

# Chapter 7: West Bank and Gaza: Emergence of the “New Poor”

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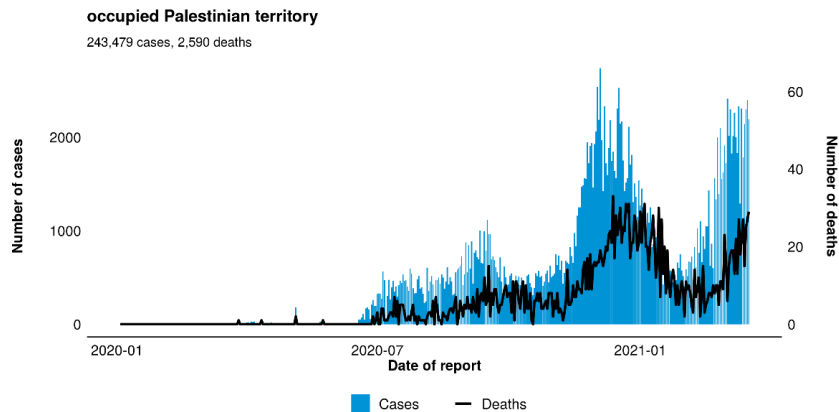
## Key Messages:

- For the West Bank and Gaza, our microsimulations paint a picture of worsening poverty – up to 35.6 percent in 2020 – driven by income shocks that have been further exacerbated by COVID-19.
- Although inequality does not seem to be as affected by COVID-19, there is an emergence of the “new poor” – those who were not poor in 2016 but have become poor since.
- Their characteristics differ from those of the traditionally poor in that they are more concentrated in the West Bank, in rural areas, are more likely to have tertiary education, and are more likely to belong to female-headed households.
- Interestingly, the new poor are more likely to live in households above the first two income deciles – a finding that is analogous to the global World Bank report on Poverty and Shared Prosperity, which indicated 82 percent of the new poor will live in middle-income countries.
- Further, unless households are able to continue smoothing consumption, poverty could dramatically increase for Palestinian households, reaching levels close to what was observed in Gaza in 2016.

## Introduction

As of March 2021, the West Bank and Gaza have seen 243,479 COVID cases and 2,590 deaths, which have been concentrated in two waves – the first took place in summer 2020, and the second, more significant one, in the last quarter of 2020 (figure 7.1). The Palestinian Authority (PA) was relatively swift in implementing a series of restrictions (figure 7.2), which included “stay-at-home” orders and restriction of movement. In addition, the border between the West Bank and Israel was closed, which further limited the ability to work over this period for 18 percent of the West Bank labor force who work in Israel and/or the settlements.<sup>1</sup> In March the PA started to deliver vaccines supplied through the international Covax scheme. However, while Israel has seen the highest inoculation rate globally, vaccine delivery is relatively low in both the West Bank and Gaza.

Figure 7.1: Two big waves of COVID-19 cases and deaths in West Bank and Gaza

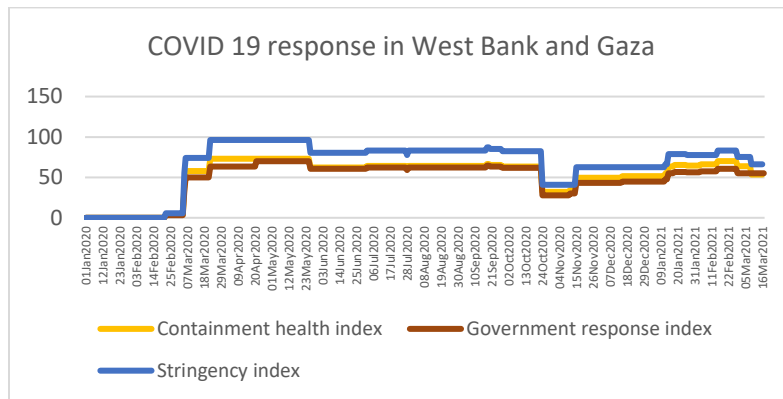


Source: WHO COVID-19 Explorer

<sup>1</sup> According to the 2019 Labor Force Survey collected by PCBS, further described below.

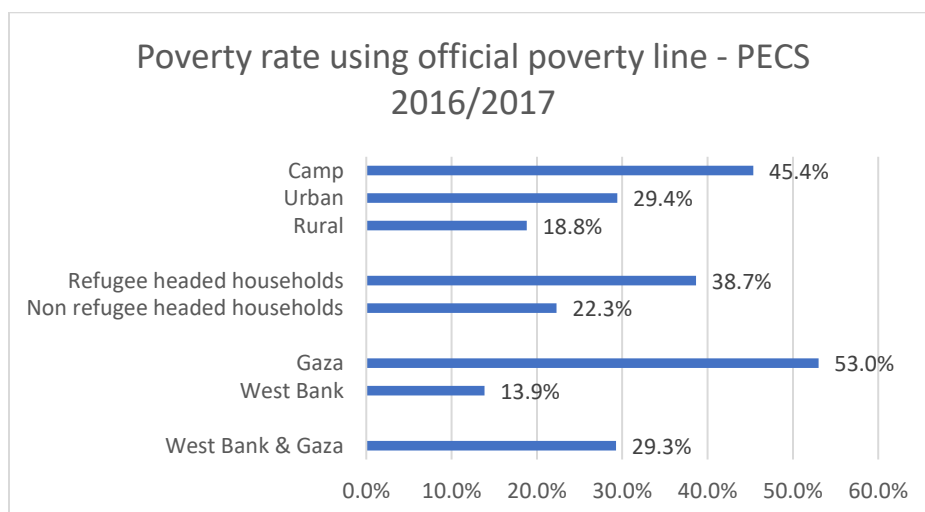
**Figure 7.2: Stringent restrictions quickly erected**

Oxford COVID-19 Government Response Tracker (Hale et al. 2021) - selected indicators for the West Bank and Gaza



The disruption caused by the pandemic comes at a time when Palestinian living conditions, particularly for those living in Gaza, have been declining. The latest poverty figures show that 29.3 percent of the population live in poverty (PECS 2016/2017), using the official poverty line of around USD 8.9 per person per day.<sup>2</sup> But this masks the diverging situation between the West Bank and Gaza, where poverty is at 13.9 percent and 53.0 percent, respectively. If using the international \$5.5 a day poverty line, 22 percent of Palestinians live in poverty. Similarly, the situation is worse for refugee headed households and those living in refugee camps (figure 7.3). Moreover, in 2019, the West Bank and Gaza had a very low labor force participation rate (about 37 percent) and low employment rate (about 28 percent of the working age population) – with a large youth population badly in need of jobs. Growth was just under 1 percent of GDP.

**Figure 7.3: Almost a third of Palestinians live below the poverty line**



<sup>2</sup> The official poverty line is based on a “deep poverty line”, which reflects a budget needed for a family of two adults and three children to cover food, clothing, and housing. This line is increased based on the spending habits of those under the deep poverty line on health care, education, transportation, personal care, and housekeeping.

Source: Palestinian Expenditure and Consumption Survey (PECS) 2016/2017

Note: The National poverty line was updated in 2010 and stands at 2,470 NIS or 671 USD for the reference household (two adults and three children) in 2017.

As COVID-19 enters its second year, analysts have been taking stock of how the health crisis, government restrictions, and economic downturn have impacted the poor and vulnerable.

Most of these studies rely on various assumptions of macroeconomic growth and how these translate into changes in household income and welfare. Some of these assumptions are restrictive, and they do not exploit the variation in household or individual characteristics that could determine exposure to the pandemic and mobility restrictions. Macroeconomic projections are also dependent on expectations of how the economy will recover, which, in turn, depends on the highly unpredictable roll-out of vaccines.

How has COVID-19, the economic downturn, and lockdowns affected the welfare of households in the West Bank and Gaza? This study takes an innovative approach to simulating the effect of COVID-19 on poverty and other welfare indicators in these locations, relying mostly on microdata collected before and after the pandemic. It takes advantage of two recent sources of information on employment and wage income: the Quarterly Labor Force Survey collected by the Palestinian Central Bureau of Statistics (PCBS), and the Rapid Assessment Phone Survey conducted by PCBS, UNDP/PAPP, the World Bank, and other UN agencies (UN-Women, UNFPA, UNICEF, WHO and WFP). It draws on behavioral models that serve to predict households' likelihood of experiencing income and employment shocks. And it accounts for not only government and non-government responses to the economic downturn but also estimated remittance flows. These changes are simulated onto the 2016/2017 PECS to estimate the change in income, consumption, poverty rate, and inequality.

The study's key results show that poverty would increase from 33.4 percent in 2019 to 35.6 percent in 2020, or an increase of 2.3 percentage points – the equivalent of pushing more than 110,000 Palestinians into poverty due to COVID-19 alone – while inequality would be little changed. In fact, rather than reinforcing previous vulnerabilities, the analysis shows an emergence of the “new poor”, predominantly located in the West Bank. The future path hinges on targeted programs to help Palestinians smooth consumption and weather the welfare shocks.

As new sources of information become available, this microsimulation model can be adapted to reflect changes to the labor force and household welfare. At the time of writing, violence between Israel and the Palestinians has escalated, particularly in Gaza. Household welfare is likely to be further eroded, and this model has been set up in a way to act as a living model, to be updated with the changing situation.

## How the Pandemic could Influence Welfare

There are five main ways that the COVID-19 pandemic could channel changes to household welfare:

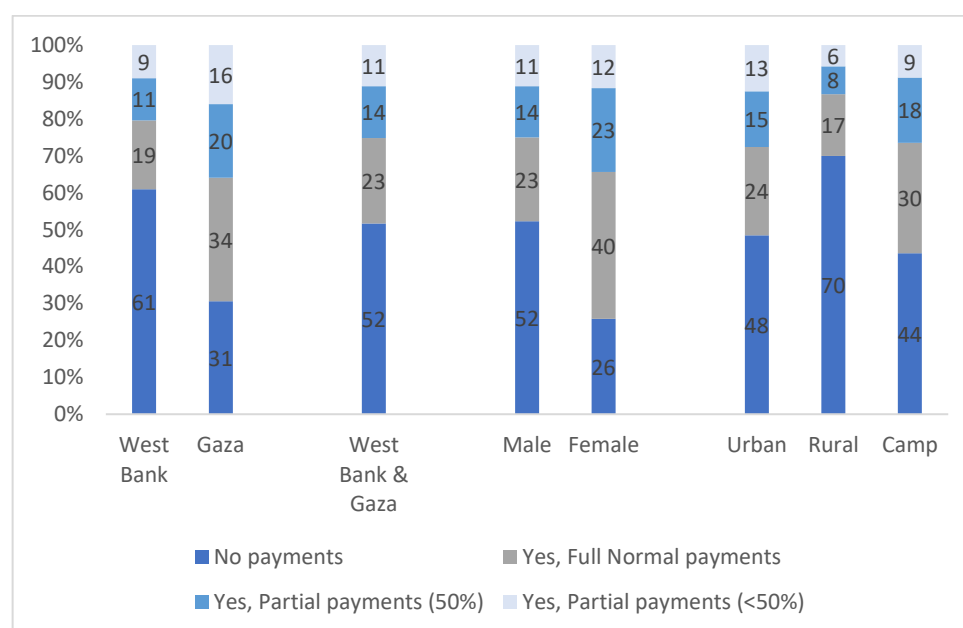
- *Labor income.* This will be impacted through loss of employment and wages, as government restrictions have led to firms reducing working hours or laying off workers. In the West Bank and Gaza, phone surveys in 2020 show that 52 percent of workers received no payments (figure 7.4).
- *International remittances.* These would be reduced, as most of the global economy has been impacted by the crisis.
- *Social support.* The government and various organizations have compensated for the restrictions by setting up social protection programs, most notable of which are cash transfers implemented by the United Nation Relief and Works Agency (UNRWA) and the Palestinian Authority. However,

as UNRWA has faced funding cuts since 2016, changes to older programs could be felt. To mitigate these effects, the World Bank has supported Palestinian households and firms through at least two programs: (i) Waqfit Izz fund to provide small and medium-sized enterprises (SMEs) with liquidity and boost labor demand, and (ii) the cash transfer program.

