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Poverty map for the Palestinian Territories

Palestinian Expenditure and Consumption Survey 2016 and Census 2017

Technical report[1]

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1. Introduction

For close to three decades, the people in the West Bank and Gaza have lived in a volatile and aid-dependent economic environment, defined by external restrictions on trade and the mobility of people, in addition to open-ended political uncertainty and internal challenges.

Over the period 2011-2017, which is most recent year for which data is available, poverty increased by 3.4 percentage points in the Palestinian territories as a whole, from 25.8 to 29.2 percent (Atamanov and Palaniswamy, 2018). However, trends in the West Bank and Gaza regions diverged sharply. The proportion of the population living below the poverty line in the West Bank declined by 3.9 percentage points, from 17.8 to 13.9 percent. Poverty in Gaza rose by 14.2 percentage points, from 38.8 to 53 percent. This divergence in poverty trends at the regional level widened the gap in living standards between the two Palestinian territories significantly. While the average household in the West Bank had slightly higher living standards in 2017 than in 2011, this improvement remained fragile to a worsening political outlook[2]; and the precipitous decline in living standards in Gaza was accompanied by an alarming fall in access to essential public services like water and electricity. Declining aid flows and a worsening outlook on conflict are therefore likely to place significant downward pressures on living standards in both the Palestinian territories.

The uniquely fragmented geography of the Palestinian territories is characterized by the isolation of Gaza from the West Bank, and man-made barriers to mobility within the West Bank (World Bank, 2014). This geography has consequences for poverty and economic development. The restrictions in mobility - that started in the early 1990's and intensified in the period leading up to 2010 –defined important spatial disparities in economic welfare between the two regions of the West Bank and Gaza, and within the West Bank over this time. In the West Bank, restrictions took the form of internal barriers such as road closures and checkpoints within the territory; and Gaza faced external restrictions that increasingly "closed" it to the external world. These restrictions defined within-territory barriers to trade that resulted in spatial price differences (World Bank, 2011); created inequalities in access to limited labor market opportunities (Abrahams, 2017); and had an adverse effect on local economic performance as measured by data on night time light emissions (Van der Weide et al, 2018). At the micro-level, they negatively affected the welfare and living standards of the Palestinian people in multiple ways: they increased unemployment, reduced wages and the number of days worked, and increased poverty in localities with greater restrictions on mobility (World Bank (2011) and Caali and Miaari (2013)).

Little has changed in the political and economic constraints facing the Palestinian Territories since 2010. During 2011-17, a worsening political economy - defined by continued restrictions on mobility within the West Bank and the nearly complete isolation of Gaza - deepened economic distortions and continued to erode the productive base, particularly in Gaza.

Given this fragmented geography and spatial disparities, poverty could vary widely even within a space of a few kilometers. However, conventional household budget surveys do not provide accurate poverty estimates at levels lower than the region (West Bank and Gaza), masking substantial variation in wellbeing not only across governorates, but also within them (World Bank 2014). Poverty mapping, or Small Area

[2] Even a 5 percent drop in expenditures in the West Bank - which would be much lower than the 20 percent decline observed during the 2007 Gaza internal divide, for example - could increase poverty by as much as 16 percent. A 15% percent expenditure drop will increase poverty in the West Bank by as much as 50 percent.

Estimation (SAE) is a statistical inference technique that allows estimation for very small areas, by combining information from censuses and household surveys. For example, SAE may produce poverty estimates at the levels for which Palestinian Expenditure and Consumption Survey (PECS) is not representative, namely governorates and localities.

A poverty map, which provides estimates of poverty at the level of lower administrative units of government, is a useful tool to inform the effective and efficient allocation of resources and programs based on greatest needs. In addition, superimposing auxiliary information on the poverty map can shed light on the correlates of poverty. For example, areas with high poverty may have high unemployment rates, low access to clean water or regular electricity supply. Well-off areas may have high shares of population covered by social assistance. Having access to such disaggregated information, at the level of localities and governorates, can help policymakers deliver better targeted and efficient interventions.

The last poverty map for the Palestinian territories is quite outdated. It was constructed in 2013/2014 using the General Census of Population and Housing 2007 and PECS 2009. Given the availability of a new PECS 2016 and Census 2017, it is important to update the old poverty map using these most recent sources of information.

This technical report describes the methodology and data used to produce small area poverty estimates for the Palestinian territories. The first section presents the methodology. The second section describes the data, and the technical challenges in estimating poverty at the locality level. The third section discusses selection of the best model, its performance and conducts validation exercises. The fourth section shows poverty and inequality estimates for different levels.

2. Methodology

The small area estimation (SAE) exercise is typically implemented using a household survey and a census. SAE combines the strengths of household budget survey and census to estimate poverty headcount and other indicators at low levels of geographic disaggregation. Budget surveys or household income and expenditure surveys, such as the Palestinian Expenditure and Consumption Survey (PECS), collect detailed information on household expenditure, which is often the basis for national estimates of welfare and inequality measures. The surveys usually allow subnational estimates at the first administrative level such as regions, provinces, or urban and rural areas. For instance, the PECS is representative at the regional level, i.e, West Bank and Gaza and across rural, urban areas and camps. However, given the tradeoff between detail and sample size, these surveys do not typically have large enough sample sizes to allow for reliable inferences at lower administrative units like districts, sub-districts, or census tracts. On the other hand, in a census, all households are interviewed, but asked only a limited set of information, and generally do not include information in income or expenditure. SAE leverages the advantages of both sources of information, the high level of detail in surveys like the PECS, and the large sample sizes in the census. It models the relationship between expenditure and individual, household, and location characteristics in the survey, and uses this relationship and household characteristics in the census to predict household expenditure into the households in the census (World Bank, 2014).

Methodological approach

The poverty and inequality estimates presented in this report follows the small area estimation (SAE) method developed by Elbers et al. (2003), referred to as ELL. The ELL model relies on detailed consumption expenditure data from a household survey such as the PECS to estimate a model for household

consumption per capita for a given a set of observable household characteristics. The estimated model is then applied to the same set of characteristics in the population census to impute household consumption, and then estimate expected levels of poverty or inequality across localities in the census. Since poverty rates are estimated, they are subject to errors. Nevertheless, experience to date suggests that estimates can be sufficiently precise for purposes of informing policy choices (Bedi, Coudouel, and Simler 2007; World Bank 2012). The ELL approach also provides estimates of the standard errors, so the users can make informed decisions about accuracy of estimates.

Formally, ELL assumes that log consumption per capita satisfies:

$y_{ch} = X'_{ch}\beta + u_{ch}$, where

y_{ch} is consumption per capita of household h residing in area c, X_{ch} are household characteristics, and $u_{ch} = \mu_c + \varepsilon_{ch}$ representing the residual, which is composed of the area component μ_c and the household component ε_{ch}. These two residual components have expected values of zero and are independent of each other, witch $E(u_c^2) = \sigma_\mu^2 + \sigma_\varepsilon^2$. These unconditional parameters have been estimated using Henderson's method III, a commonly used estimator for the variance parameters of a nested error model (see Henderson 1953 and Searle et al. 1992).

ELL also allows for heteroscedasticity. The conditional variance of the remaining residual ε_{ch} is modeled via a logistics truncation as a function of household and area characteristics $ln\left[\frac{e_{ch}^2}{A-e_{ch}^2}\right] = Z'_{ch}a + r_{ch}$ in order to obtain an estimate of the variance $\hat{\sigma}_{\varepsilon,ch}^2$. Once all variance parameters have been estimated (and hence, an estimate of the full variance-covariance matrix is available), β is re-estimated using Feasible Generalized least Squares (GLS).

The small area estimates and associated standard errors are obtained by means of simulation. Let R denote the number of simulations. The estimator takes the form:

$$\hat{H} = \frac{1}{R}\sum_{i=1}^{R} h(\tilde{y}^r)$$

Where h(y) is a function that converts the vector y with (log) consumption per capita poverty measure (such as the headcount rate), and where $\tilde{y}^r$ denotes with elements

$$\tilde{y}^r = X'\tilde{B}^r + \tilde{\mu}_c^r + \tilde{\varepsilon}_{ch}^r$$

With each simulation, both the model parameters $\tilde{B}^r$ and the errors $\tilde{\mu}_c^r$ and $\tilde{\varepsilon}_{ch}^r$ are drawn from their estimated distributions. The parameter $\tilde{B}^r$ is drawn by re-estimating the model parameters using the rth bootstrap version of the survey sample. Alternatively, $\tilde{B}^r$ may be drawn from asymptotic distribution (this is referred to as "parametric drawing"). Parametric drawing is computationally fast. A potential disadvantage is that the true distribution of the estimator for the model parameter vector does not necessarily coincide with the asymptotic distribution.

Using bootstrapping is more computationally intensive but is expected to provide more accurate results when the sample size is small. The point estimates and their corresponding standard errors are obtained by computing respectively the average and the standard deviation over these simulated values.

The difference between the true poverty rate W in a given area and the estimator $\tilde{\mu}$ of its expectation, given the above model, has three components: $W - \tilde{\mu} = (W - \mu) + (\mu - \hat{\mu}) + (\hat{\mu} - \tilde{\mu})$. The first component $(W - \mu)$ is idiosyncratic error, due to the presence of the error term in the first stage regression; this error

is higher for smaller target populations. The second component ($\mu - \hat{\mu}$) is the model error, determined by the variance of model parameters; this error depends on the precision of the welfare model and on the distance between the X variables across the survey and the census. The model error does not change systematically with the size of the target population. The fact that it depends on the distance between the X variables across the survey and the census highlights the importance of getting a set of variables from both the survey and the census that match well. Finally, the third component ($\hat{\mu} - \tilde{\mu}$) is the computation error, based on the method of computation and is generated by the fact that $\tilde{\mu}$ is based on a finite number of simulations. This component of the error can be made as small as desired with sufficient computational resources.

Practical implementation

In practice, the construction of a poverty map involves several steps, which are described below.

Construction of variables for the model. The first important step for the construction of the poverty map is to identify the variables common to the census and household survey, and make sure they are coded and named identically. Some variables may be similar, but not identical. For example, there may be six categories for marital status in Census and only three in household survey. The goal of this step is to create new identical variables in both datasets. Once these variables are created, it important to check whether they match in a statistical sense across census and survey. An absolute minimum standard for this check is to compare the means across datasets taking into account the survey design in the household budget survey. Checking minimum and maximum values is also important to make sure distributions overlap. These statistical matching tests should be conducted at the level at which model is going to be estimated.

To reduce the contribution from location effects, the poverty mapping literature often uses cluster means of household level variables, which are calculated from the census data so that they are available for all census and survey clusters. Given that the number of clusters is typically much smaller in the survey, it is also important to check the means of these variables across the datasets.[3]

Beta-model. Before running the first-stage (beta model) to explain the variation in the logarithm of consumption per capita, the decision should be made about the level at which the modelling exercise will be implemented. Ideally the consumption model estimated for the survey should be at the national level with regional dummies and their interactions with other variables to capture intra-regional variation. However, in many countries, location specific models are estimated instead, justified by the differences consumption patterns across areas. It is also important to make sure that the number of observations is sufficient to run region-specific models, to ensure that the results are stable.

From the pool of variables not excluded due to comparability concerns, a variety of model selection techniques (lasso, forward stepwise, backward stepwise, etc.) can be employed to select the variables to identify the best performing model in explaining variation in consumption. It is also important to complement these methods by manual selection of variables by dropping highly multicollinear variables and by conducting out of sample prediction tests.

[3] The typical error structure in poverty maps includes two levels: household and cluster. In the case of the current poverty map, cluster is locality. Tarozzi and Deaton (2009), however, caution that the misspecification in the error structure can lead to overstating the precision of poverty estimates. Errors can be correlated at higher levels as well, for example at the level of governorates. We are not able to incorporate more than two layers in SAE Stata package, but, as a potential remedy, tried to include governorate dummies and interact them with household level variables.

Alpha-model. The alpha model estimates the household effect selecting from statistically matched variables and their interactions with the predictions and squared predictions from the equation.

Simulation. This is the final step to simulate consumption per capita in Census by applying the parameter and error estimates from the survey to the census data. This step involves the selection of distribution drawing methods for cluster and idiosyncratic effects; the choice of poverty line and poverty and inequality indices; potential trimming of consumption, coefficients and errors; and finally, simulation of the parameters and selection of the aggregation level of estimates indices (Nguyen et al. 2018).

2. Data

PECS and Census

The Palestinian poverty map uses unit record data from PECS 2016 and the general Population and Housing Census of 2017.

The PECS is the national household expenditure survey implemented by the Central Bureau of Statistics. It was implemented on an annual basis, from 2000-2011; and then after a five-year gap in 2016. The latest 2016 PECS is a 12-month survey that covered 3739 households and was implemented from October 2016 to September 2017. The PECS is a is a multi-topic survey that collects information on a range of topics that include food and non-food expenditures (based on a 30-day diary for most items and 12 month and 3-year recall for some unregularly purchased items), core data on socio-economic and health characteristics, dwelling conditions, and labor activities and incomes. It is used to calculate official poverty rates for the Palestinian Territories. The survey produces representative poverty estimates at the regional level (West Bank and Gaza) and strata level (urban, rural, refugee camp). Governorate and locality level estimates are not designed to be representative. The sample frame for this survey was based on Census 2007, which was updated in 2013.

The 2017 Palestinian Census was conducted in December 2017 and reached 4,705,601 people. As in the previous poverty map exercise, there were issues related to estimating poverty for population in Jerusalem governorate (World Bank 2014). Jerusalem covers East Jerusalem (J1, under Israeli control) and the rest of Jerusalem governorate (J2). There are many Israeli settlements in J2 and consequently, many parts of the governorate are inaccessible to Palestinians. As a result, both census and survey data have extremely limited coverage of Jerusalem governorate. Therefore, it was decided not to include Jerusalem governorates in the poverty mapping exercise. The same decision was made for the previous poverty map.

Box 1. Poverty measurement in the Palestinian Territories

The National Commission for Poverty Alleviation (1998) established an official definition of poverty in the West Bank and Gaza. The poverty line was set at the median expenditure level of certain key items of the poorest 25 to 30 percent of households and has been calculated every year. A household with two adults and four children and their spending patterns were used as the reference to develop the poverty line. Given the relative nature of the poverty line, the Palestinian Central Bureau of Statistics (PCBS) also constructed a consistent poverty trend for 2004–2009 using the 1997 line adjusted for inflation. In early 2011, the PCBS redefined the poverty line by changing the reference household to two adults and three children and started a new consistent poverty series beginning in 2010. The welfare aggregate includes expenditures on food and nonfood items; expenditures on health, education, and rent; and the purchases of durables during last 12 month and purchases of transport during last 3 years. The aggregate is spatially adjusted using a Laspeyres price index derived for the West Bank, Gaza, and East Jerusalem using a subset of food and nonfood prices from the CPI dataset. The most recent poverty trend for the Palestinian territories ends in 2016, and it is based on the Palestinian Expenditure and Consumption Survey implemented over the period October 2016-September 2017. (Al-Salehi et al. 2018)

There are four levels of geographic areas in the Palestinian territories: regions, governorates, localities and enumeration areas. Given that the PECS 2016 was based on the sample frame from Census 2007, enumeration areas in PECS 2016 and Census 2017 are not identical. After dropping Jerusalem, the geographic division is shown in the following table (Table 1). The country is divided into two regions, 15 governorates and 556 localities. PECS 2016 covered 167 localities as shown in the annex (table A1). For the poverty map exercise a seven-digit hierarchical location id was created.

Location ID=RGGLLLL,

where R is one-digit region code (2), GG is two-digit governorate code (15) and LLLL is four-digit location code (556).

A separate location id was created to aggregate poverty estimates at governorate level by location type (rural/urban and camp).

