses that inaccuracy by summing up the “distance” (in monetary terms) separating each household from the poverty line, ascribing a weight of 1 to all households below the poverty line and zero to those above. Intuitively, it represents the average percentage shortfall of households with respect to the poverty line. For the previous two hypothetical configurations, for a poverty line of \$200, the poverty gap would be equal to  $0.01 \div 200 = 0.00005$  in the first case (a very small number), and equal to  $100 \div 200 = 0.5$  in the second.

<sup>24</sup> Poverty measures include all government and non-government assistance to households, cash and in-kind.

<sup>25</sup> A more detailed analysis of poverty in Gaza is discussed in a forthcoming United Nations Conference on Trade and Development (UNCTAD) technical paper entitled, “The economic costs of the Israeli occupation for the Palestinian People: the impoverishment of Gaza under blockade” (We would advise against the use of the word “blockade”).

first using a sample from survey data; and second covering the population from the census.<sup>26</sup> The analysis covers poverty in Gaza, both over time and in comparison with the West Bank.

## 1. Survey-based method

25. The survey-based method directly uses the sample data in the Palestinian expenditures and consumption survey of 2007 and 2017 to calculate the relationship between total expenditure per adult equivalent and individual, household and location characteristics in the survey.<sup>27</sup> Taking the Eurostat and European Union definition of the poverty line as being 60 per cent of the national median total household expenditures per adult equivalent,<sup>28</sup> the real poverty lines for the Occupied Palestinian Territory in 2007 and 2017 are \$123 and \$255 (constant 2015 USD), respectively, per month.

26. The sample data in the two Palestinian expenditures and consumption surveys indicate severe deterioration in the welfare of households in Gaza between 2007 and 2017, as the proportion of households below the poverty line increased from 46.1 to 64.4 per cent and the poverty gap widened from 15.9 to 25.7 per cent.

## 2. Empirical best prediction method

27. One limitation of the above survey-based results is that they are based on relatively small samples. Recent developments in poverty mapping and small area estimation make it possible to improve the survey-based methods by combining survey and census data.<sup>29</sup> The Occupied Palestinian Territory is similar to most countries in that census data do not include information on household or individual consumption, expenditures or income. However, the Palestinian expenditures and consumption surveys and the decadal censuses (2007 and 2017) do collect data on a relatively broad set of common variables, including: location (urban, rural, refugee camp); characteristics of the household head (e.g., educational attainment); household demographic characteristics; employment status and sector of employment; access to basic services, such as water, through public networks; and the household's dwelling and physical assets.

28. To obtain the headcount and depth of poverty, the empirical best prediction method uses a three-step approach: first, the Palestinian expenditures and consumption survey data are used to estimate statistical regression equations of household expenditures per adult equivalent, as well as the household's characteristics (the estimation of the empirical best prediction is presented in the

<sup>26</sup> The detailed data used in the analysis in the present section was received from the Palestinian Central Bureau of Statistics in response to a request by UNCTAD. Data are obtained from the 2007 and 2017 Palestinian expenditures and consumption survey, and from the 2017 Palestinian census, conducted by the Bureau. The reports on the main findings of living standards in Palestine (expenditure, consumption and poverty) for 2007 and 2017 are available at [www.pcbs.gov.ps/Downloads/book1474.pdf](http://www.pcbs.gov.ps/Downloads/book1474.pdf) and [www.pcbs.gov.ps/Downloads/book2368.pdf?date=7\\_5\\_2018](http://www.pcbs.gov.ps/Downloads/book2368.pdf?date=7_5_2018). See also the Bureau's report entitled, *Preliminary Results of the Population, Housing and Establishments Census 2017* (Ramallah, 2018).

<sup>27</sup> Following the Organization for Economic Cooperation and Development and the World Bank, "adult equivalent" is defined as  $(1 + (\text{number of adults} - 1) \times 0.8 + (\text{number of children} \times 0.5))$ . It is worth noting that the adult equivalent method is better than per capita for accounting for sources of inter-household heterogeneity, and therefore provides a more accurate picture of poverty in Gaza. This is because household structure in Gaza, like most developing countries, is highly heterogeneous, with a large number of children. Consumption requirements in a household with six adults, for example, will be different from those of a household made up of two adults and four children.

