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COMPUTING PRE-CONFLICT POVERTY DATA IN SYRIA

Samer Hamati[1]

Poverty is considered a key driver of civil conflict. However, this link has not yet been sufficiently investigated in the case of Syria, perhaps due to a lack of pre-conflict data. This article endeavours to fill this gap by computing poverty figures and uncovering some of Syria's poverty profile based on the household income and expenditure survey that took place in 2009, two years before the start of the conflict. We found that there were more extremely poor Syrian households but fewer overall poor households in 2009 than in 2007, with a greater incidence of poverty in rural areas than in urban areas. The poorest rural areas in 2009 were in the governorates of Hama, Deir Azzor and Daraa, while the poorest urban area was in Hassakeh. The findings of this article might provide key inputs for future investigations linking poverty to the incidence and intensity of the current conflict.

1 INTRODUCTION

Although some recent reports point out that deteriorating living conditions were a key factor leading to the current violent conflict in Syria (World Bank 2017; SCPR 2013; ESCWA 2017), none has sufficiently investigated pre-conflict poverty rates at the governorate level. The United Nations Economic and Social Commission for Western Asia (ESCWA) is the only entity that computed national poverty figures for 2009 (ESCWA 2017), while Abu-Ismail, Abdel-Gadir, and El-Laithy (2011) explore poverty figures in the four regions of Syria in 2007.[2] Figure 1 depicts poverty figures for various pre-conflict years.

These figures were computed based on household income and expenditure surveys (HIESs) run by the Central Bureau of Statistics (CBS). Four runs of the HIES have been undertaken since 1996. Based on the 2003-2004 and the 2006-2007 runs of the survey, the United Nations Development Programme (UNDP) published two reports on poverty in Syria (El-Laithy and Abu-Ismail 2005; Abu-Ismail, Abdel-Gadir, and El-Laithy 2011). The first report found that 11.4 per cent of Syrian households were extremely poor, while 30 per cent were living under the upper poverty line (UPL). It also concluded that poverty in Syria is shallow, and that education is the variable most strongly correlated with risk of poverty. The second report concluded that both the extreme and overall poverty rates had grown—to 12.3 per cent of the population in 2006 and 33.6 per cent in 2007. It inferred that rural areas recorded higher poverty rates than their urban counterparts and that poor people were mostly concentrated in the north-eastern region, which includes five governorates: Hassakeh, Deir Azzor, Aleppo, Edlib and Raqqa.

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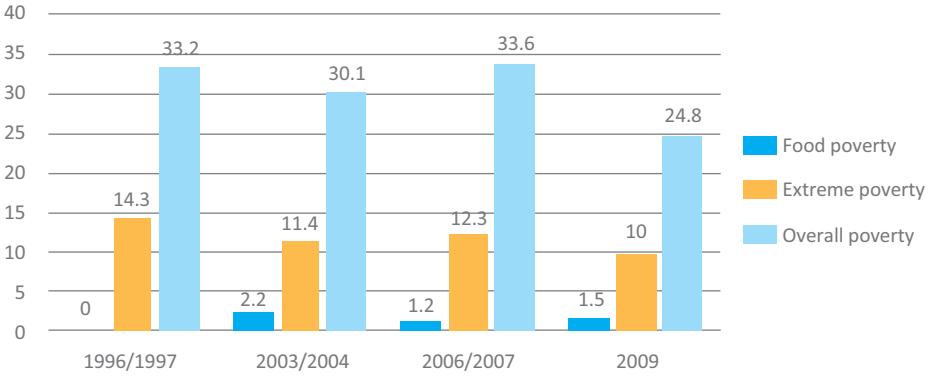
2. The Syrian Center for Policy Research (SCPR 2014) computes a multidimensional poverty index for the 14 governorates for 2009, but this index does not include any monetary component.

FIGURE 1
Food poverty, extreme poverty and overall poverty rates, various years (%)



Note: The food poverty line (FPL) is the cost of acquiring enough food for adequate nutrition each day; the lower poverty line (LPL) is the FPL augmented by non-food expenditure for households whose total expenditure is equivalent to the FPL; and the upper poverty line (UPL) is the FPL augmented by the non-food expenditure of households whose food expenditure is equivalent to the FPL. Food poverty is defined as the share of the population whose expenditure lies under the FPL; extreme poverty is defined as the share of the population whose expenditure lies under the LPL; and overall poverty is defined as the share of the population whose expenditure lies under the UPL. Poverty figures for 1996-1997, 2003-2004 and 2006-2007 were extracted from Abu-Ismail, Abdel-Gadir, and El-Laithy (2011), and poverty figures for 2009 were extracted from ESCWA (2017).
Source: El-Laithy and Abu-Ismail (2005); Abu-Ismail, Abdel-Gadir, and El-Laithy (2011); and ESCWA (2017).

The last HIES took place in 2009, two years before the outbreak of the current conflict. It included 28,080 respondent households from 750 clusters around Syria, with full demographic and economic information about the households and their individuals. To the best of our knowledge, no one has used this dataset to derive subnational poverty figures. ESCWA (2017) stated that the national rates of food, extreme and overall poverty in Syria decreased to 1.5 per cent, 10 per cent and 24.8 per cent, respectively, in 2010. These changes are counter-intuitive for two main reasons.

Unprecedented waves of drought hit the area in the years immediately preceding the conflict. Kelley et al. (2015) find that the Greater Fertile Crescent region, including Syria, experienced moderate-to-severe drought from 1998 to 2009, with the winter of 2007-2008 the driest since records began, in 1931. In addition, analysing 900 years (from 1100 to 2012) of Mediterranean drought variability, Cook et al. (2016) found that the recent 15-year drought in the Levant (1998–2012) is the driest on record. Poverty spread far and wide; according to }the International Federation of Red Cross and Red Crescent Societies (IFRC 2010), 60 per cent of Syria's land and 1.3 million people were affected by the drought, with just over 800,000 people losing their livelihoods, especially in Hassakeh, Deir Azzor, Raqqa, Homs and Hama.

