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Supplementary Information

Supplementary Information for: Distributional Impacts of Cash Transfers on the Multidimensional Poverty of Refugees: The ESSN Programme in Turkey

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This study has been prepared within the OPHI theme on multidimensional measurement.

Trail Measures of the RMPI

Trial 1 adopted the CVME MPI structure but used a nested weighting scheme. It also adopted a different cross-dimensional cutoff line of k=33.3%. This means households are classified as multidimensional poor if they are deprived in 1/3rd of the weighted indicators. This cutoff is demanding, because households are multidimensional poor if they are deprived in a combination of indicators across at least two dimensions. While demanding, it was chosen for Trial 1 as it was originally proposed for the Multidimensional Deprivation Index (MDDI), designed at WFP Headquarters in close collaboration with country offices (which used this weight to match the weight in the global MPI).

Trial 2 uses the structure of Trial 1 but excludes four indicators: "Absence from school because children need to work and/or assist family" in the education dimension; "Household with unacceptable food consumption" in the Food security dimension; "No income source other than ESSN/other assistance or no income at all" in the Income resources dimension; and "No kitchen" in the Living standards dimension. The indicators stood out during a redundancy analysis that assessed simultaneous overlaps between indicator pairs per dimension [5]. The redundancy measure is denoted as R0 and displays the number of observations that have the same deprivation status in two variables, which reflects the joint distribution, as a proportion of the minimum of the two frequencies. Using the 'minimum' of the frequencies ensures that the maximum value of R0 is 100%. The higher any of the frequencies, the higher the measure of redundancy as the probability increases that people are deprived in two indicators simultaneously. High redundancy (e.g. 100%) at low frequencies of deprivations, however, would indicate that every individual who is deprived in the indicator with the lower incidence of deprivation is also deprived in the other indicator. As a result, one indicator may be dropped for statistical reasons to maintain parsimony (yet could be retained if normative reasons exist to do so). The test was particularly useful because the CVME MPI adopted a minimum 50% frequency rule for possible inclusion of indicators in the index, which means that high redundancies (that is, simultaneous deprivations) are less likely to be caused by high frequencies of deprivations. Test results revealed that all households deprived in 'absence from school because children need to work and/or assist family', were simultaneously also deprived in 'absence from school more than a semester'. In the income resources dimension, all households deprived in 'no income source other than ESSN/other assistance or no income at all' were also deprived in 'no household member worked within last 30 days'.

[5] Redundancy describes a measure of association between indicators and was developed by (Alkire et al., 2015, 228-232) (see also (UNDP and OPHI, 2019, 77))

The income resources dimension was further characterised by another indicator with high simultaneous deprivations with another indicator. Eighty-six percent of the households deprived in the 'begging' indicator were also deprived in 'accepted high risk, illegal, socially degrading or exploitative temporary jobs'. Simultaneous deprivations in the high percentages could also be reported in the living standards dimension. Here 'no kitchen' stood out as showing high overlaps with 'no toilet'. Eighty-seven percent of households deprived in 'no kitchen' were also deprived in 'no toilet'. Less pronounced yet still in the high percentages were the joint distributions in the food security dimension. Seventy-seven percent of households deprived in 'household with unacceptable food consumption' showed a 'dietary diversity score' of less than 6. These are strong results because the frequency distributions of the five indicators are low, ranging from 7.1% in 'begging' to 13.4% in 'absence from school because children need to work and/or assist family', and at this stage, no normative reason could be found to retain these indicators.

Trial 3 uses the structure of trial 2 but adds two new indicators. An "Assets" indicator is added to the living standards dimension. This indicator is added as more than half of the surveyed households in wave 3 arrived 3-6 years ago (689 households, 53%). This strengthened the assumption that sufficient time has passed for households to start accumulating assets following their arrival, which sets the better-offs apart from the less well off. The indicator classifies a household as deprived if the household does not own more than one of: television, telephone, refrigerator, motorbike, computer, stove, and does not own a car or truck. It thus follows the structure of assets deprivation in the global MPI and adjusts the number of items to the assets items available in wave 3 of the CVME. The wide ownership of televisions (94.6 %), telephones (both mobile and smartphones, 94%) and, to a lesser extent, refrigerators (8%), results in a relatively low uncensored headcount ratio of 4.5% in this indicator.

