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Multidimensional poverty: A comparative study for vulnerability of women in Lebanon

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Abstract

Amidst the ongoing political turmoil in Lebanon since October 2019, compounded by a global pandemic and a deepening economic crisis triggered by the Beirut Port explosion on August 4, 2020, Syrian refugees in the country are grappling with survival amid what the World Bank deems one of the most severe economic downturns in decades. This research seeks to evaluate the vulnerability of Syrian refugee women by conducting a comparative analysis of refugee and Lebanese households. Utilizing data from Lebanon's Labour Force and Household Conditions Survey (LFHLCS) and Vulnerability Assessment of Syrian Refugees (VASyr) survey, the study employs an intersectionality-based method to present a snapshot of relative poverty between the genders of the heads of households. This approach, addressing gender and marginalized communities from various perspectives, aims to present a gender-oriented view. The examination of the socioeconomic distribution among Syrian and Lebanese households aims to shed light on the disproportionate challenges faced by women. Employing the concept of multidimensional poverty (MP) helps illustrate the socioeconomic status of vulnerable communities, offering a comprehensive understanding of various aspects of deprivation. Ultimately, this comprehension may guide the development of more inclusive policies for decision-makers and practitioners involved in refugee-related issues.

Keywords: Multidimensional poverty, gender studies, intersectionality, Syrian refugees, Lebanon

1 Introduction

The 2011 Syrian civil war has caused irreparable losses, triggering a mass displacement that continues to fuel a protracted humanitarian crisis. Approximately 5.7 million Syrians have been displaced to neighboring countries. Among these host nations, while Turkey, Jordan, and Iraq have taken in significant numbers, Lebanon stands out as the most densely populated country for refugees worldwide. Roughly 1.5 million registered and unregistered refugees of Lebanon mostly consist of women and children (UNHCR, 2021).

The challenges facing Syrian refugees in Lebanon have been exacerbated by the country's political instability, the devastating economic crisis following the Beirut Port explosion on August 4, 2020, and the concurrent COVID-19 pandemic. Together, these crises have compounded the already dire socio-economic conditions, leaving Syrian refugees struggling to survive Lebanon's worst economic downturn in decades (OXFAM, 2021).

This spiraling displacement crisis impacts millions of lives, rendering refugees increasingly vulnerable to economic and political shocks. Limited access to education restricts refugees' ability to pursue professional careers and integrate into society. At the same time, stringent government regulations prevent them from participating in the formal labor market (Brun et al., 2021). As a result, refugees find themselves trapped in a ''crisis within a crisis,'' further intensifying their vulnerability.

The worsening conditions have amplified the negative impact of the crisis on refugees' social standing and their access to basic human rights, including education and healthcare, with women being particularly affected. In the aftermath of catastrophic events, humanitarian aid efforts often prioritize immediate survival and essential needs, leaving gender considerations as a secondary concern. However, the effects of such crises are rarely gender neutral. Women, due to systemic gender inequality, bear a disproportionate burden, as they are more severely impacted by class dynamics, social inequality, and segregation.

This study seeks to explore and address the unequal effects of economic crises on displaced women refugees. By employing an intersectional framework that examines gender alongside the experiences of marginalized communities from multiple dimensions, this research aims to provide a more comprehensive understanding of these challenges and poverty dynamics showing itself in particular situations.

2 Theoretical Framework

Migration studies and gender studies can be effectively combined, as both fields offer critical perspectives for deconstructing gender norms and representations (Amelina and Lutz, 2018; Lutz and Amelina, 2021). Intersectionality theory, pioneered and developed by Kimberlé Crenshaw, provides a powerful lens for addressing gender-related concerns across diverse contexts, including power dynamics, social class, legal frameworks, political systems, and discursive structures. This approach facilitates the integration of gender and migration studies, enabling a nuanced analysis of the intersecting systems of oppression and discrimination faced by women. These include challenges rooted in social inequality, economic marginalization, and sexuality (Crenshaw, 2021, 1997).