<sup>28</sup> See [https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:At-risk-of-poverty\\_rate](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:At-risk-of-poverty_rate).

<sup>29</sup> See Chris Elbers, Jean O. Lanjouw and Peter Lanjouw, "Micro-level estimation of poverty and inequality", *Econometrica*, vol. 71, No. 1 (January 2003); and Isabel Molina, J.N.K. Rao and Gauri Sankar Datta, "Small area estimation under a Fay-Herriot model with preliminary testing for the presence of random area effects", *Survey Methodology*, vol. 41, No. 1 (June 2015).

annex to the present report); second, the estimated coefficients obtained from the regressions are combined with the census data (for a much larger number of households) to impute the household's level of expenditures per adult equivalent; and third, the imputed measures of household expenditures are used to recalculate the headcount and poverty gap measures for each year.

29. Following those three steps, the empirical best prediction poverty indicators for 2007 and 2017 are presented in table 2 below, along with those of the survey-based method. The poverty headcount (rate) in 2007 is equal to 40.1 per cent, lower than the 46 per cent estimate of the survey-based method. This rises to 56 per cent in 2017, which is lower than the 64.5 per cent estimate of survey-based method, yet still demonstrates a very large increase over the 10-year period. Concomitantly, the empirical best prediction measure of the poverty gap in Gaza increases from 13.9 to 19.9 per cent between 2007 and 2017. While the magnitudes are lower than those of the survey-based method, they are still extremely large.

Table 2  
**Gaza 2007 and 2017: poverty gap and headcount (survey-based and empirical best prediction methods)**

Year	Poverty headcount		Poverty gap	
	Survey-based	Empirical best prediction	Survey-based	Empirical best prediction
2007	0.4617	0.4007	0.1588	0.1395
2017	0.6447	0.5619	0.2574	0.1987

Source: UNCTAD calculations.

## B. Estimated poverty cost of the closure, restrictions and recurrent hostilities in Gaza

30. Building on the previous analysis, it is possible to calculate the smallest aggregate annual lump-sum transfer that will suffice to lift all households out of poverty (i.e., the minimum cost of eliminating poverty). A comparison between that cost in the two years of the most recent census – 2007 and 2017 – captures the poverty cost of the prolonged closure and severe economic and movement restrictions imposed and the military operations conducted by the occupying power. This is calculated as follows:

$$\text{Minimum cost of eliminating poverty} = \text{poverty gap} \times \text{poverty line} \times 12 \text{ months} \times \text{number of adult equivalents per household} \times \text{number of households.}$$

Using the poverty gap estimated by the empirical best prediction method (see table 2 above), the minimum real cost of eliminating poverty in constant 2015 USD in Gaza are:

$$2007 \text{ cost} = 0.1395 \times 123.7 \times 12 \times 4.49 \times 224848 = \text{real } \$209 \text{ million;}$$

$$2017 \text{ cost} = 0.1987 \times 255.2 \times 12 \times 3.97 \times 347035 = \text{real } \$838 \text{ million.}$$

31. The minimum yearly real cost of eliminating poverty has quadrupled between 2007 and 2017. The difference of \$629 million (constant 2015 USD) between those years measures the cost of the prolonged closure and severe economic, movement restrictions and recurrent hostilities in terms of poverty. The difference represents 22.3 per cent of the Gaza GDP, or 4 per cent of the Occupied Palestinian Territory GDP, in 2017. This points to the degree of the cost of reversing the impact of the Israeli closure, restrictions and recurrent hostilities on the welfare of households in Gaza.

32. The above analysis indicates that Gaza has suffered heavy blows to its economy and environment, as well as to the well-being of its population. However, the question

remains as to what would have happened had Gaza not experienced closure, movement and economic restrictions and military operations. Section V below focuses on that question by estimating the loss of potential output during the period 2007–2018.