A second indicator addition in Trial 3 is an education variable to the education dimension. A household is deprived if neither the household head nor the second responsible of the household (if applicable) has completed at least primary school (equivalent to six years of schooling). The variable was added as it can be considered an outcome variable, with a different reference population (adults) that complements the school attendance indicator of children in the dimension. By also considering the second household member in the computation the indicator becomes more flexible to change and thus overcomes one of the main concerns raised against its inclusion in the CVME MPI (where only the highest education of the household head was assessed and eventually the indicator was deemed to static for inclusion in the measure). 25.6% of households were deprived in the newly designed indicator.

Trial 4 follows the structure of Trial 3 with one difference: it does not include the newly designed education indicator of Trial 3 (highest education achieved of adults). Instead, it merges the school attendance indicator of education with the health indicators into 1 dimension called "education and health". Thus, Trial 4 operates only with 4 dimensions (please note that this is not shown in the Table 6 for graphical reasons). It should be noted that although the indicators in the health dimension did not show issues of redundancy, the indicators are less convincing as they lack qualitative meaning. Households who reported sick members can range from mild to severe diseases, and treatment options and their quality vary too. These weaknesses become more pronounced due to the nested weighting structure of the trials, because essentially, these two rather weak indicators receive greater relative weight (e.g. compared to the indicators in the living standard dimension). This may be redeemed by including more indicators into the dimension. Data limitations in the CVME health section do not allow the addition of further indicators, however. Therefore, an alternative is proposed to merge the education and health dimensions.

As can be seen, the design of Trials 1-4 follows a sequenced approach where the CVME MPI is taken as point of departure. Throughout, it used the proposed poverty cutoff of 33.3% by the MDDI. Results were internally debated and used to exclude unfeasible options, and a final fifth trial – eventually called the RMPI - was computed.

In essence, the RMPI takes as its starting point the CVME MPI but incorporates some adjustments based on the assessment above. First, the RMPI opted to retain the five dimensions from the CVME MPI. The chosen dimensions are convincing in the Turkish context. They fit the ESSN programme's target to reduce poverty and vulnerability of refugees and available data in the CVME. The inclusion of food security was considered crucial for a refugee context, and the Report of the Commission on Global Poverty suggests having separate dimensions for food security and health (Bank, 2017). To what degree these dimensions are applicable in other refugee contexts is part of an ongoing debate, and the dimensions may need to be revised in the future.

Second, the four identified 'redundant' indicators were excluded to achieve greater parsimony of the measure. Thus, the RMPI agreed with Trial 2 in that regard. Third, the RMPI agrees with Trial 3 that the newly designed education indicator of adults should be added to the education dimension. A household is deprived if neither the household head nor the second responsible person of the household (if applicable) has completed at least primary school (equivalent to six years of schooling). The variable was added as it can be considered an outcome variable, with a different reference population (adults) that complements the school

attendance indicator of children within the education dimension. By also considering the second household member in the computation, the indicator becomes more adaptable to change and thus overcomes one of the main concerns raised against its inclusion in the CVME MPI (where only the highest education of the household head was assessed and eventually the indicator was deemed too static for inclusion in the measure)[6]. Note that it may appear that the indicator does not speak to the immediate vulnerabilities and needs of refugees as it measures educational outcomes for adults. Its inclusion, however, is justified by the Refugee Right to Education, which, although placing a strong emphasis on refugee children, also stresses the importance of advocating 'for refugees to be treated in the same way as nationals [...] At a minimum, as provided for under Article 22 of the 1951 Convention, refugees should be treated in the same way as other legally residing foreigners' (UNHCR, 2017, p.210)). Additionally, Sustainable Development Goal 4 is 'Ensure inclusive and equitable quality education and promote lifelong learning for all'. The addition of an adult indicator thus greatly strengthens the entire dimension as it places the right of refugees to lifelong learning next to the immediate educational needs of children. Using this newly designed indicator, 25.6% of households were found to be deprived. Fourth, after revisiting the redundancy tests, several more changes are proposed. Based on the redundancy results, the 'income resource' dimension was further revised. As 86% of the households deprived in 'begging' were also deprived in 'accepted high risk, illegal, socially degrading or exploitative temporary jobs', it was decided to merge both indicators. Following this merger, 9.6% of households were found to be deprived in the indicator.