- *Changes in prices.* These could impact household purchasing power, but so far there have not been large significant changes in the West Bank and Gaza (figure 7.5). In fact, there might be an improvement in the relative prices that would favor consumers due to slow or negative growth in the consumer price index (CPI) and appreciation of the local currency.<sup>3</sup>
- *Access to services.* Any cuts in access to key services, such as health and education, would impact household welfare directly and indirectly.<sup>4</sup>

**Figure 7.4: Big impacts through lost wages**

Impact of COVID-19 on payments received by main income earner by location, sex of main income earner and area of residence (% of main income earners).



Source: Rapid Assessment Phone Survey 2020

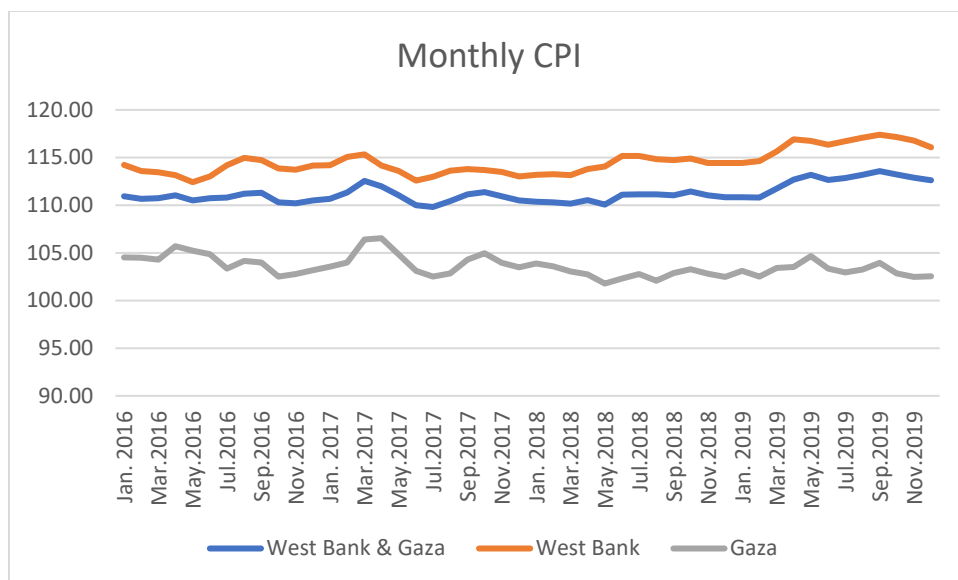
**Figure 7.5: No major changes in consumer price index**

Monthly Consumer Price Index for the West Bank and Gaza. Base year=2010.

<sup>3</sup> World Bank Economic Outlook on the West Bank and Gaza at:

<http://pubdocs.worldbank.org/en/887141603047349535/pdf/13-mpo-am20-palestinian-territories-pse-kcm.pdf>

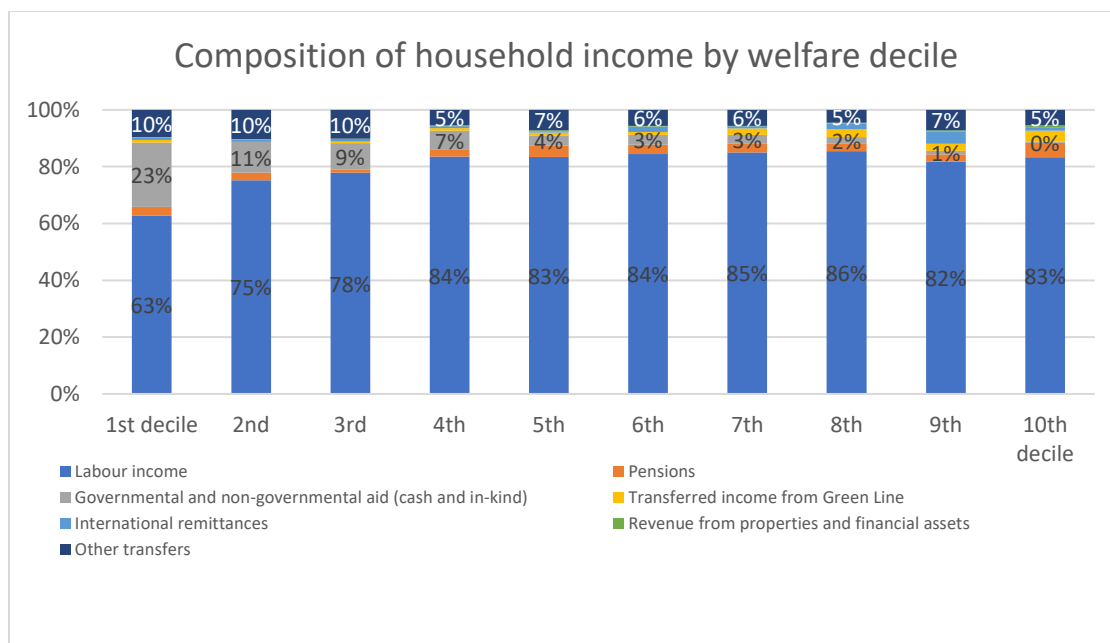
<sup>4</sup>The Rapid Assessment Phone Survey shows households are still able to access health services to a certain extent. Given that the reduction in access to services is small, and the difficulty of accounting for such a reduction in welfare, the microsimulation model does not consider changes in access to services.



Source: PCBS

As for the impact of COVID-19 on individual households, that will vary greatly, depending on the shares of labor income and non-labor income in total household income. The poorest quintiles are more likely to be affected by changes in non-labor income (in the form of governmental and non-governmental aid). For example, the bottom three deciles rely on transfers for 23 to 9 percent of their income, and remittances for 10 percent (figure 7.6). Labor income does form the majority of household income sources, but this does increase as a percentage of total income as households become richer.

Figure 7.6: Poorest households most vulnerable to changes in non-labor income



Source: Palestinian Expenditure and Consumption Survey (PECS) 2016/2017

## Chief Data Sources

This study relies on three main sources of microdata: the Palestinian Expenditure and Consumption Survey of 2016/2017, the Palestinian Labor Force Survey from 2016 to 2020, and the first round of the Rapid Assessment Phone Survey of 2020.

### Palestinian Expenditure and Consumption Survey (PECS) 2016/2017

The PECS is the main expenditure/consumption survey conducted in the West Bank and Gaza and is used to estimate official poverty estimates. Besides household consumption expenditure, it collects information on socio-economic conditions, (labor and non-labor) income, and employment status. The 2016/2017 PECS was collected over 12 months, starting in September 2016, to account for seasonal changes in consumption. Consumption was collected using a registration book (diary) to record daily food consumption and expenditures over one month, and fieldworkers visited the household 8-10 times to ensure completeness and quality of the data.

The sampling frame was based on the 2007 census, which was updated as part of the 2014 MICS survey. The completed sample was 3,739 households from 391 enumeration areas stratified over governorates and locality type (urban, rural, and refugee camps), resulting from a response rate of 71.4 percent (PCBS 2018). The average household size is 5.5, the average age of the head of the household is 47, and 71 percent of household heads are employed – primarily in the private sector (see table 3A.1 in the annex for more household details).

### Palestinian Labor Force Survey (PLFS)

The Palestinian Central Bureau of Statistics conducts the Labor Force Survey every quarter to collect information on the size and structure of the Palestinian labor force. To understand changes to employment since the last time poverty was estimated, the surveys from 2016, 2019, and 2020 were used. The sample is stratified by governorate and type of locality (urban, rural, and refugee camps) and drawn from 494 enumeration areas of the master sample. The enumeration areas remain fixed over time, but 50 percent of households are replaced each round. Some key trends from 2016-2019, as table 7.1 shows, have been a declining labor force participation rate and declining employment rate (of the working age population), from their already low levels.

*Table 7.1: Sample size and key statistics from the Palestinian Labor Force Surveys*

Year	Sample size (households)	Response rate <sup>5</sup>	Labor force participation rate	Employment rate (of labor force)	Employment rate (of working age pop)
2016	23,884	86.7%	38.6%	73.0%	28.2%
2019	24,487	83.4%	37.4%	74.7%	27.9%
2020	25,653	75.7%	34.5%	76.7%	26.5%

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<sup>5</sup> The sampling weights adjust for non-response cases.

It is worth noting that the definition used for labor force and employment status changed in 2018 following international standards. Unemployment was more strictly defined to consider only those who are actively searching for work and available to start work immediately. For this reason, the increases in the employment rate from 2018 could be overestimated because the number of unemployed becomes smaller due to the more restrictive definition. Similarly, reductions in the employment rate from 2016 to 2019 will be underestimated. To address this issue, the model relies on changes in the number of employed rather than changes to the employment rate.

### Rapid Assessment Phone Survey 2020

PCBS, with support from the World Bank and UN agencies, conducted a rapid household survey to assess the impact of COVID-19 on socio-economic conditions (PCBS 2020). The interviews were conducted by mobile phone from June 15<sup>th</sup> to July 30<sup>th</sup> 2020. The reference period for most of the questions was over the first lock-down period, from March 5<sup>th</sup> to May 25<sup>th</sup> 2020.

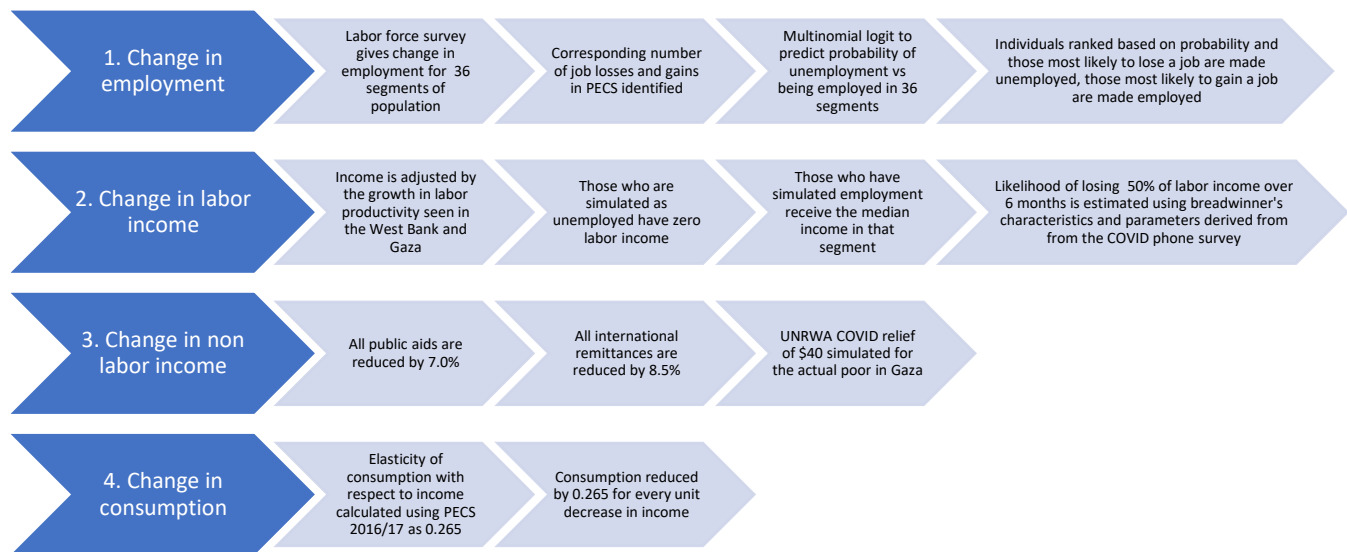
The sample consisted of the list of households who responded to the 2018 Socio-Economic Conditions Survey, which has been stratified at the governorate and locality type level. The sample size was 8,709 households (completed), with a response rate of 93.6 percent. This data shows the average age of the household head was 39.6 years, 6.3 percent of households are headed by females, and 46.2 percent of respondents had been working before the lock-down period.