Does displacement affect women and men equally? How can we identify and address the unique vulnerabilities faced by women refugees? In light of these questions, it is crucial to consider the extent to which the deprivation gap between refugee and non-refugee households exacerbates the vulnerabilities of refugee women. Moreover, how can we measure the disproportionate impact on marginalized groups and systematically assess the challenges Syrian refugees in Lebanon face, particularly in relation to poverty and gender dynamics?

Is the impact of poverty the same in different social circumstances, such as being a refugee, a minority, and a woman? If poverty affects women more, what supports this disproportionate effect? On the contrary, even if the poverty gap between female and male heads of household is close, can we still discuss vulnerabilities that are peculiar to refugee women in this context? This bridges the question of the intersectionality of being a refugee and being a woman. Intersectionality comes into question in this understanding and approaches the disproportionate impact as coming from the intersection of migration and gender (Lutz and Amelina, 2021).

These questions require a multidimensional approach that incorporates intersectional analysis to uncover how overlapping factors such as poverty, social inequality, and gender roles amplify

the struggles of refugee women. This study adopts a quantitative approach to measuring the poverty gap between heads of households of different genders. However, further research might provide a more comprehensive understanding of these vulnerabilities, providing a foundation for targeted interventions that address both immediate needs and systemic inequalities, especially for enlightening the reason behind the gap.

Multidimensional poverty is a concept that recognizes poverty as a complex, multifaceted phenomenon extending beyond mere income deprivation. It considers the various overlapping factors that contribute to the deprivation of basic needs, such as education, health, living standards, and social inclusion. This broader framework helps to capture a more accurate and holistic picture of poverty, recognizing that people's well-being is impacted by more than just their economic status.

The concept of multidimensional poverty is grounded in the belief that income alone is not sufficient to capture the full extent of deprivation experienced by individuals. One of the main theoretical foundations of multidimensional poverty is Amartya Sen's ‘‘capability approach.’’ Sen argues that poverty should be seen as the deprivation of basic capabilities, not just low income. The approach focuses on what people are able to do (functionings) and to be (capabilities), emphasizing the importance of freedom to achieve well-being (Pedersen, 2020).

According to this framework, functionings refer to the various things a person may value being or doing, like being healthy, educated, or participating in social life. Capabilities are the freedoms or opportunities to achieve those functionings. Poverty, in this view, is not just about the lack of income but about the lack of opportunities to achieve well-being. Human Development, grounded on the capability approach, focuses on enhancing people’s real freedom to choose the kinds of lives they have reasons to value (Kuhumba, 2018).

3 Methodology and Data

In this article, Multidimensional Poverty Index (MPI) will be using to measure poverty based on material and physical determinants. In this context, an index has been developed to compare refugee and Lebanese households, utilizing data from Lebanon’s Labour Force and Household Conditions Survey (LFHLCS) and the Vulnerability Assessment of Syrian Refugees in Lebanon (VASyr). It has been also used to measure deprivation for male and female-headed households for Lebanese and refugees separately to uncover the poverty gap in terms of gender and track this gap.

This index developed by Alkire and Foster (2011) allows for measuring poverty and the welfare of fragile communities. This index has been used before to measure Syrian refugees’ vulnerability in Lebanon and estimate future poverty by Lyons et al. (2021). However, the data used in this analysis for comparison at the governorate and household levels came from a smaller survey. However, I propose a comparative analysis with LFHLCS 2018-2019 conducted by Lebanon’s Central Administration for Statistics (CAS) and the International Labor Organization (ILO) to obtain the MPI for non-refugee households.

The primary index was constructed utilizing equally weighted dimensions for health, education, and living conditions (Alkire and Foster, 2011). In this study, financial security has been also added to the primary index. Every dimension has been weighted equally and indicators have been assigned equal weights within these four dimensions in line with other research utilizing this index (Lyons et al., 2021; Yılmaz and Kılıç, 2021).

VASyr is a comprehensive survey including household and individual-level data about Syrian refugees’ demographic characteristics, safety and security, accommodation, economic indicators (income, expenditure, debt), schooling, and health. VASyR allows us to compare MP between refugees and the host community using Lebanon’s labor force and household living conditions survey. To estimate the poverty of Syrian refugees in Lebanon, I will use the

VASyr 2019 survey (*N=4,687*) conducted jointly by the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), and the United Nations World Food Programme (UNWFP).

