

Informal Employment Areas for Syrian Asylum Seekers in Türkiye: A Fuzzy TOPSIS Analysis*

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Abstract

Informal employment is considered a major problem in developing countries. Although unregistered employment contributes to a country's economy in terms of production, it can have a negative impact on macroeconomic indicators such as tax losses and unemployment. Unregistered employment can include both nationals and foreign workers. The aim of this study is to find out in which sectors Syrian asylum seekers are preferred in unregistered employment in Türkiye. Fuzzy TOPSIS was used as a method in the study. Fuzzy TOPSIS provides a ranking according to alternatives and criteria. The analysis results show that Syrian refugees are preferred in agriculture, construction and textile sectors respectively in unregistered employment in Türkiye. With these results, it is suggested that the legal regulations of Türkiye in immigration policy and unregistered employment and those asylum seekers should be evaluated at the legal level regarding the country's economy.

Keywords: Informal Employment, Syrian Asylum Seekers, Migration Policies, Economic Integration.

Türkiye'de Suriyeli Sığınmacıların Kayıtdışı İstihdam Alanları: Bulanık TOPSIS Analizi

Öz

Kayıtdışı istihdam, gelişmekte olan ülkeler için önemli bir sorun teşkil etmektedir. Bu tür istihdam, ülke ekonomisine üretim açısından katkı sağlamasına rağmen vergi kaybı ve işsizlik gibi makroekonomik göstergeleri olumsuz etkileyebilmektedir. Kayıtdışı çalışma hem yerli vatandaşlar arasında hem de yabancı işçiler arasında görülebilmektedir. Bu çalışmanın amacı, Türkiye'de Suriyeli sığınmacıların kayıtdışı istihdamda hangi sektörlerde yoğunlaştığını ortaya çıkarmaktır. Araştırmada, bulanık TOPSIS yöntemi kullanılmıştır, bu yöntem alternatifleri ve kriterleri dikkate alarak bir sıralama sunmaktadır. Analiz sonuçları, Türkiye'de kayıtdışı istihdamda Suriyeli sığınmacıların öncelikli olarak tarım, inşaat ve tekstil sektörlerinde çalıştıklarını ortaya koymaktadır. Bu bulgular, Türkiye'nin göç politikaları ve kayıtdışı istihdamla ilgili yasal düzenlemeler konusunda adımlar atması gerektiğini, ayrıca sığınmacıların ülke ekonomisine yasal olarak entegre edilmesinin önemi vurgulanmaktadır.

Anahtar Kelimeler: Kayıtdışı İstihdam, Suriyeli Sığınmacılar, Göç Politikaları Ekonomik Entegrasyon.

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Introduction

The emergence of an important migration flow to Türkiye due to the war in Syria has brought about economic and social changes in Türkiye. Whatever the reason, the migration flow brings some advantages and disadvantages to the host country. These advantages and disadvantages can be expressed as economic, social, cultural, and political. As a matter of fact, it is important to manage the migration flow and to make accurate and on-site planning for the incoming refugees. If the migration flow is not properly managed, economic and political problems may occur. Syrian refugees in Türkiye are considered within the scope of “Temporary Protection”. Work permits are also issued within the scope of temporary protection and a “work permit” is given to asylum seekers in line with certain restrictions and conditions. As a matter of fact, this situation allows Syrian refugees to be evaluated in unregistered employment (Nurdoğan & Öztürk, 2018).

Informal employment is seen as an important problem for national economies. The unregistered and untaxed workforce reduces the tax revenues of the state, leading to disruptions in the financing of public services and the social security system. Additionally, unregistered workers are deprived of social rights such as job security, retirement and health insurance, increasing social inequality. It creates an unfair competitive environment for employers, because companies that employ unregistered employees can operate at lower costs than companies that fulfill their legal obligations. Syrian refugees, who are evaluated in informal employment, contribute indirectly to the country’s production. However, this contribution cannot be reflected in official accounts and negative economic problems of unregistered employment may arise (Dikkaya & Dinçer, 2023; Bayrakcı, 2023).