## **V. Estimated economic and poverty cost of the closure, restrictions and recurrent hostilities: 2007–2018**

### **A. Assessments of the impact of the closure, restrictions and recurrent hostilities**

33. Some attempts have been made to assess the impact of one or two of the military operations that Gaza endured over the 10 years in question. However, no attempt has been made to estimate the cumulative economic cost of the prolonged Israeli closure, the severe economic and movement restrictions and the military operations in Gaza. The present section contains a brief summary of previous assessments and estimates of the cumulative cost between 2007 and 2018.

34. The International Monetary Fund estimates that the damage of the Israeli military strike in 2008 and 2009 is equivalent to over 60 per cent of the total capital stock of Gaza, while the damage of the 2014 strike is equivalent to 85 per cent of its capital stock that existed after the 2008–2009 strike,<sup>30</sup> and that growth rates could have been three times the actual rates if Gaza had had the same access to production inputs as the West Bank.<sup>31</sup>

35. The World Bank indicates that, in 2014, in the 50 days that the hostilities took place, \$460 million was shaved off the Gaza economy,<sup>32</sup> and that lifting the closure could generate additional cumulative growth in the range of 32 per cent by 2025, while relaxing the dual-use list could generate an additional 11 per cent growth by 2025.<sup>33</sup>

36. UNCTAD indicates that the direct economic losses of the 50-day military operation that started in December 2008 was about \$2.5 billion (see [TD/B/56/3](#)). It also estimates that the value of assets damaged in Gaza as a result of the 2012 and 2014 military operations was more than \$2.7 billion, and that, during the two operations, over 64,000 residential units and at least 1,000 industrial and commercial establishments were totally or partially damaged (see [TD/B/62/3](#)).

37. Following the 2014 military operation, the Palestinian National Authority estimated the cost of the reconstruction and recovery of Gaza at \$3.9 billion.<sup>34</sup>

### **B. Estimation of the economic cost of the closure, restrictions and recurrent hostilities (2007–2018)**

38. The endogeneity, overlapping of different causal factors and measurement problems limit the methodologies that could be used to estimate the cost borne by the Palestinian people due to the ongoing prolonged closure and severe economic and movement restrictions on Gaza and the three major military operations that took place

<sup>30</sup> International Monetary Fund (IMF), “West Bank and Gaza: report to the Ad Hoc Liaison Committee”, 31 August.

<sup>31</sup> IMF, “West Bank and Gaza: report to the Ad Hoc Liaison Committee”, 6 September.

<sup>32</sup> World Bank, “Economic monitoring report to the Ad Hoc Liaison Committee”, 27 May 2015.

<sup>33</sup> World Bank, *Unlocking the Trade Potential of the Palestinian Economy: Immediate Measures and a Long-Term Vision to Improve Palestinian Trade and Economic Outcomes*, report No. ACS22471 (Washington, D.C., 2017).

<sup>34</sup> State of Palestine, Ministerial Committee for the Reconstruction of Gaza, *Detailed Needs Assessment (DNA) and Recovery Framework for Gaza Reconstruction* (2015).

during the period 2007–2018. Furthermore, the cost of this closure and restrictions cannot be estimated separately from that of those military operations. Nonetheless, an estimation of counterfactual growth paths (scenarios) for Gaza – that is, assuming that the closure, restrictions and military operations did not occur – from 2007 onwards, gives some indication of the economic losses (in terms of GDP) by measuring the deviation of the counterfactual scenarios from the historical GDP values.

39. Based on Gaza growth trends prior to 2007 and the relation between the regional economies in Gaza and the West Bank, two counterfactual growth paths (scenarios) were assessed. The actual historical economic performance in Gaza during the period 2007–2018 is used as a baseline scenario for estimating the potential economic losses. Scenario 1 assumes that the Gaza economy follows its own average historical growth for the period 1995–2006 and would continue to grow by 3.7 per cent annually from 2007 onwards. Scenario 2 assumes that, after 2007, the share of Gaza in the Occupied Palestinian Territory’s economy remains the same as in 2006. That assumes that Gaza grew at the same rate as the West Bank, i.e. 6.6 per cent annually, during the assessment period 2007–2018.