Also, the 'living standards' dimension was further reworked following the redundancy results. 'Bad quality apartment' was excluded, as basically the indicator measures what is already captured by the overcrowding and no toilet indicators. An 'assets' indicator is added to the living standards dimension and combined with the CVME MPI indicator 'sufficient winter clothes'. Note that more than half of the surveyed households in CVME3 arrived three to six years ago (689 households, 53%). This strengthened the assumption that sufficient time has passed for households to start accumulating assets following their arrival, which sets those who are better off apart from those who are less well off. It was deemed logical to add several winter-specific assets to the indicator 'sufficient winter clothes', for which the assessment of what is 'sufficient' is somewhat subjective. Thus, the indicator 'no sufficient

[6]One limitation of the construction of the indicator is that data were only available for the household head and the second household head (if applicable). In future applications of the RMPI, and if data were available, the indicator should also account for all eligible household members meeting a meaningful minimum age requirement, such as 10 years or older (such as is applied in the years of schooling indicator in the global MPI).

winter clothes' is revised by a 'winter assets' indicator that classifies a household as deprived if the household does not own more than one of the following winter assets: sufficient winter clothes, sufficient blankets, a heating stove or central heating. 22.4% were deprived in this indicator. The decision to create a 'winter assets' indicator is informed by a Thematic Focus Group Discussion (FDG) on Shelter conducted by the Turkish Red Crescent (TRC) and WFP Field Monitoring Assistants (FMAs) in January 2020. In sum, 17 thematic FDGs were implemented in eight provinces across Turkey and the views of 146 beneficiaries and non-beneficiaries of the ESSN programme were captured. A crucial finding of the discussions was that: "All participants reported living in apartment buildings or houses connected to basic infrastructure/services (electricity, water and sewage system). Most participants complained about their housing quality, saying that the apartment buildings are old, poorly insulated, and very cold and humid during the winter months. Furthermore, participants living in basement accommodation added that they do not get enough sunlight" (WFP, 2020, p.2)".

Therefore, the 'winter assets' indicator includes heating stoves, blankets, central heating, and winter clothes because refugees in Turkey suffer in the winter according to the thematic FDG results. In some parts of the country, it is reported to be humid. So, adding an appropriate item from the list of available assets in CVME3, namely air conditioning, was considered. However, thematically it made more sense to create a winter-only assets indicator. Note that of the four items included, two are based on self-assessed sufficiency (clothes and blankets), while two are not self-assessed ('Does the household have a heating stove/central heating?'). By expanding the list of items to four and by including items not based on self-assessed sufficiency, the information base used to judge deprivation in this indicator is expanded and strengthened. Note that the actual list of assets can be adjusted in the RMPI, depending on the context where the index is applied (e.g. climate conditions in south-south migration).

Fifth, the indicator 'insufficient access to any of the items below; water, hygiene items, cooking fuel for cooking' was critically assessed in the 'living standards' dimension. The indicator combines two areas whose policy response is different (WASH and energy source). It is therefore a challenging indicator for policy planning purposes (although it speaks to the MDDI indicators WASH and energy). It is also unclear which of the three deprivations drive the results, and, finally, the indicator combines answers to three questions where respondents self-assess insufficient access to each one of the items across several thematic areas. For example, participants were asked to assess whether the household has access to sufficient water for drinking, cooking, washing, and toilet purposes. In other words, respondents were asked if