In economies, a young and dynamic population is considered an important factor for growth. Therefore, refugees coming to Türkiye, albeit through immigration, contribute to the young and dynamic population structure of the country. However, the unregistered nature of this contribution can lead to economic and social problems. In this context, it is important to identify the sectors in which refugees predominantly work unregistered in order to understand refugee labour and unregistered policies. This study examines the sectors in which Syrian refugees in Türkiye are more likely to be employed. In line with this research, the Fuzzy TOPSIS method, which is one of the multi-criteria decision-making methods, was applied. Prior to the application, an extensive literature review was conducted to determine the sector and criteria. After the application, the results were evaluated and written up.

Identifying the sectors in which Syrian refugees work informally using the fuzzy TOPSIS method and ranking them from the most intensive sector to the least intensive sector is considered an important innovation of the study. Since it is difficult to identify the unregistered labor force, identifying and ranking the sector in line with the data obtained from the literature and experts will provide important information to policy makers. It is expected that the findings obtained in the study will enable the development of strategic thoughts regarding the integration of refugees into the economy, social adaptation processes and employment policies. The integration of Syrian refugees into the Turkish economy, if well managed, can both improve the quality of life of refugees and contribute to the socio-economic development of Türkiye.

The introduction, which is the first section of this study, states the purpose and importance of the study and explains the relationship between Syrian refugees and unregistered employment. The second section explains the impact of migration on the informal economy and reviews the literature. The third section presents the methodology, explaining the fuzzy TOPSIS method and defining the sector and criteria of application. The fourth section evaluates the results. The last section contains the results and discussion and policy recommendations.

Literature: Impact of Migration on Informal Employment

Informal employment is a variable that moves with the informal development of the country's economy. Foreign workers without work permits stand out in informal employment. Foreign labour is highly preferred in sectors where there is little public control. The proportion of undocumented foreign workers varies from country to country. The conflicts of the last 20 years, especially in the Middle East region, have led to illegal migration of the population living in these regions to neighbouring countries. One of these countries, and the most important one, is Türkiye.

Türkiye receives illegal immigrants from countries such as Syria, Pakistan, Afghanistan, Iraq, Bangladesh, India, Morocco, Algeria, Nigeria, Azerbaijan and Nakhchivan. While some of the immigrants fleeing from these countries plan to migrate to EU countries using Türkiye as a transit country, others plan to come directly to and live in Türkiye (Sarıca, 2006). Syrian immigrants in particular have preferred Türkiye because of its border neighbour and its policy towards Syria, and they have reached a certain population in Türkiye.

The proliferation of Syrian immigrants in Türkiye has led to their being considered for unregistered employment in Türkiye. According to Akbulut (2020), Syrian unskilled labour is highly preferred by some sectors. Syrian refugees are particularly valued in sectors such as agriculture, textiles, construction and manufacturing. The impact of asylum seekers on the labour market depends on the economic development of the province in which they live. If the economic structure of the province is mainly agricultural, asylum seekers are evaluated in this sector, and if other sectors are more dominant, the labour is also used in these sectors (Akbulut, 2020). Yıldız and Yıldız (2017) discussed the positive and negative effects of Syrian refugees on the Turkish economy. According to the aforementioned study, the assessment of asylum seekers in informal employment is seen as a positive situation in terms of reducing costs for businesses. In addition, the demand for asylum seekers, whose income increases in the market, is also expressed as an income effect. Positive effects such as the effective distribution of resources and an increase in competitiveness are also mentioned. Yıldız and Yıldız (2017) reveal that the negative effects of Syrian refugees on the country's economy include variables such as reducing tax revenues, eliminating tax justice, negatively affecting the distribution of resources, causing unfair competition, preventing the correct evaluation of economic data, and causing the exploitation of child labour. In addition to these positive and negative effects, according to the authors, costs are incurred in many areas such as tax losses, health, education, and accommodation services for Syrian refugees in Türkiye. Duruel (2017), who found that Syrian refugees have an impact on the Turkish economy, especially on the labour market, states that national and international aid to Syrian refugees is reflected in the economy as demand. The study also found negative effects on unregistered employment and wages of Syrian refugees. In addition, there is an increase in employment in registered sectors due to increased demand in the regions where Syrian refugees reside. Furthermore, according to Duruel (2017), it is emphasised that the perception that Syrian refugees will increase unemployment by replacing Turkish workers does not find a place in the labour market. On the other hand, it is stated that the predominance of the young population among Syrian refugees will contribute to the demographic structure of the Turkish labour force.

