

Analysis of Influencing Factors of Refugee Crises

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Abstract: Multiple conflicts, persecution, violence and violations of human rights contribute to the continuously growing number of refugees. The number of asylum-seeker is also increasing with the refugee number. The total number of refugees has increased significantly and consistently over the past few years. about one million individual asylum applications were registered in 155 countries or territories during the first half of 2015, significantly more than those during the corresponding period of 2014 (558,000). Therefore, the refugee movement has aroused great concern all over the world. Out of humanitarian spirit, the UN and many other organizations from countries try their best to help the refugees. Besides, they also spare no effort to find out more optimized projects so that the refugees will live more comfortably. Our model is established to facilitate the movement of refugees from their countries of origin into safe haven countries.

Keywords: Refugees, the Analytic Hierarchy Process, Refugee crises

1. Introduction

The total number of refugees has increased significantly and consistently over the past few years. Therefore, considerable attention has been given to refugee intergration policies and practices in many countries and regions. In order to facilitate the movement of refugees from their countries of origin into safe haven countries, we firstly need to analyze the source of refugee crises. Then, we also figure out the weight of each factor so that we can reduce the refugee crises more reasonably.

2. Assumptions

The age distribution of immigrant population is the same as the age distribution of their home people. The distance that refugees cover is the straight-line distance between their own countries' capital and their target countries' capital. The crisis degree has an inverse relationship with the immigrant population. During immigration, there will not occur any emergent incidents, which can result in the death of refugees, taking terrorist attack as an example.

3. Symbol Interpretation

Table 1

M_{ij}	the number of refugee from i location to j location
P_i	the population of i location
P_j	the population of j location
D_{ij}	the distance between i location and j location
KD	scale coefficient of distance formula
Kr	scale coefficient of rate model
U_i	unemployment rate of i location
U_j	unemployment rate of j location
CR	Consistency Ratio
CI	Coherence Index
RI	Random Consistency Index
SI	Security Index

4. Analysis of influencing factors of refugee crises

To facilitate the movement of refugees from their countries of origin into safe haven countries, we firstly analyze the influencing factors of refugee crises. To find out comprehensive factors, we take external environment and refugee themselves into consideration.

4.1 Analysis of migration distance

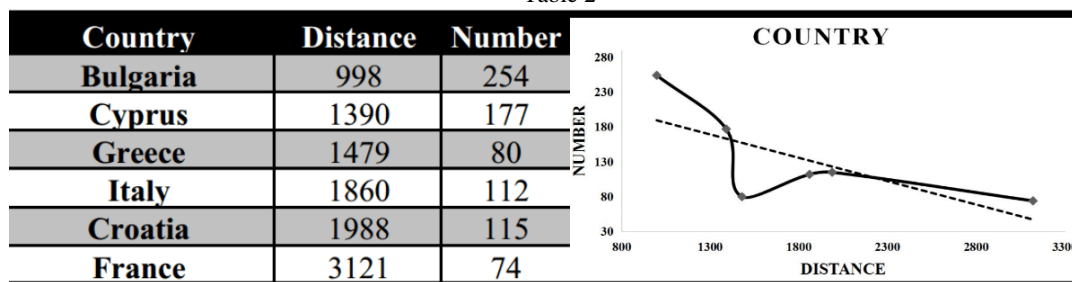
The refugees travel multiple routes - from the Middle East through (1) West Mediterranean, (2) Central Mediterranean, (3) Eastern Mediterranean, (4) West Balkans, (5) Eastern Borders, and (6) Albania to Greece. We take the migration distance into account, which is identified as the straight-line distance between their own countries and their destination. We predict empirically that the longer the distance is, the fewer the immigrant population will be. The idea is inspired by the Gever Model. The solution[1] is:

$$M_{ij} = K_D \frac{P_i P_j}{D_{ij}^2}$$

In order to prove our forecast, we proceed qualitative analysis. To begin with, we measure the straight distances on the world map accurately, getting six figures which are the distances from Syrian to Cyprus, to France, to Italy, to Croatia, to Bulgaria, and to Greece.

We choose Syria as the representative of the Middle East, because Syrian has the largest number of refugees compared with other countries. To observe the relationship between the distance and the immigrant population intuitively, we draw the chart below based on the data we collected.[2]

Table 2



From the chart above, we can come to a conclusion reasonably.