40. As shown in table 3 below, scenario 1 suggests that the annual real GDP of Gaza would have been, on average, 23.3 per cent higher than the baseline scenario, and that the cumulative economic (GDP) loss for the period 2007–2018 could reach \$7.8 billion (constant 2015 USD), or 50 per cent of the Palestinian GDP in 2018. Scenario 2 indicates that the GDP of Gaza could have been, on average, 50 per cent higher than the baseline, and the cumulative economic (GDP) loss for the period could be \$16.7 billion (constant 2015 USD); or 107 per cent of the Palestinian GDP in 2018.

41. As for the real per capita GDP (see figure 4 below), scenario 1 estimates that it could have reached \$2,153 (constant 2015 USD) in 2018, or 46.7 per cent (\$695) higher than the baseline level. Scenario 2, estimates that real GDP per capita could have reached \$2,997 in 2018, which is \$1,539 or 105.5 per cent higher than the actual level recorded in that year.

Table 3  
**Gaza Strip: estimated real GDP losses under two scenarios**

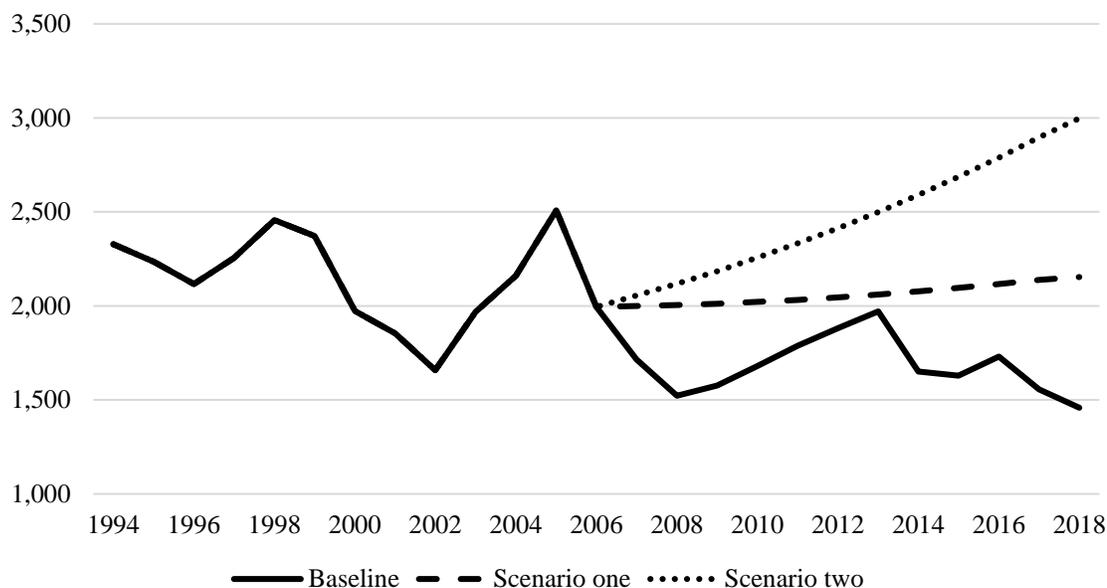
(Millions of constant 2015 USD)

<i>Year</i>	<i>Baseline scenario</i>	<i>Scenario 1</i>	<i>Difference</i>	<i>Percentage difference</i>	<i>Scenario 2</i>	<i>Difference</i>	<i>Percentage difference</i>
2007	2 393	2 790	397	16.6	2 868	475	19.9
2008	2 197	2 894	697	31.7	3 058	861	39.2
2009	2 351	3 001	650	27.6	3 260	909	38.7
2010	2 586	3 112	526	20.3	3 475	888	34.4
2011	2 841	3 227	386	13.6	3 704	864	30.4
2012	3 077	3 346	270	8.8	3 949	872	28.3
2013	3 321	3 470	150	4.5	4 209	889	26.8
2014	2 861	3 599	738	25.8	4 487	1 626	56.8
2015	2 900	3 732	832	28.7	4 783	1 883	64.9
2016	3 165	3 870	705	22.3	5 099	1 934	61.1
2017	2 921	4 013	1 092	37.4	5 435	2 514	86.1
2018	2 819	4 161	1 343	47.6	5 794	2 975	105.5
<b>Total</b>	<b>33 431</b>	<b>41 215</b>	<b>7 784</b>	<b>23.3</b>	<b>50 121</b>	<b>16 690</b>	<b>49.9</b>

Source: UNCTAD calculations.