Cuts in energy subsidies, which took place in May 2008, had a strong negative effect on people who were just above the poverty line. The price of diesel jumped from SYP7/litre to SYP25/litre. According to the International Monetary Fund (2010, 14), "[t]he replacement […] of the diesel coupons with cash transfers is likely to enhance the targeting of assistance and consolidate efficiency and fiscal gains". However, Hamati (2010) critically reviewed the efficiency and the effectiveness of these cash transfers, concluding that there were many things to do before introducing this reform.[3]

This article endeavours to compute poverty rates for Syria for 2009, using a sample from the 2009 HIES. In doing so, we try to fill a gap by computing poverty figures and profiles at the governorate level in a country which was on its way to being engulfed in a very violent civil conflict two years later. We hope that our findings can serve as inputs for future investigations tracing the relationship between poverty and civil conflict.

The literature discussing the nexus between poverty and conflict is plentiful. Many authors have investigated poverty as a main driver of civil conflict. Poverty was an essential element in Gurr (1970)'s Relative Deprivation Theory, which implies that the population of locations that are relatively poor and marginalised by the central government are more likely to support and join a rebel group that works to overthrow the government. This theory has been supported empirically by studies showing that poorer countries face a greater risk of civil conflict (Deininger 2003; Fearon and Laitin 2003; Collier and Hoeffler 2004; Collier 2007). However, many scholars have stated the insignificance of the effect of poverty on the likelihood of conflict (Collier and Hoeffler 1998; Krueger and Malečková 2003; Barron, Kaiser, and Pradhan 2004; Sánchez and Chacón 2006). Other scholars suggest that poverty has an indirect effect on violence, meaning that its effects play out only through their relationship with other factors. Those factors include political corruption (Ikejiaku 2009), weak institutions (Marshall and Gurr 2003), geographical variables (Do and Iyer 2007) and ethnic or religious division (Easterly and Levine 1997; Stewart, Brown, and Mancini 2005).

The paper proceeds as follows. After this introduction, Section 2 describes the data used in this article. Section 3 presents the empirical method. Section 4 presents and discusses the results regarding changes in poverty and the poverty profile. Section 5 closes this article with concluding remarks.

2 DATA USED

We rely mainly on a sample derived from the HIES that took place in 2009. This sample includes 2,627 households living in the 14 governorates. Due to accessibility constraints in Syria, it is now impossible to access the full raw data from the 2009 HIES. The HIES defines a household as including either one person living alone or a group of people, not necessarily related, living at the same address with common housekeeping, sharing at least one meal per day or sharing a living or sitting room.

To ensure that our subsample accurately represents the full sample of the 2009 HIES, we compare the average household consumption in the governorates extracted from the subsample with those mentioned on the CBS website, which are based on the full sample (CBS 2018a). Table 1 (see Appendix) shows that, in 10 out of 14 governorates, the confidence intervals of the average household consumption of the subsample contain the corresponding average of the full sample. In addition, the most populous governorates, Damascus and Aleppo, are among those 10 governorates. Thus, we can say that, although our subsample contains just around 10 per cent of the original sample, it is an adequate representation of the full sample of the 2009 HIES.[4]

3 EMPIRICAL METHOD

We follow the same technique used in the previous poverty studies for Syria, which is the Basic Needs approach. This approach builds on computing different poverty lines and comparing them to a welfare status for each household. For developing countries, the most important component of the basic needs poverty line is generally the food expenditure necessary to attain a recommended level of food energy intake. Thus, the food basket is typically chosen to be sufficient to meet the predetermined caloric requirement, with a composition that is consistent with poor people's consumption behaviour.

Next, we assess the welfare status of every household. This article uses expenditure instead of income as a welfare measure. This is because consumption is not wholly represented or totally constrained by income, and Syrian households used to spend as much as double their incomes (CBS 2009). Moreover, whereas poor households are likely to be purchasing and consuming only a narrow range of goods and services, their incomes may well be derived from a variety of sources, many of which are seasonal in nature or difficult to measure. Expenditure is, therefore, a better indicator of long-term living standards than current income, since consumption tends to smooth variability and fluctuations in income streams. In addition, survey participants may be more willing to reveal their consumption patterns than their income.[5]

We, however, cannot follow exactly the same approach, since our subsample lacks the quantities of food consumed by each decile of households in 2009. Therefore, we use a different means of arriving at the food poverty lines (FPLs). As a starting point, we take the reference food baskets, derived from the 2003-2004 HIES. El-Laithy and Abu-Ismail (2005) reported two food baskets, presented in Table 2 (see Appendix): one is for urban areas, and the other is for rural areas. We compute the weights of the 10 items included in the basket,[6] and then we derive adjusted food consumer price indices (CPIs) for 2009 using the following equation:[7]

$$Adjusted\ Food\ CPI_{G,U/R,2009} = \frac{\sum_{i=1}^{n} W_i . CPI_{i,G,U/R,2009}}{\sum_{i=1}^{n} W_{i,U/R}} \quad (1),$$

Where W_i is the relative weight of the food item i in the urban, U, or rural, R, reference food basket; $CPI_{i,G,2009}$ is the consumer price index of 2009 for the food item i in the governorate G. We are looking for subnational poverty figures; therefore, we calculate the adjusted food CPI for urban and rural areas in each governorate, and since CPIs are not available separately for urban and rural areas, we use the general governorate CPI for both. Next, we multiply each of these adjusted food CPIs by its regional FPL, which was computed by Abu-Ismail, Abdel-Gadir, and El-Laithy (2011) using the 2006-2007 HIES, to determine the 2009 FPL, as the following equation shows:

$$FoodPovertyLine_{G,U/R,2009} = FoodPovertyLine_{G,U/R,2007} \times AdjustedFoodCPI_{G,U/R,2009} \quad (2).$$

Panel 1 of Table 3 (see Appendix) presents the adjusted food CPIs, and it is clear that this index is highest in the governorates of Raqqa and Deir Azzor, places that have been greatly affected by the current conflict. This shows the considerable damage that happened there due to many factors, including inequitable development, the restructure of energy

and agriculture subsidies, and a series of droughts. However, Panel 2 shows that the rural areas in both governorates had the lowest FPLs in 2009, while Tartous and Lattakia governorates had the highest.