Table 1. Geographic boundaries and classifications in the Palestinian territories

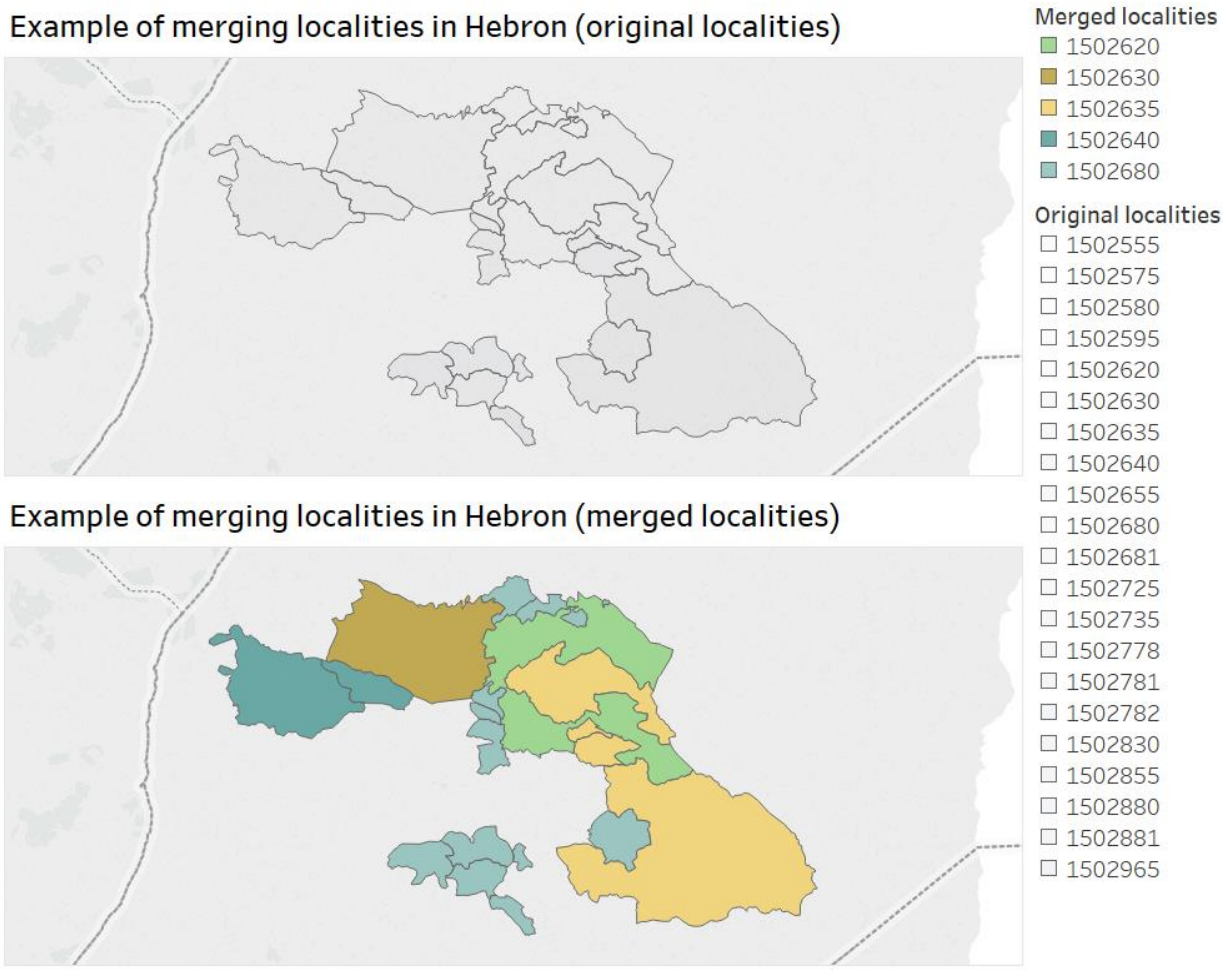
The Palestinian Territories	
2 regions	
West Bank	Gaza
15 governorates	
Jenin	North Gaza
Tubas	Gaza
Tulkarm	Deir Al Balah
Nablus	Khan Yunis
Qalqiliya	Rafah
Salfit	
Ramallah & Al Bireh	
Jericho & Al Aghwar	
Bethlehem	
Hebron	
Jerusalem (dropped from estimation)	
556 Localities	
Enumeration areas	

Technical challenges

Small localities

Many localities in the Palestinian territories are very small, with most of them having a population size below 1000 households. Simulating poverty for such small localities will result in very high standard errors and will not be reliable. As in the previous round of poverty map exercise, the decision was made to try to aggregate, if possible, geographically contiguous[4] localities to cover at least 1000 households in each. Local knowledge and information from the census such as demographics and labor market indicators were used to merge the most similar contiguous localities until this minimum threshold was reached. Figure 1 illustrates how merged localities look like: 21 original localities (grey color) were merged into five localities. As a result of this exercise, 151 merged localities were created. The smallest locality after merging had more than 1,000 households. The list of original and merged localities is provided in the annex.

Figure 1. Example of merging selected localities in Hebron



[4] There are merged localities which were not directly adjacent to each other, but shared similar socio-economic characteristics.

Lack of matching variables

The 2016 PECS was based on the old sample frame drawn from Census 2007. Even though the frame was updated in 2013, using an old frame results in a statistical mismatch between many variables created. At the national level, only for 81 variables do the census means belong to the 99 percent confidence interval from PECS. To illustrate, household size, which is typically a strong correlate of poverty and features in most poverty map models, was not statistically similar due to the use of the older sample frame in the PECS. Another problem was related to many missing values in the sector of employment in the Census. Consequently, this information could not be used in the model, even though this variable was crucial in the previous poverty map (World Bank 2014).

Besides household level variables, we have constructed a range of variables measured as averages at the original locality level in Census and used them in the model. The inclusion of locality-level variables into the beta model aims to explain the variation in consumption per capita across target areas.

Definitions of each variable used in the final national level model along with their means and standard deviations are shown in table 2.

Table 2. Means and standard deviations of variables in PECS 2016 and Census 2017 used in the national model

	PECS		Census	
Variables	mean	sd	mean	sd
Proportion of female members in the household	50%	17%	49%	17%
Household head has difficulty (great difficulty or can't do completely) in any ability	4%	20%	4%	19%
Household head education level is higher than secondary	23%	42%	26%	44%
Number of rooms per capita (adult equivalent) in the household	1.0	0.4	1.1	0.5
Number of children [0-14] in the household	2.8	2.0	2.6	1.9
Number of bedrooms household has	2.4	0.9	2.3	0.8
Household head (aged 15 and above) employed in Israel/settlement	11%	32%	12%	32%
Household head (aged 15 and above) employed in national government	18%	39%	17%	37%
Main source of heating is diesel	0.3%	5%	0.2%	4%
Freezer	11%	31%	11%	32%
Vacuum	36%	48%	39%	49%
Phone line	35%	48%	34%	47%
Computer	38%	49%	39%	49%
Private car	26%	44%	26%	44%
iPad	21%	40%	19%	39%
Washing machine	96%	20%	96%	19%
Dwelling type is villa	1%	9%	1%	11%
Interaction, Gaza region and female head	2%	15%	3%	16%
Interaction, West Bank region and head employed in national government	7%	26%	6%	23%
Bethlehem Governorate	5%	22%	5%	22%
Interaction, North Gaza governorate and number of children [0-14] in the household	29%	110%	26%	103%
Interaction, Khan Yunis governorate and head employment status is employer	1%	9%	0%	5%
Interaction, Gaza governorate and household head education level is higher than secondary	3%	17%	4%	20%
Interaction, Hebron governorate and waste is burnt	1%	9%	1%	9%
Interaction, Hebron governorate and number of children [0-14] in the household	47%	129%	46%	129%
Interaction, Hebron governorate and private car	7%	26%	6%	23%
Average share of households at the locality using gas as main source of energy	22%	22%	22%	21%
Average share of households at the locality living in flat/apartment	62%	24%	62%	24%
Average share of households at the locality using electricity as main source of energy	32%	17%	31%	18%
Average share of households at the locality having solar boiler	56%	17%	56%	18%
Average share of households at the locality using bottled water as main source	1%	3%	1%	3%
Average share of households at the locality with a head having a chronic disease	20%	5%	20%	5%

Source: PECS 2016 and Census 2017, authors' calculations
Note: Population weighted means except locality level means from Census, which are measured at household level.

3. Model selection and results

Selecting the model

The first step in the modelling process is to make a decision about the number of consumption models to be estimated. The model can be run either at the national or subnational level. The lowest level for the model should be at the strata level. The previous poverty map was based on two regional models constructed for West Bank and Gaza regions separately (World Bank 2014). In this round, we tried to run the model at the national and at the regional levels. The decision on which number of models to use will be based on comparing standard errors of the obtained poverty estimates. Testing statistical matching of the potential variables for each model was done at the level that the model is going to be estimated at. Thus, the selection of the variables for the West Bank regional model was done for the West Bank region, while selection of the variables for the Gaza model was done for the Gaza region alone.

Three models were constructed in an iterative way using an OLS regression, starting from the full model with all possible variables and dropping each insignificant variable one by one. This procedure was complemented by using a lasso technique and manual adjustment of the model to achieve the highest adjusted R-squared (the R-squared measures the ratio of explained variance by the model to the total variance of actual household consumption). In order to avoid the potential problem with over-fitting the model, we also used the Bayesian Information Criterion (BIC), which incorporates a penalty for model complexity.

Selected specifications were tested for multicollinearity by calculating variance inflation factors (centered variance inflation factors for the final specification are provided in the annex). The models were revisited again based on significance of the variables in a GLS regression. Finally, the resulting models were tested for stability and out of sample prediction discussed further in the text.

The key model parameters are shown in table 3.[5] All models have high explanatory power. The adjusted R-squared is higher than 60 percent in the national and Gaza models. In all models, the share of cluster level errors in the variance of the total error is less than 5 percent. This is much lower than the 10 percent benchmark used in many technical reports. Yet, even given this information, it is still difficult to decide at which level the consumption models should be estimated.

Table 3. Parameters from the national and regional models

	National model	West Bank model	Gaza separate model
Number of observations	3397	2555	842
Adjusted R-squared	0.63	0.45	0.62
R-squared	0.63	0.46	0.63
Root MSE	0.37	0.40	0.34
F-stat	181	60	99
Alpha model diagnostics			
Number of observations	3397	2555	842
Adjusted R-squared	0.00	0.01	0.00
R-squared	0.00	0.01	0.01
Root MSE	2.3	2.3	2.3

[5] All small area estimates in this note are done in SAE Stata package (Nguyen et al. 2018).

F-stat	5.2	8.4	4.7
Model parameters			
Sigma ETA sq.	0.0020	0.0045	0.0004
Ratio of sigma eta sq over	0.0142	0.0288	0.0036
Variance of epsilon	0.14	0.15	0.12
Sampling variance of Sigma	0.0000	0.0000	0.0000

Source: PECS 2016, authors' calculations.
Note: Original localities (556) are clusters, bootstrap is done at the level of enumeration areas. Empirical Bayes methods is used.

Another important criterion used to assess performance of the estimated models includes checking standard errors (SE) and coefficients of variation (standard error over poverty rate) for locality level poverty estimates. Results are shown in table 4. Median standard errors and the coefficient of variation (CV) are lower for poverty rates obtained from the national model. We also checked the accuracy of locality level poverty rates by comparing them with direct poverty rates from PECS. These results are shown in the annex. Estimates for both models are highly correlated with direct estimates (not representative) without a distinct advantage in one set of results over the other. Given this, the decision was made to use the national level model.

Table 4. Standard errors and coefficients of variation for locality poverty estimates obtained from the national and regional modes

Model	median SE	75% SE	median CV
National model	2.8%	4.9%	18.0%
West Bank and Gaza separate models	3.5%	4.9%	21.2%

Source: PECS 2016 and Census 2017, authors' calculations
Note: Original localities (556) are clusters, bootstrap is done at the level of enumeration areas. Empirical Bayes method is used.

Performance of the national model

Model performance

Table 5 shows the coefficients from the final specification of the feasible GLS model along with standard errors. All coefficients are significant at 10 percent significance level and have the expected signs. For instance, a higher share of female members, children and the fact of living in localities with high share of households with disabled heads is associated with lower consumption per capita. In contrast, access to assets, better education of the head of household, and employment in the national government is associated with higher consumption per capita. The obtained coefficients are robust and do not vary much across OLS and GLS estimates (table A2). Multicollinearity also does not seem to be an issue in the model. The highest variance inflation factor is around 2.6 which is much lower than 4-10 (typically considered as an indication of a potential multicollinearity).

In order to check for overfitting and out of sample prediction, several tests were conducted. We split the data into 10 groups and for each group we fit the final specification using the other k-1 groups. The resulting parameters were used afterwards to predict the dependent variable in the unused group. We compare average coefficients from 10 regressions with coefficients from beta model. We also compare root mean squared errors (RMSE). None of the coefficients from 10-fold validation are very different from the ones in Beta model (see table A3 in the annex). The average root mean standard error is also very close to the one obtained from Beta-model. As an additional test, we have run a Leave-One-Out Cross-Validation (Daniels 2012). This validation estimates the model with all but the i^{th} observations. The

prediction error is calculated for each predicted value of the i^{th} observation. The average RMSE is about 0.38 and very close to actual one from Beta-model.

The results from the alpha model are presented in table 6. All coefficients are significant at one percent level.

Table 5. Results from the Beta model, GLS

explanatory variables	Log of consumption per capita	
Dependent variable: logarithm of consumption per capita	coefficient	SE
Proportion of female members in the household	-0.179***	0.05
Household head has difficulty (great difficulty or can't do completely) in any ability	-0.109**	0.04
Household head education level is higher than secondary	0.0779***	0.02
Number of rooms per adult equivalent in the household	0.429***	0.02
Number of children [0-14] in the household	-0.0932***	0.01
Number of bedrooms household has	-0.0931***	0.01
Household head (aged 15 and above) employed in Israel/settlement	0.107***	0.03
Household head (aged 15 and above) employed in national government	0.120***	0.04
Main source of heating is diesel	0.573*	0.33
Freezer	0.0983***	0.03
Vacuum	0.112***	0.02
Phone line	0.109***	0.02
Computer	0.0815***	0.02
Private car	0.334***	0.02
iPad	0.104***	0.02
Washing machine	0.112***	0.04
Dwelling type is villa	0.306***	0.09
Interaction, Gaza region and female head	0.139**	0.06
Interaction, West Bank region and head employed in national government	-0.143***	0.04
Bethlehem Governorate	0.206***	0.04
Interaction, North Gaza governorate and number of children [0-14] in the household	0.0231**	0.01
Interaction, Khan Yunis governorate and head employment status is employer	0.314***	0.11
Interaction, Gaza governorate and household head education level is higher than secondary	0.205***	0.07
Interaction, Hebron governorate and waste is burnt	-0.279**	0.11
Interaction, Hebron governorate and number of children [0-14] in the household	0.0265**	0.01
Interaction, Hebron governorate and private car	-0.173***	0.05
Average share of households at the locality using gas as main source of energy	0.230***	0.07
Average share of households at the locality living in flat/apartment	-0.231***	0.05
Average share of households at the locality using electricity as main source of energy	0.391***	0.05
Average share of households at the locality having solar boiler	0.129*	0.07
Average share of households at the locality using bottled water as main source	1.476***	0.38
Average share of households at the locality with a head having a chronic disease	-0.592***	0.20
Constant	8.741***	0.08
Observations	3,397	
R-squared	0.63	

Source: PECS 2016, authors' calculations.
Note: *** 1 percent, ** 5 percent and * 10 percent significance levels.

Table 6. Results from Alpha model

	coefficients	p-value
Interaction, North Gaza governorate and rented dwelling	1.85	0.000
Diesel is main source of heating	1.63	0.000
Interaction, other type of fuel for cooking and predicted consumption per capita	0.19	0.000
Observations	3,397	
adj R-squared	0.004	
F (3,3392)	5.18	

Root MSE	2.27

Source: PECS 2016, authors' calculations.
Note: robust standard errors

Standard errors

The key criterion for assessing the performance of the model is the standard errors of the poverty estimates. These standard errors measure uncertainty associated with the predictions. The higher the standard errors are, the lower precision of the estimate is and the less confident one can be about the poverty estimate. A failure to consider standard errors in comparing poverty estimates may result in the wrong conclusion about statistical difference between two estimates.