To compare the poverty rate, I will also employ LFHLCS data collected by CAS and ILO for the country-level analysis, covering Lebanese households (*N=33,758*) in between 2018 and 2019. By corresponding MPI indexes, I will provide an analysis of the poverty gap between Syrian refugees and the host community in Lebanon. Furthermore, I will examine the evolution of this gap in poverty rates between male- and female-headed households, both among refugees and non-refugees, before and after the crisis. This approach aims to assess the vulnerabilities faced by Syrian refugee women and to identify any gender-based disparities in the burden of the crisis.

The MPI proposed by Alkire and Foster encompasses dimensions to measure poverty (Alkire and Foster, 2011). In this sense, I chose 4 main dimensions (living conditions, health, education, financial security) and 17 indicators measuring a specific deprivation. Deprivation scores are binary variables, valued as 1 (deprived) and 0 (not deprived). To determine cutoffs, I drew on the methodology of Lyons et al. (2021) and Yılmaz and Kılıç (2021). The dimensions and indicators have been listed below (*Table 1*).

Assume that there are n households, and their well-being is evaluated by m indicators within d dimensions. $I_{ij} \in$ R for all i = 1, . . ., n and j = 1, . . ., m. Each I_{ij} is an element of a $n \times m$ dimensional matrix $\boldsymbol{X}$, where rows represent households and columns represent indicators I_{ij}, describes household i's achievement in indicator j.

$$\boldsymbol{X} = \begin{pmatrix} I_{11} & I_{12} & \dots & I_{1m} \\ I_{21} & I_{22} & \dots & I_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ I_{n1} & I_{n2} & \dots & I_{nm} \end{pmatrix}$$

Table 1: Dimensions and Indicators

Living Conditions
1. Type of dwelling 2. Crowdedness of shelter (m^2) 3. Toilet 4. Public water pipes 5. Available water tanks 6. Access to drinking water 7. Cooking fuel 8. Heater / hot water 9. Access to public electricity (hours per day) 10. Availability of a generator
Health
11. Public/private health insurance 12. Availability of primary health care (when it is needed in an urgency)
Education
13. All household members above 14y.o. had less than 6 years of education 14. At least one child in the household (aged 6-14) was not attending school
Financial Security
15. Minimum Expenditure Basket (MEB) is USD/monthly (<$3.80/day or < $114/month) 16. Financial dependency 17. Unemployment

The weighting coefficient for deprivation attached to each dimension is the same for all *i* and is denoted by w_a.
If $D_i \geq k$, where $k \in (0, 1]$, household i is defined as poor. The larger D_i is, the more deprived is the household. The weight for each indicator assigned based on the value attributed to a deprivation within the dimension is w_j. The achievement of the dimension is measured by using the weighted average of each indicator determining poverty for this dimension.

$$w_a > 0, \quad \sum_{a=1}^{d} w_a = 1 \tag{1}$$

$$D_i = \sum_{j=1}^{m} w_j I_{ij} \quad , \quad D_i \in [0,1] \tag{2}$$

According to weight calculation, the dimensional weight (w_a) is calculated by dividing 1 by the number of dimensions ($1/d$), and indicators' weight (w_j) is calculated by dimensional weight times each indicator's weight ($1/d.m$).

$$\boldsymbol{D_i} = w_1 I_{i1} + w_2 I_{i2} + \cdots w_{17} I_{i17} \quad (3)$$

For each dimension, the deprivation score, *D*, is the sum of the product of the relative weight, *w*, the weighting coefficient of each indicator in the dimension, and the deprivation indicator, I, for that indicator (Equ.2). *D* is the weighted sum of deprivation indicators over four poverty dimensions: living conditions, income, education, health, and financial security.

The proportion of poor households is determined by dividing the number of multidimensionally poor households (q) by the total number of households (n). Here, qqq represents the total number of households falling below the poverty line. The headcount ratio (H) is expressed as:

$$H = \frac{q}{n} \quad (4)$$

This ratio provides a straightforward measure of the prevalence of poverty within the population.