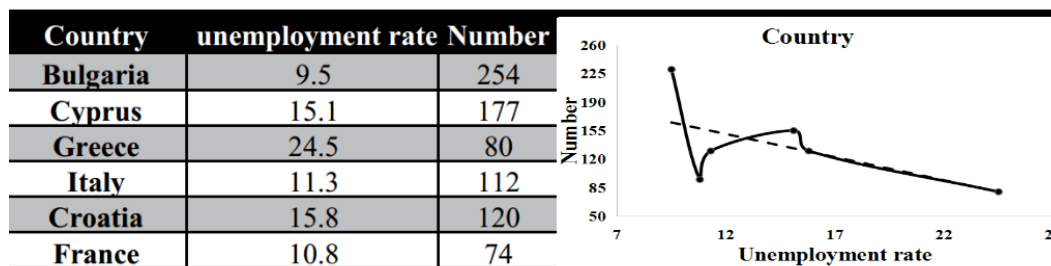
4.2 Analysis of countries' capacity

Many countries have been taking in refugees, such as Sweden, Hungary, Austria, Norway, and Finland etc. Therefore, we consider that the taking-in countries' capacity plays a key role in deciding the refugee crises. In order to describe the countries' capacity more specifically, we design three discrete indexes to weigh it. They are the unemployment rate, the number of available resources and the number of entry points respectively.

4.2.1 The unemployment rate

We forecast that the unemployment rate and the immigrant population have an inverse relationship. Trying to find and grasp the law of development of the fund data[3], we can get trend figure as shown below:

Table 3



From the figure above, we can see that the higher the country's unemployment rate is, the less the refugees will choose it as their destination. The result accords with the fact. The refugees may be living more comfortably if they go to a country with a low unemployment rate.

4.2.2 The number of available resources

The refugees were forcibly displaced worldwide. When survival is taken into account, the number of available resources is fairly important to meet their fundamental necessities.

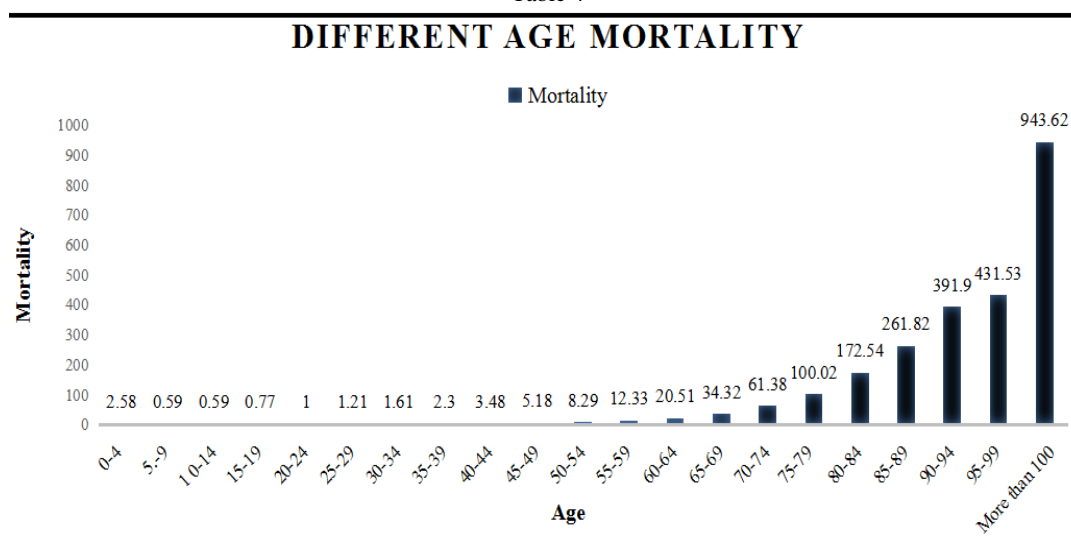
4.2.3 The number of entry points

The entry point is defined as the entrance, where the immigrant must pass by in order to enter their target country. The more entry points there are, the more convenient it is for refugees immigration.