Kavas and Develi (2015) focused on the reasons for unregistered employment of foreigners without work permits. According to the results of the study in question, the reasons for unregistered employment include economic reasons, reasons arising from the social security and tax system, low minimum wages, public reasons, reasons arising from enterprises, and reasons

arising from social assistance. In addition, it was found that informal employment has positive and negative effects. Çoban (2018) investigated the impact of Syrian refugees on the labour market in Istanbul. In this study, face-to-face interviews were conducted with 422 asylum seekers. The most important reason why asylum seekers prefer to stay and work in Istanbul is the abundance of job opportunities. It was also noted that the need for unskilled labour in some sectors in Istanbul led Syrian refugees to consider undeclared work. In addition, it was emphasised that the assessment of Syrian refugees as registered employment with legal regulations will make a significant contribution to the country's economy. A similar study was conducted by Akbaş and Ün-lütürk Ulutaş (2018) on the province of Denizli. Based on face-to-face interviews with 36 asylum seekers and seven local participants, they found that Syrian refugees are valued for the lowest level jobs in the secondary labour market and are employed at low wages.

Temel and Topateş (2023) investigated the situation of job security, occupational safety and undeclared work of refugees in the construction sector. Semi-structured interviews were conducted with fifteen Syrian and Afghan workers living in Manisa and working in the construction industry. As a result of the research, it was found that migrant workers in the construction sector have precarious working conditions such as informal economy, low wages, long working hours, open-ended contracts, work accidents and occupational diseases, inadequate occupational health and safety, and stratified labour markets. Bayrakci and Altun (2023) studied Syrian refugees working in the footwear industry in Izmir and Istanbul. They investigated the labour dynamics of secondary markets and the situation of local and illegal Syrian workers. The study used qualitative methods and conducted face-to-face interviews with 22 people. According to the results of the analysis, the reason why Syrian refugees work unregistered in the footwear industry is that the employer costs are low and local workers do not prefer the sector.

When the literature is examined, it is understood that the Syrian refugees in Türkiye are evaluated in sectors that are low and public control is weak. This study aims to contribute to the literature by using the fuzzy TOPSIS method, which is one of the multi-criteria decision-making methods, on how Syrian refugees are evaluated in the informal sector in Türkiye.

Methodology

Fuzzy-Topsis Method

The TOPSIS method, which is one of the multiple decision making methods, is expressed as “The Technique for Order of Preference by Similarity to Ideal Solution” and is defined as the ordering of different alternatives. This method, developed by Hwang and Yoon (1981), is explained as the principle of choosing between alternatives using positive and negative ideal solution points. The alternative that is farthest from the negative ideal solution and closest to the positive ideal solution is expressed as the best alternative. The TOPSIS algorithm assumes that each criterion has a monotonically increasing or decreasing change. Thus, an ideal solution is facilitated (Şengül et al., 2015; Dinçer et al., 2017).