If we want to find the intensity of poverty, we should define the sum of deprivation score vectors per multidimensionally poor. Hence, the intensity of poverty equals the sum of the deprivation scores of all households divided by the number of deprived households. So, *A* stands for the adjusted headcount ratio, equal to the average of censored deprivation scores.

$$A = \frac{1}{q} \sum_{i=1}^{n} D_i(k) \quad (5)$$

The censored deprivation score is a vector, $D_i(k)$, is equal to D_i if $D_i \geq k$, otherwise, $D_i(k)=0$. It means that if the deprivation score of households i is below the poverty line (k), then the censored vector, $D_i(k)$, is equal to zero. So, if D_i is above this value, a household is defined as poor. The threshold is equal to 0.33.

Finally, the MPI is calculated by multiplying the proportion of the poor (H) by average deprivation scores (A):

$$MPI = H \times A = \frac{\mathrm{q}}{\mathrm{n}} \times \frac{1}{q} \sum_{i=1}^{n} D_i(k) \quad (6)$$

4 Analysis

The central questions of this research focus on the disproportionate impact of poverty on various groups, particularly women in Lebanon, and how this impact can be assessed. To contribute to the existing body of research on refugee vulnerabilities, this study seeks to explore the specific challenges faced by women refugees. Beginning with poverty, it will offer a multidimensional perspective on the deprivation gap between refugee and non-refugee households. Subsequently, it will examine the disparities between male- and female-headed households, aiming to provide a comprehensive understanding of poverty across all levels, with a focus on the intersection of gender and refugee status.

Two datasets, VASyr 2019 and LFHLCS 2018-2019, were utilized to calculate deprivation scores. However, since the LFHLCS exclusively covers residents and households living in residential dwellings, the term ''non-Lebanese residents'' in this context refers to all individuals without Lebanese citizenship, irrespective of their nationality. Consequently, non-Lebanese residents were excluded from the scope of this data analysis.

Following sections will elaborate on the specific threshold conditions identified for each indicator, encompassing shelter conditions, energy, water and sanitation, health, education, and financial security.

4.1 Shelter conditions

The first indicator within the dimension of living conditions, the type of dwelling, provides critical insight into shelter conditions. In the LFHLCS, the main dwelling categories include independent houses, villas, apartments, and others. According to the survey, 80 percent of Lebanese households reside in apartments. In contrast, the literature on Syrian refugees identifies three primary dwelling types: residential, non-residential, and informal tented settlements (ITS) (UNHCR, 2019; Trovato et al., 2021; Lyons et al., 2021).

For deprivation scoring, households living in villas, independent houses, or apartments are assigned a score of 0, while those in other dwelling types, such as hotel rooms or prefabricated houses, are scored 1. These alternative dwellings are considered non-permanent residential units or structures not intended for long-term residence.

While 66 percent of Syrian refugees live in apartments, 32 percent reside in non-residential and non-permanent structures, categorized as deprived. As a result, refugee households in Lebanon experience an average deprivation score of 34 percent for dwelling type, compared to nearly zero deprivation for the host community.

The situation is even more severe for Syrian female-headed households (FHH), which are more likely to reside in non-permanent and non-residential structures. According to UNHCR (2019), 17 percent of Syrian FHH live in ITS, compared to 13 percent of male-headed households. By 2022, this gap had widened, with 27 percent of FHH residing in ITS, an increase from 4 percent to 8 percent according to the VASyr report. This growing disparity highlights the heightened vulnerability of female-headed households in terms of living conditions.

The average size of a Lebanese household is around 4.5, and it is 5.75 for a Syrian refugee household. In the literature, having less than 4.5 m^2 per person for those living in the same dwelling is defined as overcrowded (Lyons et al., 2021). However, since LFHLCS 2019 data present the area of residence in m^2 based on a range of 50 m^2 scale, the data cannot be used to measure crowdedness. So, I used midpoints of area ranges instead. Thus, the mean of shelter crowdedness for Lebanese households is less than one percent, while Syrian refugee households are on the edge of the poverty line at almost 33 percent.

4.2 Energy

Lebanon has long faced substantial challenges in its energy sector, including issues with electricity generation and distribution. The country relies on a combination of thermal power plants, hydroelectric facilities, and, to a lesser extent, renewable energy sources. However, overall generation capacity has failed to keep up with growing demand, resulting in chronic power shortages and frequent blackouts. These deficiencies have led to a widespread reliance on backup generators, primarily due to inadequate and outdated electricity infrastructure.