### An Innovative Methodological Approach

The analysis presented in this study relies on a microsimulation model to evaluate the welfare impacts of the COVID-19 pandemic. It focuses on the (labor and non-labor) income transmission channel, as this channel is expected to dominate the short-run impact on households' welfare for at least two reasons. First, labor income represents a large share of household income (figure 7.6); second, the lockdown has caused a disruption in employment across all economic sectors.

The microsimulation model draws on data from multiple waves of the Labor Force Survey to estimate behavioral models based on the PECS 2016/2017 and the rapid COVID phone survey. It builds on previous approaches to microsimulation described in Walsh (2020) and Cereda, Rubiao, and Sousa (2020). The model links employment shocks to changes in income and predicts drops in labor income using the results from the COVID phone survey. In sum, the model has four main steps that account for: (i) a change in employment from the Labor Force Surveys; (ii) a change in labor income due to growth of productivity and a reduction in working hours over the COVID period; (iii) a change in non-labor income (aid and remittances); and (iv) a corresponding change in consumption. These steps are summarized in figure 7.7.

**Figure 7.7: Overview of microsimulation model and steps to determine changes in household welfare**



Specifically, the microsimulation exploits changes in the relative share of workers in various segments of the population, defined by intersecting location of residence (West Bank or Gaza), economic sector of activity, and refugee status.<sup>6</sup> Segments are grouped to provide sufficient within-group homogeneity, while having large between-group heterogeneity. Contractions in the proportions working in each segment are interpreted as a reduction in the number of workers in that segment, while expansions are seen as an increase in the size of the segment's workers, who are drawn from the pool of the unemployed. The COVID phone survey was used to further model a reduction in labor income resulting from a decrease in work intensity in the wake of the COVID induced lockdown.

**Step 1: Change in employment.** The LFS data suggests that from 2016 to 2019 employment increased for most segments in the West Bank, while it decreased in most segments in Gaza, indicating the grim economic prospects facing this area (figure 7.8). Then in 2020, most sectors contracted, likely due to the COVID pandemic and its associated lockdown.. The tourism, hotel and restaurant industries are the most impacted by a reduction in employment, in both the West Bank and Gaza.

The analysis begins with the production of a 2019 baseline by updating the work status of household members participating in the labor force in the 2016/2017 PECS data. Then, relative changes in sectoral labor productivity between 2016 and 2019 are used to adjust household labor income, given that from 2016 to 2019, labor productivity changed differently by economic sector of activity, sometimes eroding household income.<sup>7</sup> Next, annual LFS data is used to examine changes in employment status between 2019 and 2020. Changes in employment status are derived by selecting individuals who will either gain or lose a job. To identify the workers that are more likely to be laid off or recruited when a sector contracts or expands, a Mincer type multinomial logit regression was run on workers' observable characteristics (such as years of schooling, age and its square, and selected household assets).

<sup>6</sup> An individual is considered a refugee if he/she belongs to a household headed by a refugee. Both registered and unregistered refugee status are considered.

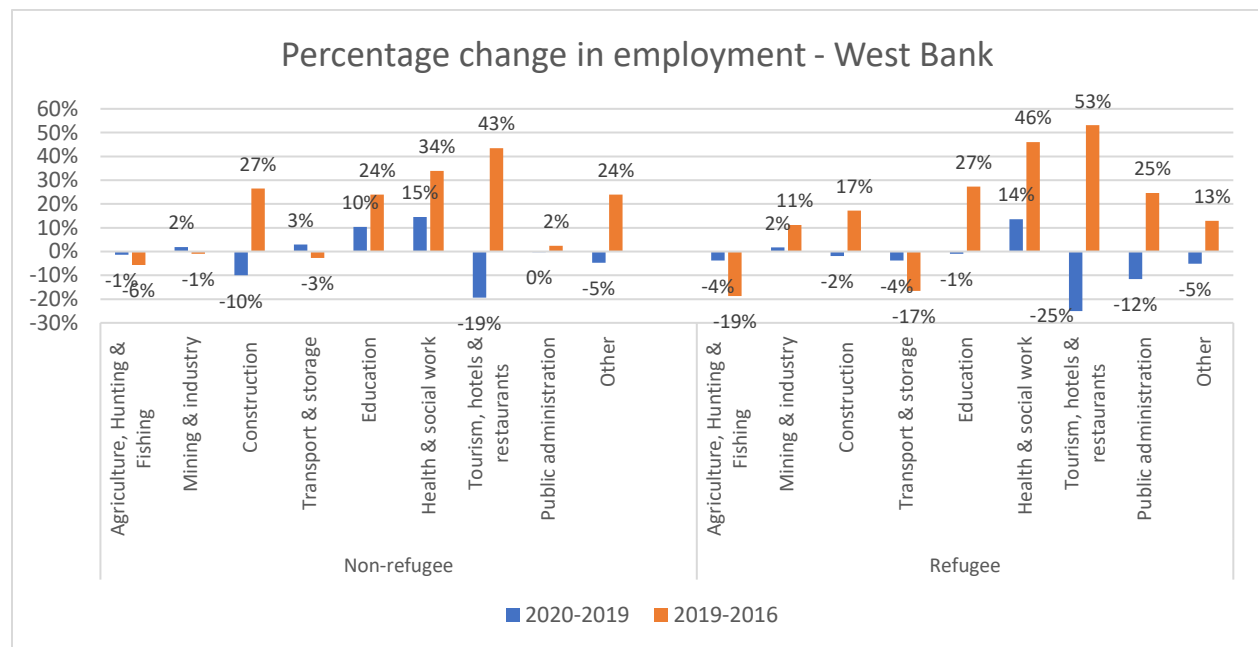
<sup>7</sup> See figure 7A.1 in the Annex for further information on declining labor productivity – which is likely to have been declining in the West Bank and Gaza since 2011, coinciding with the start of the Arab Spring and declining external funding.

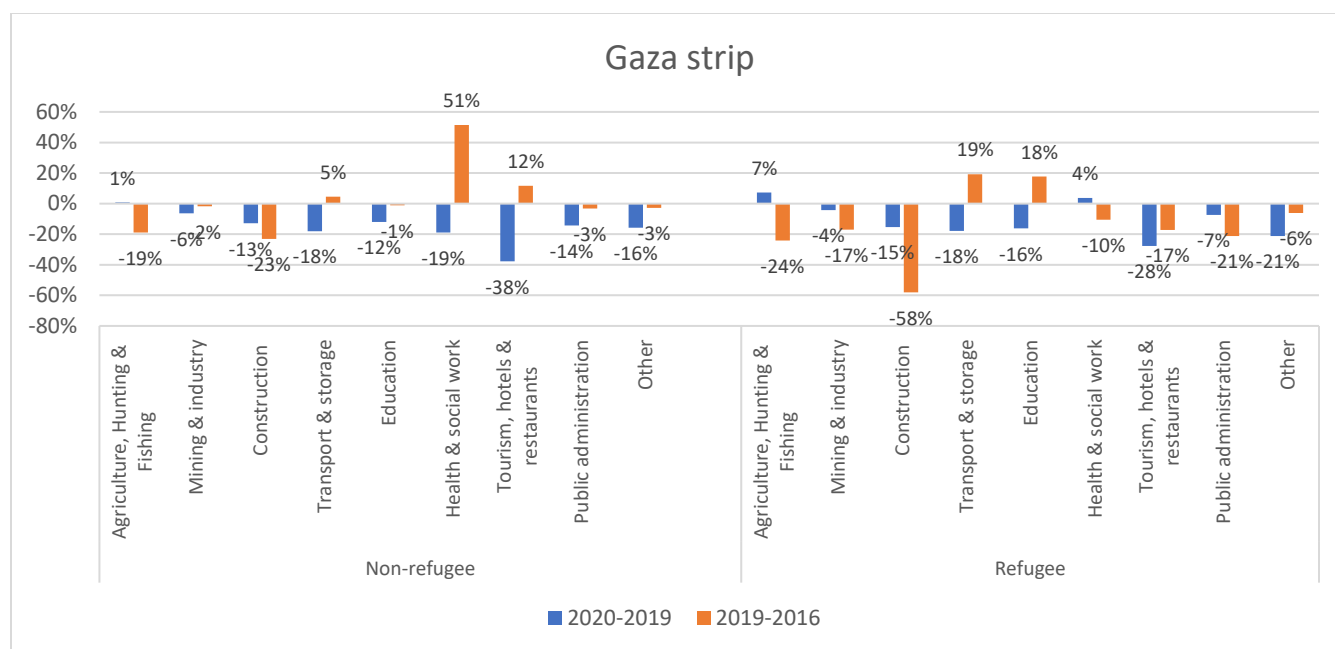


Then, for each worker a propensity score, presenting the likelihood that an individual with a given set of observables would be working in each segment, is generated. The propensity score of working in their current segment is stored. It is assumed that workers would be laid off sequentially beginning from the one with the lowest propensity of working in that segment until the number of those employed in that segment matches what is observed in the labor force survey. The approach is slightly modified when it comes to job expansion. When a segment expands, it is assumed that new recruits would enter the pool of workers starting from those with the highest propensity among the unemployed. All workers who lose their jobs are assumed to receive no labor income, while those who gain a new job would receive the median annual income of their segments.

**Figure 7.8: Some sectors suffered bigger employment losses than others**

Percentage change in employment by segment, from 2016 to 2019 and 2019 to 2020





Source: Author's own calculations from Palestinian Labor Force Surveys, 2016-2020.

Note: Share of employed is the proportion of the working-age population that is employed.

**Step 2: Change in labor income.** Furthermore, the COVID phone survey provides data on variations in wages among workers who saw a change in their work intensity. This could help identify workers who did not necessarily lose their job, but still saw a loss of income due to reduced working hours or profit. The data was used to identify main income earners who lose a fraction of their labor income in the PECS dataset. To do so, the likelihood of losing the totality or fraction of income in the phone survey data was modelled.<sup>8</sup> Then, with the estimated parameters, the likelihood of losing income is generated in the updated PECS data. Main income earners who lose some income are identified by ranking their estimated propensity.<sup>9</sup>

**Step 3: Change in non-labor income.** This exercise draws on the World Bank's estimates of changes in the flow of remittances (Ratha et al. 2020) and income from public transfers – modified to be consistent with data from the World Bank on public spending and donor aid.<sup>10</sup> Information on social protection packages used to mitigate the economic consequences of COVID-19 is also used. It includes a one-off payment to poor refugees living in Gaza delivered by UNRWA (NIS 138), a one-time emergency cash transfer (NIS 700) from the PA to laborers and the poor, and a three-month top-up cash transfer (NIS 17) delivered by the World Food Program to non-refugee food insecure and extremely poor.<sup>11</sup>

<sup>8</sup> Although the phone survey provides a detailed categorization of income loss, the simulation only makes the simplifying assumption of a 50 percent loss. It is further assumed that income loss affecting wage workers reflects losses among all workers – excluding those in the public administration, whose labor income is thought to suffer no shock in the microsimulation.