The second step is to estimate the lower poverty line (LPL), which is basically the FPL augmented by an allowance for expenditure on essential non-food goods. This allowance is determined based on expenditures by households that have to forego food consumption to allow for non-food expenditures that are deemed indispensable; therefore, we estimate it by identifying the share of non-food expenditure for households whose total expenditure is equivalent to the FPL, as shown in the first panel of Table 4 (see Appendix). Any household that spends less than the LPL is considered extremely poor.

Finally, for a more inclusive poverty measure, we construct the UPL by enlarging the non-food component to include a more reasonable minimum required level of non-food expenditures. We estimate the UPL by augmenting the FPL with the non-food expenditure of households whose food expenditure is equivalent to the FPL. Overall poverty in this paper thus refers to the share of the population whose mean expenditure lies below the UPL. Table 4 shows in more details the computation of the estimates.

4 RESULTS

4.1 POVERTY FIGURES FOR 2009

Comparing Table 5 (see Appendix) and Figure 1 shows that the proportion of people living under the LPL increased from 12.3 per cent in 2007 to 14.85 per cent in 2009, while the proportion of people living under the UPL decreased from 33.6 per cent in 2007 to 29.4 per cent in 2009. These findings are not consistent with those mentioned in ESCWA (2017), and the differences are around five percentage points for both overall and extreme poverty. We think that our results are intuitive due to the two reasons mentioned in the introduction.

Rates of both poverty and extreme poverty are higher in rural areas than urban areas: 17.36 per cent of people in rural areas live under the LPL, and 30.22 per cent under the UPL, compared with 13 per cent and 28.78 per cent, respectively, of people in urban areas. Furthermore, rates of extreme poverty decreased in urban areas between 2007 and 2009, meaning that the overall increase seen was due to rural poverty. This, in turn, implies that the gap in extreme poverty rates between rural and urban areas had grown, which is confirmed in Column 7 of Table 5. Column 8, on the other hand, shows that the gap in overall poverty rates had shrunk.

The poorest rural areas in 2009 were in Hama, Deir Azzor and Daraa governorates, while the poorest urban area was in Hassakeh. These figures seem reasonable, given the drought taking place in eastern Syria between 2006 and 2009 and the subsequent displacement towards the south of the country (IFRC 2010; World Bank 2017) or to the centres of the affected governorates. The majority of impoverished rural people in Hassakeh moved to rural areas of Daraa, the governorate where the civil movement started in March 2011.

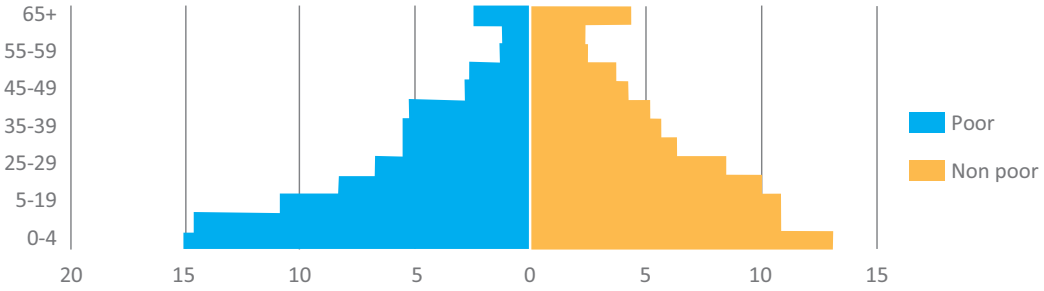
We did not find poverty figures for governorates for 2007. Therefore, we explore the poverty changes on a governorate level between 2004 and 2009. Table 6 (see Appendix) shows

that the greatest change occurred in rural Deir Azzor and urban Hassakeh, where the poverty rate jumped by 20 and 22 percentage points, respectively, while it decreased by more than 20 percentage points in rural Aleppo. The poverty rate grew by 400 per cent in rural areas in Deir Azzor and by 350 per cent in urban areas in Hassakeh between 2004 and 2009. Both governorates have suffered greatly during the current conflict; indeed, Bagouz, a small town in the rural side of Deir Azzor, was the site of the last stand of ISIS in Syria.

4.1 POVERTY PROFILE FOR 2009

Panel 1 of Table 7 (see Appendix) shows a clear difference in demographic characteristics between poor and non-poor households. Intuitively, poor households are bigger and younger than non-poor ones. On average, poor households contain 7.5 members, while non-poor household contain 5.2. This gap shrank slightly between 2004 and 2009. We find also that around 60 per cent of poor people live in families of eight members at least, and just 5 per cent of them live in families of four at most. The corresponding rates for non-poor people are 27 per cent and 24.5 per cent, respectively, implying that the number of members is strongly associated with a family's welfare status.

FIGURE 2
Comparing the age structure between poor and non-poor people in Syria, 2009



Note: Poor people here are those who belong to households whose consumption is less than the LPL.
Source: Author's computations based on the HIES (CBS 2009).