The Fuzzy TOPSIS algorithm uses verbal variables to evaluate alternatives. These verbal variables were first developed by Chen (2000) by expressing them in triangular fuzzy numbers. Later, Chen, Lin and Huang (2006) showed that the technique could be applied in a different way by using trapezoidal fuzzy numbers in their evaluations. (Aktaş, 2015).

$$\tilde{X}_{ij} = \frac{1}{k} (\tilde{X}_{ij}^1 + \tilde{X}_{ij}^2 + \tilde{X}_{ij}^3 + \dots + \tilde{X}_{ij}^k) \quad (1)$$

In the second step, the fuzzy decision matrix is normalized. In the second stage, the equation process of the weighted normalized decision matrix is given in 2 (Dinçer et al., 2017).

$$\tilde{r}_{ij} = \left(\frac{a_{ij}}{c_{ij}^*}, \frac{b_{ij}}{c_{ij}^*}, \frac{c_{ij}}{c_{ij}^*} \right) \quad (2)$$

$$c_{ij}^* = \sqrt{\sum_{i=1}^m c_{ij}^2} \quad (3)$$

In the third step, fuzzy positive and negative ideal points are determined. The formula for this process is given in equation 4 (Dinçer et al., 2017).

$$A^+ = (\vartheta_1^*, \vartheta_2^*, \vartheta_3^*, \dots, \vartheta_n^*) \text{ and } A^- = (\vartheta_1^-, \vartheta_2^-, \vartheta_3^-, \dots, \vartheta_n^-) \quad (4)$$

In addition to the fourth step, the distances of each alternative from the positive and negative ideal solution can be calculated with the help of equations (5) and (6). In this equation, $\tilde{\vartheta}_j^*$ is equal to (1,1,1) and $\tilde{\vartheta}_1^-$ represents (0,0,0) (Dinçer et al., 2017).

$$D_i^* = \sum_{j=1}^n d(\vartheta_{ij}, \vartheta_j^*) \quad (5)$$

$$D_i^- = \sum_{j=1}^n d(\vartheta_{ij}, \vartheta_j^-) \quad (6)$$

In the last step, the closeness coefficient is calculated for each alternative. Then, by looking at the closeness coefficients, all alternatives are ranked and the alternative with the highest closeness coefficient is selected. A high closeness coefficient indicates that an alternative is closer to the fuzzy positive ideal solution and farther from the negative ideal solution. This process in question ends with Equation 7 (Dinçer et al., 2017; Keskin et al., 2024).

$$CC_i = \frac{D_i^-}{D_i^+ + D_i^-} \quad (7)$$

Expert selection is very important in multi-criteria decision-making methods. This is because decision making is a technical matter. In other words, it requires collecting information correctly, making it useful and interpreting it. Therefore, in order to make a healthier choice, it is necessary to be an expert on this subject (Sarıçalı, 2018). Since the number of experts in more specific areas is low, the number of experts in multi-criteria decision-making methods is generally low. For this reason, 3, 4 or 5 expert opinions are considered sufficient for decisions in this method (Buhujan et al., 2022; Erdebilli et al., 2023; Eti et al., 2024). In this study, in which the fuzzy TOPSIS method was applied, the data collection process was carried out by sending survey questions to 4 experts. According to the demographic information of the experts, the first expert is an academician with 12 years of experience in the field, who has conducted research in the field of Syrian refugees, migration, and its effects on the economy, migration, and employment. The second expert is a mid-level manager with 10 years of experience working in the Ankara office of the International Labor Organization (ILO), who has researched and field studies on the working conditions of Syrian refugees and the labor market in Türkiye. The third specialist is a senior manager in the general directorate with 15 years of experience in the Social Security Institution. 4. The specialist is an operator who is engaged in trade and owns a company in the services sector for 15 years.

Determining the Preferred Sectors and Criteria for the Syrian Workforce in Unregistered Employment

Syrian refugees contribute to the Turkish economy through unregistered employment. In order to reveal these contributions, it is important in which sectors the Syrian refugees are evaluated more. There are 26 main sectors in total on the website of the Turkish Ministry of Labor and Social Security. In our study, these sectors are narrowed down based on the literature. According to the literature, it has been decided on 7 main sectors in which Syrian refu-

gees are most preferred. The equivalents in practice of the sectors, which are considered as alternatives in the preference of the Syrian workforce in unregistered employment, are given in Table 1 with their sources.

