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Stratified Analysis of the Assessment of Human Development in Iraq

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Abstract--- *This research aims to reach the best distinction function for the variables that have common characteristics and characteristics to distinguish between groups, in order to identify the conditions of governorates that suffer from the problem of deprivation, which allows the interested parties and regulatory bodies to intervene to take corrective measures, and the main indicators of the deprivation guide have been adopted and included (Education, health, infrastructure, housing, protection) based on the 2010 data available in the Central Bureau of Statistics***.**

Keywords--- *Stratigraphic Analysis, Function of Distinction, Hierarchical Analysis.*

I. RESEARCH METHODOLOGY

1.1 Introduction

Modern development tends to adopt the concept of human poverty in resent literatures, since it is vat sensitive case which the multiple dimensions of the phenomenon of poverty. Evidence of the living conditions adopted in this research are included in the context and approaches most appropriate to Iraq, and this is not in line with the global trend to adopt the concept of human poverty, but also for practical considerations as well, as well as available data on the family Budgets, income and spending are necessary in order to measure income poverty as a proportion A large percentage of the population depends on food subsidies. This is despite the fact that commodity prices were subsidized on a very large scale (especially fuel prices), and that the market does not operate regularly, and the labor market suffers from great stresses due to insecurity and other causes, which has made dependence economic logic in an approach to poverty, And which was built in adopting the concept of income poverty and calculating poverty lines on this basis is inappropriate. The characteristics of poverty in Iraq are more complex and interdependent, often not linked to economic resources, but to other factors related to the characteristics of the transition period, the deterioration of institutions, services, and turmoil in Iraqi society. On this basis, it seems that the approach of poverty from the perspective of living standards and human deprivation in a range of areas (health, education, housing, services, security, economic resources ....) is more objective and more appropriate than other approaches.

Therefore, it was necessary to adopt a classification that could lead to indicators that determine the categories of Iraqi society and determine the living standards, poverty, and degrees of deprivation, according to the approval of some economists. Families and individuals are classified into five categories of living, as follows:

1. A very low standard of living (severe disadvantage), where the value of the standard of living is between zero and less than 0.75
2. A low standard of living (severe deprivation), where the value of the standard of living ranges between 0.75 and less than 1

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3. The average standard of living (low defect) where the value of the standard of living is between 0.75 and less than 1
4. A high standard of living (low defect) The value of the standard of living ranges from 1.25 to less than 1.5
5. A very high standard of living (deprivation is very little) The value of the standard of living ranges between 1.5 and less than 2

On the other hand, the reality of the standard of living in Iraq reflects very low levels in rural areas compared to cities due to lack of services and infrastructure, which led to increased rates of deprivation of basic needs such as education, health, etc., because this led to the migration of many villagers And the countryside to the city centers. In order to achieve an acceptable growth rate in the governorates, the state went to increase the size of allocations for the development of regions and governorates, where distribution was made on the basis of (60%) according to the criteria of relative importance of the population and (40%) according to the deprivation criterion.

1.2 Research Problem

The Iraqi economy has suffered a serious deterioration as a result of wars and local unrest more than four decades ago, which negatively affected the activity and the overall economic and social infrastructure, which reflected negatively on most groups of Iraqi society, especially the poor and fragility. Groups and below the poverty level. There was a great variation in the standard of living of the population between the governorates, which led to the need for a mechanism to identify the regions that suffer from high levels of deprivation and put them in groups characterized by homogeneity, and thus the problem of research on how to identify these groups and thus take the necessary measures by the state to address these problems In order to reduce them and reduce the contrast between the provincial groups.

1.3 Research Objective

The research aims to classify the Iraqi governorates into homogeneous groups within each group and heterogeneous among them, according to the variables of the evidence of deprivation in Iraq and the use of the method of class analysis.

1.4 Research Methodology

For the purpose of achieving the research objectives, a quantitative approach based on multivariate analysis was used using the method of separation analysis.

1.5 Research Hypotheses

The research includes testing the following null hypotheses:

H01: There are no statistically significant differences in the classification of governorates between groups according to the variables of the deprivation index in Iraq

H02: There are no statistically significant differences between the deprivation index variables, according to the governorf Living Standard