Figure 2 compares the age structure between poor and non-poor people in Syria in 2009. It shows that the former are younger than the latter. Around 47 per cent of the people living in poor families are less than 15 years old, while 36 per cent of non-poor people are under 15. Older people (60 years and older) account for 3.8 per cent of poor people, but 6.75 per cent of non-poor people. This is consistent with previous reports of poverty in Syria, and we may attribute this phenomenon to different reasons, including higher fertility rates in poor families and better health care in non-poor families.

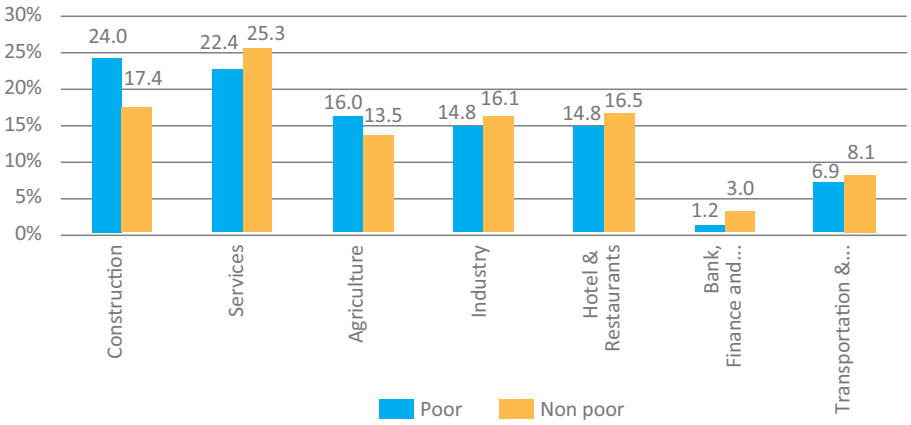
Counter-intuitively, there are more households headed by females among non-poor families (10.15 per cent) than among poor families (7.93 per cent). Furthermore, the poverty rate among families headed by a woman is lower than the national average (12 per cent). El-Laithy and Abu-Ismail (2005, 52) find a similar result when studying poverty in Syria in 2004. They argue, "[t]his rather surprising result may partly be due to the fact that female-headed households were relatively rare in Syria. The majority, (68 per cent) by far, were widows, many of whom may have been older and thus had a greater command over assets than the general population."

As expected, the employment rate among poor individuals (88.2 per cent) is two percentage points lower than that of non-poor individuals. In addition, around 57.9 per cent of working-age people in poor families are outside the labour force, while this rate is 55.4 per cent among non-poor families. Since the gap between poor and non-poor families is very narrow here, we can infer that a lack of work opportunities is not a sufficient explanation for welfare status—a result consistent with the findings of El-Laithy and Abu-Ismail (2005). We, therefore, explore the work characteristics of both groups. Panel 4 of Table 7 provides more details.

In terms of employment status, the poverty rate is lowest among employers (8 per cent) and people working in the public sector (12.8 per cent), and highest among those working in the informal sector (18.6 per cent) and those who are unemployed and have never worked before (19 per cent). This is in line with the fact that 40 per cent of poor workers were working for individuals in 2009, compared to 22 per cent who were working in the public sector. On the other hand, there were more paid workers and fewer employers, self-employed people, unemployed people and unpaid workers among poor people in 2009 than in 2004.

It seems that the drought that hit Syria between 2006 and 2009 influenced the sectoral structure of employment for Syrians, including poor people. After being mainly involved in the agriculture sector, which accounted for almost 40 per cent of poor labour in 2004, poor workers moved to other sectors, such as construction, services and catering, which accounted for 24 per cent, 22 per cent and 15 per cent of them, respectively, in 2009. Figure 3 compares the employment sectors of poor and non-poor workers in 2009. A similar shift appeared for the heads of poor households.

FIGURE 3
Comparing poor and non-poor workers by employment sector, 2009



Note: Poor people here are those who belong to households whose consumption is less than the LPL.
Source: Author's computations based on HIES (CBS 2009).

The gap is clearer when it comes to educational attainment. Panel 3 of Table 7 shows that 60.5 per cent of people living in poor families do not obtain any educational certificate, while this rate is 46.9 per cent among those living in non-poor families. The proportion of people with a secondary school certificate is twice as high in non-poor families as in poor families; the proportion with a university degree is six times higher. The situation is the same regarding the educational attainment of heads of households: 16.8 per cent of non-poor households are

headed by at least a secondary school certificate-holder, compared with 6 per cent of poor families. Therefore, similar to what was found regarding poverty in 2004 (El-Laithy and Abu-Ismail 2005), educational attainment had the strongest association with welfare status in 2009.

5 CONCLUSION

This article has tried to present poverty figures for pre-conflict Syria and describe certain characteristics of the poverty profile. We find that although fewer people were living in poverty in 2009 than in 2007, more people were living in extreme poverty—a result that implies that inequality was getting worse. The gap between urban and rural areas had widened, with rural areas becoming more impoverished. The poorest rural areas in 2009 were in Hama, Deir Azzor and Daraa governorates, while the poorest urban area was in Hassakeh. Comparing the figures for 2004 and 2009 shows that the greatest increase in poverty rates occurred in rural Deir Azzor and urban Hassakeh, while they decreased in rural Aleppo.

The analysis is incomplete, however, and there is room for further investigation. Exploring poverty correlates, for example, is key to understanding the reasons behind poverty and the dynamics of change among Syrian households. Further, one might build on these figures and link them geographically to the incidence and intensity of the current conflict either directly or indirectly. This may pave the way to solving the puzzle that the World Bank (2015) discussed regarding the coexistence of steady economic progress and consequent violence in many of countries of the Middle East and North Africa.