Table 1: Alternatives

Alternatives	Sectors	References
a1	Construction Sector	Kavas and Develi (2018), Shepherd (2018), Erdoğan and Unver (2015), Çınar (2018), Kutlu (2018), Koyuncu (2016), Koca (2019)
a2	Agriculture, Hunting and Fishing Sector	Kavas and Develi (2018), Shepherd (2018), Erdogan and Unver (2015), Kutlu (2018), Koyuncu (2016), Koca (2019)
a3	Manufacturing Industry Sector (Chemistry, Petroleum, Rubber and Plastic, Metal etc.)	Kavas and Develi (2018), Shepherd (2018), Koyuncu (2016)
a4	Textile, Ready-to-Wear, Leather Industry	Kavas and Develi (2018), Shepherd (2018), Koyuncu (2016), Erol et al. (2017).
a5	Tourism, Accommodation, Food and Beverage Services Sector	Çoban (2018), Erdoğan and Unver (2015), Kutlu (2018), Koca (2019), Ulutaş (2018), Bulut and Canbolat (2020)
a6	Transportation, Logistics and Communication Sector	Çoban (2018), Kutlu (2018), Ulutaş (2018), Boz (2016)
a7	Trade (Sales and Marketing) and Food Sector	Kavas and Develi (2018), Çoban (2018), Koyuncu (2016), Koca (2019)

These criteria are considered important variables in the formation of unregistered employment. The criteria obtained based on the literature are given in Table 2. The wage level criterion in Table 2 is considered important in the preference of the Syrian workforce. The fact that the lowest wage level in formal employment is given under the name of “minimum wage” increases the costs of companies in many sectors, leading them to unregistered employment. For this reason, low wage level in informal employment is seen as attractive to companies. Since the low wage level is not preferred by Turkish workers, employment opportunities arise for Syrian refugees (Kahveci, 2019). However, another criterion is the “avoidance of social security costs” of companies. Along with the minimum wage, which is the lowest wage level of the companies, the social security costs incurred by the workers are also seen as an important criterion in the preference of the Syrian workforce (Şahin, 2017).

Table 2: Criterias

Icons of Criteria	Criterias	References
c1	Wage Level	Kahveci (2019), Ağlargöz and Yardimci (2019), Erol et al. (2017), İlgazi (2019), Cebeci (2017).
c2	Avoiding Social Security Costs	Şahin (2017), Güler and Toparлак (2018), Aslantürk and Tunç (2018), Koca et al. (2021).
c3	Status of Being Unqualified	Koca et al. (2021), Kahveci (2019), Bulut and Canbolat (2020), Mancak (2019)
c4	Income Level	Akıncı (2021), Çoban (2018), Çiftçi (2019), Tunç (2015)
c5	Public Auditability	Akbulut (2020), Kavas and Develi (2020), Ağlargöz and Assistant (2019)
c6	Population Density and Ease of Transportation	Akbulut (2020), Boz (2016), Kavas and Develi (2020), Ağlargöz and Yardimci (2019), Dillioğlu (2015)
c7	working time	Kavas and Develi (2020), Ağlargöz and Yardimci (2019), Kahveci (2019), Şahin (2018)
c8	Level of education	Alhawarin et al. (2021), Kavas and Develi (2020), Ağlargöz and Yardimci (2019), Kahveci (2019), Yılmaz (2015).
c9	Dissatisfaction with the job by the local people	Kavas and Develi (2020), Kahveci (2019)
c10	state of work experience	Kavas and Develi (2020), Kahveci (2019), Korkmaz (2018), Diken and Demirel (2016).