The government has attempted short-term fixes, such as leasing power-generating ships, but sustainable, long-term solutions remain elusive. Since 1964, Électricité du Liban (EDL), the national utility company, has overseen electricity generation, transmission, and distribution. Yet, particularly after the 1990s, vulnerabilities in the electricity sector reshaped social and power dynamics between private providers, the state, and consumers. Even before the economic crisis of late 2019, EDL was unable to meet the country's rapidly growing electricity consumption, covering only 63 percent of demand in 2008. As a result, Lebanon's energy needs have been heavily reliant on imported oil.

With the continued deterioration of infrastructure, declining electricity supply, and fuel shortages, reliance on private generator arrangements has become the norm (Klinken, 2022). Consequently, households without access to public electricity or private generators are categorized as deprived of electricity.

Similarly, households lacking access to gas are considered deprived in terms of both cooking fuel and heating resources. However, deprivation related to gas is relatively low, with rates below 5 percent. This indicates that gas remains the most prevalent and accessible cooking fuel for both Lebanese and refugee households. Whereas households that did not have access to electric or gas stoves, or other cooking fuels, such as charcoal, wood, or dung, have been considered deprived of cooking fuel. Considering energy consumption in terms of having a water heater, and for personal hygiene, 13 percent of total households do not have a heater in their shelter. This rate is 4 percent higher among Syrian refugee households.

4.3 Water and sanitation

Deprivation of water was assessed using three key indicators: water pipes, water tanks, and access to drinking water. While the presence of water pipes or sewage systems provides some indication of water access, it is well-known that many households in Lebanon rely on water tanks due to frequent shortages and concerns about water pollution (Jaafar et al, 2020; Hussein et al, 2020; Eid-Sabbagh, 2025). Consequently, households without water tanks were classified as deprived in terms of access to clean water. Interestingly, while refugee households have a high rate of water tank ownership, the host community shows higher levels of deprivation in this regard.

Access to drinking water was evaluated based on various sources identified by households, including tap water in dwellings, public standposts, bottled water, delivered water (tanker trucks), protected or unprotected wells, boreholes, rainwater, and surface water. Because drinking water from unsafe sources poses significant health risks, households using unprotected water sources, rainwater, or surface water were categorized as deprived. Results indicate that refugee households are five times more likely than the host community to lack access to safe drinking water.

In terms of sanitation, a household was considered deprived if it lacked access to a flush toilet or an improved pit latrine with a cement slab, or if household members shared toilet facilities with other households.

4.4 Health

Access to healthcare was evaluated using two indicators. The first indicator considers a household as not deprived if at least one member has either public or private health insurance. The second indicator deems a household deprived if at least one member was unable to access primary healthcare services or hospitalization when needed.

The analysis reveals a high level of deprivation in health insurance coverage across both communities. Nearly all refugee households lack private health insurance, while over half of Lebanese households report no member with either public or private health insurance.

Despite the widespread lack of insurance, more than 95 percent of both refugee and Lebanese households report that all members can access primary healthcare assistance or hospitalization when needed, indicating relatively high accessibility to essential healthcare services in both groups.

Delve into the insights shared by Viruell-Fuentes et al. (2012), inviting us to consider the influence of structural racism on our participation in work and social life, and ultimately, on our health. This study meticulously explores the intricate interplay of various forms of inequality, revealing how they converge to shape health outcomes. Pinillos-Franco and

Kawachi (2022), who illuminate the impactful consequences of fostering xenophobia, particularly for individuals teetering on or below the poverty line. Their comprehensive study scrutinizes the connection between attitudes towards refugees and self-rated health (SRH) across a substantial dataset spanning 21 European countries. The compelling findings suggest a correlation between hostile attitudes and compromised SRH, underscoring the far-reaching implications of negative perceptions on well-being.

In essence, these studies serve as intellectual compasses, guiding us through the intricate terrain where societal structures and attitudes intersect with individual health. They not only underscore the significance of addressing structural inequalities but also shed light on the tangible repercussions of harboring hostility towards certain communities. Through this lens, we gain a clearer understanding of the multifaceted factors influencing health outcomes.