<sup>9</sup> Because many households have a single income earner, extending the analysis to all workers at the household level only has a negligible impact on the results.

<sup>10</sup> This data is extracted from the World Development Indicators Database.

<sup>11</sup> While there are more social transfers, they were not considered because they were too small or not enough information was available at the time of writing.

The microsimulation aims to estimate the income distribution at different points in time to derive changes to household welfare. Consistent with past work, household member  $i$ 's income at time  $t$  is defined as:

$$Y_{it} = YL_{it} + YG_{it} + YR_{it} + YO_{it}$$

Where  $Y_{it}$  stands for individual  $i$ 's income,  $YL_{it}$  labor of the household member, while  $YG_{it}$  and  $YR_{it}$  are respectively net public transfer received and remittance received by individual  $i$ . The income from all other sources is  $YO_{it}$ .

The microsimulation exercise assesses the change in  $YL_{it}$ ,  $YG_{it}$ , and  $YR_{it}$  based on five scenarios after updating household income to 2019. The results also consider:

- A “2020 without COVID” scenario that projects forward lower labor productivity, assuming a similar trend since 2016.
- In the first scenario, only employment shifts between 2019 and 2020 are simulated to assess their impacts on labor income.
- The second scenario compounds the effects of employment shifts with information about loss in labor income, with breadwinners assumed to lose half their income for one quarter.
- The third scenario assumes the 50 percent income loss occurs during two quarters.
- The fourth scenario adds an 8.5 percent decrease in international remittances to the setup of the third scenario.
- The fifth scenario alters the third one to incorporate COVID transfers – and it is the most plausible one as it closely mirrors households’ living conditions.

In the remainder of this chapter, only results of the “2020 without COVID” and the fifth scenario are presented, with results from other ones shown as a sensitivity analysis. Finally, equipped with these changes to individual incomes, total household income and per capital income are generated.

**Step 4: Change in consumption.** The implications of changes in income for household consumption are examined by using income elasticity of consumption. It is estimated from the PECS data by regressing log-consumption on log-income, controlling for a set of household and household head characteristics. These characteristics include age, years of schooling, working in agriculture, working in manufacturing, ownership of certain assets, and the location of the household. Elasticity is estimated to be 0.265.

## Model Assumptions and Limitations

There are a few assumptions and limitations associated with our method. First, the use of the updated household data as a baseline may not be optimal because the changes in welfare could potentially stem from other factors acting simultaneously in the economy. Second, the simulation model draws on behavioral models built on past data that reflect the pre-crisis structure of the labor market and household incomes. In particular, this includes the relationship between income and consumption and the estimated elasticity. Hence, the model assumes these structural relationships to hold during the time span of the analysis. The longer the analysis period, the more questionable this assumption becomes.

Third, the model implicitly accounts for demographic growth by adjusting income for changes in sectoral labor productivity. Regarding public transfers in the pre-COVID era, changes are assumed to affect all households in the same way, although this is likely to be violated as transfers are probably targeted in a

way that accounted for specific household characteristics. Yet, the absence of precise information about various assistance programs prevents the development of a more refined model.

Fourth, the model does not allow for mobility of labor across space and economic sectors. Thus, all individuals are assumed to remain in their initial place of residence (a reasonable assumption) and their sector of employment (less likely to hold true).

Fifth, the model has little ability to account for changes in relative prices between different commodity groups resulting from external shocks. However, as mentioned earlier, empirical evidence suggests little change in relative prices, especially for commodities (like food) that matter most for the poor. In fact, there might be an improvement in the relative prices that would favor consumers, due to slow or negative growth in the CPI and an appreciation of the local currency.<sup>12</sup>

Finally, the change in employment from 2016 to 2019 could be underestimated due to the change in methodology employed by PCBS in 2018. This will have the effect of underestimating the decrease in poverty, so results presented are likely to be a lower bound.

## How COVID Impacts Household Welfare

What are the key findings of our micro-simulations for the Palestinian households in the West Bank and Gaza? We start with the overall results for changes in income, poverty, and inequality between the end of 2019 and 2020, before turning to a breakdown of changes across different groups.

### Changes in Income

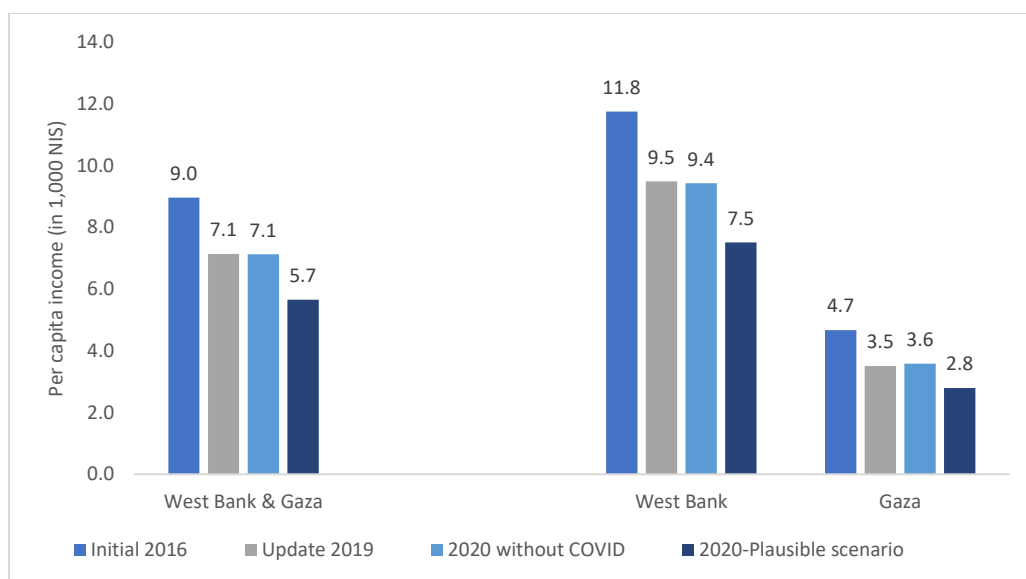
***First, there will be a small reduction in income (1.5 percentage points) in 2020 from 2019.*** Between 2016 and 2019, consistent with trends recorded elsewhere<sup>13</sup>, per capita income declined, with differences by location (figure 7.9) – mean annual per capita income dropped by 20.4 percent, reaching about 7,140 NIS in 2019. Importantly, per capita income is simulated to decrease faster in Gaza than the West Bank (24.8 percent versus 19.2 percent).

**Figure 7.9: A small income drop in 2020 on top of pre-COVID declines**  
Changes in mean annual per capita income by location

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<sup>12</sup> World Bank Economic Outlook on the West Bank and Gaza at: <https://thedocs.worldbank.org/en/doc/169601538076901007-0280022018/original/mpoam18palestinianterritoriespseks913fin.pdf>

<sup>13</sup> World Bank Economic Outlook on the West Bank and Gaza at: <http://pubdocs.worldbank.org/en/887141603047349535/pdf/13-mpo-am20-palestinian-territories-pse-kcm.pdf> and [https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms\\_774731.pdf](https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_774731.pdf)



Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

During the pandemic, changes in income are projected to be felt differently in the West Bank and in Gaza. According to the most plausible scenario – which adds to the employment shift a reduction in the labor income of the main income earner and induced income changes resulting from UNRWA aid to Gazan refugees – the simulated drop in per capita income is 20.8 percent in the West Bank and 20.4 percent in Gaza or 20.8 percent overall. As expected, the various transfers slightly dampen the adverse impacts on income.<sup>14</sup>

The divergence of these results is also explained in Chapter 3 in this Report, drawing on a forthcoming World Bank report (Suarez, Malásquez, and Al-Saleh Forthcoming). While Palestinians in Gaza are more likely to have lost employment due to the pandemic, in the West Bank, workers are more likely to forgo income because of reduced hours and not being able to perform work related activities.

### Changes in Poverty and Inequality

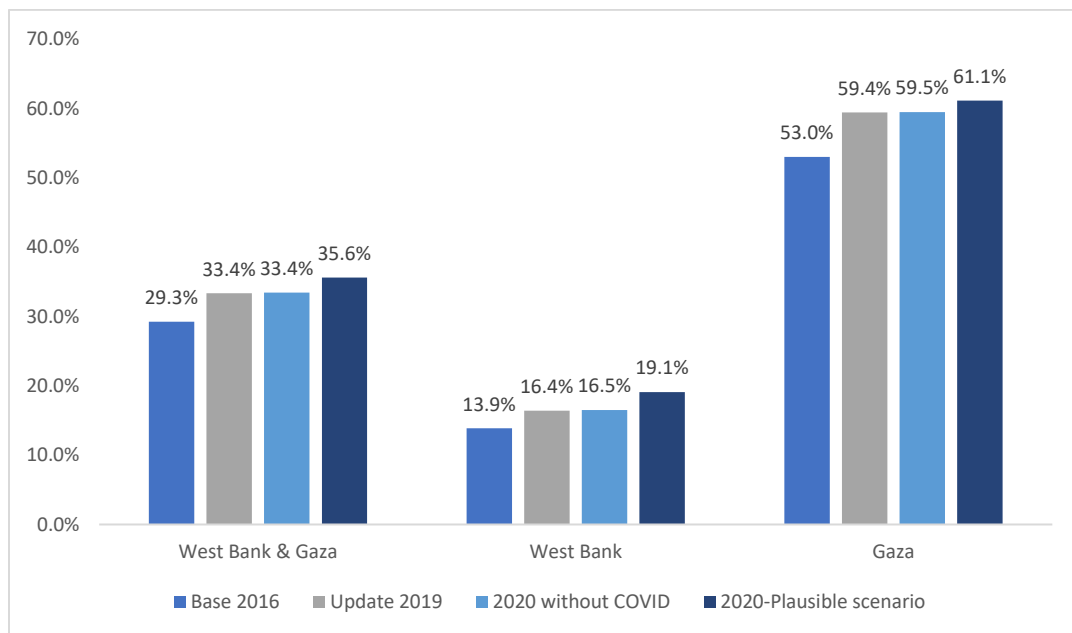
***Second, there will be a rise in poverty, although no real change in inequality.*** Before the COVID pandemic, poverty had worsened between 2016 and 2019, with simulated poverty rates for the West Bank and Gaza rising from 29.3 to 33.4 percent (figure 7.10). Gaza experienced a sharper increase in poverty (from 53.0 to 59.4 percent ) than the West Bank (from 13.9 to 16.4 percent). However, inequality remained almost unchanged between 2016 and 2019, as the Gini index increased slightly from 33.7 to 33.9 percent. Changes are small across all scenarios and between West Bank and Gaza.