Poverty estimates at governorate level produced with small area estimation method have much smaller standard errors than direct non-representative estimates from PECS (figure 2). The 95 percent confidence intervals for small area poverty estimates become much narrower because of smaller standard errors. For example, poverty in Ramallah in PECS ranged from 8-24 percent in 2016, while in SAE it ranges from 8-11 percent. Using merged localities instead of the original ones also reduces standard errors substantially. Thus, the median standard error obtained for more than 550 original localities dropped from about 5 to 3 percent when calculated for 151 merged localities (figure 3).

Figure 2. Governorate standard errors for direct PECS 2016 estimates and for small area estimates

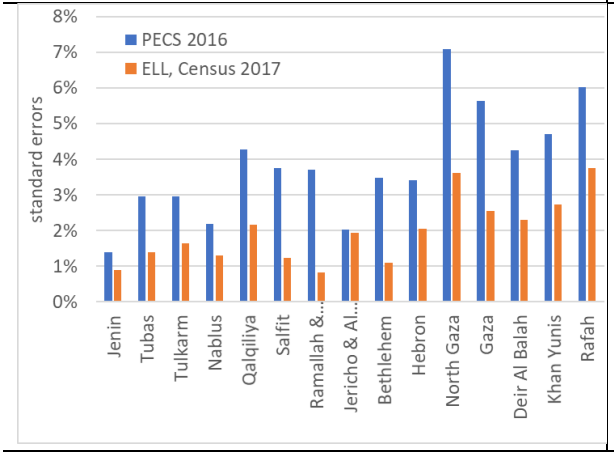
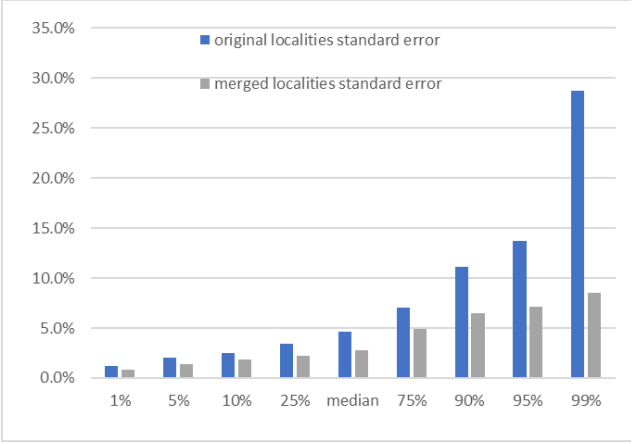


Figure 3. Standard errors for original and merged localities by different distribution groups

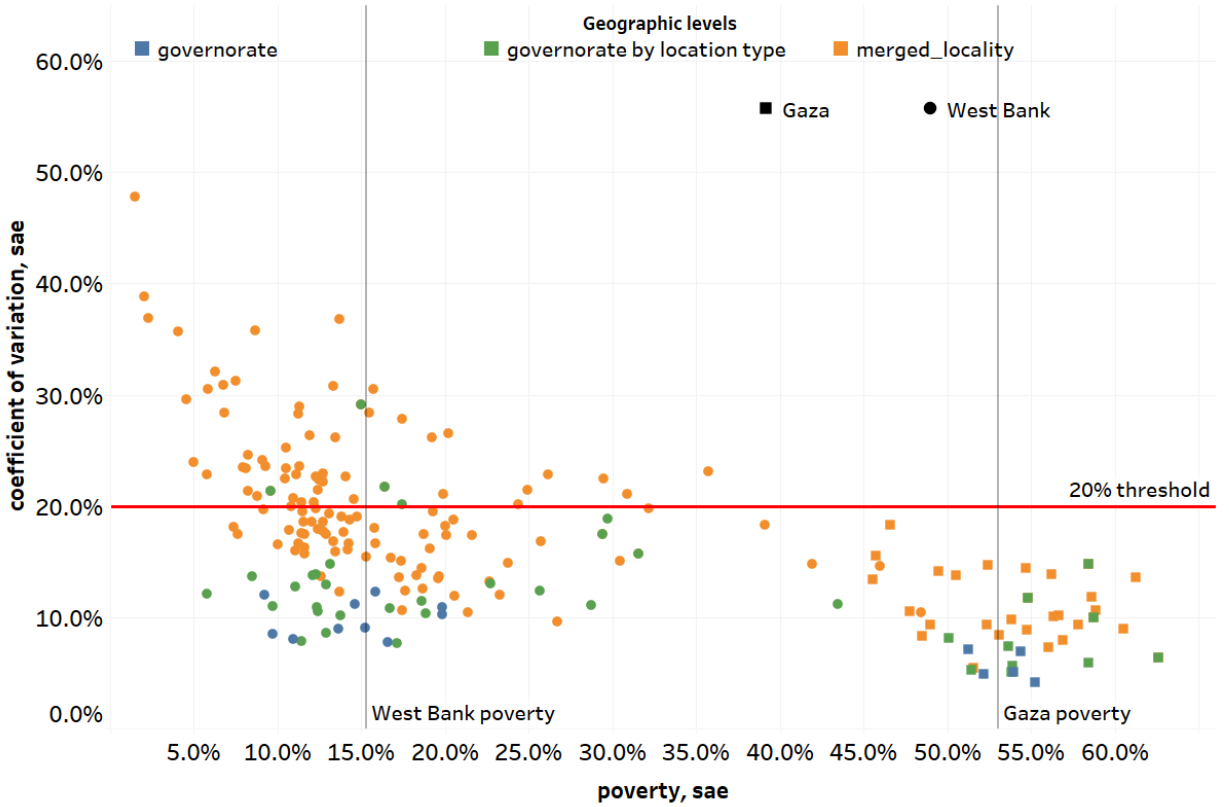


Source: PECS 2016, authors' calculations.

Figure 4 plots the coefficients of variation and poverty rates for three different levels at which the PECS is not representative: governorate (blue dots), location type of governorate (green dots) and merged localities (orange dots). Clearly the most precise poverty rates (estimates with the lowest standard errors) are obtained for the largest geographic units: governorates. For all of them, the ratio of standard errors to poverty estimates (coefficients of variation) do not exceed 12 percent. Estimates for different location types within governorates are also quite accurate – most coefficients of variation are below 20 percent. The least accurate estimates are at the locality level, despite relatively low median standard error, significant number of localities have quite high coefficients of variation (benchmark used here is 20 percent). As expected, many of them have quite low poverty rates which contributes to high coefficients of variation. With this caveat in mind, 95 localities from total 151 localities and 92 localities from 127

localities with poverty higher than 10 percent poverty rate have coefficients of variation below 20 percent.[6]

Figure 4. Coefficients of variation and small area poverty estimate at the locality and governorate levels, 2017



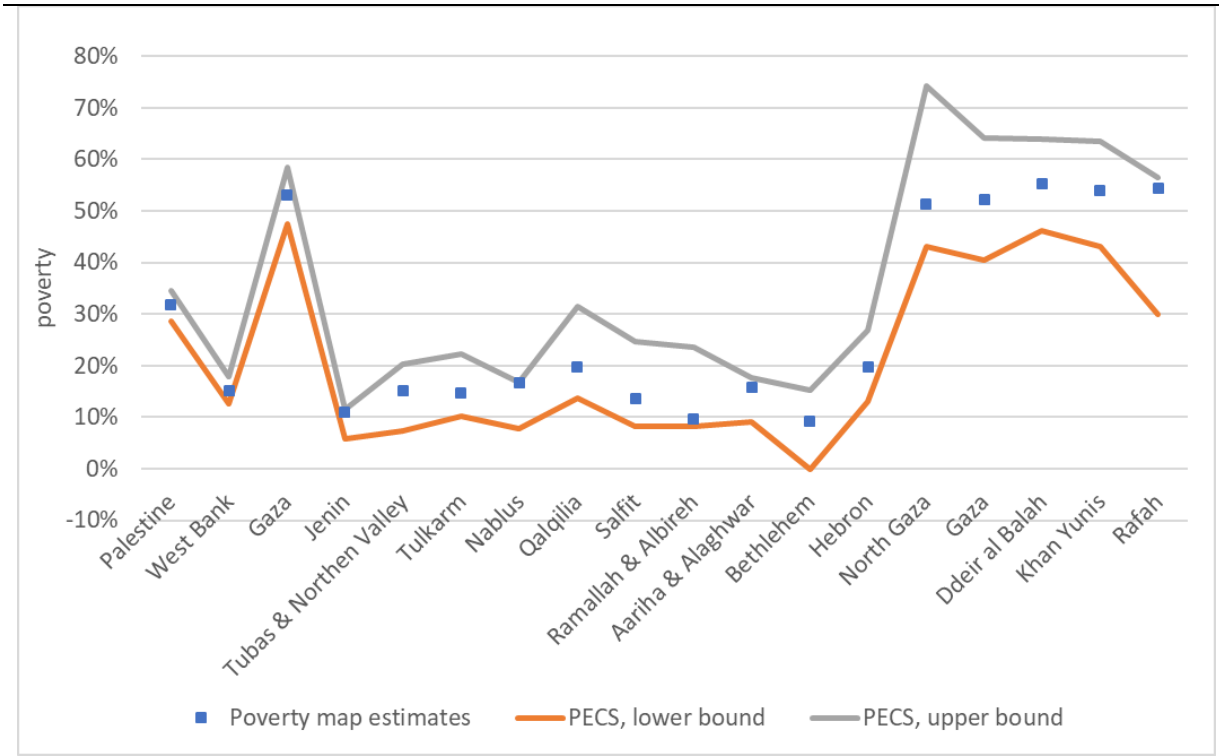
Source: PECS 2016 and Census 2017, authors' calculations.

Validation

The obtained small area poverty estimates are consistent with poverty rates derived from PECS at the regional and governorate levels. All of them belong to 95 percent survey confidence intervals (figure 5).

[6] Coefficients of variation for direct West Bank and Gaza regional estimates in 2016 were about eight and five percent accordingly.

Figure 5. Comparison between the direct poverty estimates from PECS and small area estimates at the regional and governorate levels



Source: PECS 2016 and Census 2017, authors' calculations.

4. Mapping poverty and inequality results

This section maps obtained results for poverty and inequality in the Palestinian territories. It is a short section because the team has made all results accessible online via interactive dashboards, in order to make the poverty map more user-friendly and accessible. In addition to indicators of poverty and inequality, the dashboards also visualize many different indicators from Census 2017 (such as employment, access to services, etc). All indicators of poverty and inequality are visualized as standalone indicators, as well as with these other indicators of living standards and welfare.

Figure 6 shows small area poverty estimates at governorate level and figure 7 shows poverty estimates for each location type within governorates. Poverty does not vary much across governorates in the Palestinian territories within each region. The difference between the most affluent governorate (Bethlehem) and the poorest (Qalqiliya) in West Bank is slightly larger than 10 percentage points. This gap in living standards widens substantially to more than 35 percentage points once we zoom into location types within governorates. The highest poverty rates across regions are observed in camps where poverty rates even in the West Bank can be as high as in some areas in Gaza. For example, poverty in Nablus camp is very high and is even close to the poverty in urban areas of North Gaza governorate.

Figure 6. Small area estimates at governorate level, 2017

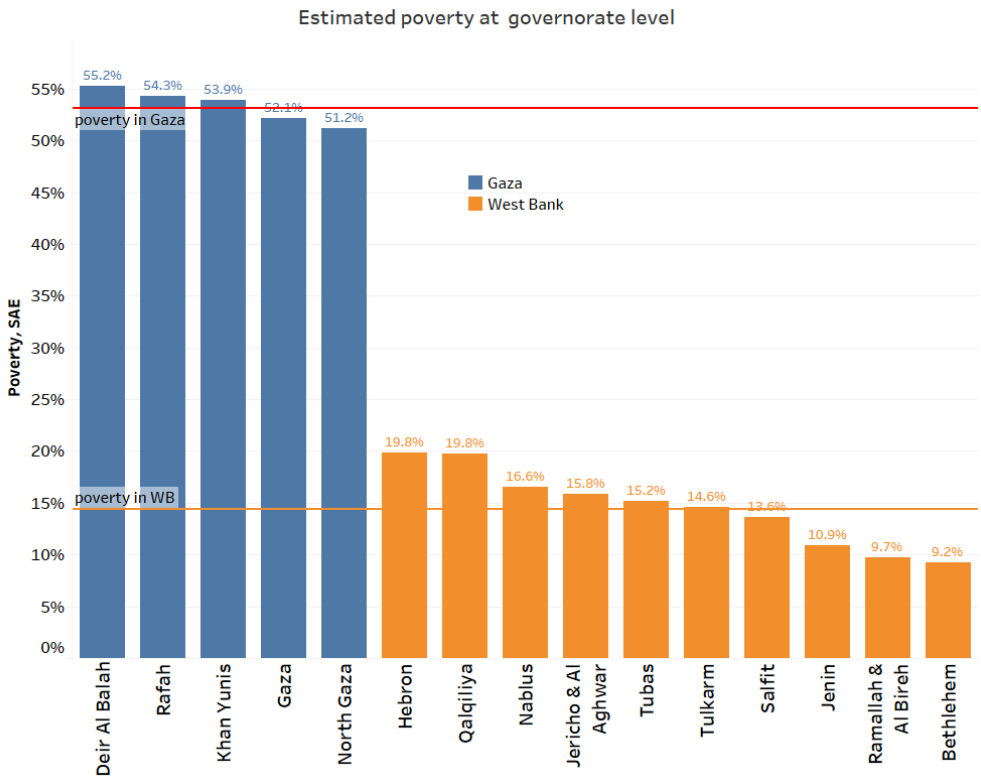
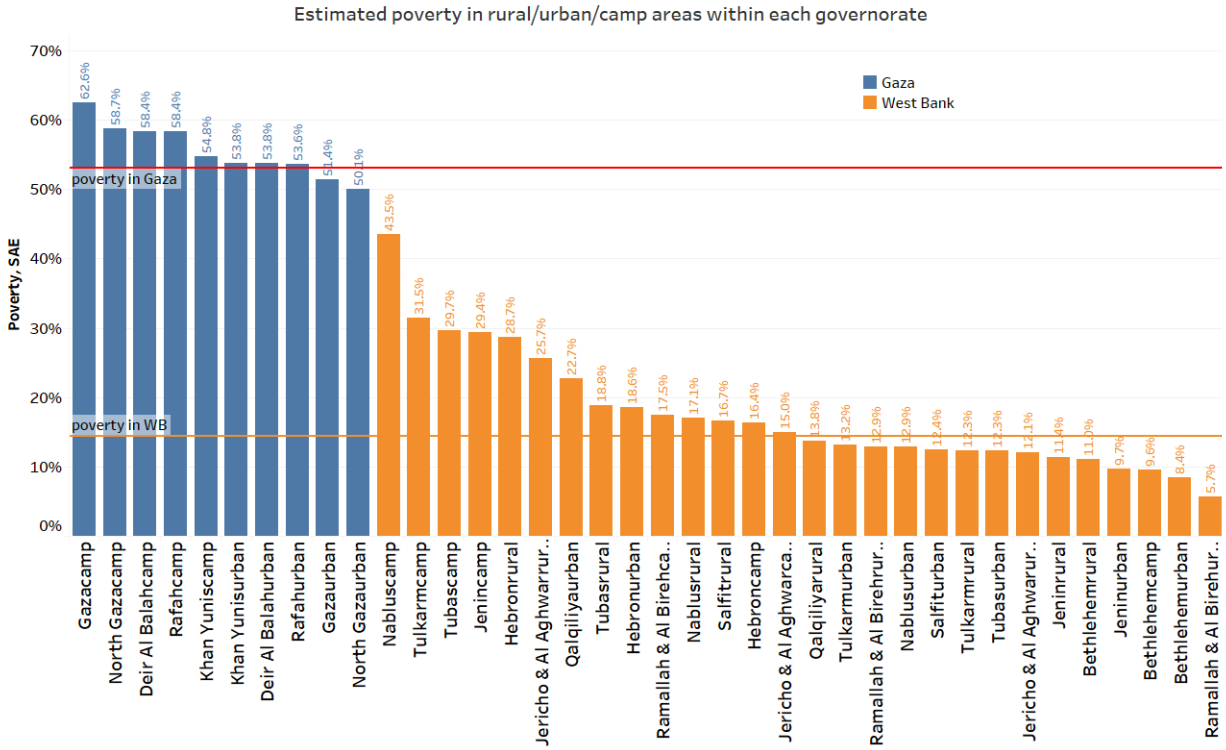


Figure 7. Small area estimates at governorate level across location types, 2017



Source: PECS 2016 and Census 2017, authors' calculations.