Additionally, reproductive health means women have more medical needs than men and require more hospitalization or emergency care (Trovato et al., 2021). Unfortunately, neither VASyr nor LFHLCS has enough input on SRH to allow us to observe its effect on multidimensional poverty. However, studies on access to reproduction and sexual health for women refugees might help to understand the women's peculiar situation and to explain the relationship between their vulnerabilities and fertility.

4.5 Education

Lebanon has made significant strides in education, achieving high literacy rates and notable gender parity in educational attainment. According to the CAS in Lebanon and UNDP data, the adult literacy (ages 15 and above) rate for men was approximately 95%, while for women it was around 90%. This reflects a substantial improvement from 2004, when illiteracy rates were 12.5 % for men and 18.3% for women as of 2018-2019. Approximately 26% of both men and women aged 25 and above had attained tertiary education, indicating no significant gender disparity at this level. Additionally, the percentage of women who had never attended school dropped from 26% among those aged 50 and above to 6% among those aged 25-49, highlighting generational improvements in female education (UNDP & CAS, 2021).

Education status in the Lebanese education system is assessed based on two main criteria. The first focuses on years of schooling or the completion of at least elementary education for household members aged 15 and above. The second considers children's school attendance. In Lebanon, the education system begins with 6 years of elementary school starting at age 6, followed by 3 years of intermediate school. Students then progress to secondary school, where they choose between humanities or technical education streams, culminating in either the Lebanese Baccalaureate or the Technical Baccalaureate.

To evaluate a household's education status, two indicators were utilized: children's school attendance and the highest education level attained by any household member. For school attendance, the assessment included two thresholds: one for household members aged 14 and above, and another for children aged 6 to 14. Following Lyons et al. (2021), a household is categorized as deprived if: all members aged 14 and above have fewer than 6 years of schooling, or at least one child aged 6 to 14 is not attending school.

Regarding the highest level of education, a household is deemed deprived if no member has completed elementary school. However, to address nuances, a household where all but one member is illiterate is still considered deprived, even if the sole literate member has completed elementary school.

To provide a more granular measure, the average years of schooling were calculated for each household. This was done by dividing the total years of schooling of all household members aged 14 and above by the number of such members. If the average years of schooling fell below 6, the household was classified as deprived. This method ensures a comprehensive evaluation of educational attainment across households.

4.6 Financial security

This dimension seeks to capture money-metric poverty using expenditure and consumption data. Income data across datasets varies significantly and does not reliably reflect the cost of living, making it unsuitable for precise poverty measurement. Instead of using the minimum wage as a poverty line, alternative metrics, such as monthly total earnings and income data, could be used to assess money-metric poverty.

In addition, income security was included as an indicator of financial vulnerability in the 2019 Multidimensional Poverty Index (MPI) report published by CAS and the World Bank. This indicator identifies the most vulnerable households in terms of money-metric poverty by focusing on the employment status of adults aged 15 to 64. A household is considered financially deprived if no adult member has regular work, indicating a lack of income security and stability. This measure provides a clearer depiction of households at risk of financial insecurity and poverty.

Social status might give an idea about both financial and socioeconomic status. In this case, participation in the labor force has been considered an indicator to observe poverty among households. If half or more than half of the household members aged between 15 and 64 are unemployed or do not work regularly, or the head of the household is unemployed, this household has been deprived of social status. The datasets show that the deprivation score for Lebanese households of unemployment is 0.40 while this score is lower, 0.14, among refugee households.

Since this study tries to elaborate on the vulnerability of refugee women, in the following sections, this indicator might help to understand women's participation in the labor force and their financial independence. Cutoffs have been calculated for the working population above 15 years old per household member. If there is only one working adult in the household and the other members are dependent on this breadwinner, the household is considered deprived. Financial dependency among refugee households is close to the poverty line at 0.31.