Figure 4  
**Gaza Strip: estimated real GDP per capita under two scenarios**

(Constant 2015 USD)



42. The loss in potential GDP in the two counterfactual scenarios is significant, as it indicates that GDP per capita could have been considerably higher than it is today. However, it should be stressed that in both scenarios assume growth rates under occupation. In other words, they assume the persistence of all the restrictive measures imposed by the occupation in Gaza and the West Bank, with the only difference being the prolonged closure and severe economic and movement restrictions and the three major military operations. Furthermore, scenario 2 is more relevant as it shows that, if the closure and restrictions had not existed and those military operations had not happened, there would have been no rational reason to prevent the regional Gaza economy from maintaining its share in the Palestinian economy. Therefore, the estimates presented here are conservative and partial and do not include the total cost of the Israeli occupation for the Palestinian people in Gaza. Rather, they only capture the economic cost that resulted from the prolonged closure, the severe economic and movement restrictions and the military operations in Gaza during the period 2007–2018.

43. It is also important to emphasize that the above estimates do not include other costs that occurred during the Israeli military operations, such as the destruction of infrastructure, residential units and commercial structures. Evidently, the reconstruction that followed cost the Palestinian people and the international community billions of dollars.

44. Unlocking the economic potential of Gaza – by measures such as the construction of air and seaports, lifting all restrictions on access and movement, allowing full access to water and electricity, and utilizing the oil and natural gas off the shore of Gaza – would have a far greater impact than the estimates reported above.<sup>35</sup>

<sup>35</sup> *The Economic Costs of the Israeli Occupation for the Palestinian People: The Unrealized Oil and Natural Gas Potential* (United Nations publication, Sales No. E.19.II.D.10), indicates that the loss for the Palestinian people from being denied the right to exploit their natural resources from oil and gas could be billions of dollars.

### C. Impact of the economic cost of the closure, restrictions and recurrent hostilities on poverty in Gaza

45. The present section extends the above analysis of the two counterfactual scenarios to the household level data to ascertain their implications on poverty. The tool for doing so is the growth incidence curve.<sup>36</sup>

46. Growth incidence curves offer a transparent way to understand changes in the distribution of household expenditures over time. While the mean growth rate of household expenditures over a period of time is a useful datum, it says nothing about how different categories of households have benefitted (or not) from increases in average expenditures. For example, we can consider two categories of households: those below and those above the poverty line. If growth is pro-poor, a given mean increase in household expenditures per adult equivalent should benefit poor households more than non-poor households; the opposite is true if growth is not pro-poor. The curve plots out that relationship for each quantile of the population distribution: the horizontal axis represents each quantile of the distribution; and the vertical axis measures the percentage change in each quantile's total household expenditures over the period under consideration.

47. The growth incidence curve estimated for the Occupied Palestinian Territory, for the period 2007–2017 is presented in figure 5 below. The solid horizontal line in the figure represents the mean growth rate of household expenditures per adult equivalent. Any quantile of the population that benefitted more than the mean will be on a portion of the curve above that horizontal line; any quantile of the population that benefitted less than the mean will be below the line in the curve. Pro-poor growth corresponds, graphically, to a curve that is above the mean level of growth for lower quantiles of the expenditure distribution and below it for higher quantiles, leading to a downward-sloping curve. As indicated by the slope of the curve in figure 5, economic growth in the Occupied Palestinian Territory has been largely pro-poor. The poorest of the poor – those in the extreme left-hand portion of the curve – appear to have benefited more than the rest of the population.