Poverty estimates at the merged locality level demonstrate even higher variability. The largest pockets of poverty are observed in Hebron governorate and the lowest poverty rates are observed in localities belonging to Ramallah and Al Bireh and Bethlehem governorates. Inequality, measured by Gini, is highest in localities with lower poverty such as Ramallah.

Figure 8. Small area poverty estimates at the locality level, 2017

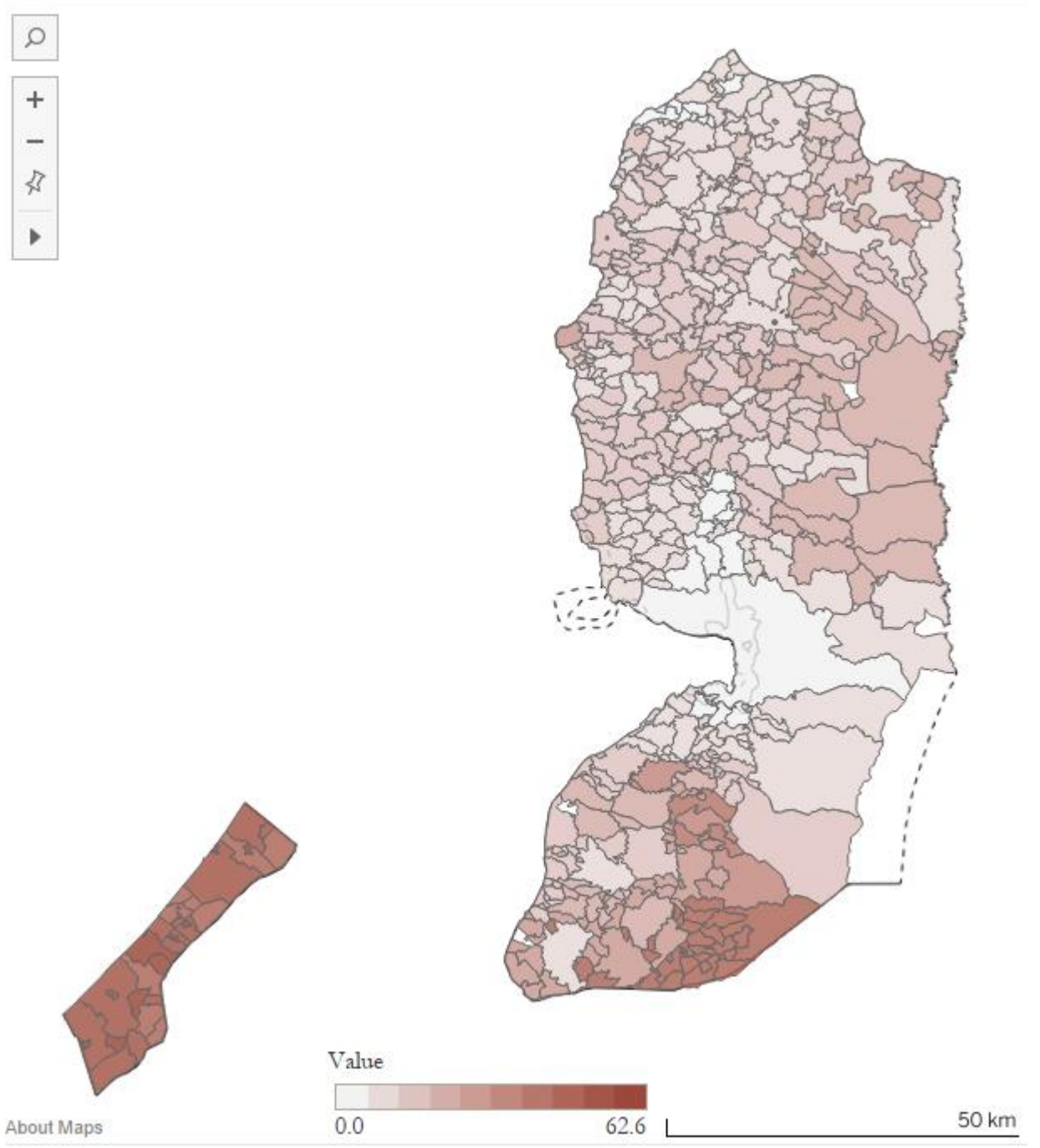
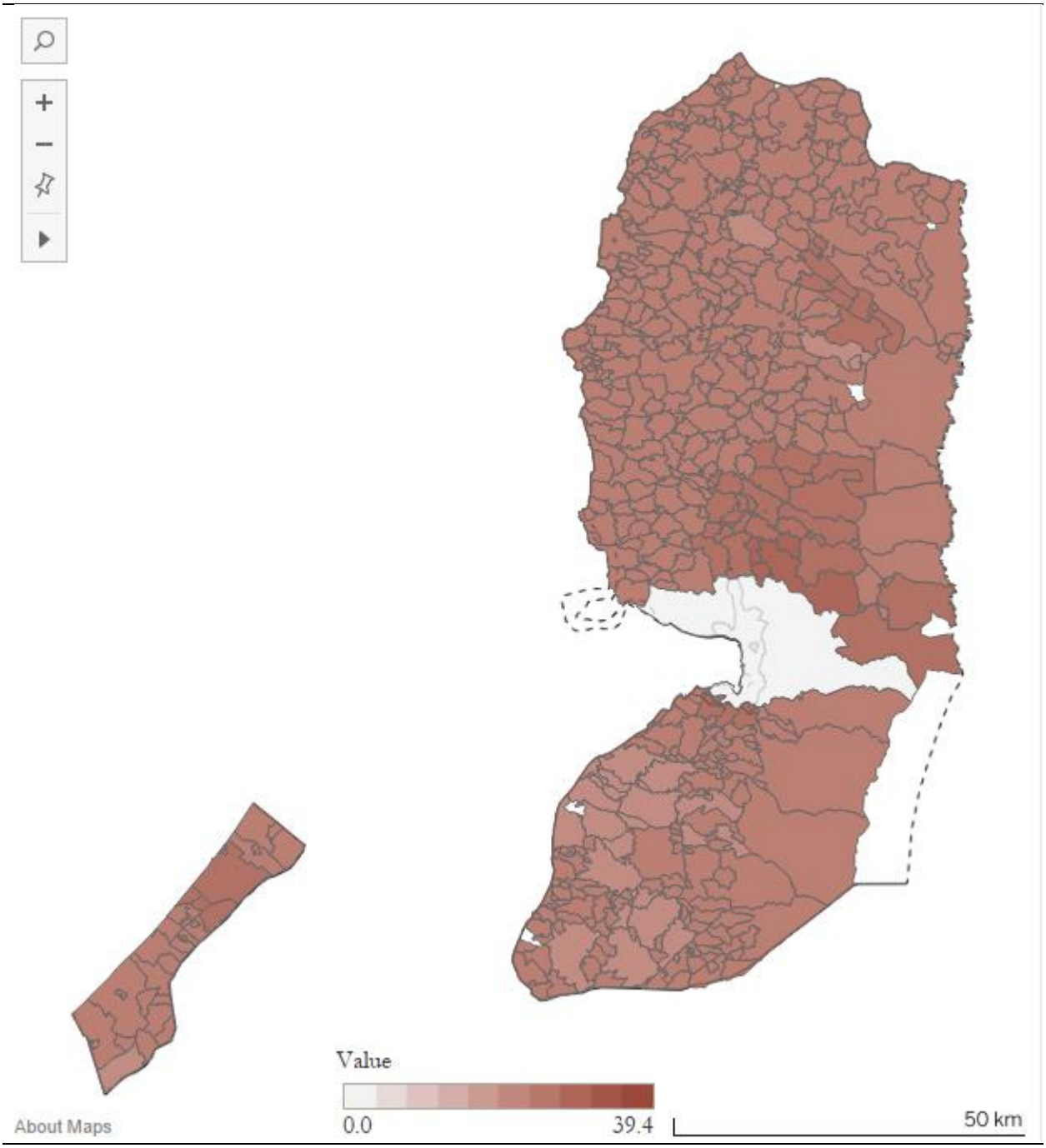


Figure 9. Small area Gini estimates at the locality level, 2017



Source: PECS 2016 and Census 2017, authors' calculations.
Note: Small area estimates were not produced for Jerusalem governorate.

Annex

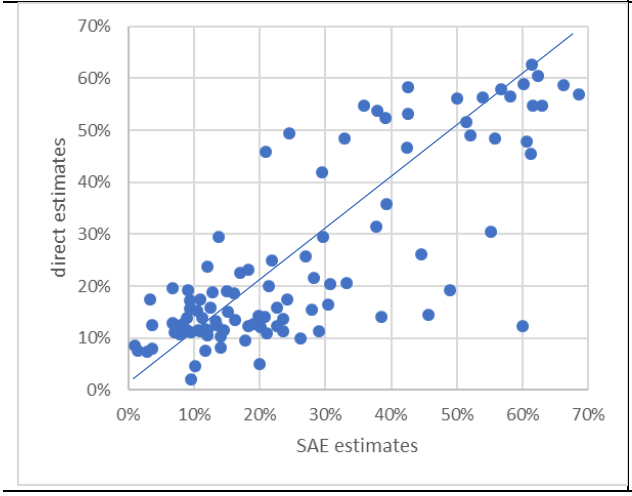
Table A1. Number of localities and enumeration areas in each governorate in PECS and Census

	localities		enumeration areas	
	PECS	Census	PECS	Census
Jenin	22	84	35	n/a
Tubas	6	21	15	
Tulkarm	13	38	35	
Nablus	26	66	39	
Qalqiliya	11	34	21	
Salfit	10	20	14	
Ramallah & Al Bireh	14	80	28	
Jericho & Al Aghwar	6	14	21	
Bethlehem	9	51	14	
Hebron	24	115	40	
North Gaza	5	5	14	
Gaza	4	5	21	
Deir Al Balah	9	11	22	
Khan Yunis	5	8	16	
Rafah	3	4	14	
Total	167	556	349	

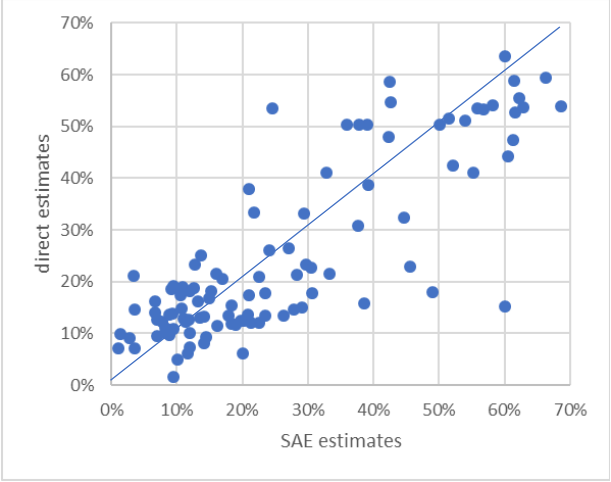
Source: PECS 2016 and Census 2017, authors' calculations

Figure A1. Comparison of direct with small area poverty estimates at the locality level

a) National model



b) Separate models



Source: PECS 2016 and Census 2017, authors' calculations.

Note: Original localities (556) are clusters, bootstrap is done at the level of enumeration areas. Empirical Bayes methods is used. Spearman rank correlation is higher than 75% for both models.

Table A2. Results from the OLS and GLS models

	OLS	GLS
Number of bedrooms household has	-0.093	-0.093
Computer	0.085	0.081
Average share of households at the locality living in flat/apartment	-0.229	-0.231
Average share of households at the locality with a head having a chronic disease	-0.556	-0.592
Average share of households at the locality using gas as main source of energy	0.233	0.230
Average share of households at the locality using electricity as main source of energy	0.396	0.391
Average share of households at the locality having solar boiler	0.146	0.129
Average share of households at the locality using bottled water as main source	1.439	1.476
Dwelling type is villa	0.307	0.306
Proportion of female members in the household	-0.171	-0.179
Freezer	0.082	0.098
Interaction, Hebron governorate and number of children [0-14] in the household	0.023	0.023
Interaction, Hebron governorate and private car	-0.176	-0.173
Interaction, Hebron governorate and waste is burnt	-0.276	-0.279
Interaction, North Gaza governorate and number of children [0-14] in the household	0.026	0.027
Interaction, Gaza governorate and household head education level is higher than secondary	0.196	0.205
Interaction, Khan Yunis governorate and head employment status is employer	0.318	0.314
Bethlehem Governorate	0.188	0.206
Household head has difficulty (great difficulty or can't do completely) in any ability	-0.109	-0.109
Household head (aged 15 and above) employed in Israel/settlement	0.110	0.107
Household head (aged 15 and above) employed in national government	0.110	0.120
Household head education level is higher than secondary	0.081	0.078
Main source of heating is diesel	0.576	0.573
iPad	0.098	0.104
Number of children [0-14] in the household	-0.094	-0.093
Phone line	0.105	0.109
Private car	0.335	0.334
Interaction, West Bank region and head employed in national government	-0.136	-0.143
Interaction, Gaza region and female head	0.136	0.139
Number of rooms per capita (adult equivalent) in the household	0.429	0.429
Vacuum	0.116	0.112
Washing machine	0.112	0.112
Constant	8.723	8.741

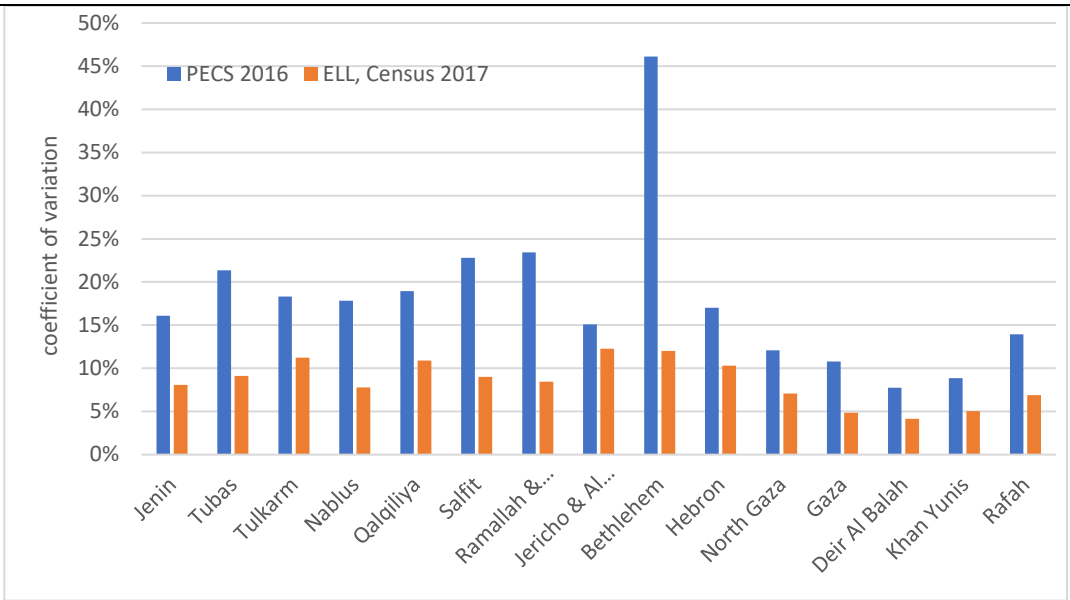
Source: PECS 2016 and Census 2017, authors' calculations.