Utilizing the Survival Minimum Expenditure Basket (SMEB) and the Minimum Expenditure Basket (MEB), the study measures deprivation among households based on consumption expenditures and poverty line statistics. Referring to the World Bank's (2018) threshold of $65 per month and $2.15 per day per capita, equivalent to nearly 100,000 LBP monthly expenses in 2018, the research conducted by Lyons et al. (2021) estimates SMEB at $87 per month and MEB at $114, approximately $3.80 per day and 170,000 LBP per month per person. The study identifies households with expenses below the MEB as deprived of their ability to afford necessities, contributing to the existing literature on deprivation measurement.

5 Results

The findings will be analyzed across four primary dimensions: living conditions, health, education, and financial insecurity. For each household, 17 indicators were calculated and categorized under these dimensions, with deprivation scores ranging from 0 to 1. Using the poverty threshold $k=0.33$, as outlined by Alkire and Foster (2011), Lebanese households were found to be deprived in 4 of the 17 indicators, whereas refugee households fell below the poverty line in 6 indicators.

Among the 17 indicators, minimum expenditures, primary health, years of schooling, and availability of a generator stand out due to their higher deprivation scores within their respective dimensions. The dimensions with the highest levels of deprivation for both groups are education and health, with significant gaps in health insurance coverage and the proportion of adults without elementary-level education. These findings underscore the areas where both Lebanese and refugee households face critical challenges, albeit with disparities in the depth and extent of deprivation.

Table 2: MPI results

	LFHLCS 2019 ***(N=33.792)***			**VASyr 2019** ***(N=4.719)***		
	Leb. HHs	*MHHs*	*FHHs*	*Syr. HHs*	*MHHs*	*FHHs*
Average tot. number of indicators	3.58	3.41	4.25	5.69	5.66	5.85
Deprivation score *(D)*	0.25	0.23	0.32	0.45	0.45	0.45
Headcount ratio *(H)*						
Poor: Dep. score > 0.33	0.31	0.26	0.52	0.88	0.88	0.88
Extreme poor: Dep. score ≥ 0.50	0.04	0.03	0.09	0.31	0.21	0.93
Intensity of poverty *(A)*	0.42	0.42	0.42	0.47	0.47	0.47
MPI (*H x A*):						
4-dimension MPI (k=0.33)	0.13	0.10	0.21	0.41	0.41	0.41
4-dimension MPI (k=0.50)	<0.02	<0.01	<0.01	0.14	0.09	0.43

Tables 2 above present the computations of deprivation and the MPI. The average total number represents households' accomplishments across 17 indicators, with *D* denoting the overall deprivation score. The MPI is derived from the product of the proportion of households identified as multidimensionally poor (*H*) and the average proportion of weighted indicators (*A*), signifying the intensity of poverty where overall deprivation scores exceed the threshold. This reveals the deprivation scores concerning the gender of the head of the household.

The results indicate that Lebanese female-headed Households (FHHs) experience higher levels of extreme poverty compared to their male-headed household (MHH) counterparts. The MPI for Lebanese FHHs is calculated at 0.21, while it is 0.10 for Lebanese MHHs.

The headcount ratio (*H*) and extreme poverty ratio (H_{ex}) approach 1 for refugee FHHs. The intensity of poverty (*A*) is computed at 0.47, and the MPI is 0.41 out of 1 for both female and male-headed refugee households in Lebanon. In contrast, the MPI for Lebanese households stands at 0.13, as illustrated in Table 2, with A showing greater stability at 0.42 among Lebanese households. However, the headcount ratio (*H*) for Lebanese Female-Headed Households exceeds 0.50, indicating that more than half of these households are in poverty.

The analysis of deprivation prevalence and intersectional identity reveals significant disparities between Lebanese and Syrian refugee households (HHs). Among Lebanese HHs, 32 percent experience deprivation, while 88 percent of Syrian refugee HHs are deprived. When focusing on male-headed households (MHHs) across Lebanon, 35 percent are deprived, with total deprivation scores exceeding the multidimensional poverty (MP) threshold ($D > k = 0.33$).

Examining intersectional identity, the prevalence of deprivation among female-headed households (FHHs) is 20 percentage points higher than among MHHs. This highlights a substantial gender disparity in vulnerability levels.

In conclusion, the assessment underscores that the ongoing crisis in Lebanon disproportionately affects not only households facing displacement but also those led by women, exacerbating existing inequalities and vulnerabilities.