Then, in 2020, the simulated poverty rate in West Bank and Gaza rose by 2.2 percentage points to reach 35.6 percent – the equivalent of more than 110,000 “new poor” due to the pandemic. Simulated poverty

<sup>14</sup> Without COVID transfers, income would have reduced by 15.4 percent, 17.2 percent in the West Bank and 8.5 percent in Gaza.

is on the rise in both the West Bank (from 16.4 to 19.1 percent) and Gaza (from 59.4 to 61.1 percent), albeit at a more rapid pace in the West Bank compared to Gaza. And once again, there was no real change in inequality (figure 7.11).

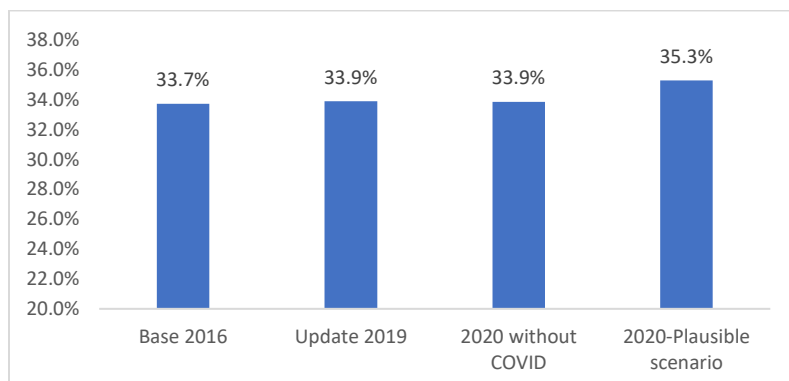
**Figure 7.10: After already rising in recent years, poverty is up again in response to COVID-19**  
Changes in Poverty by location - Adjusting for income elasticity



Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50 percent income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, World Food Programme (WFP) one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

**Figure 7.11: No real change in inequality**  
Changes in Inequality - Adjusting for income elasticity

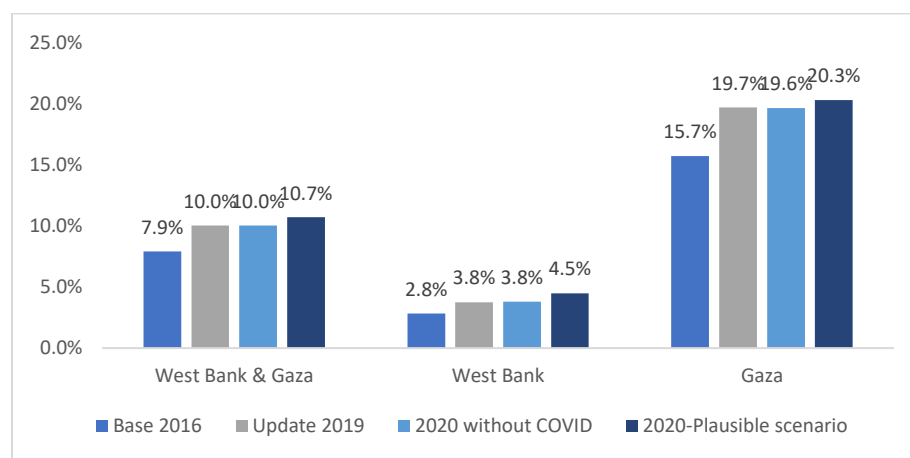


Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank).

As for the poverty gap, it is projected to rise from 10 to 10.7 percent between 2019 and 2020, pointing to the greater need for resources to lift people out of poverty (figure 7.12). Much of this increase would be driven by changes in the West Bank, where the simulated poverty gap rose to 4.5 percent from an updated value of 3.8 percent in 2019, with almost no change in the poverty gap in Gaza at 19.7 percent and 20.3 percent. Interestingly, this finding is not on par with some literature pointing to a widening gap and a reinforcement of existing poverty and vulnerabilities (Hill and Narayan 2020; Serkez 2021; Oxfam 2021).

**Figure 7.12: Slight increase in the poverty gap**  
Poverty gap by location - Adjusting for income elasticity



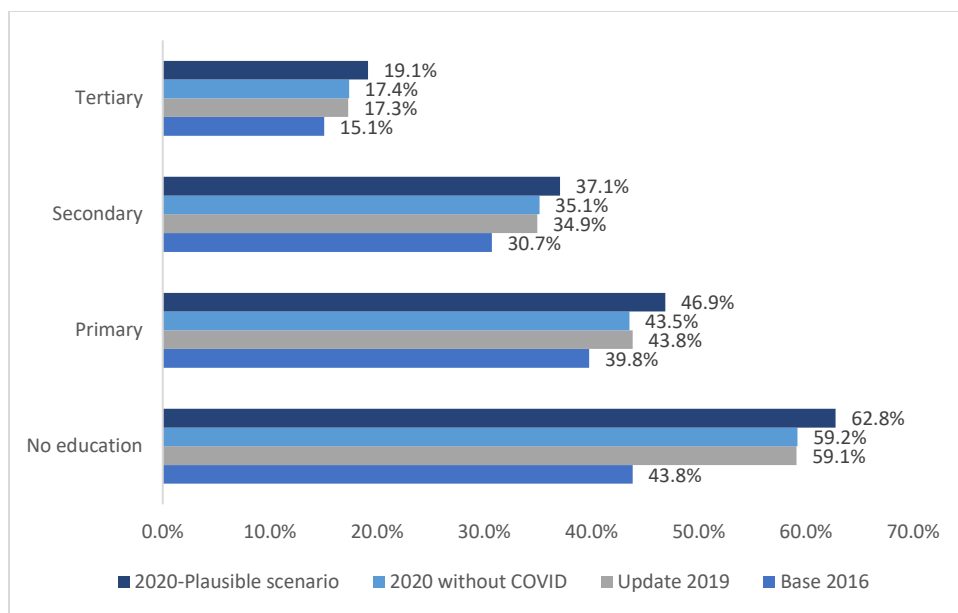
Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

## Distributional Analysis

**Third, the simulated impact of the pandemic on poverty will be felt differently across groups.** Starting with educational attainment, the study finds that households with a more educated household head suffer a smaller increase in poverty (up 1.8 percentage points) compared to households whose heads are without education (up 3.7 percentage points) (figure 7.13).

**Figure 7.13: Unequal impacts across different groups**  
Changes in Poverty by educational attainment



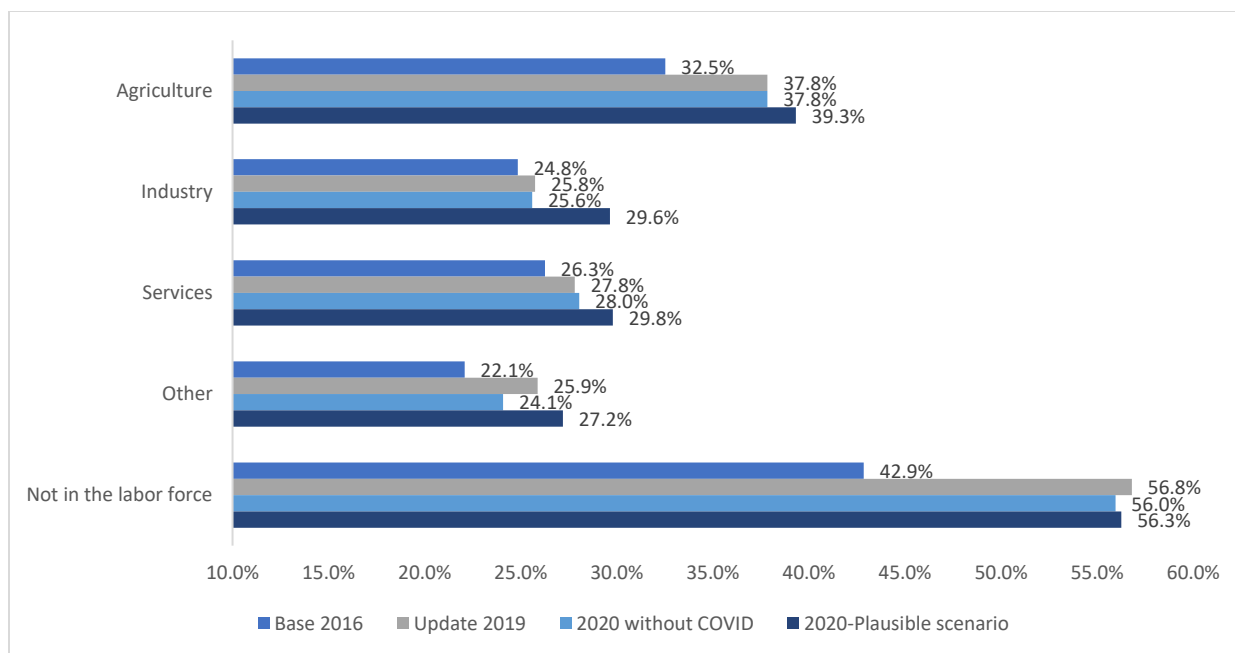
Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

As far as industry is concerned, the study shows that households with heads working in the industry sector witness the largest simulated increase in the poverty rate, while the services sector is projected to experience a relatively small increase in poverty (figure 7.14). While the services sector was more affected by the pandemic, this result is likely due to the fact that those employed in the services were already poorer compared to the industry sector. Among households whose heads are not in the labor force, poverty actually decreases in 2020, probably reflecting the effects of various programs targeting the poor during the COVID pandemic.

**Figure 7.14: Biggest impact on households with heads working in industry, unlike in services**  
Changes in Poverty by industry



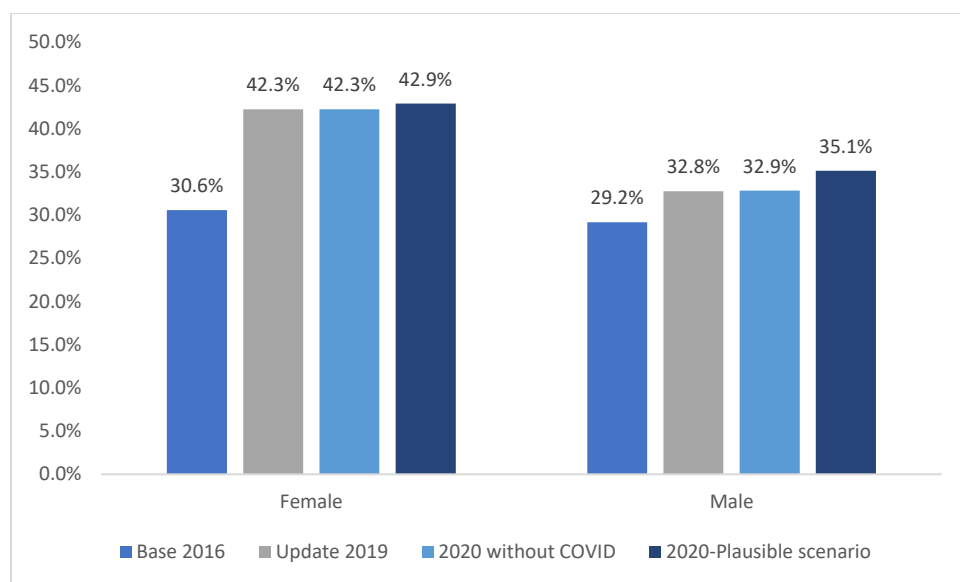


Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

Turning to gender, between 2019 and 2020, poverty is simulated to increase faster among male-headed households compared with female-headed ones (figure 7.15). But it is worth mentioning that poverty rates are higher among female-headed households in 2016 and in the simulated scenarios. More worryingly, the poverty rate for female headed households has increased much more from 2016 to the plausible 2020 scenario, from by around 12 percentage points compared to the 5 percentage point increase for men. This implies that the poverty rate for female headed households had been increasing, but the gap has narrowed due to male headed households being more impacted by the COVID pandemic.