Table A3. Coefficients and RMSE from Beta model and 10-fold cross validation

regressors	average (10 folds)	beta model
Proportion of female members in the household	-0.17	-0.17
Household head has difficulty (great difficulty or can't do completely) in any ability	-0.11	-0.11
Household head education level is higher than secondary	0.08	0.08
Number of rooms per capita (adult equivalent) in the household	0.43	0.43
Number of children [0-14] in the household	-0.09	-0.09
Number of bedrooms household has	-0.09	-0.09
Household head (aged 15 and above) employed in Israel/settlement	0.11	0.11
Household head (aged 15 and above) employed in national government	0.11	0.11
Main source of heating is diesel	0.57	0.57
Freezer	0.08	0.08
Vacuum	0.12	0.11
Phone line	0.11	0.10
Computer	0.09	0.09
Private car	0.33	0.33
iPad	0.10	0.10
Washing machine	0.11	0.11
Dwelling type is villa	0.31	0.31
Interaction, Gaza region and female head	0.14	0.13
Interaction, West Bank region and head employed in national government	-0.14	-0.13
Bethlehem Governorate	0.19	0.19
Interaction, North Gaza governorate and number of children [0-14] in the household	0.03	0.03
Interaction, Khan Yunis governorate and head employment status is employer	0.32	0.31
Interaction, Gaza governorate and household head education level is higher than secondary	0.19	0.20
Interaction, Hebron governorate and waste is burnt	-0.28	-0.27
Interaction, Hebron governorate and number of children [0-14] in the household	0.02	0.02
Interaction, Hebron governorate and private car	-0.18	-0.17
Average share of households at the locality using gas as main source of energy	0.23	0.23
Average share of households at the locality living in flat/apartment	-0.23	-0.22
Average share of households at the locality using electricity as main source of energy	0.40	0.39
Average share of households at the locality having solar boiler	0.15	0.14
Average share of households at the locality using bottled water as main source	1.44	1.70
Average share of households at the locality with a head having a chronic disease	-0.56	-0.56
Constant	8.72	8.72
RSME	0.38	0.37

Source: PECS 2016, authors' calculations.

Figure A2. Governorate coefficients of variation for direct PECS 2016 estimates and for small area estimates



Source: PECS 2016, authors' calculations.

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11010010	1010045	Rummana	Jenin	3,566	263	7.4	1.34	28.83
11010015	1010045	Ti'innik	Jenin	1,273	94	7.4	1.34	28.83
11010020	1010045	At Tayba	Jenin	2,160	159	7.4	1.34	28.83
11010025	1010060	'Arabbuna	Jenin	1,005	77	7.6	1.33	28.46
11010030	1010060	Al Jalama	Jenin	2,224	170	7.6	1.33	28.46
11010035	1010035	Silat al Harithiya	Jenin	11,226	702	6.3	2.00	28.63
11010040	1010045	As Sa'aida	Jenin	85	6	7.4	1.34	28.83
11010045	1010045	'Anin	Jenin	4,134	305	7.4	1.34	28.83
11010050	1010060	'Arrana	Jenin	2,371	181	7.6	1.33	28.46
11010055	1010060	Deir Ghazala	Jenin	1,107	84	7.6	1.33	28.46
11010060	1010060	Faqqu'a	Jenin	4,324	330	7.6	1.33	28.46
11010070	1010045	Khirbet Suruj	Jenin	34	3	7.4	1.34	28.83
11010080	1010080	Al Yamun	Jenin	20,369	2,256	11.1	2.52	28.48
11010085	1010120	Umm ar Rihan	Jenin	438	18	4.1	1.45	28.72
11010095	1010095	Kafr Dan	Jenin	6,463	533	8.2	1.76	28.69
11010105	1010120	Khirbet 'Abdallah al Yunis	Jenin	152	6	4.1	1.45	28.72
11010110	1010060	Mashru' Beit Qad)Ash Shamali)	Jenin	419	32	7.6	1.33	28.46
11010115	1010120	Dhaher al Malih	Jenin	191	8	4.1	1.45	28.72
11010120	1010120	Barta'a ash Sharqiya	Jenin	4,556	185	4.1	1.45	28.72
11010125	1010095	Al 'Araqa	Jenin	2,615	215	8.2	1.76	28.69
11010135	1010215	Al Jameelat	Jenin	50	6	12.7	2.92	29.05
11010140	1010060	Beit Qad)Al Janubi)	Jenin	1,508	115	7.6	1.33	28.46
11010145	1010035	Tura al Gharbiya	Jenin	1,029	64	6.3	2.00	28.63
11010150	1010035	Tura ash Sharqiya	Jenin	228	14	6.3	2.00	28.63
11010155	1010095	Al Hashimiya	Jenin	1,280	105	8.2	1.76	28.69
11010165	1010035	Nazlat ash Sheikh Zeid	Jenin	827	52	6.3	2.00	28.63
11010170	1010035	At Tarem	Jenin	486	30	6.3	2.00	28.63
11010175	1010120	Khirbet al Muntar al Gharbiya	Jenin	37	1	4.1	1.45	28.72
11010180	1010180	Jenin	Jenin	48,688	3,636	7.5	2.33	30.11
11010185	1010185	Jenin Camp	Jenin	10,210	2,999	29.4	5.14	27.00
11010190	1010215	Jalbun	Jenin	2,758	350	12.7	2.92	29.05
11010195	1010215	'Aba (Al Gharbiya)	Jenin	319	41	12.7	2.92	29.05
11010205	1010120	Khirbet al Muntar ash Sharqiya	Jenin	32	1	4.1	1.45	28.72
11010210	1010095	Kafr Qud	Jenin	1,523	126	8.2	1.76	28.69
11010215	1010215	Deir Abu Da'if	Jenin	6,908	878	12.7	2.92	29.05
11010220	1010220	Birqin	Jenin	6,987	865	12.4	2.66	28.58
11010225	1010120	Umm Dar	Jenin	641	26	4.1	1.45	28.72
11010230	1010120	Al Khuljan	Jenin	604	24	4.1	1.45	28.72

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11010235	1010215	Wad ad Dabi') 'Aba ash Sharqiya)	Jenin	560	71	12.7	2.92	29.05
11010240	1010265	Dhaher al 'Abed	Jenin	458	52	11.4	2.32	28.39
11010245	1010265	Zabda	Jenin	1,227	140	11.4	2.32	28.39
11010265	1010265	Ya'bad	Jenin	15,700	1,791	11.4	2.32	28.39
11010275	1010220	Kufeirit	Jenin	3,008	373	12.4	2.66	28.58
11010285	1010265	Imreiha	Jenin	323	37	11.4	2.32	28.39
11010286	1010265	Firasin	Jenin	26	3	11.4	2.32	28.39
11010287	1010265	Kherbet Al Hamam	Jenin	20	2	11.4	2.32	28.39
11010295	1010215	Umm at Tut	Jenin	1,171	149	12.7	2.92	29.05
11010300	1010220	Ash Shuhada (Mothalth Ash Shuhada)	Jenin	2,244	278	12.4	2.66	28.58
11010305	1010405	Jalqamus	Jenin	2,573	449	17.4	1.85	29.15
11010310	1010405	Al Mughayyir	Jenin	3,186	556	17.4	1.85	29.15
11010315	1010405	Al Mutilla	Jenin	314	55	17.4	1.85	29.15
11010320	1010405	Bir al Basha	Jenin	1,691	295	17.4	1.85	29.15
11010325	1010405	Tannin	Jenin	41	7	17.4	1.85	29.15
11010335	1010405	Al Hafira (Hafirat Arraba)	Jenin	86	15	17.4	1.85	29.15
11010340	1010340	Qabatiya	Jenin	23,941	2,071	8.6	3.10	27.94
11010365	1010405	Ad Damayra	Jenin	242	42	17.4	1.85	29.15
11010370	1010370	Arraba	Jenin	11,255	1,179	10.5	2.45	28.33
11010385	1010405	Telfit	Jenin	179	31	17.4	1.85	29.15
11010395	1010405	Mirka	Jenin	2,160	377	17.4	1.85	29.15
11010400	1010405	Wadi Du'oq	Jenin	167	29	17.4	1.85	29.15
11010401	1010405	Fahma al Jadida	Jenin	380	66	17.4	1.85	29.15
11010405	1010405	Raba	Jenin	3,839	670	17.4	1.85	29.15
11010410	1010405	Al Mansura	Jenin	218	38	17.4	1.85	29.15
11010415	1010625	Misliya	Jenin	2,828	325	11.5	2.14	30.80
11010430	1010405	Al Jarba	Jenin	62	11	17.4	1.85	29.15
11010435	1010625	Az Zababida	Jenin	4,173	480	11.5	2.14	30.80
11010445	1010370	Fahma	Jenin	3,131	328	10.5	2.45	28.33
11010460	1010370	Az Zawiya	Jenin	986	103	10.5	2.45	28.33
11010465	1010465	Kafr Ra'i	Jenin	8,306	657	7.9	1.86	28.49
11010485	1010600	Al Kufeir	Jenin	56	10	17.6	2.18	28.53
11010495	1010600	Sir	Jenin	840	148	17.6	2.18	28.53
11010500	1010465	'Ajja	Jenin	6,042	478	7.9	1.86	28.49
11010505	1010465	'Anza	Jenin	1,900	150	7.9	1.86	28.49
11010510	1010600	Sanur	Jenin	4,938	871	17.6	2.18	28.53
11010515	1010465	Ar Rama	Jenin	1,198	95	7.9	1.86	28.49
11010520	1010520	Meithalun	Jenin	8,159	1,000	12.3	2.78	28.94

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11010565	1010520	Al Judeida	Jenin	5,834	715	12.3	2.78	28.94
11010585	1010520	Al 'Asa'asa	Jenin	560	69	12.3	2.78	28.94
11010590	1010625	Al 'Attara	Jenin	1,220	140	11.5	2.14	30.80
11010600	1010600	Siris	Jenin	5,903	1,041	17.6	2.18	28.53
11010605	1010605	Jaba'	Jenin	10,210	1,577	15.4	4.38	26.82
11010615	1010600	Al Fandaqumiya	Jenin	4,182	737	17.6	2.18	28.53
11010625	1010625	Silat adh Dhahr	Jenin	7,262	836	11.5	2.14	30.80
11050420	1050550	Bardala	Tubas	1,584	368	23.2	2.79	29.08
11050450	1050550	'Ein el Beida	Tubas	1,122	261	23.2	2.79	29.08
11050455	1050550	Kardala	Tubas	200	46	23.2	2.79	29.08
11050470	1050550	Khirbet Tell el Himma	Tubas	76	18	23.2	2.79	29.08
11050490	1050535	Ibziq	Tubas	127	26	20.5	3.84	28.31
11050525	1050535	Salhab	Tubas	25	5	20.5	3.84	28.31
11050535	1050535	'Aqqaba	Tubas	8,121	1,662	20.5	3.84	28.31
11050550	1050550	Tayasir	Tubas	2,837	659	23.2	2.79	29.08
11050551	1050550	Al Farisiya	Tubas	116	27	23.2	2.79	29.08
11050560	1050550	Al 'Aqaba	Tubas	166	39	23.2	2.79	29.08
11050580	1050550	Al Malih	Tubas	349	81	23.2	2.79	29.08
11050610	1050610	Tubas	Tubas	21,253	2,211	10.4	2.34	28.98
11050650	1050700	Kashda	Tubas	65	12	19.1	3.10	32.57
11050656	1050755	Khirbet Yarza	Tubas	31	4	12.7	2.81	28.55
11050670	1050700	Ras al Far'a	Tubas	1,232	235	19.1	3.10	32.57
11050700	1050700	El Far'a Camp	Tubas	5,545	1,059	19.1	3.10	32.57
11050720	1050755	Khirbet ar Ras al Ahmar	Tubas	73	9	12.7	2.81	28.55
11050740	1050700	Wadi al Far'a	Tubas	3,941	752	19.1	3.10	32.57
11050755	1050755	Tammun	Tubas	12,930	1,639	12.7	2.81	28.55
11050790	1050755	Khirbet 'Atuf	Tubas	213	27	12.7	2.81	28.55
11050871	1050755	Al Hadidiya	Tubas	180	23	12.7	2.81	28.55
11100250	1100290	'Akkaba	Tulkarm	328	45	13.8	2.63	27.91
11100290	1100290	Qaffin	Tulkarm	10,417	1,440	13.8	2.63	27.91
11100330	1100350	Nazlat 'Isa	Tulkarm	2,245	278	12.4	2.22	29.06
11100345	1100290	An Nazla ash Sharqiya	Tulkarm	1,583	219	13.8	2.63	27.91
11100350	1100350	Baqa ash Sharqiya	Tulkarm	4,771	590	12.4	2.22	29.06
11100355	1100290	An Nazla al Wusta	Tulkarm	419	58	13.8	2.63	27.91
11100380	1100290	An Nazla al Gharbiya	Tulkarm	1,083	150	13.8	2.63	27.91
11100425	1100350	Zeita	Tulkarm	3,002	371	12.4	2.22	29.06
11100440	1100475	Seida	Tulkarm	3,683	512	13.9	2.46	28.27
11100475	1100475	'Illar	Tulkarm	7,271	1,011	13.9	2.46	28.27

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11100480	1100480	'Attil	Tulkarm	10,110	1,258	12.4	2.78	29.08
11100530	1100530	Deir al Ghusun	Tulkarm	9,667	1,381	14.3	2.69	28.73
11100545	1100530	Al Jarushiya	Tulkarm	1,154	165	14.3	2.69	28.73
11100555	1100530	Al Masqufa	Tulkarm	154	22	14.3	2.69	28.73
11100570	1100570	Bal'a	Tulkarm	7,628	925	12.1	2.47	29.49
11100595	1100570	Iktaba	Tulkarm	2,923	354	12.1	2.47	29.49
11100620	1100635	Nur Shams Camp	Tulkarm	6,264	1,975	31.5	4.95	26.43
11100635	1100635	Tulkarm Camp	Tulkarm	9,685	3,053	31.5	4.95	26.43
11100645	1100645	Tulkarm	Tulkarm	63,926	8,590	13.4	3.52	29.94
11100655	1100665	'Izbat Abu Khameish	Tulkarm	54	7	12.7	2.36	29.02
11100665	1100665	Anabta	Tulkarm	7,877	999	12.7	2.36	29.02
11100685	1100665	'Izbat al Khilal	Tulkarm	137	17	12.7	2.36	29.02
11100690	1100665	Kafr al Labad	Tulkarm	4,629	587	12.7	2.36	29.02
11100710	1100800	Kafa	Tulkarm	808	103	12.7	2.26	28.03
11100715	1100665	Al Haffasi	Tulkarm	206	26	12.7	2.36	29.02
11100725	1100800	'Izbat Shufa	Tulkarm	1,420	180	12.7	2.26	28.03
11100730	1100665	Ramin	Tulkarm	1,949	247	12.7	2.36	29.02
11100735	1100800	Far'un	Tulkarm	4,028	512	12.7	2.26	28.03
11100760	1100800	Shufa	Tulkarm	1,317	167	12.7	2.26	28.03
11100780	1100800	Khirbet Jubara	Tulkarm	305	39	12.7	2.26	28.03
11100795	1100800	Saffarin	Tulkarm	735	93	12.7	2.26	28.03
11100800	1100800	Beit Lid	Tulkarm	5,467	694	12.7	2.26	28.03
11100815	1100900	Ar Ras	Tulkarm	634	56	8.8	1.84	28.54
11100845	1100900	Kafr Sur	Tulkarm	1,256	110	8.8	1.84	28.54
11100870	1100900	Kur	Tulkarm	285	25	8.8	1.84	28.54
11100895	1100900	Kafr Zibad	Tulkarm	1,189	104	8.8	1.84	28.54
11100900	1100900	Kafr Jammal	Tulkarm	2,784	244	8.8	1.84	28.54
11100915	1100900	Kafr 'Abbush	Tulkarm	1,696	149	8.8	1.84	28.54
11150660	1150680	Bazzariya	Nablus	2,790	351	12.6	1.72	29.53
11150680	1150680	Burqa	Nablus	4,146	522	12.6	1.72	29.53
11150695	1150820	Yasid	Nablus	2,501	268	10.7	1.91	29.31
11150705	1150680	Beit Imrin	Nablus	3,318	418	12.6	1.72	29.53
11150745	1150680	Nisf Jubeil	Nablus	470	59	12.6	1.72	29.53
11150765	1150680	Sabastiya	Nablus	3,187	401	12.6	1.72	29.53
11150770	1150680	Ijnisinya	Nablus	584	74	12.6	1.72	29.53
11150775	1150820	Talluza	Nablus	2,791	299	10.7	1.91	29.31
11150785	1150860	An Naqura	Nablus	1,783	204	11.4	2.01	29.63
11150805	1151000	Al Badhan	Nablus	3,166	675	21.3	2.23	31.79