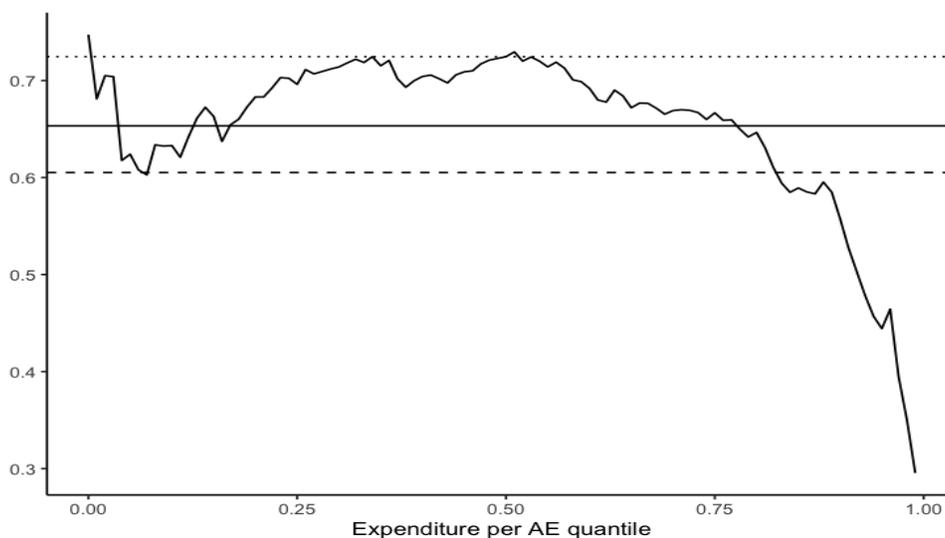
48. The economic growth rates estimated for scenarios 1 and 2 in the previous section imply different levels of real GDP per capita over the period under consideration. Real GDP per capita in 2017 for scenarios 1 and 2 would have been 37.4 and 86.1 per cent higher than the actual, respectively. The analysis here assumes that the average level of expenditures per adult equivalent would have followed the increases in GDP per capita of the two scenarios, but that those increases would have been distributed to different households proportional to their relative position along the growth incidence curve in figure 5.<sup>37</sup> Once the counterfactual values of household expenditures per adult equivalent are constructed, the direct (survey-based) and empirical best prediction methods described above are applied, while maintaining the poverty line at its actual monthly 2017 level of \$255 (constant 2015 USD) per adult equivalent.

<sup>36</sup> The growth incidence curve was first introduced in Martin Ravallion and Shaohua Chen, "Measuring pro-poor growth", *Economics Letters*, vol. 78, No. 1 (January 2003).

<sup>37</sup> For example, according to the Occupied Palestinian Territory growth incidence curve, a household in the twenty-fourth percentile of the distribution would have experienced a 70.2 per cent increase in its expenditures per adult equivalent between 2007 and 2017. Since the mean increase of household expenditures per adult equivalent was equal to 65.33 per cent, that household would then be assigned an increase in expenditures per adult equivalent of  $(70.24 \div 65.33) \times 37.4$  per cent in scenario 1 and  $(70.24 \div 65.33) \times 86.1$  per cent in scenario 2.

Figure 5  
**Occupied Palestinian Territory: growth incidence curve (2007–2017)**

(Percentage change in total household expenditures)



*Note:* The solid horizontal line in the upper part of the figure is the mean growth rate, dotted line is the growth at the mean and the dashed line is growth at the median.

*Abbreviation:* AE, adult equivalent.

Table 4  
**Estimated poverty in Gaza under two scenarios in 2017**

Year	Poverty headcount		Poverty gap	
	Survey-based	Empirical best prediction	Survey-based	Empirical best prediction
2017 – actual*	0.6447	0.5619	0.2574	0.1987
Scenario 1	0.4021	0.3512	0.1391	0.1188
Scenario 2	0.1680	0.1499	0.0365	0.0426

\* From row 2 in table 2, above.

49. The results in table 4 represent another way of capturing the cost of the prolonged closure and recurrent hostilities, which are part of the larger cost of occupation, from a microeconomic perspective. Scenario 1, measured using the empirical best prediction method, shows a reduction in the poverty rate from 56.2 per cent to 35.1 per cent, while scenario 2 shows an even greater reduction, to 15 per cent. Concomitantly, scenario 1 shows a reduction in the poverty gap from 19.9 per cent to 11.9, and to 4.3 per cent using scenario 2. Given that the minimum total annual cost of eliminating poverty is directly proportional to the poverty gap, the results indicate that under scenario 1 those costs would have been halved, whereas in scenario 2 they would have been one-fifth only.