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Table 1: Percentages Levels according to Iraqi Governorates for the Year 2010

housing	infrastructure	health	education	protection and social | safety	economic situation	Governorate
31.0	29.4	41.5	33.6	28.8	44.0	Dohuk
25.3	59.1	32.1	34.1	28.6	50.0	Nineveh
38.2	35.9	30.9	26.3	26.6	17.0	Sulaymaniyah
14.0	61.9	31.8	21.7	33.5	23.5	Kirkuk
34.1	33.4	40.3	30.1	29.0	20.9	Erbil
23.0	83.5	34.0	17.9	49.5	46.3	Diyala
3.9	49.5	17.6	15.1	29.8	28.2	Anbar
29.9	34.6	24.4	16.2	36.1	20.4	Baghdad
38.9	77.7	27.5	46.5	27.7	39.4	Babylon
40.0	61.9	15.3	54.1	25.3	41.5	Karbala
36.0	62.7	40.4	35.4	25.0	41.9	Wasit
24.2	72.5	23.5	35.0	39.3	36.5	Salahuddin
38.5	45.2	22.8	41.0	26.1	41.8	Najaf
50.3	65.3	44.0	42.3	33.5	48.0	Al-Qadisiyah
44.0	70.4	29.6	50.5	34.8	57.9	Double
46.7	76.8	29.1	36.6	31.9	52.6	Dhi Qar
47.3	86.7	54.4	51.1	29.1	40.7	Maysan
24.9	66.6	28.2	20.1	16.6	40.3	Basrah

II. THEORETICAL SIDE

2.1 Concept of Discriminatory Analysis

The discriminatory analysis method is used to classify or predict problems in which the dependent variable is qualitative, by identifying and classifying the relevant groups of the study and then collecting the data of the elements of each group, which represents the group of differential variables and which measures the distinguishing characteristics of each of the groups that have been identified. In addition, discriminatory analysis creates the best linear set of these properties or variables and is called the discriminatory function. These variables have discriminatory factors that express the importance of each of the variables in distinguishing between groups, and therefore there becomes a basis for classifying any of the observations within one group. 1

On this basis, this analysis enables us to build a base for the redistribution and characterization of the Iraqi governorates within the special structure of some livestock problems, through the data provided by the livestock surveys and their distribution at the various levels to which they belong.

2.2 Study the Extent of Overlap between Societies

The discriminatory method of separating societies relies on having information about two or more societies that are similar in characteristics but are quantitatively separate. Assuming that there are (K) groups and each group includes (ni) of observations such that: 2

Using discriminatory analysis, the vector vector (Y) for each group is converted to the formula: -

1 Al-Jouni, Dr. Unique. Ghanem, d. Ghanem "Multivariate statistical analysis (discriminatory analysis) in describing and distributing families within the social and economic structure in society" Damascus University Journal of Economic and Legal Sciences. Volume 23, Second Issue 2007 p. 316

2 L.Hintze,Dr.Jerry "NCSS statistical system" Kaysville Utah ,2007,CH.440

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$$zij = a * yij \quad (1)$$

For the purpose of finding the vector (a), it increases the differences between the vector averages (1) by solving the following equation: -

$$(\mathbf{E}^{-1}\mathbf{H} - \lambda\mathbf{I})\mathbf{a} = \mathbf{0} \quad (2)$$

While :-

$$\mathbf{H} = \sum_{i=1}^{k} n_i(\bar{\mathbf{y}}_{i.} - \bar{\mathbf{y}}_{..})(\bar{\mathbf{y}}_{i.} - \bar{\mathbf{y}}_{..})' = \sum_{i=1}^{k} \frac{1}{n_i}\mathbf{y}_{i.}\mathbf{y}'_{i.} - \frac{1}{N}\mathbf{y}_{..}\mathbf{y}'_{..}$$

$$\mathbf{E} = \sum_{i=1}^{k}\sum_{j=1}^{n_i}(\mathbf{y}_{ij} - \bar{\mathbf{y}}_{i.})(\mathbf{y}_{ij} - \bar{\mathbf{y}}_{i.})' = \sum_{i=1}^{k}\sum_{j=1}^{n_i}\mathbf{y}_{ij}\mathbf{y}'_{ij} - \sum_{i=1}^{k}\frac{1}{n_i}\mathbf{y}_{i.}\mathbf{y}'_{i.}$$

The solution with respect to formula (2) yields the distinct roots (Eigen value) (iλ) corresponding to the distinct vectors (ai) with respect to the matrix (E-1H) [].

Assuming that: -

$$\lambda 1 > \lambda 2 > \lambda 3 >$$

Therefore, the largest distinct root (λ1) represents the maximum value to: - [3]

$$\lambda = \mathbf{a}'\mathbf{H}\mathbf{a}/\mathbf{a}'\mathbf{E}\mathbf{a} \quad (3)$$

Consequently, the first discriminatory function that increases the difference between group averages is: -

$$z_1 = \mathbf{a}'_1\mathbf{y} \quad (4)$$

At the distinct vector level (s), the discriminatory functions that maximize the difference between the averages of the totals are as follows:

$$z_1 = \mathbf{a}'_1\mathbf{y}, z_2 = \mathbf{a}'_2\mathbf{y}, \ldots, z_s = \mathbf{a}'_s\mathbf{y}$$