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11150810	1150860	Deir Sharaf	Nablus	2,945	336	11.4	2.01	29.63
11150820	1150820	'Asira ash Shamaliya	Nablus	8,795	941	10.7	1.91	29.31
11150825	1151000	An Nassariya	Nablus	1,886	402	21.3	2.23	31.79
11150835	1150860	Zawata	Nablus	2,533	289	11.4	2.01	29.63
11150840	1151000	Al 'Aqrabaniya	Nablus	938	200	21.3	2.23	31.79
11150855	1150990	Qusin	Nablus	2,240	417	18.6	2.68	29.38
11150860	1150860	Beit Iba	Nablus	4,070	465	11.4	2.01	29.63
11150865	1151000	Beit Hasan	Nablus	1,597	341	21.3	2.23	31.79
11150875	1150860	Beit Wazan	Nablus	1,310	150	11.4	2.01	29.63
11150880	1150990	'Ein Beit el Ma Camp	Nablus	3,583	667	18.6	2.68	29.38
11150885	1151000	'Ein Shibli	Nablus	313	67	21.3	2.23	31.79
11150910	1150955	'Azmut	Nablus	3,435	674	19.6	2.68	28.37
11150920	1150920	Nablus	Nablus	155,632	17,821	11.5	2.24	30.14
11150930	1150930	'Askar Camp (al Qadeem)	Nablus	6,528	2,736	41.9	6.20	27.01
11150931	1150930	'Askar Camp (al Jadeed)	Nablus	4,760	1,995	41.9	6.20	27.01
11150935	1150955	Deir al Hatab	Nablus	2,834	556	19.6	2.68	28.37
11150950	1150990	Sarra	Nablus	3,368	627	18.6	2.68	29.38
11150955	1150955	Salim	Nablus	6,257	1,227	19.6	2.68	28.37
11150960	1150960	Balata Camp	Nablus	14,598	6,706	45.9	6.69	27.13
11150975	1150990	'Iraq Burin	Nablus	1,007	187	18.6	2.68	29.38
11150990	1150990	Tell	Nablus	5,149	959	18.6	2.68	29.38
11151000	1151000	Beit Dajan	Nablus	4,454	950	21.3	2.23	31.79
11151010	1151010	Rujeib	Nablus	5,956	1,027	17.2	2.34	29.49
11151025	1150955	Kafr Qallil	Nablus	3,025	593	19.6	2.68	28.37
11151030	1151000	Furush Beit Dajan	Nablus	722	154	21.3	2.23	31.79
11151050	1151010	Madama	Nablus	2,089	360	17.2	2.34	29.49
11151080	1151010	Burin	Nablus	2,840	490	17.2	2.34	29.49
11151090	1151090	Beit Furik	Nablus	13,442	1,893	14.1	3.19	27.37
11151095	1151010	'Asira al Qibliya	Nablus	2,931	505	17.2	2.34	29.49
11151135	1151185	'Awarta	Nablus	7,044	1,410	20.0	3.65	29.62
11151160	1151245	'Urif	Nablus	3,619	607	16.8	2.58	28.86
11151176	1151090	Khirbet Tana	Nablus	16	2	14.1	3.19	27.37
11151180	1151010	Odala	Nablus	1,564	270	17.2	2.34	29.49
11151185	1151185	Huwwara	Nablus	6,650	1,331	20.0	3.65	29.62
11151195	1151215	'Einabus	Nablus	2,887	556	19.3	3.77	28.30
11151200	1151270	Yanun	Nablus	92	22	23.7	3.52	28.92
11151215	1151215	Beita	Nablus	11,665	2,248	19.3	3.77	28.30
11151230	1151245	Zeita Jamma'in	Nablus	2,736	459	16.8	2.58	28.86

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11151245	1151245	Jamma'in	Nablus	7,425	1,245	16.8	2.58	28.86
11151265	1151270	Osarin	Nablus	2,050	486	23.7	3.52	28.92
11151270	1151270	Aqraba	Nablus	10,010	2,375	23.7	3.52	28.92
11151285	1151185	Za'tara	Nablus	63	13	20.0	3.65	29.62
11151311	1151270	Alttawel and Tall al Khashaba	Nablus	107	25	23.7	3.52	28.92
11151325	1151335	Yatma	Nablus	3,358	439	13.1	2.53	27.92
11151335	1151335	Qabalan	Nablus	8,183	1,070	13.1	2.53	27.92
11151345	1151365	Jurish	Nablus	1,539	282	18.3	2.53	29.07
11151365	1151365	Qusra	Nablus	5,410	991	18.3	2.53	29.07
11151375	1151365	Talfit	Nablus	3,586	657	18.3	2.53	29.07
11151380	1151245	As Sawiya	Nablus	2,757	462	16.8	2.58	28.86
11151385	1151270	Majdal Bani Fadil	Nablus	2,903	689	23.7	3.52	28.92
11151405	1151335	Al Lubban ash Sharqiya	Nablus	2,636	345	13.1	2.53	27.92
11151410	1151365	Qaryut	Nablus	2,556	468	18.3	2.53	29.07
11151420	1151365	Jalud	Nablus	742	136	18.3	2.53	29.07
11151435	1151335	'Ammuriya	Nablus	370	48	13.1	2.53	27.92
11151445	1151365	Duma	Nablus	2,670	489	18.3	2.53	29.07
11151450	1151365	Khirbet Sarra	Nablus	27	5	18.3	2.53	29.07
11200905	1201100	Falamya	Qalqiliya	757	141	18.7	2.34	29.72
11200925	1200970	Kafr Qaddum	Qalqiliya	3,280	449	13.7	1.68	29.05
11200945	1200970	Jit	Qalqiliya	2,405	329	13.7	1.68	29.05
11200965	1200970	Baqat al Hatab	Qalqiliya	1,943	266	13.7	1.68	29.05
11200970	1200970	Hajja	Qalqiliya	2,659	364	13.7	1.68	29.05
11200985	1201100	Jayyus	Qalqiliya	3,478	649	18.7	2.34	29.72
11200995	1201100	Khirbet Sir	Qalqiliya	645	120	18.7	2.34	29.72
11201005	1201125	'Arab ar Ramadin ash Shamali	Qalqiliya	84	13	15.8	2.64	28.44
11201015	1200970	Far'ata	Qalqiliya	872	119	13.7	1.68	29.05
11201020	1200970	Immatin	Qalqiliya	2,755	377	13.7	1.68	29.05
11201035	1200970	Al Funduq	Qalqiliya	1,125	154	13.7	1.68	29.05
11201040	1201040	Qalqiliya	Qalqiliya	48,177	12,378	25.7	4.33	29.37
11201055	1201100	An Nabi Elyas	Qalqiliya	1,399	261	18.7	2.34	29.72
11201065	1201100	Kafr Laqif	Qalqiliya	1,039	194	18.7	2.34	29.72
11201070	1201125	'Arab Abu Farda	Qalqiliya	131	21	15.8	2.64	28.44
11201075	1201100	'Izbat at Tabib	Qalqiliya	258	48	18.7	2.34	29.72
11201085	1200970	Jinsafut	Qalqiliya	2,571	352	13.7	1.68	29.05
11201100	1201100	'Azzun	Qalqiliya	9,269	1,730	18.7	2.34	29.72
11201105	1201125	'Arab ar Ramadin al Janubi	Qalqiliya	286	45	15.8	2.64	28.44
11201115	1201175	'Isla	Qalqiliya	1,111	134	12.0	2.24	29.92

Table A4. Small area poverty and inequality estimates for merged localities

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11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
11201116	1201175	Arab Al-Khouleh	Qalqiliya	11	1	12.0	2.24	29.92
11201120	1201125	Wadi ar Rasha	Qalqiliya	152	24	15.8	2.64	28.44
11201125	1201125	Habla	Qalqiliya	7,053	1,117	15.8	2.64	28.44
11201130	1201125	Ras at Tira	Qalqiliya	484	77	15.8	2.64	28.44
11201155	1201125	Ras 'Atiya	Qalqiliya	2,129	337	15.8	2.64	28.44
11201170	1201125	Ad Dab'a	Qalqiliya	412	65	15.8	2.64	28.44
11201175	1201175	Kafr Thulth	Qalqiliya	4,851	584	12.0	2.24	29.92
11201190	1201175	'Izbat Jal'ud	Qalqiliya	146	18	12.0	2.24	29.92
11201205	1201175	Al Mudawwar	Qalqiliya	350	42	12.0	2.24	29.92
11201210	1201175	'Izbat Salman	Qalqiliya	896	108	12.0	2.24	29.92
11201225	1201175	'Izbat al Ashqar	Qalqiliya	451	54	12.0	2.24	29.92
11201255	1201175	Beit Amin	Qalqiliya	1,279	154	12.0	2.24	29.92
11201260	1201175	Sanniriya	Qalqiliya	3,609	435	12.0	2.24	29.92
11201280	1201175	'Azzun 'Atma	Qalqiliya	2,068	249	12.0	2.24	29.92
11251250	1251310	Deir Istiya	Salfit	3,599	740	20.6	2.46	29.85
11251275	1251305	Qarawat Bani Hassan	Salfit	5,369	436	8.1	1.90	28.84
11251290	1251310	Qira	Salfit	1,245	256	20.6	2.46	29.85
11251295	1251310	Kifl Haris	Salfit	3,977	818	20.6	2.46	29.85
11251300	1251310	Marda	Salfit	2,313	476	20.6	2.46	29.85
11251305	1251305	Biddya	Salfit	10,177	826	8.1	1.90	28.84
11251310	1251310	Haris	Salfit	4,029	829	20.6	2.46	29.85
11251315	1251370	Yasuf	Salfit	2,038	236	11.6	1.82	29.00
11251320	1251360	Mas-ha	Salfit	2,308	297	12.9	2.25	29.76
11251330	1251370	Iskaka	Salfit	1,167	135	11.6	1.82	29.00
11251340	1251360	Sarta	Salfit	3,293	424	12.9	2.25	29.76
11251355	1251360	Izbat Abu 'Adam	Salfit	7	1	12.9	2.25	29.76
11251360	1251360	Az Zawiya	Salfit	5,875	757	12.9	2.25	29.76
11251370	1251370	Salfit	Salfit	10,890	1,261	11.6	1.82	29.00
11251395	1251360	Rafat	Salfit	2,456	316	12.9	2.25	29.76
11251400	1251425	Bruqin	Salfit	3,941	603	15.3	2.36	29.18
11251415	1251370	Farkha	Salfit	1,607	186	11.6	1.82	29.00
11251425	1251425	Kafr ad Dik	Salfit	5,406	827	15.3	2.36	29.18
11251430	1251425	Deir Ballut	Salfit	3,772	577	15.3	2.36	29.18
11251440	1251370	Khirbet Qeis	Salfit	266	31	11.6	1.82	29.00
12301455	1301471	Qarawat Bani Zeid	Ramallah & Al Bireh	3,394	453	13.3	2.24	28.94
12301460	1301485	Mazari' an Nubani	Ramallah & Al Bireh	2,421	344	14.2	2.36	29.55
12301470	1301471	Kafr 'Ein	Ramallah & Al Bireh	1,946	259	13.3	2.24	28.94
12301471	1301471	Beit Reema	Ramallah & Al Bireh	4,308	574	13.3	2.24	28.94

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11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
12301472	1301471	Deir Ghassana	Ramallah & Al Bireh	1,682	224	13.3	2.24	28.94
12301475	1301485	'Arura	Ramallah & Al Bireh	3,088	439	14.2	2.36	29.55
12301485	1301485	'Abwein	Ramallah & Al Bireh	3,474	494	14.2	2.36	29.55
12301490	1301500	Turmus'ayya	Ramallah & Al Bireh	2,449	301	12.3	2.43	31.77
12301495	1301595	Al Lubban al Gharbi	Ramallah & Al Bireh	1,556	270	17.4	2.61	28.65
12301500	1301500	Sinjil	Ramallah & Al Bireh	5,707	702	12.3	2.43	31.77
12301505	1301485	Deir as Sudan	Ramallah & Al Bireh	2,146	305	14.2	2.36	29.55
12301515	1301595	Rantis	Ramallah & Al Bireh	3,159	548	17.4	2.61	28.65
12301520	1301485	Jilijliya	Ramallah & Al Bireh	628	89	14.2	2.36	29.55
12301525	1301485	'Ajjul	Ramallah & Al Bireh	1,393	198	14.2	2.36	29.55
12301530	1301500	Al Mughayyir	Ramallah & Al Bireh	2,854	351	12.3	2.43	31.77
12301535	1301471	'Abud	Ramallah & Al Bireh	2,140	285	13.3	2.24	28.94
12301540	1301471	An Nabi Salih	Ramallah & Al Bireh	519	69	13.3	2.24	28.94
12301545	1301500	Khirbet Abu Falah	Ramallah & Al Bireh	4,367	537	12.3	2.43	31.77
12301546	1301635	Rawabi	Ramallah & Al Bireh	706	41	5.8	1.32	34.53
12301550	1301695	Umm Safa	Ramallah & Al Bireh	677	79	11.6	2.03	30.24
12301555	1301610	Al Mazra'a ash Sharqiya	Ramallah & Al Bireh	4,038	543	13.4	2.14	33.90
12301560	1301620	Deir Nidham	Ramallah & Al Bireh	871	87	10.0	1.66	30.57
12301565	1301635	'Atara	Ramallah & Al Bireh	2,477	144	5.8	1.32	34.53
12301570	1301595	Deir Abu Mash'al	Ramallah & Al Bireh	4,207	730	17.4	2.61	28.65
12301575	1301695	Jibiya	Ramallah & Al Bireh	155	18	11.6	2.03	30.24
12301585	1301695	Burham	Ramallah & Al Bireh	579	67	11.6	2.03	30.24
12301590	1301650	Kafr Malik	Ramallah & Al Bireh	2,928	573	19.6	2.65	33.04
12301595	1301595	Shuqba	Ramallah & Al Bireh	5,425	941	17.4	2.61	28.65
12301600	1301695	Kobar	Ramallah & Al Bireh	4,293	499	11.6	2.03	30.24
12301605	1301715	Qibya	Ramallah & Al Bireh	6,053	890	14.7	2.80	29.62
12301610	1301610	Silwad	Ramallah & Al Bireh	6,303	847	13.4	2.14	33.90
12301615	1301610	Yabrud	Ramallah & Al Bireh	571	77	13.4	2.14	33.90
12301620	1301620	Beitillu	Ramallah & Al Bireh	3,444	345	10.0	1.66	30.57
12301625	1301805	Shabtin	Ramallah & Al Bireh	1,129	131	11.6	1.88	28.90
12301630	1301620	Jammala	Ramallah & Al Bireh	1,654	166	10.0	1.66	30.57
12301635	1301635	Birzeit	Ramallah & Al Bireh	5,825	338	5.8	1.32	34.53
12301636	1301700	Ad Doha	Ramallah & Al Bireh	208	23	11.3	3.27	34.26
12301640	1301700	'Ein Siniya	Ramallah & Al Bireh	919	104	11.3	3.27	34.26
12301645	1301610	Silwad Camp	Ramallah & Al Bireh	453	61	13.4	2.14	33.90
12301650	1301650	Deir Jarir	Ramallah & Al Bireh	4,441	870	19.6	2.65	33.04
12301655	1301620	Deir 'Ammar	Ramallah & Al Bireh	3,332	334	10.0	1.66	30.57
12301660	1301620	Deir 'Ammar Camp	Ramallah & Al Bireh	1,872	187	10.0	1.66	30.57