The labor force has an important place in the sectors in Türkiye. As a matter of fact, unskilled labor also comes to the fore in the labor market. This situation is considered an option for the Syrian workforce to be preferred (Duruel, 2017). Another criterion is income level. Job liking in the labor market of asylum seekers with low income weakens and their tendency to get a job as soon as possible may increase. This situation is seen as an advantage by employers and can increase unregistered employment among Syrian refugees (Çiftçi, 2019). Public auditability is a concept related to the control mechanism of the public over sectors. While the state inspects some sectors on a large scale, on-site, and with software, it also examines some sectors at a basic level. For example, some sectors may employ daily or weekly employment, ignoring public inspections. This process can lead to the evaluation of the Syrian workforce by taking risks by employers (Akbulut, 2020). The fact that the sectors use the regions where Syrian refugees live intensively in evaluating the Syrian workforce also feeds the unregistered employment. The high population density and proximity to business areas in the regions where Syrian refugees reside are considered opportunities by employers (Boz, 2016). Another criteri-

on in the preference of Syrian refugees is working time. The working time is specified as 8 hours according to labor law. Working time is among the issues that are ignored in informal employment. As a matter of fact, working hours over 8 hours are taken into account when recruiting unregistered employees. This process is also seen as an opportunity by employers (Şahin, 2018). A high level of education is considered a factor that positively affects the job preferences of the employees. The low level of education, on the other hand, does not offer many options to the employees, but it causes the asylum seekers to prefer low-level jobs, which are evaluated by the employers (Yılmaz, 2015). In some sectors, heavy work and insufficient wage levels cause the local people to dislike the job, and this creates job opportunities for Syrian refugees. Thus, employers consider this situation and recruit foreign workers (Kavas and Dev-eli, 2020). There are also professional individuals among the Syrian refugees. These professionals are considered by employers and enable Syrian refugees to be preferred (Diken and Demirel, 2016).

Findings

The Syrian workforce coming to Türkiye is being evaluated by many sectors. These sectors in question were narrowed down based on the literature and focused on 7 sectors. It is important which of these sectors benefit more from the Syrian workforce. For this reason, the fuzzy TOPSIS model was preferred. In line with the answers given by the experts in the field to the survey questions, first, the expert averages were taken, and the normalization process was performed. The normalization process is given in Table 3.

Table 3: Normalize

R	c1	c2			c3			c4			c5			c6			c7			c8			c9			c10				
a1	0,22	0,31	0,38	0,23	0,33	0,39	0,16	0,26	0,36	0,15	0,25	0,36	0,20	0,30	0,38	0,20	0,29	0,38	0,25	0,33	0,40	0,16	0,28	0,40	0,20	0,31	0,41	0,19	0,31	0,42
a2	0,20	0,28	0,37	0,24	0,32	0,38	0,22	0,32	0,42	0,17	0,28	0,38	0,24	0,32	0,39	0,26	0,37	0,46	0,26	0,33	0,38	0,22	0,32	0,43	0,31	0,41	0,47	0,18	0,27	0,37
a3	0,25	0,33	0,39	0,26	0,34	0,40	0,14	0,26	0,38	0,21	0,33	0,44	0,24	0,32	0,39	0,10	0,21	0,32	0,23	0,31	0,38	0,07	0,17	0,32	0,25	0,36	0,44	0,15	0,27	0,39
a4	0,30	0,37	0,42	0,26	0,34	0,40	0,16	0,26	0,36	0,19	0,31	0,41	0,26	0,35	0,41	0,20	0,29	0,38	0,25	0,33	0,40	0,05	0,14	0,29	0,25	0,36	0,44	0,09	0,21	0,33
a5	0,22	0,32	0,39	0,19	0,29	0,36	0,24	0,35	0,45	0,13	0,24	0,37	0,16	0,25	0,33	0,17	0,26	0,36	0,23	0,31	0,37	0,16	0,29	0,42	0,10	0,20	0,31	0,26	0,35	0,45
a6	0,15	0,25	0,33	0,21	0,30	0,37	0,10	0,20	0,33	0,13	0,24	0,37	0,23	0,32	0,40	0,18	0,30	0,39	0,18	0,27	0,34	0,07	0,21	0,35	0,05	0,15	0,25	0,15	0,26	0,37
a7	0,20	0,28	0,37	0,22	0,30	0,35	0,10	0,20	0,33	0,09	0,19	0,31	0,15	0,24	0,34	0,14	0,24	0,35	0,20	0,29	0,37	0,14	0,29	0,41	0,05	0,15	0,25	0,12	0,21	0,31

Another phase of fuzzy TOPSIS is weighted normalization. The calculations of this process are given in Table 4.