The distinct roots of the matrix are used to find the relative importance of the discriminatory function, as follows: -

$$\frac{\lambda_i}{\sum_{j=1}^{s}\lambda_j}. \quad (5)$$

3 Alvin C.Rencher "Methods of multivariate analysis" Brigham Young university ,2nd,2002,p.278

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2.3 Steps to Conduct the Discriminatory Analysis

In order to perform the separation (discrimination) analysis, the following stages must be passed: -

2.3.1 Finding the Dependent (Taxonomic) Variable

The researcher determines which groups he wishes to classify and this is done either by using advance information about the boundaries between the groups or by analyzing the hierarchy, which is one of the methods of (Cluster analysis). [4]

2.3.2 Choosing the Component Variables for the Differential Equation

The independent variables that make up the model are chosen by choosing the variables with the highest value (F) and lowest value (Wilks Lambda).[5] The rate (F) represents the contribution of independent variables to distinguishing between groups, after taking into account the changes resulting from the rest of the differential variables. The Wilkes Lambda rate or standard measures the degree of spacing between the two groups.

2.3.3 Unifying Discriminatory Transactions

The standard discriminatory coefficients are the values (b) shown in the following equation: - [6]

$$y^* = b1 * x1 + b2 * x2 + b3 * x3 + \dots \dots\dots\dots + bn * xn \qquad (6)$$

While :-

y *: - the standard discriminatory value

xn: - the standard differential variable n

bn: - the standard differential parameter

n: - the number of standard differential variables that make up the differential equation. Equal (number of sets - 1)

The standard differential equation is used to determine the importance of variables in composition, since the variables having an absolute value are large. It contributes significantly to the formation of the discriminatory equation, and the indicative discriminatory coefficient means that the contribution to the discrimination ratio is positive or negative.

Using the standard differential equation, the boundaries between differential coefficients between the two groups are also determined, where the boundaries represent the mean of the standard differential marks for the groups.

2.3.4 Non-Standard Discriminatory Transactions

Nonstandard differential coefficients are used to create the discriminatory function in place of the standard

4 Dokhi Al-Hunaity "Distinguishing poor families from non-poor in remote areas of the southern Jordan region" Journal of Development and Economic Policies. Volume Seven - First Issue. 2004 p. 8
5 Alvin C.Rencher "Methods of multivariate analysis" Brigham Young university ,2nd,2002,p.451
6 Ali Shaheen, "A Proposed Model for Predicting the Stumbling of Banking Institutions Operating in Palestine," An-Najah University Journal, Vol. 45, 2011, p. 862.

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differential coefficient.7 This is because group differential variables appear in real values and ratios, not in normative values. It should be noted that non-standard differential coefficients do not give the relative importance of differential variables because they are derived from primary data, that is, the real values of differential variables.

Non-standard discriminatory factors are represented by the value (b) shown in the following equation:

$$y = b1 * s1 + b2 * s2 + b3 * s3 + \dots \dots \dots \dots + bn * sn + f \qquad (7)$$

While :-

f: - constant

sn: - Non-standard discriminatory variables

bn: - nonstandard discriminatory coefficients

y: - nonstandard differential equation sign

2.4 Test the Accuracy of the Discriminatory Job

The accuracy of the discriminatory job is tested as follows: - []8

2.4.1 Test Prediction Validity

This is done by finding the value of the taxonomic treatment from equation (4) by multiplying the non-standard discriminatory factors for each ratio or variable by its actual value, then adding a product for all ratios within the taxonomic equation in addition to adding or subtracting a fixed number from them. By comparing the group classification value with the actual values of the group, the item is classified within that group or others.

2.4.2 The Ability of the Discriminatory Function to Distinguish between Groups

To test the ability of the discriminatory function to distinguish between groups, it is based on the following statistical indicators

2.4.3 The Value of the Aegean

$$\lambda = \frac{\mathbf{a}'\mathbf{H}\mathbf{a}}{\mathbf{a}'\mathbf{E}\mathbf{a}}, \qquad \textbf{(8)}$$

Intrinsic values (distinct roots) are used to discover the ability of the differential function between groups(9), because the high value of the distinct roots is an indication of the function of the function to distinguish between groups. Distinctive roots can be extracted as follows: -

$$\mathbf{H} = \sum_{i=1}^{k} n_i (\bar{\mathbf{y}}_{i.} - \bar{\mathbf{y}}_{..})(\bar{\mathbf{y}}_{i.} - \bar{\mathbf{y}}_{..})' = \sum_{i=1}^{k} \frac{1}{n_i} \mathbf{y}_{i.} \mathbf{y}_{i.}' - \frac{1}{N} \mathbf{y}_{..} \mathbf{y}_{..}'$$