Finally, calculating poverty figures and identifying a profile of poverty helps to compute the real effect of the current conflict in Syrian. It is clear that some areas of the country have suffered more than others, and the physical and human damage there is worse than elsewhere. Scholars may use the findings of this article as a baseline and compare them with counterpart figures computed when the conflict ends, so that we can know the real costs of the current conflict and set short-term goals when designing a recovery strategy for post-conflict Syria.

APPENDIX

TABLE 1
Comparing the total consumption of the average household between the survey sample and the available subsample in Syrian governorates (SP)

Governorate	Full sample	Subsample			
		Mean	Standard deviation	Confidence interval	
Damascus	40196	38216.15	1834.12	34604.18	41828.11
Aleppo	29994	28977.57	726.692	27549.93	30405.22
Rif Damascus[8]	32498	28129.85	831.957	26492.06	29767.64
Homs	29548	25618.22	850.062	23941.73	27294.72
Hama	27890	31085.21	3209.95	24759.79	37410.63
Lattakia	34296	37772.43	2387.43	33056.56	42488.3
Idleb	24890	25228.89	1448.94	22367.77	28090.01
Hassakeh	28200	24381.12	1265.23	21879.52	26882.72
Deir Azzor	24297	25949.26	1539.48	22900.39	28998.13
Tartous	34771	34717.3	2438.98	29897.58	39537.03
Raqqa	26522	29010.29	1217.32	26600.06	31420.51
Daraa	32217	34901.86	2550.03	29864.04	39939.68
Sweida	28370	24768.68	1446.29	21905.35	27632
Quneitra	31765	35667.11	4851.62	25758.77	45575.45
Syria	30826	30187.59	487.052	29232.55	31142.64

Note: The full sample includes 28,080 respondent households surveyed in HIES that took place in 2009. The subsample contains 2,627 households surveyed in the 2009 HIES. 'SP' stands for Syrian Pounds; USD1 = SP50 in 2009.

Source: CBS (2018a) and the HIES (CBS 2009).

TABLE 2
Quantities and calories generated by the reference food basket

	Rural			Urban		
	Daily caloric intake	Quantity (kg)	% of total calories	Daily caloric intake	Quantity (kg)	% of total calories
Cereals and starches	1094.07	0.6972	47.36	1041.01	0.606	49.57
Pulses	40.15	0.017	1.74	47.33	0.0182	2.25
Meat and poultry	89.9	0.0666	3.89	87.19	0.0571	4.15
Fish	6.78	0.0134	0.29	8.72	0.0121	0.42
Eggs	23.62	0.3516	1.02	26.11	0.3512	1.24
Milk and milk products	147.54	0.1888	6.39	139.83	0.1485	6.66
Oils and butters	335.94	0.06	14.54	257.04	0.0416	12.24
Vegetables	171.37	0.6829	7.42	170.29	0.6375	8.11
Fruit	47.27	0.1451	2.05	52.95	0.1468	2.52
Sugar	296.22	0.1208	12.82	176.72	0.0674	8.42
Others	50.87	0.0291	2.20	85.86	0.023	4.09
Drinks	6.27	0.0276	0.27	6.94	0.0259	0.33

Note: The food basket is typically chosen to be sufficient to meet the predetermined caloric requirement—i.e. 2,400 calories per day—with composition that is consistent with poor people's consumption behaviour. This basket is then evaluated using prices prevailing in each region and at each date.

Source: El-Laithy and Abu-Ismail (2005).

TABLE 3
The adjusted food consumer price index and the food poverty lines, 2007 and 2009

Governorate	Urban/Rural	Adjusted food CPI (%) (2005 = 100)		Food poverty lines (SP)	
		2007	2009	2007	2009
Damascus	Urban	120.59799	153.7541	1538	1960.84
Rif Damascus	Urban	117.39023	146.1277	1538	1914.51
	Rural	117.53243	146.0865	1474	1832.10
Homs	Urban	117.68739	151.7187	1463	1886.05
	Rural	117.60258	150.6604	1428	1829.41
Hama	Urban	116.66081	152.9885	1463	1918.57
	Rural	116.54457	151.623	1428	1857.81
Tartous	Urban	117.5842	153.9592	1642	2149.96
	Rural	117.12166	152.7105	1713	2233.52
Lattakia	Urban	116.2865	149.7882	1642	2115.05
	Rural	116.16775	148.6389	1713	2191.82
Idleb	Urban	114.08763	148.3689	1519	1975.43
	Rural	113.73021	147.6985	1162	1509.06
Aleppo	Urban	116.73252	153.0333	1519	1991.37
	Rural	116.7262	152.6618	1162	1519.74
Raqqa	Urban	120.2369	156.8827	1519	1981.96
	Rural	120.58064	156.0075	1162	1503.40
Deir Azzor	Urban	121.13913	156.6112	1519	1963.79
	Rural	121.42962	155.3949	1162	1487.03
Hassakeh	Urban	118.58553	153.1353	1519	1961.56
	Rural	118.53357	152.5087	1162	1495.06
Sweida	Urban	118.96387	152.3713	1538	1969.90
	Rural	118.79141	151.5215	1474	1880.13
Daraa	Urban	116.77706	149.4117	1538	1967.81
	Rural	116.77706	149.4117	1474	1883.10
Quneitra	Urban	117.02998	148.887	1538	1956.66
	Rural	117.48043	149.5098	1474	1875.87

Note: The adjusted food CPI builds on the price indices of 10 food items and is computed in Equation (1). The FPL is the cost of acquiring enough food for adequate nutrition—usually 2,400 calories per person per day. 'SP' stands for Syrian Pounds. USD1 = SP50 in 2007 and 2009.