water is sufficient for four different thematic purposes. What is more, it is unknown what the water source is and if it can be considered 'safe', crucial information for assessing sufficient 'drinking water'. In other words, this indicator in the CVME MPI is a proxy that uses subjective information across different thematic areas. Subjective information is usually less preferred than objective indicators as respondents may suffer from adaptive preferences ((UNDP and OPHI, 2019, p.64). By analysing the highest frequency of each of the three questions the indicator is based on, it became apparent that the main driver of this indicator is that 'members of the household do not have sufficient soap and hygiene items' with a deprivation frequency of 17.7%. This is compared to a frequency of 12.2% in cooking fuel ('Does your household have access to sufficient cooking fuel to cover your cooking needs?') and 3.84% in sufficient water ('Does your household have access to sufficient water for drinking, cooking, washing, and toilet purposes?'). Taking into consideration that the enquiry into the sufficiency of access to soap and hygiene items is more straightforward than the enquiry into water access – and arguably, it is also easier to assess subjectively if these items are sufficiently available for an entire household – it was decided to take only the question related to soap and hygiene for this indicator in the RMPI. The quality of soap and hygiene items in Turkey can also be considered 'safe' and 'good'. The indicator captures the concept of WASH (although not fully) and, depending on data availability in future applications of the RMPI, should be expanded with water-related questions which could be revisited if the indicator can be constructed based on objective information, such as whether a household has access to safe drinking water within a 30-minute walk from home (roundtrip). Given the importance of safe access to water – aside from school attendance, housing, and sanitation, it is almost a universal indicator that is included in most national multidimensional poverty indices (UNDP and OPHI, 2019, p.59) – the decision to exclude the indicator was solely based on data concerns.

The RMPI thus uses a total of 12 indicators across five dimensions. While further indicator options were assessed considering the proposed MDDI and relevant literature, such as on the rights of refugees, no new indicators outside the five dimensions of the CVME MPI were included (such as adding 'insecurity' to one of the trials, or 'negative coping mechanisms' such as accumulating an unsustainable level of debt or not seeking healthcare when ill; please see (OPHI and WFP, 2022)). It is the most parsimonious of all trials. It uses a nested weighting structure, and it was computed with a cross-dimensional poverty cutoff of 20%. By lowering the poverty cutoff to an equivalent of the weight of one dimension, households could potentially be classified as poor if they are deprived in a combination of indicators that sum up to one dimension only, which seems very realistic for a demanding

MPI for refugees. In essence, the 20% poverty cutoff in the RMPI (comprised of 12 indicators across 5 dimensions) is the logical equivalent to the rationale of the poverty cutoff line of 33.3% in the global MPI, which is the equivalent to one dimension in a nested index of 10 indicators across 3 dimensions. Robustness test results on the poverty cutoff choice were also conducted and showed that poverty rankings are robust to reasonable changes to the cutoff value (ranging from 10-50%) for a population share of 98.9% of the CVME3 when results where disaggregated by arrival time. In the context of refugees, different arrival times help to understand why certain groups of refugees are poorer than others, so having established robust results by this disaggregation adds confidence in the use of the RMPI. For more information please see (OPHI and WFP, 2022).

References

Alkire, S., Roche, J., Ballon, P., Foster, J., Santos, M. and Seth, S. (2015). *Multidimensional Poverty Measurement and Analysis*, Oxford University Press, USA, doi:10.1093/acprof:oso/9780199689491.001.0001.

Bank, W. (2017). *Monitoring Global Poverty: Report of the Commission on Global Poverty*, World Bank.

OPHI and WFP (2022). 'Meta-analysis of the impact and lessons learned for implementation of the Emergency Social Safety Net (ESSN) programme in Turkey (2016-–20). Part 2: Focus areas 2 and 3', *OPHI Special Publications and Reports*.

UNDP and OPHI (2019). *How to Build a National Multidimensional Poverty Index (MPI): Using the MPI to Inform the SDGs*, United Nations Development Programme.

UNHCR (2017). *A Guide to International Refugee Protection and Building State Asylum Systems, 2017, Handbook For Parliamentarians No. 27*, UN High Commissioner for Refugees.

WFP (2020). *The ESSN Shelter Security Focus Group Discussions Report*, World Food Programme.