Table 4: Weighted Normalized

N	c1			c2			c3			c4			c5			c6			c7			c8			c9			c10					
a1	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,01	0,02	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,03	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04
a2	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,03	0,04	0,05	0,03	0,03	0,04	0,02	0,03	0,04	0,03	0,04	0,05	0,02	0,03	0,04	0,02	0,03	0,04
a3	0,02	0,03	0,04	0,03	0,03	0,04	0,01	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,01	0,02	0,03	0,02	0,03	0,04	0,01	0,02	0,03	0,03	0,04	0,04	0,01	0,02	0,03	0,03	0,04	0,04
a4	0,03	0,04	0,04	0,03	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,03	0,03	0,04	0,02	0,03	0,04	0,03	0,03	0,04	0,01	0,01	0,03	0,03	0,04	0,04	0,01	0,02	0,03	0,03	0,04	0,04
a5	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,01	0,02	0,04	0,02	0,02	0,03	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,01	0,02	0,03	0,03	0,04	0,04
a6	0,02	0,02	0,03	0,02	0,03	0,04	0,01	0,02	0,03	0,01	0,02	0,04	0,02	0,03	0,04	0,02	0,03	0,04	0,02	0,03	0,03	0,01	0,02	0,03	0,00	0,01	0,02	0,02	0,02	0,03	0,04	0,04	0,04
a7	0,02	0,03	0,04	0,02	0,03	0,04	0,01	0,02	0,03	0,01	0,02	0,03	0,02	0,02	0,03	0,01	0,02	0,03	0,02	0,03	0,04	0,01	0,03	0,04	0,00	0,01	0,02	0,01	0,01	0,02	0,03	0,03	0,03

The final stage of the fuzzy TOPSIS method is to determine the positive and negative closeness coefficients and to determine the weighting criteria. According to the results in Table 5, the “Agriculture, Hunting and Fishing” sector, which represents a2, ranked first among the alternatives. Secondly, the “Textile, Ready-to-Wear, Leather” sector represents a4, and thirdly the “Construction Sector” representing a1 comes to the fore.

Table 5: Proximity Coefficients and Weighting Criteria

Alternatives	D+	D-	cc	w	Arrangement
a1	9,71	0,30	0,03	0,149	3
a2	9,68	0,33	0,03	0,160	1
a3	9,71	0,30	0,03	0,147	4
a4	9,71	0,30	0,03	0,149	2
a5	9,72	0,30	0,03	0,144	5
a6	9,75	0,26	0,03	0,128	6
a7	9,76	0,25	0,03	0,124	7

It is thought that the agriculture, textile and construction sectors do not require high qualifications and education levels, low wages, variable working hours such as daily and weekly, and the high ease of finding a job in these sectors cause this sector to be the first criterion (Özkarlı, 2015). For Syrian large families, the agricultural sector is more advantageous than other sectors. The large number of people working in extended families creates the potential to earn more income than can be obtained from other jobs. In addition, agricultural works may be less preferred by Turkish citizens due to long hours and difficult working conditions. In addition, one of the most important problems for large migrating families is accommodation in city centers. The accommodation problem can be expressed as the fact that landlords do not give houses to large families or are exposed to living in high rents. In addition, the high cost of living for large families in city centers also poses a significant problem. Due to these and similar problems, large families can prefer to work in the agricultural sector (Dedeoğlu et al., 2019).