Source: Author's computations based on El-Laithy and Abu-Ismail (2005); Abu-Ismail, Abdel-Gadir, and El-Laithy (2011); and CBS (2018b).

TABLE 4

Calculation of the lower and upper poverty lines, 2009

Governorate	U/R	FPL	Computing the lower poverty line					Computing the upper poverty line				
			Decile whose expenditure equals the FPL	Per capita food expenditure in the decile	Total per capita Expenditure in the decile	Non-food expenditure in the decile	LPL	Decile whose expenditure equals the LPL	Per capita food expenditure	Total per capita expenditure	Non-food expenditure LPL	UPL
Damascus	U	1960.84	2	1091.13	2703.45	1612.32	3573.16	5	2133.87	4643.23	2509.37	4470.21
Rif Damascus	U	1914.51	1	952.79	2210.2	1257.41	3171.92	4	1898.96	3983.23	2084.27	3998.78
	R	1832.1	1	916.44	2091.34	1174.89	3007	4	1825.55	3873.82	2048.27	3880.37
Homs	U	1886.05	1	922.62	1987.57	1064.95	2951	4	1693.52	4007.27	2313.74	4199.79
	R	1829.41	1	1178.7	2177.07	998.37	2827.78	3	2008.91	3350.16	1341.25	3170.66
Hama	U	1918.57	1	753.9	1633.23	879.33	2797.91	4	1899.22	3957.98	2058.76	3977.33
	R	1857.81	1	831.85	1816.94	985.09	2842.9	3	1691.6	3361.6	1670.01	3527.82
Tartous	U	2149.96	1	1336.16	1938.66	602.5	2752.46	6	2277.25	5350.46	3073.21	5223.17
	R	2233.52	2	1433.9	2730.79	1296.89	3530.4	5	2354.49	4604.79	2250.29	4483.81
Lattakia	U	2115.05	1	830.2	1881.49	1051.29	3166.35	5	2086.14	4622.65	2536.5	4651.56
	R	2191.82	1	910.69	2318.1	1407.41	3599.22	5	2038.22	4748	2709.78	4901.6
Idleb	U	1975.43	1	1033.57	2061.81	1028.24	3003.67	4	1964.61	3917.88	1953.27	3928.7
	R	1509.06	1	1174.12	1985.74	811.62	2320.68	2	1661.79	2810.08	1148.29	2657.35
Aleppo	U	1991.37	1	1065.49	1997.79	932.3	2923.67	4	1988.3	3907.15	1918.86	3910.23
	R	1519.74	1	1345.52	2132.19	786.67	2306.41	2	1588.18	2837.62	1249.45	2769.19
Raqqa	U	1981.96	1	1164.1	2232.43	1068.33	3050.3	3	1788.61	3311.48	1522.87	3504.83
	R	1503.4	1	1098	1857.61	759.61	2263.01	2	1584.75	2719.74	1134.99	2638.38
Deir Azzor	U	1963.79	1	857.56	1731.02	873.46	2837.25	4	1865.03	3859.6	1994.57	3958.37
	R	1487.03	1	1121.68	1842.01	720.33	2207.36	2	1590.68	2755.52	1164.84	2651.87
Hassakeh	U	1961.56	1	998.83	1898.6	899.77	2861.33	4	2144.12	3964.55	1820.43	3781.99
	R	1495.06	1	1385.64	2017.59	522.52	2017.59	1	1385.64	2017.59	631.95	2127.01
Sweida	U	1969.9	2	1189.24	2714.55	1525.32	3495.22	5	1943.08	4470.1	2527.02	4496.92
	R	1880.13	1	821.4	1965.16	1143.76	3023.88	4	1811.62	3902.53	2090.91	3971.03
Daraa	U	1967.81	1	1112.36	1916.49	804.13	2771.94	3	1988.27	3361.54	1373.27	3341.08
	R	1883.1	1	791.49	1668.64	877.16	2760.25	4	1999.43	3855.89	1856.46	3739.56
Quneitra	R	1875.87	1	1098.67	2155.49	279.62	2155.49	2	2065.83	2957.66	891.83	2767.69

Note: Section 3 presents more details about computing the poverty lines. 'SP' stands for Syrian Pounds. USD1 = SP50 in 009.

Source: Author's computations based on the HIES (CBS 2009) and Abu-Ismail, Abdel-Gadir, and El-Laithy (2011).

TABLE 5
Poverty lines and poverty rates, 2009

Governorate	Urban/ Rural	FPL (SP)	LPL (SP)	UPL (SP)	Food poverty (%)	Extreme poverty (%)	Overall poverty (%)
Damascus	Urban	1960.84	3573.16	4470.21	0.39	9.38	17.58
Rif Damascus	Urban	1914.51	3171.92	3998.78	1.04	13.02	27.08
	Rural	1832.10	3007.00	3880.37	0	18.82	37.65
Homs	Urban	1886.05	2951.00	4199.79	3.08	15.38	40.00
	Rural	1829.41	2827.78	3170.66	2.08	19.80	26.04
Hama	Urban	1918.57	2797.91	3977.33	1.04	5.21	31.25
	Rural	1857.81	2842.90	3527.82	8.00	27.00	49.00
Tartous	Urban	2149.96	2752.46	5223.17	1.92	1.92	13.46
	Rural	2233.52	3530.40	4483.81	2.06	17.53	28.87
Lattakia	Urban	2115.05	3166.35	4651.56	1.08	4.30	12.90
	Rural	2191.82	3599.22	4901.60	0	18.75	32.81
Idleb	Urban	1975.43	3003.67	3928.70	3.17	20.63	38.10
	Rural	1509.06	2320.68	2657.35	1.00	21.78	27.72
Aleppo	Urban	1991.37	2923.67	3910.23	3.87	14.00	27.98
	Rural	1519.74	2306.41	2769.19	1.11	11.11	22.22
Raqqa	Urban	1981.96	3050.30	3504.83	0	15.00	25.00
	Rural	1503.40	2263.01	2638.38	3.28	8.20	16.40
Deir Azzor	Urban	1963.79	2837.25	3958.37	6.35	15.87	49.21
	Rural	1487.03	2207.36	2651.87	7.27	25.45	41.82
Hassakeh	Urban	1961.56	2861.33	3781.99	13.33	28.33	56.67
	Rural	1495.06	2017.59	2127.01	3.75	13.75	17.50
Sweida	Urban	1969.90	3495.22	4496.92	5.08	18.64	40.68
	Rural	1880.13	3023.88	3971.03	1.59	11.11	30.16
Daraa	Urban	1967.81	2771.94	3341.08	5.45	20.00	29.09
	Rural	1883.10	2760.25	3739.56	10.10	22.22	45.45
Quneitra	Rural	1875.87	2155.49	2767.69	0	3.23	6.45
Syria	Urban				2.84	13.00	28.78
	Rural				3.15	17.36	30.22
	Total				2.97	14.85	29.39