## VI. Conclusion and recommendations

50. The increasing burden of poverty in Gaza calls for an immediate response. Economic growth should be restored, and the economic trajectory should be freed of the prolonged closure, the severe economic and movement restrictions and the attendant destruction. The United Nations Conference on Trade and Development

recommends that the international community, Israel and the State of Palestine consider the following:

(a) Only by fully lifting the debilitating Israeli closure, in line with Security Council resolution 1860 (2009), can we hope to resolve sustainably the humanitarian crisis. Furthermore, the indiscriminate launching of rockets and mortars towards Israeli civilian population centres is prohibited by international humanitarian law, and Palestinian militants must cease that practice immediately. Gaza should be allowed to trade freely with the rest of the Occupied Palestinian Territory, as well as with neighbouring Arab and global markets, and free movement should be restored for businesses, medical care, education, recreation and family unification.

(b) Priority should be given to the reconstruction of infrastructure, private and public structures and the productive base of Gaza, as well as the construction and operation of air and seaports;

(c) The electricity crisis should be addressed by rehabilitating, upgrading and securing fuel for the operation of the Gaza power plant at full capacity and constructing a water desalination plant to secure clean water supply for the population;

(d) The State of Palestine should be enabled to develop the offshore natural gas fields discovered in the 1990s in the sea area off the coast of Gaza. As elaborated by UNCTAD,<sup>38</sup> this would secure the required resources for the rehabilitation, reconstruction and recovery of the local Gaza economy.

51. Furthermore, given the widening gap in the living conditions between Gaza and the West Bank, it is critical that the important Egyptian-led intra-Palestinian reconciliation efforts continue. The United Nations stands firm in its support of the efforts by Egypt in that regard, and the Secretary-General calls upon all Palestinian factions to make serious efforts to ensure the reunification of Gaza and the occupied West Bank under a single, democratic, national government. Gaza is and must remain an integral part of a future Palestinian State as part of a two-State solution. It is high time to reintegrate it politically, administratively, fiscally, economically and socially, including East Jerusalem. The international community can play a key role in that regard.

52. Humanitarian and economic support will not replace political rights or statehood. The United Nations maintains its long-standing position that a lasting and comprehensive peace can only be achieved through a negotiated two-State solution. The Secretary-General will continue to ensure that the United Nations works towards the establishment of an independent, democratic, contiguous, sovereign and viable Palestinian State, living side-by-side in peace and security with Israel, with Jerusalem as the capital of both States.

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<sup>38</sup> *The Economic Costs of the Israeli Occupation for the Palestinian People: The Unrealized Oil and Natural Gas Potential* (United Nations publication, Sales No. E.19.II.D.10).

## Annex

**Estimation of the empirical best prediction method**

1. The first step of the empirical best prediction method is to estimate the statistical relationship that links household expenditures per adult equivalent to the household's observable characteristics, where these must be available in both the census and the household survey data. The table below shows the results of regressing log expenditures per adult equivalent (in constant 2015 USD) on the set of standard covariates, at the national level. To maximize comparability between the synthetic income measures that will be constructed using census data and the estimated coefficients, a common set of covariates over the two sample surveys were maintained in the two regression for 2007 and 2017.

2. There are two differences in the set of covariates for 2007 and 2017 regressions: (a) possession of a mobile telephone, which did not appear in the 2007 questionnaire; and (b) access to electricity, which was an issue in 2007 but no longer in 2017 (note that access to electricity does not take into account whether electricity is actually available, which, more often than not, is not the case in Gaza).