**Figure 7.15: Male-headed households take a bigger hit than female-headed households**  
Changes in Poverty by gender



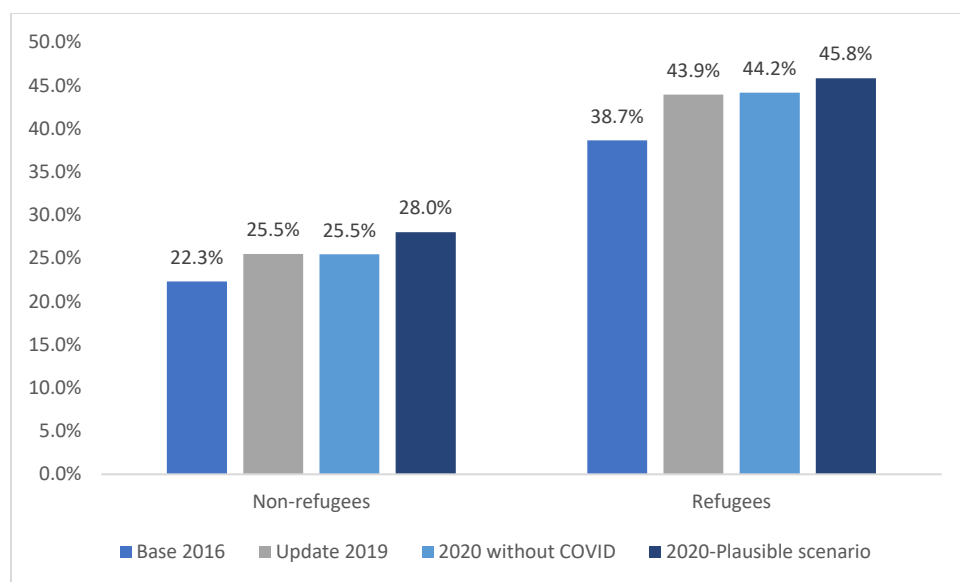
Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

As for refugee headed households, in 2016 they were more likely to be in poverty than non-refugee headed ones, and this disparity still holds in the simulated estimates of poverty in 2020 (figure 7.16). However, a faster impoverishment rate is under way between the two sub-populations, as poverty increases more rapidly among non-refugee headed households (2.5 percentage points) compared with the refugee headed ones (1.9 percentage points).<sup>15</sup>

**Figure 7.16: Refugee headed households more likely to be in poverty**  
Changes in Poverty by refugee status

<sup>15</sup> The breakdown of the poverty impact by location, area of residence and refugee status is presented in table A7.3 in the Annex.



Source: Authors' own calculations

Note: 2020-Plausible scenario = 2020-Employment shift + 50% income loss of breadwinner for 2 quarters +COVID transfers (UNRWA Aid to Gazan refugees, WFP one-time transfer to poor non-refugees, and the Palestinian Authority's one-time cash assistance in West Bank)

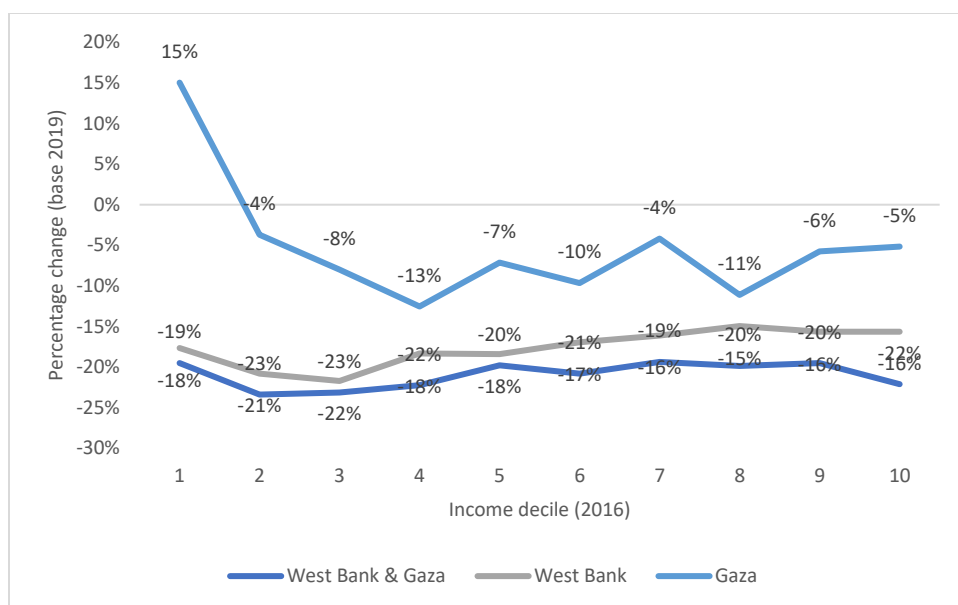
## Impact Incidence Analysis

One of the advantages of microsimulation is that it allows for the possibility of exploiting impact incidence curves to investigate how changes are distributed between locations and across income groups. The impact incidence curves in figure 7.17 plot deciles of per capita income from the PECS 2016/2017 data against simulated changes in per capita income by decile. Importantly, income deciles are computed separately in the West Bank and Gaza, as the distributions are quite different between these locations.

The simulated employment shocks and disruption to economic activities are expected to translate into an income reduction across much of the income groups for the West Bank and Gaza overall, in addition to location levels. Except for the first decile in Gaza, all deciles saw a drop in their incomes. At the national level, the entire distribution suffers welfare losses. However, the income decline does not affect all deciles in the same way. Households from the second and third deciles experience the largest reduction in income (21 and 22 percent, respectively).

Income losses affect households differently in the West Bank and Gaza. Per capita income losses are largest among households in the second and third deciles in the West Bank, with losses ranging between 21 and 22 percent. In Gaza, these losses are felt more among households in the fourth through the eighth deciles, with households from the fourth decile suffering the largest loss (13 percent).

**Figure 7.17: Households in the second and third deciles feel the brunt of the pandemic**  
Impact incidence curves by location



Source: Authors' own calculations

## New Poor

Given that the microsimulation approach enables us to examine the distribution of households that are likely to suffer from the economic fallout of the COVID crisis along socio-economic dimensions, it also helps us to investigate the characteristics of the new poor. Although the COVID crisis has unevenly affected various groups, a change in the profile of the poor was already underway before the outbreak.

The new poor appear to be different from the traditionally poor in several ways (table 7.2). The West Bank is expected to host relatively more new poor than Gaza. These individuals are much more likely to live in rural areas compared to camps. They appear to mostly come from either end of the distribution of education – in other words, they are more likely to hold either no or secondary/tertiary education. They have a greater likelihood of belonging to female-headed households. And women are more affected by new waves of impoverishment than men.

**Table 7.2: Characteristics of the new poor**  
(percentages)

Characteristics	All Sample	Traditionally Poor	New poor	New poor without COVID
West Bank	60.7	28.7	64.8	65.0
Gaza	39.3	71.3	35.2	35.0
Rural	16.8	10.8	16.7	16.0
Urban	73.0	73.4	72.8	72.4
Camp	10.2	15.8	10.5	11.6

No education	2.9	4.3	4.4	5.9
Primary	17.8	24.2	18.5	17.9
Secondary	57.4	60.2	52.1	54.3
Tertiary	21.9	11.3	25.0	21.9
Male	93.9	93.6	89.4	84.5
Female	6.1	6.4	10.6	15.5

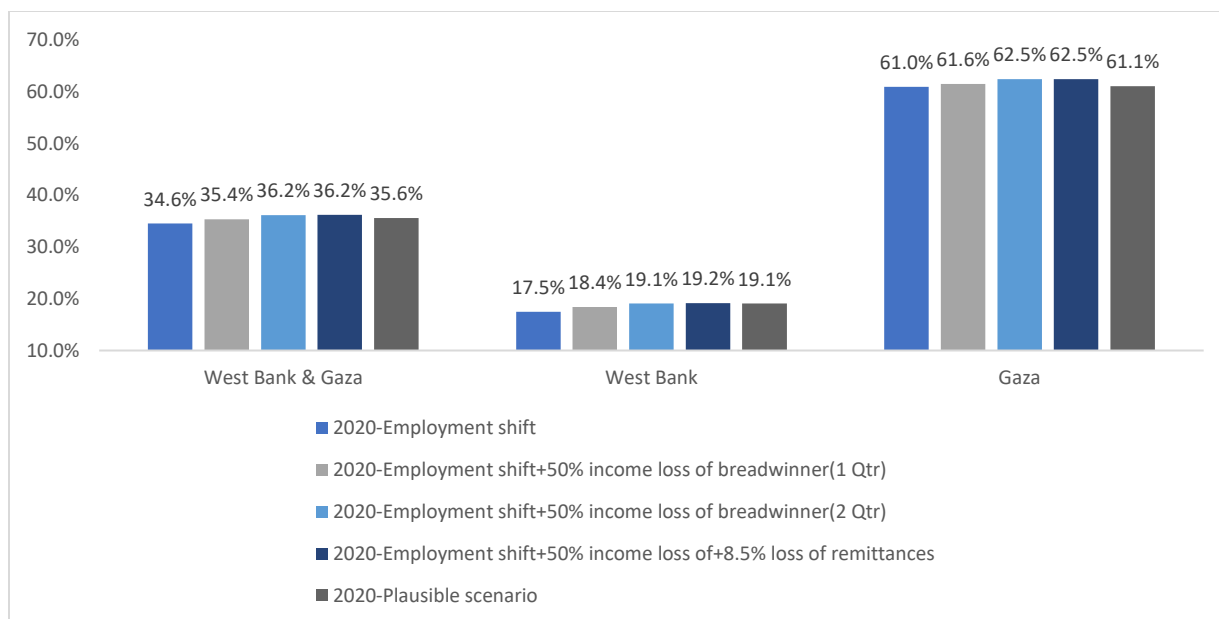
Source: Authors' own calculations

### Sensitivity Analysis

So far, we have presented only the results from our “2020-Plausible scenario” – the one that exploits a 2020-Employment shift, a 50 percent income loss of the breadwinner for two quarters, and the COVID transfers. While it appears to be a realistic depiction of the national context, a comparison with our four other scenarios would help give bounds to the results and provide an alternate set of estimates.

As shown in figure 7.18, although COVID-19 pushed many into unemployment, its adverse impact on poverty is felt through its impact on labor income, with lower employment rates in the first quarter in most sectors increasing poverty by 0.8 percentage points. But when the time span is extended to two quarters, poverty worsens another 0.8 points – for a total 1.6 points from the pre-COVID level. Any drop in remittances would make only a small difference in household income and thus have only a small effect of the level of poverty.