6 Conclusion

This paper delves into the post-forced migration phase of Syrian refugees in Lebanon, employing the MPI index to gauge the poverty levels and socio-economic vulnerabilities within communities. The findings reveal that the MPI is at least 20 percentage points higher for refugee HHs than for Lebanese HHs. Furthermore, a notable disparity exists between Lebanese MHHs and FHHs, underscoring the role of gender and class in elucidating poverty discrepancies among households. This observation is particularly crucial as the intersection of these factors, especially concerning human rights such as health and education, accentuates the heightened vulnerability of women to economic and political shocks.

Refugees in Lebanon already living in dire conditions are going through more hardship due to the country's current economic and political turmoil. Furthermore, women experience more disadvantages than men due to the intersection of gender and displacement under these relatively poor economic and legal conditions for displaced people. This intersectional analysis of migration studies can help us grasp how vulnerabilities affect gender inequality. The study aims to place gender equality as a central policy concern, in the hope of pushing for more inclusive policies for refugees so that public policies, services, and resources are allocated to benefit all equally, both women and men.

Considering the 2020 explosion that claimed 220 lives, injured over 6,500 individuals, displaced around 300,000 people, and devastated city neighborhoods, it becomes evident that the crisis has exacerbated its existing impact on Lebanese citizens and Syrian refugee FHHs. Contrary to expectations, the poverty gap among refugee heads of households remains relatively stable, even with the assumption that displacement would exacerbate inequality for refugee FHHs. Notably, refugee FHHs do not appear more deprived than their male-headed counterparts under Alkire and Foster's (2011) threshold value. However, vulnerability manifests itself in monetary metrics and extreme poverty conditions.

Both Lebanese and refugee FHHs predominantly grapple with challenges in health and education. FHHs face heightened vulnerability to poverty disparities due to various structural and societal barriers hindering their access to economic opportunities and resources. These obstacles might encompass gender discrimination in the workforce, restricted access to education and job training, and the disproportionate burden of unpaid care work predominantly shouldered by women. Because as primary caregivers for children, they often bear extra responsibilities managing household finances and sourcing essential resources. Collectively, these factors contribute to an elevated risk of poverty and financial insecurity for FHHs.

Additionally, I assert that a more comprehensive analysis, encompassing other dimensions such as social inclusion, integration, and the dynamics of gender roles within society, could significantly expand our comprehension of the social aspects underpinning the relative poverty experienced by women heads of households. This expanded inquiry can go beyond the conventional focus on the financial implications of poverty by providing a more nuanced and holistic understanding of the multifaceted challenges faced by this demographic.

In addition to a comparative analysis, I propose incorporating an additional dimension — social inclusion, when assessing the well-being of refugees. The poverty gap emerges not solely as a class issue but also as a matter of social exclusion. Security and social inclusion have traditionally been employed as dimensions to gauge the plight of minorities. Lyons et al. (2021) and Yılmaz and Kılıç (2021) have employed community interaction as an indicator to elucidate social inclusion, with the frequency of engagements with the host community considered as one of the factors contributing to security and social inclusion. However, the nature of these interactions in the current data remains uncertain and does not include the possibility of cooperation, abuse, exploitation, threats, and so on. Consequently, the extent of community

interactions in this data does not unequivocally contribute to explaining a refugee household's capacity to cope with poverty.
In the context of the present study, the available datasets preclude the inclusion of this dimension, as the relevant variables are exclusively accessible to refugee households. Consequently, this research does not consider the frequency of interactions with the host community. Nevertheless, I posit that a more comprehensive questionnaire could enhance our understanding of the social aspects of relative poverty, extending beyond financial impacts. This additional dimension can be delineated by examining the frequency of daily interactions between refugees and members of the host community (in work settings, social circles, religious events, etc.), as well as the youth classified as not in employment, education, or training (NEET). Furthermore, the measurement of social inclusion might serve to bridge the gaps in deprivation and gender through an intersectional approach.
Lastly, to mitigate the adverse repercussions of the crisis on households, especially FHHs, it is imperative to dispel the unfounded notion that refugees constitute an economic burden on host countries. Preserving universal access to public health and education as fundamental human rights is crucial to addressing these challenges effectively.

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