3. The regression results in the table reveal several interesting features. First, the divergence between households in Gaza and the West Bank is substantial: the expenditures per adult equivalent for a household in Gaza, is lower than a household in the West Bank by 44.1 and 43.2 per cent, in 2007 and 2017, respectively. Second, the household head's level of educational attainment remains an important determinant of expenditures. Third, the household employment status is paramount in terms of its expenditures. Employment in Israel, for instance, is associated with 21.3 and 16.3 per cent higher expenditures per adult equivalent, in 2007 and 2017, respectively. However, employment in Israel is not available to the Gaza workforce, which deepens the welfare divergence between Gaza and the West Bank. Fourth, characteristics of the household's dwelling, and its assets, are significantly associated with its expenditures per adult equivalent.

**Regression results: determinants of monthly real expenditures per adult equivalent**

	<i>2007 Palestinian expenditures and consumption survey</i>	<i>2017 Palestinian expenditures and consumption survey</i>
Intercept	5.254 (0.276) ***	5.722 (0.097) ***
Location (West Bank and urban are base categories)		
Gaza Strip	-0.441 (0.043) ***	-0.432 (0.026) ***
Rural	-0.059 (0.043)	-0.051 (0.019) **
Camp	-0.043 (0.051)	-0.015 (0.029)
Characteristics of household head		
Female head	-0.041 (0.063)	-0.015 (0.031)
Marital status of head	0.098 (0.131)	0.041 (0.058)
Educational level of head	0.099 (0.038) **	0.066 (0.019) ***
Refugee status	-0.067 (0.039)	-0.033 (0.019)
Insurance	0.039 (0.046)	0.013 (0.023)
Demographic characteristics of household		
Number of females	-0.070 (0.012) ***	-0.092 (0.008) ***
Number of males	-0.041 (0.014) **	-0.068 (0.008) ***
Number of adult males	-0.003 (0.015)	0.014 (0.009)

	2007 Palestinian expenditures and consumption survey	2017 Palestinian expenditures and consumption survey
Number of adult females	0.016 (0.021)	-0.001 (0.012)
Sector of employment (services are base category)		
Agriculture	-0.095 (0.058)	-0.069 (0.036)
Construction	-0.037 (0.053)	-0.025 (0.027)
Industry	-0.108 (0.056)	-0.027 (0.030)
Employment status		
Number of employed household members	0.081 (0.019) ***	0.052 (0.011) ***
Employment in Israel	0.213 (0.058) ***	0.163 (0.027) ***
Employment in national Government	-0.006 (0.048)	0.106 (0.025) ***
Access to basic services		
Access to public water	-0.169 (0.058) **	-0.160 (0.027) ***
Access to electricity	-0.027 (0.161)	
Connection to sewage network	0.129 (0.041) **	-0.028 (0.021)
Characteristics of dwelling		
House ownership	-0.264 (0.049) ***	-0.052 (0.022) *
House is a villa	0.138 (0.160)	0.221 (0.104) *
Number of rooms	-0.030 (0.018)	-0.008 (0.009)
Number of rooms per adult	0.236 (0.047) ***	0.120 (0.019) ***
Main source of heating is diesel	-0.115 (0.095)	0.241 (0.179)
Household assets		
Car	0.246 (0.040) ***	0.380 (0.020) ***
Refrigerator	0.133 (0.083)	0.080 (0.052)
Boiler	0.093 (0.038) *	0.091 (0.017) ***
Central heating	0.300 (0.127) *	0.028 (0.081)
Vacuum	0.103 (0.043) *	0.080 (0.020) ***
Cooking stove	-0.061 (0.191)	0.026 (0.030)
Washing machine	0.034 (0.067)	-0.054 (0.017) **
Home library	0.171 (0.041) ***	0.087 (0.026) ***
Television	-0.001 (0.085)	0.168 (0.019) ***
Telephone line	0.173 (0.038) ***	0.066 (0.019) ***
Satellite	0.208 (0.044) ***	0.067 (0.026) *
Computer	0.164 (0.038) ***	0.073 (0.019) ***
Mobile telephone		0.220 (0.025) ***
R <sup>2</sup>	0.522	0.552
Number of observations	1,223	3,720
Root mean square error	0.541	0.485

Note: Standard errors are in parentheses. \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05.

Abbreviation: R<sup>2</sup>, proportion of the variance for a dependent variable that is explained by an independent variable.