4.3 Analysis of refugee age

In view of the attributes of the individuals themselves, we find out the death rate of different refugee age groups.[4] It is shown below:

Table 4

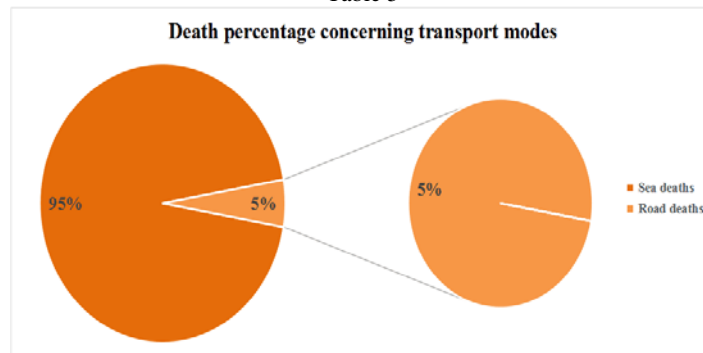


From the chart above, we naturally come to a conclusion that age is an influential factor of refugee crises.

4.4 Analysis of traffic modes

During the immigration process, there are water route and land route. It is obvious that the refugees will experience different traffic modes. To find out the subtle relationship between traffic modes and crisis degree, we refer to numerous data[5], and we present the result by the pie graph below:

Table 5



From the above graph, we can see the death percentage is dramatically different between water and land routes. Then, we treat traffic mode as an essential influential factor.

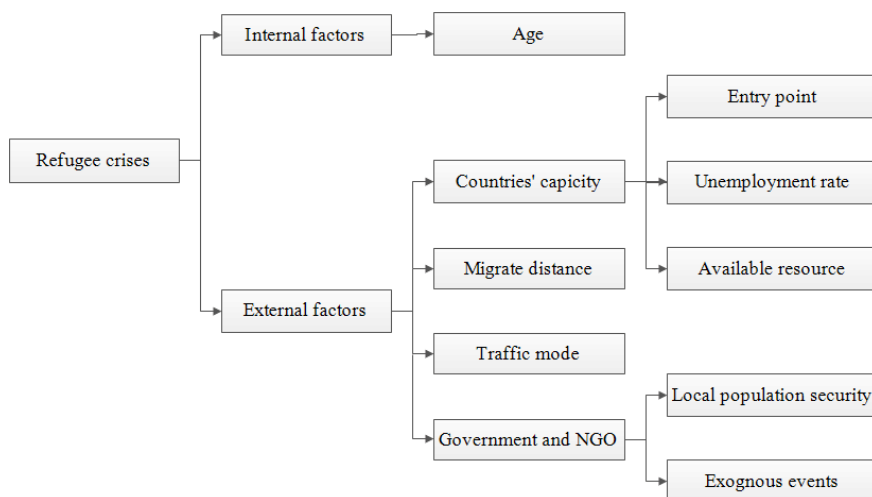
4.5 Analysis of governmental and nongovernmental roles

The policies of target countries influence refugees directly. As is known to all, the policies are issued by the government. Considering governmental and nongovernmental attitude, we think it is decided for the local people's safety to a large degree.

4.6 Weighing the factors

With the consideration of all the factors, the analytic hierarchy diagram is given below:

Table 6



From the diagram above, we can see the relationship among the factors clearly. And we also figure out the weight of each factor by using Analytic Hierarchy Process (AHP) algorithm based on it. Afterwards, we do the consistency check of matrix A. The coherence of the matrix is qualified. Through calculation by MATLAB, $CR < 0.1$, the coherence of the matrix is qualified.

5. Conclusion

Figuring out the weight by using AHP, and then we get more scientific result. To analysis the result intuitively, we fit out curves using real data as comparison. Afterwards, we can judge the tendency correctly. The factors which could affect refugee crises include migration distance, target

countries' capacity, unemployment rate, available resources, entry points, refugee age, traffic modes and the governmental and nongovernmental altitude.

6. Summary

Starting from internal and external aspects of refugees, we find out the main influential factors of crises and then analyze them carefully. To study the countries' capacity, one of the external factors more accurately, we design five secondary class parameters to describe it including government and NGO etc. We consider that countries' capacity can be influenced by governmental and nongovernmental altitude, which is mainly decided with the concern about the locals' security and if there are some exogenous events has happened in their neighboring countries. We also figure out the weight of each factor by using Analytic Hierarchy Process(AHP) algorithm served as a stepping stone to our later study.

References

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