Note: The FPL is the cost of acquiring enough food for adequate nutrition each day; the LPL is the FPL augmented by the non-food expenditure for households whose total expenditure is equivalent to the FPL; the UPL is the FPL augmented by the non-food expenditure of households whose food expenditure is equivalent to the FPL. Food poverty is defined as the share of the population whose expenditure lies under the FPL; extreme poverty is defined as the share of the population whose expenditure lies under the LPL; overall poverty is defined as the share of the population whose expenditure lies under the UPL. 'SP' stands for Syrian Pounds; USD1 = SP50 in 2009.

Source: Author's computations based on HIES (CBS 2009).

TABLE 6
Comparing extreme poverty rates for 2004 and 2009

Governorate	Urban/Rural	2003-2004	2009	Absolute change	Relative change
Damascus	Urban	4.74	9.38	4.64	98%
Rural Damascus	Urban	4.87	13.02	8.15	167%
	Rural	5.99	18.82	12.83	214%
Homs	Urban	7.90	15.38	7.48	95%
	Rural	10.30	19.80	9.50	92%
Hama	Urban	11.20	5.21	-5.99	-53%
	Rural	11.70	27.00	15.30	131%
Tartous	Urban	5.80	1.92	-3.88	-67%
	Rural	7.50	17.53	10.03	134%
Lattakia	Urban	11.04	4.30	-6.74	-61%
	Rural	12.10	18.75	6.65	55%
Idleb	Urban	7.34	20.63	13.29	181%
	Rural	10.70	21.78	11.08	104%
Aleppo	Urban	13.05	14.00	0.95	7%
	Rural	31.50	11.11	-20.39	-65%
Raqqa	Urban	14.90	15.00	0.10	1%
	Rural	19.10	8.20	-10.90	-57%
Deir Azzor	Urban	3.40	15.87	12.47	367%
	Rural	5.30	25.45	20.15	380%
Hassakeh	Urban	6.40	28.33	21.93	343%
	Rural	11.90	13.75	1.85	16%
Sweida	Urban	12.60	18.64	6.04	48%
	Rural	20.00	11.11	-8.89	-44%
Daraa	Urban	14.00	20.00	6.00	43%
	Rural	16.30	22.22	5.92	36%
Qunitera	Rural	14.85	3.23	-11.62	-78%
Syria	Urban	8.70	13.00	4.30	49%
	Rural	14.20	17.36	3.16	22%
	Total	11.40	14.85	3.45	30%

Note: The LPL is the FPL augmented by the non-food expenditure for households whose total expenditure is equivalent to the FPL; extreme poverty is defined as the share of the population whose expenditure lies under the LPL.

Source: El-Laithy and Abu-Ismail (2005), and author's computations based on HIES (CBS 2009).

TABLE 7
Comparison of characteristics of poor and non-poor households, 2003-2004 and 2009

	2003-2004			2009		
	Poor	**Non-poor**	**P0**	**Poor**	**Non-poor**	**P0**
Panel 1: Demographical characteristics						
Household size	8.07	5.62		7.45	5.23	
Female-headed household (%)	4.70	6.00	9.20	7.93	10.15	12.02
Number of children less than 15 years old	3.30	2.20		3.79	2.70	
Number of family members aged between 15 and 64	4.50	3.10		3.80	3.19	
Number of family members aged 65 years or older	0.24	0.33		1.25	1.27	
Age structure						
0–4				15.10	13.16	
5–9				14.62	10.89	
10–14				17.09	12.04	
15–19				10.98	10.87	
20–24				8.34	10.07	
25–29				6.76	8.48	
30–34				5.56	6.38	
35–39				5.63	5.69	
40–44				5.28	5.21	
45–49				2.78	4.25	
50–54				2.68	3.70	
55–59				1.34	2.50	
60–64				1.30	2.37	
65+				2.54	4.38	
Panel 2: Dwelling characteristics						
Households living in an apartment (%)				20.97	43.65	
Households living in Dar (%)				74.68	53.26	
Households living in a dwelling appropriate for living (%)				69.82	71.91	
Households living in dwelling inappropriate for living (%)				20.20	11.18	
Panel 3: Educational characteristics						
Individuals who are illiterate (%)	18.31	13.75	14.80	15.48	12.96	22.50
Individuals who can read and write (%)	12.10	9.60	14.11	45.03	33.96	24.40
Individuals who have primary education (%)	50.86	45.10	12.83	24.40	23.10	20.40
Individuals who have preparatory education (%)	11.44	14.25	9.50	8.40	13.20	13.40
Individuals who have secondary education (%)	5.11	9.11	6.82	4.73	9.02	11.20
Individuals who have an intermediate degree (%)	1.46	4.24	4.31	1.13	4.00	6.50
Individuals who have a university degree (%)	0.72	3.94	2.34	0.61	3.71	4.00
Head of household has a university degree (%)	1.95	7.83	3.10	2.05	7.87	4.30
Head of household has an intermediate degree (%)	2.86	5.92	5.85	2.82	7.73	6.00
Head of household has secondary education (%)	3.90	7.70	6.10	4.10	8.90	7.40
Head of household has preparatory education (%)	8.45	11.60	8.56	11.80	13.50	13.20
Head of household has primary education (%)	44.18	42.34	11.83	46.90	36.70	18.20
Head of household can read and write (%)	12.26	9.40	14.36	12.80	10.00	18.30
Head of household is illiterate (%)	26.40	15.17	18.30	19.44	15.25	18.20