**Figure 7.18: Pandemic’s impact on poverty through labor income continues into second quarter**  
Changes in Poverty by scenario and location

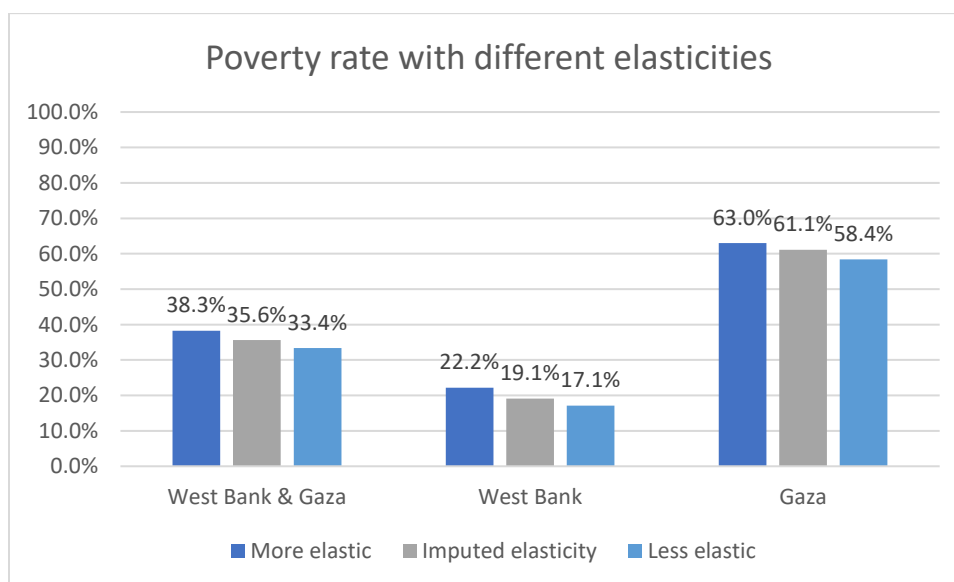


Source: Authors' own calculations

Since the poverty rate is dependent on household consumption, which is calculated using the imputed consumption to income elasticity, we explore how the results could change using different levels of elasticity. As shown in Figure 7.19, the poverty rate could be 33.4% if elasticity is 10 percentage points less than the computed rate, or 38.3% if elasticity is 10 percentage points higher.

**Figure 7.19: Poverty rate is sensitive to consumption to income elasticity**

Poverty by elasticity and location



Source: Authors' own calculations

## Future Scenarios

Recovery in the West Bank and Gaza will depend on the roll-out of vaccines and the likelihood of another wave of COVID-19. It is difficult to determine whether a recovery will take place and to what extent. Even macroeconomic forecasts will be sensitive to many assumptions that are unpredictable at the moment. Instead, this section considers three possible scenarios:

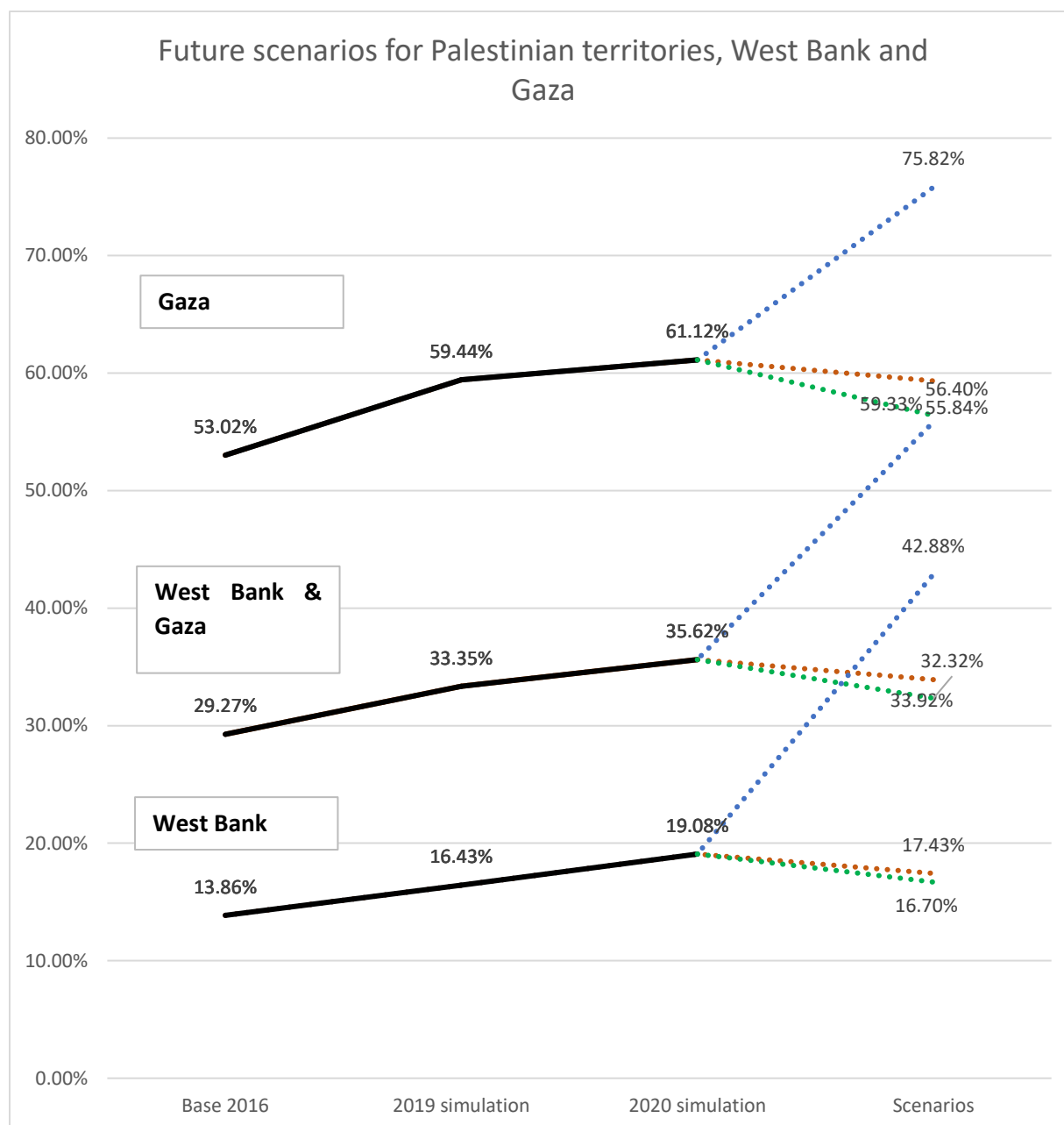
***A pessimistic scenario:*** The West Bank and Gaza sees another wave of COVID-19 cases and is forced to implement another series of mobility restrictions. Those who have lost their jobs will remain out of work, and those who have seen reduced working hours will also see a continued reduction in income. However, while households might have had an arsenal of coping strategies to deal with the income shocks in the first wave, it is likely that they will run out of coping strategies. Households might have been able to rely on savings, selling assets, or borrowing, but as time goes on they are unlikely to smooth consumption, leading to a perfectly elastic relationship between income and consumption. Evidence from the COVID phone surveys also suggests a limited ability to smooth consumption. For example, the majority of households living in rented housing units reported not being able to pay their rents in the month following the phone survey. In this scenario, a 1 percentage point decrease in income will yield a 1 percentage point decrease in consumption, driving overall poverty to 55.8 percent.

***A slight recovery:*** In this scenario, as businesses have reopened properly, those who have seen reduced hours of work will return to full working hours and their income will recover. However, it will take more time for new jobs to be created to allow for those who have lost their jobs to return. As the economy in the MENA region and globally also starts to recover, international remittances could slightly bounce back to around 96 percent of 2016 levels. Overall poverty will be around 33.9 percent.

***A very optimistic recovery:*** In addition to those who have seen a reduction in working hours return to work, half of the newly unemployed could find work and become employed again. Remittances could return to normal as the economy improves in other countries. Poverty will be 32.3 percent, just under the simulated 2019 level.

Figure 7.20 demonstrates the potential trajectory of poverty in the West Bank and Gaza and by location (see table 7A.6 for the full results by location and refugee status).

**Figure 7.20: Poverty rates in potential future scenarios**



Source: Authors' own calculations.

Note: The optimistic scenario is represented by the green dotted line, the slight recovery by the orange dotted line, and the pessimistic scenario by the blue dotted line.

## Conclusion

To better understand the pandemic's impact on the welfare of Palestinian households, our study develops an innovative approach to simulating the effect of COVID-19 on poverty in the West Bank and Gaza – one that mostly relies on microdata collected before and after the pandemic, largely from Rapid Assessment Phone Surveys and the Quarterly Labor Force Survey. This approach allows for a simulation model that is grounded in data rather than assumptions and allows us to model household behavior. In so doing, it is



able to convey a diversity across households in their experience of income and employment shocks, which can then be used to understand the profiles of the new poor and the segments of society most affected by COVID-19. Another advantage of this approach is its flexibility to incorporate new data and changing events. A potential next step will be to incorporate the effects of the escalating violence between Israel and the Palestinians.

Taken together, the results of this microsimulation exercise paint a picture of worsening poverty driven by income shocks that is further exacerbated by the COVID-19 pandemic. In our most plausible scenario, poverty in the West Bank and Gaza is estimated to be 35.6 percent in 2020, which is 2.3 percentage points higher than what would have occurred in 2020 had there been no pandemic. The increase in poverty is felt more strongly in the West Bank than Gaza – which could reflect Gaza’s pre-existing high levels of poverty, the stricter COVID restrictions and border closures in the West Bank, and the fact that the income shock was felt more strongly in the richer deciles than in the bottom two.

While there is little change in inequality, the results point to an emerging “new poor” – those who were not poor in 2016 but have become poor since. Their characteristics are in fact different from the traditionally poor: (i) a greater concentration in the West Bank; (ii) a greater concentration in rural areas; (iii) a greater likelihood of having no education or secondary/tertiary education; (iv) a greater likelihood of belonging to female headed households; and (v) a greater likelihood of women being more affected by new waves of impoverishment.

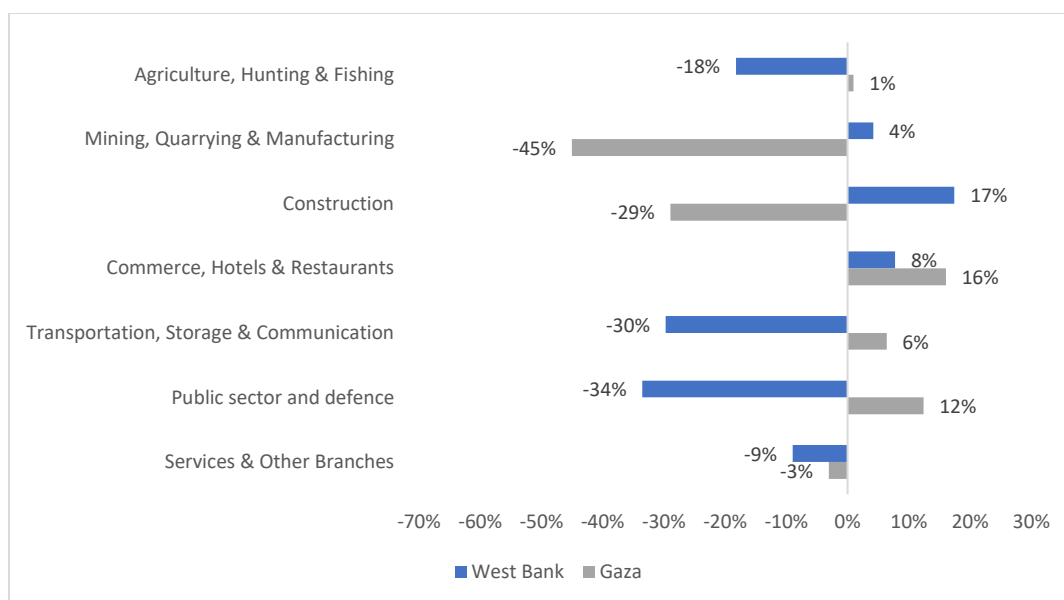
Further, an impact incidence analysis indicates that the bottom 20 percent are less affected by income shocks than higher deciles – a finding that is analogous to the global World Bank report on Poverty and Shared Prosperity, which indicates that 82 percent of the new poor will live in middle-income countries (World Bank 2020). This is an important result, and programs targeting the poor will need to weigh how the distribution of the poor has changed, especially between the West Bank and Gaza.