It has been revealed that the most preferred sector for Syrian refugees who prefer to live in city centers is the Textile and Construction sector. According to Erol et al. (2017), the textile industry constitutes 10% of employment in Türkiye, and they stated that more than half of this industry is unregistered employment. The abundance of the so-called under-the-stair workshops and the weak supervision in these workshops allow the unskilled Syrian workforce to be evaluated. Kahveci (2019) states that the Syrian workforce for Istanbul is mostly evaluated in the textile and construction sectors. These findings reveal similar results to the literature (Cebeci, 2017; İlgazi, 2018; Erol et al., 2017; Koyuncu, 2016; Duruel, 2017; Kavas & Develi, 2020).

According to the ILO Türkiye Office report, one of the main reasons why Syrians work intensively in the agriculture and construction sectors is that the contracts are short in these sectors. Since other long-term contract sectors are preferred by the local workforce, immigrants are forced to choose short-term contract sectors. In the said report, the share of Syrian refugees working unregistered in the textile, clothing, leather and shoe sector in Türkiye was estimated as 16.1% as of 2017. This share was stated as 5.2% in the construction sector and 1.2% in the agriculture sector (Caro, 2020). These data support the findings obtained in the study.

Conclusion

In the Turkish labor market, Syrian refugees are considered both as registered and unregistered employment. Syrian refugees who have migrated from the war zone have been evaluated in the business areas in Türkiye according to their qualifications. Asylum seekers whose economic status is at a medium and high level have continued their business fields in Türkiye by making investments. Asylum seekers who have a certain profession and have a workforce in areas that can be called qualified have also been evaluated within the framework of qualified employees in Türkiye. The unqualified labor force is mostly considered as unregistered employment. It is believed that the unskilled Syrian workforce has significantly impacted the increase in unregistered employment in Türkiye.

The aim of this study was to reveal in which sectors and on the basis of which criteria Syrian refugees are evaluated. For this, the Fuzzy TOPSIS method, one of the multi-criteria decision-making methods, was preferred. With this method, the first three sectors in which Syrian refugees are preferred have been identified. As a result of the sectors and criteria put into the method through the literature, Agriculture, Textile, and Construction sectors have

been determined as the sectors where Syrian refugees are mostly evaluated, respectively. These results are similar to the results of studies in the literature. In fact, the Agriculture, Textile, and Construction sector holds an important place for the Turkish economy. Considering the reactions against Syrian refugees in Türkiye, it is possible to say that refugees constitute an important source of employment for these sectors. However, the problem of informality is also noteworthy. Indeed, it is considered important to make new regulations to minimize this problem. In this context, the employment of Syrian refugees needs to be carefully considered both for its potential to contribute to the Turkish economy and for the adverse effects of informal employment.

The sectoral distribution of Syrian refugees as skilled and unskilled labor is of strategic importance for their integration into the economy and social cohesion. It is necessary to expand legal employment opportunities for refugees in Türkiye, prevent informal work, and improve the socio-economic conditions of refugees. In this process, supporting refugees with vocational training and skill development programs will benefit both the individuals and the broader society. Additionally, aligning the sectoral needs with the capabilities of refugees is essential for economic development and social integration. Therefore, it is of great importance for policymakers to develop comprehensive strategies that encourage the employment of refugees and reduce informality. Moreover, the integration of Syrian refugees into the formal labor market should be viewed as part of a broader strategy to address the structural issues within the Turkish labor market, including the high rates of informal employment among Turkish citizens. Policies aimed at improving the overall quality of jobs, enforcing labor laws more strictly, and enhancing social security measures can benefit the entire workforce, including both Turkish citizens and Syrian refugees.

In conclusion, this study highlights the critical need for a comprehensive policy framework that addresses the multidimensional challenges of refugee employment and informal labor in Türkiye. By adopting a balanced approach that combines economic integration with social protection measures, Türkiye can transform the challenges posed by refugee integration into opportunities for economic growth and social harmony. This approach not only benefits the refugees and the sectors employing them but also strengthens the resilience and inclusivity of Türkiye's labor market and its socio-economic fabric at large.

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