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Panel 4: Employment characteristics						
Employed (% of the working-age population)	36.50	37.20	7.70	37.16	40.17	16.10
Outside the labour force (% of the working-age population)	58.61	58.56	11.64	57.87	55.39	17.70
Unemployed (% of the working-age population)	4.93	2.65	16.00	4.97	4.44	18.60
Head of household is outside the labour force (%)				20.00	22.80	13.30
Head of household is employed (%)				77.69	75.99	15.10
Head of household is unemployed (%)				2.31	1.21	25.00
Individuals working in the public sector (% of total workers)	14.60	26.90	6.40	22.05	28.79	12.80
Individuals working in the private sector: individual (% of total workers)	42.05	28.52	15.72	37.85	31.75	18.60
Individuals working in the private sector: company (% of total workers)	43.30	44.50	11.00	39.41	38.04	16.60
Worker is an employer (% of the total labour force)	3.10	7.00	5.52	2.75	6.04	8.00
Worker is self-employed (% of the total labour force)	21.42	23.16	10.86	19.90	19.61	16.20
Worker is a paid employee (% of the total labour force)	45.42	49.80	10.73	66.50	63.20	16.80
Worker is an unpaid employee in a family business (% of the total labour force)	18.37	12.03	16.75	4.10	3.80	17.50
Unemployed, worked before (% of the total labour force)	1.73	1.49	13.30	3.40	4.50	12.50
Unemployed, never worked before (% of the total labour force)	9.97	6.53	16.75	3.40	2.80	18.80
Head of household is an employer (% of the total labour force)	8.06	13.66	7.12	4.23	10.50	6.70
Head of household is self-employed (% of the total labour force)	44.00	37.40	13.25	26.10	26.40	15.00
Head of household is a paid employee (% of the total labour force)	47.15	48.06	11.30	68.00	61.90	16.40
Head of household is an unpaid employee (% of the total labour force)	0	0.02	0	0.33	0.17	25.00
Head of household is unemployed but worked before (% of the total labour force)	0.76	0.80	11.06	0.33	0.12	33.00
Head of household is unemployed and has never worked before (% of the total labour force)	0.04	0.06	6.67	1.00	0.93	15.80
Unemployment period (months)				18.60	22.70	
Work sector for individuals (% of total workers)						
Construction	17.63	12.27	15.40	23.96	17.40	20.80
Services	14.20	26.30	5.90	22.40	25.32	14.50
Agriculture	38.25	23.65	17.00	15.97	13.54	18.40
Industry	15.30	14.10	12.00	14.76	16.14	14.90
Hotels and catering	7.40	14.32	6.10	14.76	16.47	14.70
Banking, finance and real estate	0.04	0.32	1.40	1.22	3.03	7.10
Transportation and communications	7.20	9.00	9.20	6.94	8.09	14.10

→

Work sector of head of household (% of total workers)						
Construction	17.53	12.98	14.93	24.10	16.65	20.50
Services	19.00	26.00	8.22	21.50	21.90	14.80
Agriculture	33.92	21.52	17.00	14.90	13.70	16.20
Industry	9.98	11.02	10.53	13.20	15.80	13.00
Hotels and catering	8.78	16.00	6.67	14.50	17.90	12.60
Banking, finance and real estate	0.70	1.20	4.57	1.65	3.40	8.00
Transportation and communications	10.05	11.26	10.40	10.20	10.65	14.60

Note: Poor people are those living in extreme poverty—i.e. those whose consumption is lower than the LPL. Some cells are empty because we lack the data needed to project the figures. Characteristics of poor people from 2003-2004 are extracted from El-Laithy and Abu-Ismail (2005), while those from 2009 were built based on the author's computations.

Source: Author's computations and El-Laithy and Abu-Ismail (2005).

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NOTES

3. Many poor Syrian families did not have some of the official documents that showed their true status and thus could not apply for government programmes (Hamati 2010).

4. No other way to check the representativeness of our short sample is available. Thus, we consider the above-mentioned test sufficient.

5. Although the expenditure index is much better than the income index, we should not ignore the shortcomings of the former. A family, for example, may consume more in winter than in other seasons. The 2009 HIES, nevertheless, overcomes this issue by covering the full year in its questionnaire.

6. El-Laithy and Abu-Ismail (2005) mention 12 items, but the CBS publishes the CPI for 10.

7. Although it was easier to multiply the FPL for 2006-2007 by the general food CPI, it is more precise to multiply it by an adjusted food CPI that is weighted by the relative importance of the food items included in the reference basket.

8. The Governorate of Damascus was divided in 1972 into two governorates: the Governorate of Damascus City and the Governorate of Rif Damascus. Rif means rural, but this does not mean that the Governorate of Rif Damascus does not include cities.

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