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
12301665	1301715	Budrus	Ramallah & Al Bireh	1,586	233	14.7	2.80	29.62
12301670	1301695	Abu Shukheidim	Ramallah & Al Bireh	2,423	282	11.6	2.03	30.24
12301675	1301635	Jifna	Ramallah & Al Bireh	2,828	164	5.8	1.32	34.53
12301680	1301700	Dura al Qar'	Ramallah & Al Bireh	3,013	340	11.3	3.27	34.26
12301685	1301650	At Tayba	Ramallah & Al Bireh	1,304	255	19.6	2.65	33.04
12301695	1301695	Al Mazra'a al Qibliya	Ramallah & Al Bireh	5,144	598	11.6	2.03	30.24
12301700	1301700	Al Jalazun Camp	Ramallah & Al Bireh	8,145	920	11.3	3.27	34.26
12301705	1301635	Abu Qash	Ramallah & Al Bireh	2,222	129	5.8	1.32	34.53
12301710	1301805	Deir Qaddis	Ramallah & Al Bireh	2,437	282	11.6	1.88	28.90
12301715	1301715	Ni'lin	Ramallah & Al Bireh	5,079	746	14.7	2.80	29.62
12301720	1301610	'Ein Yabrud	Ramallah & Al Bireh	2,500	336	13.4	2.14	33.90
12301725	1301805	Kharbatha Bani Harith	Ramallah & Al Bireh	3,450	399	11.6	1.88	28.90
12301730	1301620	Ras Karkar	Ramallah & Al Bireh	1,944	195	10.0	1.66	30.57
12301735	1301700	Surda	Ramallah & Al Bireh	1,282	145	11.3	3.27	34.26
12301740	1301620	Al Janiya	Ramallah & Al Bireh	1,288	129	10.0	1.66	30.57
12301745	1301715	Al Midya	Ramallah & Al Bireh	1,524	224	14.7	2.80	29.62
12301750	1301785	Rammun	Ramallah & Al Bireh	2,390	269	11.2	1.87	39.40
12301755	1301755	Kafr Ni'ma	Ramallah & Al Bireh	4,628	422	9.1	1.80	28.33
12301760	1301755	Bil'in	Ramallah & Al Bireh	2,124	194	9.1	1.80	28.33
12301765	1301785	Beitin	Ramallah & Al Bireh	2,228	250	11.2	1.87	39.40
12301770	1301620	'Ein Qiniya	Ramallah & Al Bireh	717	72	10.0	1.66	30.57
12301775	1301650	Badiw al Mu'arrajat	Ramallah & Al Bireh	825	162	19.6	2.65	33.04
12301780	1301755	Deir Ibzi'	Ramallah & Al Bireh	2,574	235	9.1	1.80	28.33
12301785	1301785	Deir Dibwan	Ramallah & Al Bireh	4,143	466	11.2	1.87	39.40
12301790	1301790	Al Bireh	Ramallah & Al Bireh	41,511	1,884	4.5	1.34	32.46
12301800	1301755	'Ein 'Arik	Ramallah & Al Bireh	1,763	161	9.1	1.80	28.33
12301805	1301805	Saffa	Ramallah & Al Bireh	4,347	503	11.6	1.88	28.90
12301810	1301810	Ramallah	Ramallah & Al Bireh	34,483	705	2.0	0.79	34.73
12301815	1301785	Burqa	Ramallah & Al Bireh	2,034	229	11.2	1.87	39.40
12301820	1301855	Beit 'Ur at Tahta	Ramallah & Al Bireh	5,009	546	10.9	2.26	28.58
12301825	1301825	Beituniya	Ramallah & Al Bireh	24,905	1,231	4.9	1.18	29.79
12301830	1301830	Al Am'ari Camp	Ramallah & Al Bireh	4,690	1,143	24.4	4.91	27.99
12301835	1301830	Qaddura Camp	Ramallah & Al Bireh	856	209	24.4	4.91	27.99
12301850	1301895	Beit Sira	Ramallah & Al Bireh	3,307	301	9.1	2.20	28.40
12301855	1301855	Kharbatha al Misbah	Ramallah & Al Bireh	6,327	689	10.9	2.26	28.58
12301860	1301855	Beit 'Ur al Fauqa	Ramallah & Al Bireh	1,033	113	10.9	2.26	28.58
12301890	1301855	At Tira	Ramallah & Al Bireh	1,488	162	10.9	2.26	28.58
12301895	1301895	Beit Liqya	Ramallah & Al Bireh	8,981	817	9.1	2.20	28.40

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
12351045	1351690	Marj Na'ja	Jericho & Al Aghwar	828	187	22.6	2.99	31.24
12351110	1351690	Az Zubeidat	Jericho & Al Aghwar	1,679	380	22.6	2.99	31.24
12351116	1351690	Marj al Ghazal	Jericho & Al Aghwar	238	54	22.6	2.99	31.24
12351140	1351690	Al Jiftlik	Jericho & Al Aghwar	3,046	690	22.6	2.99	31.24
12351510	1351690	Fasayil	Jericho & Al Aghwar	1,637	371	22.6	2.99	31.24
12351690	1351690	Al 'Auja	Jericho & Al Aghwar	5,138	1,163	22.6	2.99	31.24
12351840	1351690	An Nuwei'ma	Jericho & Al Aghwar	1,651	374	22.6	2.99	31.24
12351845	1351690	'Ein ad Duyuk al Fauqa	Jericho & Al Aghwar	833	189	22.6	2.99	31.24
12351865	1351975	'Ein as Sultan Camp	Jericho & Al Aghwar	4,168	625	15.0	4.36	28.87
12351920	1351920	Jericho (Ariha)	Jericho & Al Aghwar	18,992	2,100	11.1	1.77	32.01
12351970	1351920	Deir al Qilt	Jericho & Al Aghwar	1	0	11.1	1.77	32.01
12351975	1351975	Aqbat Jaber Camp	Jericho & Al Aghwar	8,593	1,288	15.0	4.36	28.87
12352075	1351920	An Nabi Musa	Jericho & Al Aghwar	343	38	11.1	1.77	32.01
13452170	1452230	Al Walaja	Bethlehem	2,643	277	10.5	2.64	28.45
13452175	1452230	Battir	Bethlehem	4,646	487	10.5	2.64	28.45
13452180	1452180	Al 'Ubeidiya	Bethlehem	14,303	1,703	11.9	3.14	28.41
13452185	1452275	'Ayda Camp	Bethlehem	2,794	267	9.6	2.04	28.00
13452190	1452360	Khallet an Nu'man	Bethlehem	111	9	8.2	2.02	29.18
13452195	1452275	Al 'Aza Camp	Bethlehem	1,507	144	9.6	2.04	28.00
13452200	1452360	Al Khas	Bethlehem	394	32	8.2	2.02	29.18
13452205	1452360	Al Haddadiya	Bethlehem	81	7	8.2	2.02	29.18
13452208	1452210	Khallet Hamameh	Bethlehem	1,577	36	2.3	0.84	32.41
13452209	1452210	Bir Onah	Bethlehem	1,386	31	2.3	0.84	32.41
13452210	1452210	Beit Jala	Bethlehem	12,673	287	2.3	0.84	32.41
13452225	1452360	Dar Salah	Bethlehem	4,534	373	8.2	2.02	29.18
13452230	1452230	Husan	Bethlehem	6,973	730	10.5	2.64	28.45
13452235	1452325	Wadi Fukin	Bethlehem	1,328	91	6.8	1.93	27.74
13452240	1452240	Bethlehem (Beit Lahm)	Bethlehem	26,384	1,535	5.8	1.77	31.94
13452255	1452255	Beit Sahur	Bethlehem	12,998	192	1.5	0.71	31.54
13452265	1452265	Ad Doha	Bethlehem	12,611	848	6.7	2.08	29.96
13452270	1452300	Al Khadr	Bethlehem	11,833	1,094	9.2	2.18	29.42
13452275	1452275	Ad Duheisha Camp	Bethlehem	8,705	833	9.6	2.04	28.00
13452280	1452385	Hindaza and Bureid'a	Bethlehem	7,437	805	10.8	2.16	29.41
13452285	1452360	Ash Shawawra	Bethlehem	4,117	339	8.2	2.02	29.18
13452300	1452300	Artas	Bethlehem	5,679	525	9.2	2.18	29.42
13452325	1452325	Nahhalin	Bethlehem	8,648	589	6.8	1.93	27.74
13452335	1452385	Beit Ta'mir	Bethlehem	1,579	171	10.8	2.16	29.41
13452345	1452385	Khallet al Louza	Bethlehem	638	69	10.8	2.16	29.41

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
13452355	1452325	Al Jab'a	Bethlehem	1,109	76	6.8	1.93	27.74
13452360	1452360	Za'tara	Bethlehem	7,761	639	8.2	2.02	29.18
13452375	1452385	Al Fureidis	Bethlehem	1,083	117	10.8	2.16	29.41
13452385	1452385	Jannatah (Badd Falouh)	Bethlehem	7,258	786	10.8	2.16	29.41
13452390	1452325	Khallet al Balluta	Bethlehem	73	5	6.8	1.93	27.74
13452400	1452385	Wadi Rahhal	Bethlehem	1,800	195	10.8	2.16	29.41
13452405	1452385	Jub adh Dhib	Bethlehem	142	15	10.8	2.16	29.41
13452415	1452325	Khallet Sakariya	Bethlehem	140	10	6.8	1.93	27.74
13452430	1452495	Khallet al Haddad	Bethlehem	502	71	14.2	2.28	29.51
13452440	1452495	Al Ma'sara	Bethlehem	1,073	152	14.2	2.28	29.51
13452445	1452495	Wadi an Nis	Bethlehem	990	140	14.2	2.28	29.51
13452455	1452495	Khirbet ad Deir	Bethlehem	1,988	281	14.2	2.28	29.51
13452460	1452495	Jurat ash Sham'a	Bethlehem	1,759	249	14.2	2.28	29.51
13452465	1452325	Khallet 'Afana	Bethlehem	58	4	6.8	1.93	27.74
13452470	1452495	Marah Ma'alla	Bethlehem	1,061	150	14.2	2.28	29.51
13452475	1452495	Al Halqum	Bethlehem	263	37	14.2	2.28	29.51
13452480	1452525	Umm Salamuna	Bethlehem	1,175	236	20.0	3.49	28.66
13452490	1452495	Al Manshiya	Bethlehem	527	75	14.2	2.28	29.51
13452495	1452495	Tuqu'	Bethlehem	8,674	1,228	14.2	2.28	29.51
13452500	1452525	Marah Rabah	Bethlehem	1,711	343	20.0	3.49	28.66
13452510	1452495	Wadi Immhamid	Bethlehem	148	21	14.2	2.28	29.51
13452520	1452495	Khirbet Tuqu'	Bethlehem	130	18	14.2	2.28	29.51
13452525	1452525	Beit Fajjar	Bethlehem	13,376	2,682	20.0	3.49	28.66
13452535	1452495	Al Maniya	Bethlehem	1,332	189	14.2	2.28	29.51
13452565	1452495	Kisan	Bethlehem	554	78	14.2	2.28	29.51
13452660	1452495	'Arab ar Rashayida	Bethlehem	2,038	289	14.2	2.28	29.51
13502435	1502450	Khirbet ad Deir	Hebron	356	62	17.4	4.85	26.32
13502450	1502450	Surif	Hebron	17,196	2,992	17.4	4.85	26.32
13502530	1502530	Al 'Arrub Camp	Hebron	8,890	1,458	16.4	3.56	26.16
13502540	1502540	Beit Ummar	Hebron	16,887	6,034	35.7	8.25	27.32
13502545	1502540	Jala	Hebron	370	132	35.7	8.25	27.32
13502550	1502560	Hitta	Hebron	1,149	181	15.8	2.85	27.40
13502555	1502680	Shuyukh al 'Arrub	Hebron	1,948	519	26.7	2.57	28.49
13502560	1502560	Kharas	Hebron	9,085	1,434	15.8	2.85	27.40
13502575	1502680	Umm al Butm	Hebron	82	22	26.7	2.57	28.49
13502580	1502680	Hamrush	Hebron	53	14	26.7	2.57	28.49
13502585	1502560	Nuba	Hebron	5,601	884	15.8	2.85	27.40
13502595	1502680	Kuziba	Hebron	1,376	367	26.7	2.57	28.49

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
13502615	1502615	Beit Ula	Hebron	14,454	2,921	20.2	5.36	27.44
13502620	1502620	Sa'ir	Hebron	20,607	8,059	39.1	7.17	26.66
13502630	1502630	Halhul	Hebron	26,888	5,160	19.2	5.01	27.16
13502635	1502635	Ash Shuyukh	Hebron	11,988	3,853	32.1	6.35	28.81
13502640	1502640	Tarqumiya	Hebron	19,205	3,812	19.8	4.19	27.53
13502655	1502640	Beit Kahil	Hebron	8,827	1,752	19.8	4.19	27.53
13502680	1502680	Beit 'Einun	Hebron	1,918	511	26.7	2.57	28.49
13502681	1502680	Qla’a Zeta	Hebron	1,064	284	26.7	2.57	28.49
13502685	1502685	Idhna	Hebron	25,854	4,056	15.7	4.78	26.11
13502725	1502635	Wadi ar Rim	Hebron	223	72	32.1	6.35	28.81
13502730	1502810	Suba	Hebron	138	26	18.7	3.28	27.78
13502735	1502635	Qinan an Namir	Hebron	158	51	32.1	6.35	28.81
13502750	1502750	Taffuh	Hebron	15,695	2,148	13.7	5.03	25.83
13502765	1502810	Beit Maqdum	Hebron	1,103	207	18.7	3.28	27.78
13502770	1502810	El Kaum	Hebron	1,455	273	18.7	3.28	27.78
13502778	1502680	Al Bouaierah (Al Baq'a)	Hebron	1,382	369	26.7	2.57	28.49
13502780	1502780	Hebron (Al Khalil)	Hebron	199,402	26,558	13.3	4.11	27.63
13502781	1502680	Al Bouaierah (Aqabat Injeleh)	Hebron	1,524	406	26.7	2.57	28.49
13502782	1502680	Khallet Edar	Hebron	2,927	781	26.7	2.57	28.49
13502785	1502810	Humsa	Hebron	64	12	18.7	3.28	27.78
13502795	1502810	Al Muwarraq	Hebron	835	156	18.7	3.28	27.78
13502800	1502810	Tarusa	Hebron	138	26	18.7	3.28	27.78
13502810	1502810	Deir Samit	Hebron	8,071	1,512	18.7	3.28	27.78
13502815	1502815	Bani Na'im	Hebron	24,498	7,564	30.9	6.51	27.84
13502830	1502635	Masafer Bani Na'im) Khallet Al Masafer (	Hebron	564	181	32.1	6.35	28.81
13502835	1502835	Beit 'Awwa	Hebron	10,381	1,509	14.5	3.00	27.81
13502840	1502840	Dura	Hebron	39,128	4,409	11.3	2.65	27.58
13502855	1502680	Qalqas	Hebron	1,700	453	26.7	2.57	28.49
13502860	1502835	Sikka	Hebron	909	132	14.5	3.00	27.81
13502870	1502950	Wadi 'Ubeid	Hebron	971	210	21.6	3.75	28.86
13502880	1502680	Birin	Hebron	149	40	26.7	2.57	28.49
13502881	1502680	Al'en	Hebron	156	42	26.7	2.57	28.49
13502890	1502835	Tawas	Hebron	203	30	14.5	3.00	27.81
13502895	1502950	Khursa	Hebron	3,463	747	21.6	3.75	28.86
13502900	1502950	Tarrama	Hebron	639	138	21.6	3.75	28.86
13502905	1502530	Al Fawwar Camp	Hebron	7,601	1,247	16.4	3.56	26.16
13502910	1502835	Al Majd	Hebron	2,265	329	14.5	3.00	27.81
13502915	1502950	Marah al Baqqar	Hebron	297	64	21.6	3.75	28.86