Of course, there are still many unknowns – notably the size of the economic recovery, which will depend on the roll-out of vaccines and the likelihood of another wave of COVID-19. For that reason, our study also considers three additional scenarios: a pessimistic scenario, a slight recovery, and a very optimistic recovery. In the worst case, in which households are unable to continue smoothing consumption, poverty could rise to 56 percent in the West Bank and Gaza, close to what was observed in Gaza in 2016. But in the best case, poverty returns to 32 percent, just below the simulated 2019 level.

Considering the impact of past UNRWA interventions on the welfare of low-income households, the current US pledge to provide aid to the Palestinians is timely and would help to counteract the fallout of the COVID pandemic for the most vulnerable. The ripple effect of such a relief package, in eliciting funding from other donors, would also enable many households to weather the various shocks to welfare.

## Annex

*Figure 7A.1: Sectoral growth of output per worker in West Bank and Gaza between 2016 and 2019*



Source: Palestinian Central Bureau of Statistics

*Table 7A.1: PECS 2016/17 Respondent Household Characteristics.*

Variable	Household percentage distribution	Average household size	Number of households in the sample
<b>West Bank and Gaza</b>	100	5.5	3,739
West Bank	64.5	5.2	2,411
Gaza	35.5	6.1	1,328
<b>Locality Type</b>			
Urban	73.1	5.5	2,732
Rural	17.4	5.4	652
Camp	9.5	5.9	355
<b>Employment status of head of household</b>			
Employed	71.1	5.8	2,697
Unemployed	3.3	6.1	116
Out of labor force	21.1	4.6	764
Student/retired	4.4	4.2	156
<b>Source of income</b>			

Agriculture	2.0	6.3	75
Other household business	12.5	5.6	467
Wages and salaries from public sector	18.7	6.2	698
Wages and salaries from private sector	30.9	5.6	1,157
Wages and salaries from Israeli sector	11.5	5.9	431
Wages and salaries from international organizations	2.1	6.2	77
Transfers/Assistances	20.2	4.6	757
Property Income/Other sources	2.1	3.8	77
<b>Refugee Status of head of household</b>			
Refugee	41.8	5.6	1,563
Non-refugee	58.2	5.4	2,176
<b>Sex of head of household</b>			
Male	89.9	5.8	3,363
Female	10.1	3.3	376

Source: Extracted from PECS (2018, 53)

*Table 7A.2: Employment (of total population) shift by segment.*

Segment	Share employed (2016)	Share employed (2019)	Share employed (2020)	Shift 2020-2019	Shift 2019-2016	Shift 2020-2019	Shift 2019-2016
West Bank Agriculture, Hunting & Fishing Not a refugee	38,582	39,108	41,429	(527)	(2,321)	-1%	-6%
West Bank Agriculture, Hunting & Fishing Refugee	9,421	9,798	12,049	(377)	(2,251)	-4%	-19%
West Bank Mining and industry Not a refugee	83,783	82,216	83,053	1,568	(837)	2%	-1%
West Bank Mining and industry Refugee	26,126	25,677	23,107	448	2,570	2%	11%
West Bank Construction work Not a refugee	121,177	134,548	106,358	(13,371)	28,190	-10%	27%
West Bank Construction work Refugee	37,269	38,012	32,447	(742)	5,564	-2%	17%
West Bank Transport and storage work Not a refugee	22,905	22,241	22,857	664	(616)	3%	-3%
West Bank Transport and storage work Refugee	7,362	7,648	9,163	(286)	(1,515)	-4%	-17%
West Bank Education Not a refugee	54,382	49,278	39,770	5,104	9,508	10%	24%
West Bank Education Refugee	20,044	20,225	15,887	(181)	4,338	-1%	27%
West Bank Health and social work Not a refugee	20,972	18,316	13,681	2,656	4,635	15%	34%

West Bank Health and social work Refugee	9,119	8,026	5,495	1,092	2,531	14%	46%
West Bank Tourism, Hotels, and Restaurants Not a refugee	13,883	17,221	12,001	(3,339)	5,220	-19%	43%
West Bank Tourism, Hotels, and Restaurants Refugee	5,634	7,512	4,907	(1,877)	2,605	-25%	53%
West Bank Public administration Not a refugee	42,912	43,016	42,029	(104)	987	0%	2%
West Bank Public administration Refugee	20,577	23,270	18,670	(2,693)	4,600	-12%	25%
West Bank Other Not a refugee	144,176	151,262	122,025	(7,085)	29,236	-5%	24%
West Bank Other Refugee	51,924	54,718	48,462	(2,794)	6,256	-5%	13%
Gaza Strip Agriculture, forestry and fisheries Not a refugee	7,111	7,054	8,702	57	(1,648)	1%	-19%
Gaza Strip Agriculture, forestry and fisheries Refugee	5,678	5,298	6,984	380	(1,686)	7%	-24%
Gaza Strip Mining and industry Not a refugee	6,914	7,381	7,519	(468)	(138)	-6%	-2%
Gaza Strip Mining and industry Refugee	8,446	8,814	10,617	(368)	(1,803)	-4%	-17%
Gaza Strip Construction work Not a refugee	4,425	5,082	6,611	(657)	(1,529)	-13%	-23%
Gaza Strip Construction work Refugee	5,098	6,015	14,340	(918)	(8,325)	-15%	-58%
Gaza Strip Transport and storage work Not a refugee	6,381	7,781	7,444	(1,399)	336	-18%	5%
Gaza Strip Transport and storage work Refugee	9,069	11,043	9,267	(1,974)	1,775	-18%	19%
Gaza Strip Education Not a refugee	7,891	8,957	9,058	(1,066)	(101)	-12%	-1%
Gaza Strip Education Refugee	25,769	30,779	26,154	(5,010)	4,625	-16%	18%
Gaza Strip Health and social work Not a refugee	3,871	4,771	3,152	(899)	1,619	-19%	51%
Gaza Strip Health and social work Refugee	11,071	10,673	11,924	398	(1,251)	4%	-10%
Gaza Strip Tourism, Hotels, and Restaurants Not a refugee	1,620	2,606	2,333	(986)	273	-38%	12%
Gaza Strip Tourism, Hotels, and Restaurants Refugee	2,609	3,604	4,357	(995)	(753)	-28%	-17%
Gaza Strip Public administration Not a refugee	17,635	20,588	21,282	(2,953)	(694)	-14%	-3%
Gaza Strip Public administration Refuge	40,099	43,319	54,944	(3,220)	(11,625)	-7%	-21%
Gaza Strip Other Not a refugee	25,689	30,503	31,385	(4,814)	(882)	-16%	-3%
Gaza Strip Other Refugee	37,113	47,081	50,165	(9,968)	(3,084)	-21%	-6%
<b>Total</b>	<b>956,738</b>	<b>1,013,440</b>	<b>939,628</b>	<b>(56,703)</b>	<b>73,812</b>	<b>-6%</b>	<b>8%</b>

Source: Palestinian Labor Force Surveys, 2016-2020

Table 7A. 3: Poverty rates by location and area of residence

Region		Base 2016	Update 2019	2020- Employment shift	2020- Employment shift+50% income loss of breadwinner(1 Qtr)	2020- Employment shift+50% income loss of breadwinner(2 Qtr)	2020- Employment shift+50% income loss of+8.5% loss of remittances	2020- Plausible scenario
<b>West Bank &amp; Gaza</b>								
	<b>Rural</b>	18.8%	21.6%	22.3%	23.0%	23.4%	23.4%	22.9%
	<b>Urban</b>	29.4%	33.4%	34.8%	35.6%	36.6%	36.6%	36.0%
	<b>Camp</b>	45.4%	52.7%	53.7%	54.1%	54.7%	54.7%	53.8%
	<b>Non-refugees</b>	22.3%	25.5%	26.7%	27.5%	28.1%	28.2%	28.0%
	<b>Refugees</b>	38.7%	43.9%	45.3%	46.0%	47.1%	47.1%	45.8%
<b>West Bank</b>								
	<b>Rural</b>	15.9%	18.5%	19.2%	20.1%	20.4%	20.4%	20.4%
	<b>Urban</b>	12.3%	14.8%	15.9%	17.0%	17.8%	17.8%	17.7%
	<b>Camp</b>	22.5%	26.3%	26.9%	27.3%	28.7%	28.7%	28.7%
	<b>Non-refugees</b>	13.2%	15.7%	16.8%	17.9%	18.5%	18.6%	18.5%
	<b>Refugees</b>	15.6%	18.3%	19.3%	19.7%	20.7%	20.7%	20.7%
<b>Gaza Strip</b>								
	<b>Rural</b>	60.9%	67.0%	66.4%	66.4%	66.4%	66.4%	60.1%
	<b>Urban</b>	51.6%	57.5%	59.2%	59.8%	60.9%	60.9%	59.7%
	<b>Camp</b>	58.4%	67.8%	69.0%	69.4%	69.5%	69.5%	68.1%
	<b>Non-refugees</b>	51.1%	56.5%	58.0%	58.0%	58.5%	58.5%	58.4%
	<b>Refugees</b>	54.0%	61.0%	62.6%	63.5%	64.7%	64.7%	62.6%

Source: Authors' own calculations

Table 7A.4: Poverty rates for three potential future scenarios

	Base 2016	2019 simulation	2020 simulation	Pessimistic scenario	Slight recovery	Optimistic recovery
<b>Palestinian territories</b>	29.27%	33.35%	35.62%	55.84%	33.92%	32.32%
<b>Non-Refugee</b>	22.31%	25.50%	28.04%	49.36%	26.58%	25.90%
<b>Refugee</b>	38.65%	43.93%	45.84%	64.58%	43.81%	40.98%
<b>Rural</b>	18.82%	21.59%	22.95%	45.74%	21.86%	21.00%
<b>Urban</b>	29.43%	33.36%	36.01%	56.01%	34.06%	32.63%
<b>Camp</b>	45.36%	52.74%	53.77%	71.31%	52.78%	48.83%
<b>West Bank</b>	13.86%	16.43%	19.08%	42.88%	17.43%	16.70%
<b>Non-Refugee</b>	13.20%	15.71%	18.45%	41.16%	16.69%	15.99%
<b>Refugee</b>	15.56%	18.28%	20.67%	47.28%	19.31%	18.51%
<b>Rural</b>	15.95%	18.49%	20.41%	43.31%	19.25%	18.52%

<b>Urban</b>	12.29%	14.75%	17.70%	41.70%	15.88%	15.10%
<b>Camp</b>	22.48%	26.34%	28.72%	54.24%	26.93%	26.81%
<b>Gaza</b>	53.02%	59.44%	61.12%	75.82%	59.33%	56.40%
<b>Non-Refugee</b>	51.12%	56.49%	58.35%	75.28%	57.84%	57.24%
<b>Refugee</b>	54.04%	61.03%	62.62%	76.11%	60.13%	55.95%
<b>Rural</b>	60.94%	66.97%	60.08%	81.39%	60.08%	57.37%
<b>Urban</b>	51.65%	57.47%	59.74%	74.56%	57.63%	55.35%
<b>Camp</b>	58.43%	67.83%	68.08%	81.07%	67.56%	61.42%

Source: Authors' calculations