Table A4. Small area poverty and inequality estimates for merged localities

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11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
13502920	1502950	Hadab al Fawwar	Hebron	2,342	505	21.6	3.75	28.86
13502925	1502835	Deir al 'Asal at Tahta	Hebron	613	89	14.5	3.00	27.81
13502940	1502950	Wadi ash Shajina	Hebron	758	164	21.6	3.75	28.86
13502950	1502950	As Sura	Hebron	3,920	846	21.6	3.75	28.86
13502955	1502950	Deir Razih	Hebron	287	62	21.6	3.75	28.86
13502960	1503215	Ar Rihiya	Hebron	5,724	1,743	30.4	4.58	26.60
13502965	1502680	Zif	Hebron	1,055	281	26.7	2.57	28.49
13502970	1502835	Deir al 'Asal al Fauqa	Hebron	1,849	269	14.5	3.00	27.81
13502980	1502950	Imreish	Hebron	2,196	474	21.6	3.75	28.86
13502985	1502835	Iskeik	Hebron	211	31	14.5	3.00	27.81
13503005	1503115	Al Buweib	Hebron	730	354	48.4	5.04	30.56
13503006	1503115	Toba	Hebron	76	37	48.4	5.04	30.56
13503010	1502835	Beit ar Rush at Tahta	Hebron	426	62	14.5	3.00	27.81
13503075	1503335	Beit Mirsim	Hebron	415	122	29.4	6.60	28.40
13503090	1502835	Beit ar Rush al Fauqa	Hebron	1,378	200	14.5	3.00	27.81
13503095	1502950	Karma	Hebron	1,772	382	21.6	3.75	28.86
13503100	1503215	Beit 'Amra	Hebron	3,533	1,076	30.4	4.58	26.60
13503105	1503115	Al Ka’abneh -Om Adaraj (Alzoyedeen)	Hebron	1,450	702	48.4	5.04	30.56
13503110	1503335	Wadi al Kilab	Hebron	49	14	29.4	6.60	28.40
13503111	1503115	Umm Ashoqhan	Hebron	602	292	48.4	5.04	30.56
13503115	1503115	Khallet al Maiyya	Hebron	2,138	1,035	48.4	5.04	30.56
13503117	1503115	Umm Al Amad (Sahel Wadi Elma)	Hebron	398	193	48.4	5.04	30.56
13503120	1503120	Yatta	Hebron	63,116	15,721	24.9	5.35	26.80
13503125	1503115	Ar Rifa'iyya and Ad Deirat	Hebron	1,305	632	48.4	5.04	30.56
13503126	1503115	Khashem Adaraj (Al-Hathaleen)	Hebron	984	477	48.4	5.04	30.56
13503130	1503115	Khashem al Karem	Hebron	150	73	48.4	5.04	30.56
13503135	1503335	Kurza	Hebron	938	276	29.4	6.60	28.40
13503145	1503335	Rabud	Hebron	2,801	824	29.4	6.60	28.40
13503150	1503115	Umm Lasafa and Abu Shabban	Hebron	1,633	791	48.4	5.04	30.56
13503170	1503335	Al Burj and Al Bira	Hebron	3,188	938	29.4	6.60	28.40
13503210	1503115	Umm al Khair	Hebron	682	330	48.4	5.04	30.56
13503211	1503115	Sadit athaleh	Hebron	45	22	48.4	5.04	30.56
13503215	1503215	Al Karmil	Hebron	9,688	2,950	30.4	4.58	26.60
13503217	1503115	Majd AlBa'	Hebron	114	55	48.4	5.04	30.56
13503220	1503115	Qinan Jaber	Hebron	347	168	48.4	5.04	30.56
13503235	1503335	Somara	Hebron	243	71	29.4	6.60	28.40
13503245	1503245	Adh Dhahiriya	Hebron	35,667	4,004	11.2	3.17	26.90
13503246	1503335	Iqtet	Hebron	8	2	29.4	6.60	28.40

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11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
13503248	1503115	Kafr Jul	Hebron	19	9	48.4	5.04	30.56
13503255	1503115	At Tuwani	Hebron	193	93	48.4	5.04	30.56
13503256	1503115	Sosya	Hebron	198	96	48.4	5.04	30.56
13503265	1503115	An Najada	Hebron	447	216	48.4	5.04	30.56
13503270	1503335	Khirbet Deir Shams	Hebron	80	24	29.4	6.60	28.40
13503280	1503115	Ar Rakeez	Hebron	15	7	48.4	5.04	30.56
13503281	1503115	Almefqara	Hebron	73	35	48.4	5.04	30.56
13503285	1503335	Khirbet Shuweika	Hebron	281	83	29.4	6.60	28.40
13503295	1503335	'Anab al Kabir	Hebron	461	136	29.4	6.60	28.40
13503300	1503115	Khirbet Asafi (Al Fauqa and Al Tahta)	Hebron	73	35	48.4	5.04	30.56
13503305	1503115	Al Maq'ora	Hebron	45	22	48.4	5.04	30.56
13503310	1503115	Shi'b al Batim	Hebron	176	85	48.4	5.04	30.56
13503315	1503115	Qawawis	Hebron	31	15	48.4	5.04	30.56
13503320	1503320	As Samu'	Hebron	25,873	6,767	26.2	5.97	26.50
13503324	1503115	Khirbet Alrthem	Hebron	16	8	48.4	5.04	30.56
13503325	1503115	Edqeqa (Khirbet Tawil ash Shih)	Hebron	299	145	48.4	5.04	30.56
13503335	1503335	Ar Ramadin	Hebron	4,124	1,213	29.4	6.60	28.40
13503345	1503115	Maghayir al 'Abeed	Hebron	16	8	48.4	5.04	30.56
13503350	1503115	Khirbet al Fakheit	Hebron	310	150	48.4	5.04	30.56
13503360	1503115	Khirbet Bir al 'Idd	Hebron	134	65	48.4	5.04	30.56
13503365	1503115	Haribat an Nabi	Hebron	41	20	48.4	5.04	30.56
13503375	1503115	Khirbet Zanuta	Hebron	130	63	48.4	5.04	30.56
13503380	1503115	Imneizil	Hebron	277	134	48.4	5.04	30.56
13503385	1503115	Khirbet al Kharaba	Hebron	17	8	48.4	5.04	30.56
13503395	1503115	Khirbet Ghuwein al Fauqa	Hebron	55	27	48.4	5.04	30.56
13503400	1503335	Khirbet ar Rahwa	Hebron	51	15	29.4	6.60	28.40
13503405	1503335	'Arab al Fureijat	Hebron	429	126	29.4	6.60	28.40
24552681	2552695	Um Al-Nnaser (Al Qaraya al Badawiya)	North Gaza	4,679	2,557	54.6	7.90	29.16
24552695	2552695	Beit Lahiya	North Gaza	88,671	48,457	54.6	7.90	29.16
24552740	2552740	Beit Hanun	North Gaza	51,591	25,506	49.4	7.01	28.66
24552755	2552755	Jabalya Camp	North Gaza	48,855	28,691	58.7	5.88	28.32
24552790	2552790	Jabalya	North Gaza	170,208	81,285	47.8	5.04	30.01
24602775	2602775	Ash Shati' Camp	Gaza	40,546	25,374	62.6	3.98	28.84
24602825	2602825	Gaza	Gaza	578,882	298,418	51.6	2.79	33.79
24602900	2602945	Madinat Ezahra	Gaza	5,274	2,555	48.4	4.04	33.59
24602945	2602945	Al Mughraqa	Gaza	11,405	5,525	48.4	4.04	33.59
24603045	2602945	Juhor ad Dik	Gaza	4,565	2,212	48.4	4.04	33.59
24653065	2653065	An Nuseirat Camp	Deir Al Balah	31,425	17,700	56.3	5.70	27.83

Table A4. Small area poverty and inequality estimates for merged localities

Original localities	Merged localities	Locality name	Governorate	Population, Census 2017	Number of poor people	Poverty rate, %	Standard error of poverty estimate, %	Gini
11010005	1010045	Zububa	Jenin	2,277	168	7.4	1.34	28.83
24653070	2653070	An Nuseirat	Deir Al Balah	54,287	26,576	49.0	4.57	29.51
24653140	2653140	Al Bureij Camp	Deir Al Balah	27,723	16,772	60.5	5.45	27.90
24653145	2653145	Al Bureij	Deir Al Balah	15,329	8,252	53.8	5.27	28.90
24653180	2653180	Az Zawayda	Deir Al Balah	23,518	12,869	54.7	4.86	30.66
24653200	2653200	Deir al Balah Camp	Deir Al Balah	6,914	4,233	61.2	8.34	27.02
24653210	2653210	Al Maghazi Camp	Deir Al Balah	17,965	10,385	57.8	5.41	28.13
24653215	2653215	Al Maghazi	Deir Al Balah	9,564	5,006	52.3	4.88	29.07
24653240	2653240	Deir al Balah	Deir Al Balah	73,483	41,803	56.9	4.55	30.46
24653250	2653215	Al Musaddar	Deir Al Balah	2,561	1,340	52.3	4.88	29.07
24653275	2653275	Wadi as Salqa	Deir Al Balah	6,647	3,893	58.6	6.92	28.87
24703370	2703370	Al Qarara	Khan Yunis	28,785	13,160	45.7	7.10	29.88
24703410	2703410	Khan Yunis Camp	Khan Yunis	40,871	22,389	54.8	6.45	28.47
24703420	2703420	Khan Yunis	Khan Yunis	202,394	113,393	56.0	4.07	30.28
24703425	2703425	Bani Suheila	Khan Yunis	41,126	23,277	56.6	5.73	29.09
24703430	2703430	'Abasan al Jadida	Khan Yunis	9,220	4,832	52.4	7.72	29.71
24703445	2703445	'Abasan al Kabira	Khan Yunis	26,565	12,374	46.6	8.52	31.12
24703470	2703470	Khuza'a	Khan Yunis	11,302	5,142	45.5	6.12	28.78
24703485	2703485	Al Fukhkhari	Khan Yunis	6,394	3,230	50.5	6.97	29.21
24753490	2753490	Rafah	Rafah	171,571	91,072	53.1	4.45	29.24
24753495	2753495	Rafah Camp	Rafah	36,206	21,137	58.4	8.63	27.13
24753500	2753500	Al-Nnaser	Rafah	8,899	5,233	58.8	6.25	28.79
24753505	2753505	Al Shokat	Rafah	16,290	9,153	56.2	7.81	26.69

Source: PECS 2016 and Census 2017, authors' calculations.

Table A5. Small area poverty estimates for governorates

Region	Governorate	Poverty rate, %	Standard error of poverty estimate, %	coefficient of variation	Population, Census 2017	Number of poor people
West Bank	Jenin	10.9%	0.9%	12%	307,903	33,680
	Tubas	15.2%	1.4%	11%	60,186	9,164
	Tulkarm	14.6%	1.6%	9%	183,089	26,760
	Nablus	16.6%	1.3%	13%	386,638	64,138
	Qalqiliya	19.8%	2.2%	9%	108,135	21,405
	Salfit	13.6%	1.2%	11%	73,735	10,031
	Ramallah & Al Bireh	9.7%	0.8%	12%	316,323	30,718
	Jericho & Al Aghwar	15.8%	1.9%	8%	47,147	7,461
	Bethlehem	9.2%	1.1%	8%	212,304	19,578
	Hebron	19.8%	2.0%	10%	706,532	140,062
Gaza	North Gaza	51.2%	3.6%	14%	364,004	186,495
	Gaza	52.1%	2.5%	21%	640,672	334,085
	Deir Al Balah	55.2%	2.3%	24%	269,416	148,829
	Khan Yunis	53.9%	2.7%	20%	366,657	197,795
	Rafah	54.3%	3.7%	14%	232,966	126,596

Source: PECS 2016 and Census 2017, authors' calculations.

Table A6. Small area poverty estimates for rural, urban and camp areas within governorates

Region	Governorate	area	Poverty rate, %	Standard error of poverty estimate, %	coefficient of variation	Population, Census 2017	Number of poor people
West Bank	Jenin	urban	9.7%	1.1%	11.0%	188,781	18,270
	Jenin	rural	11.4%	0.9%	7.8%	108,912	12,409
	Jenin	camp	29.4%	5.1%	17.5%	10,210	2,999
	Tubas	urban	12.3%	1.7%	13.9%	42,304	5,196
	Tubas	rural	18.8%	2.0%	10.4%	12,337	2,322
	Tubas	camp	29.7%	5.6%	18.9%	5,545	1,645
	Tulkarm	urban	13.2%	1.9%	14.8%	134,765	17,735
	Tulkarm	rural	12.3%	1.3%	10.9%	32,375	3,995
	Tulkarm	camp	31.5%	5.0%	15.7%	15,949	5,028
	Nablus	urban	12.9%	1.7%	13.0%	230,399	29,646
	Nablus	rural	17.1%	1.3%	7.6%	126,770	21,682
	Nablus	camp	43.5%	4.9%	11.2%	29,469	12,809
	Qalqiliya	urban	22.7%	3.0%	13.1%	72,828	16,547
	Qalqiliya	rural	13.8%	1.4%	10.2%	35,307	4,861
	Salfit	urban	12.4%	1.3%	10.5%	53,006	6,579
	Salfit	rural	16.7%	1.8%	10.8%	20,729	3,453
	Ramallah & Al Bireh	urban	5.7%	0.7%	12.1%	151,385	8,690
	Ramallah & Al Bireh	rural	12.9%	1.1%	8.6%	148,922	19,190
	Ramallah & Al Bireh	camp	17.5%	3.5%	20.1%	16,016	2,795
	Jericho & Al Aghwar	urban	12.1%	1.7%	13.8%	24,130	2,915
	Jericho & Al Aghwar	rural	25.7%	3.2%	12.4%	10,256	2,633
	Jericho & Al Aghwar	camp	15.0%	4.4%	29.1%	12,761	1,912
	Bethlehem	urban	8.4%	1.2%	13.6%	141,165	11,917
	Bethlehem	rural	11.0%	1.4%	12.7%	58,133	6,414
	Bethlehem	camp	9.6%	2.0%	21.3%	13,006	1,244
	Hebron	urban	18.6%	2.1%	11.5%	600,040	111,512
	Hebron	rural	28.7%	3.2%	11.1%	90,001	25,850
	Hebron	camp	16.4%	3.6%	21.7%	16,491	2,705
Gaza	North Gaza	urban	50.1%	4.1%	8.2%	315,149	157,806
	North Gaza	camp	58.7%	5.9%	10.0%	48,855	28,691
	Gaza	urban	51.4%	2.7%	5.2%	600,126	308,710
	Gaza	camp	62.6%	4.0%	6.4%	40,546	25,374
	Deir Al Balah	urban	53.8%	2.7%	5.1%	185,389	99,738
	Deir Al Balah	camp	58.4%	3.5%	5.9%	84,027	49,090
	Khan Yunis	urban	53.8%	3.0%	5.6%	325,786	175,405
	Khan Yunis	camp	54.8%	6.4%	11.8%	40,871	22,389
	Rafah	urban	53.6%	4.0%	7.4%	196,760	105,459
	Rafah	camp	58.4%	8.6%	14.8%	36,206	21,137

Source: PECS 2016 and Census 2017, authors' calculations.

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