7 Dokhi Al-Hunaity "Distinguishing poor families from non-poor in remote areas of the southern Jordan region" Journal of Development and Economic Policies. Volume Seven - First Issue. 2004, p. 9
8 Abdel-Latif, "The Role of Organizational Culture in Predicting the Power of Organizational Identity - A Field Study on Faculty Members in Private Jordanian Universities" Damascus University Journal of Economic and Legal Sciences Volume 26. 2010 p. 145
9 Alvin C.Rencher "Methods of multivariate analysis" Brigham Young university ,2nd,2002,p.277

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$$\mathbf{E} = \sum_{i=1}^{k}\sum_{j=1}^{n_i}(\mathbf{y}_{ij} - \bar{\mathbf{y}}_{i.})(\mathbf{y}_{ij} - \bar{\mathbf{y}}_{i.})' = \sum_{i=1}^{k}\sum_{j=1}^{n_i}\mathbf{y}_{ij}\mathbf{y}_{ij}' - \sum_{i=1}^{k}\frac{1}{n_i}\mathbf{y}_{i.}\mathbf{y}_{i.}'$$

However, the formula (8) is written as follows: -

$$\lambda_1 = \frac{\mathrm{SSH}(z)}{\mathrm{SSE}(z)} \tag{9}$$

$$\text{SSE=}\ \sum_{ij}(z_{ij} - \bar{z}_{i.})^2$$

$$\mathrm{SSH} = n\sum_{i=1}^{k}(\bar{z}_{i.} - \bar{z}_{..})^2$$

2.4.4 The Canonical Relationship

The legal correlation coefficient measures the quality of conciliation for the discrimination function, as the high value of the legal correlation coefficient is an indication of the high quality of conciliation for the discrimination function and is equal to the square of the determination coefficient 10

The total correlation coefficient is calculated by dividing the sum of the squares of differences between groups by the square root of the sum of the squares of the total differences.

2.4.5 Wilkes Lambda

This test is used to indicate the ability of the job to distinguish between groups. It is found as follows: -[11]

$$V_m = -\left[N - 1 - \tfrac{1}{2}(p + k)\right]\ln\Lambda_m \tag{10}$$

$$\Lambda_m = \prod_{i=m}^{s}\frac{1}{1+\lambda_i},$$

Test statistic λ has a quay square distribution with a degree of freedom, so if the calculated value is less than the tabular value, it is an indication that the discriminatory function has the ability to distinguish between groups.

2.4.6 Test F

The F test is used to test the statistical significance of the ability of the discriminatory function to separate groups, as the test statistics are: -[12]

10 Alvin C.Rencher "Methods of multivariate analysis" Brigham Young university ,2nd,2002,p.284
11 Walfgang Hardle"Applied multivariate statistical analysis" Berlin and Louvain-la-Neuve 2003.p.323
12 Walfgang Hardle"Multivariate statistics"Printed on acid – free paper .2007,p.227

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$$F = \frac{1 - \Lambda_m^{1/t}}{\Lambda_m^{1/t}} \frac{df_2}{df_1} \quad (11)$$

$$df_1 = (p - m + 1)(k - m),$$

$$df_2 = wt - \tfrac{1}{2}[(p - m + 1)(k - m) - 2].$$

$$\Lambda_m = \prod_{i=m}^{s} \frac{1}{1 + \lambda_i}, \qquad m = 2, 3, \ldots, s,$$

: Represents the number of totals

P: - represents the number of variables

If the calculated value of F is greater than the value of Table F below a certain level and degree of freedom (df1, df2) this means that the discriminatory function has the ability to distinguish between groups.

III. THE APPLIED SIDE

For the purpose of applying the discriminatory analysis method to the data of the deprivation guide in Iraq, the following stages were passed: -

3.1 Classification of the Iraqi Governorates According to the Groups they Belong to

In order to find the specific variable (classification variable) that is used as a dependent variable in the discrimination function of the deprivation index in Iraq, a hierarchical analysis method, which is one of the group analysis methods, is used to classify governorates into (4, 3, 2) groups

Table 2: Provincial Membership Groups which they belong to

Classification into four groups	classification into three groups	classification into two groups	Provinces
1	1	1	Dohuk
1	1	1	Nineveh
2	2	2	Sulaymaniyah
2	2	2	Kirkuk
2	2	2	Erbil
3	1	1	Diyala
2	2	2	Anbar
2	2	2	Baghdad
1	1	1	Babylon
1	1	1	Karbala
1	1	1	Wasit
3	1	1	Salahuddin
1	1	1	Najaf
1	1	1	Al-Qadisiyah
1	1	1	Double
1	1	1	Dhi Qar
4	3	1	Maysan
1	1	1	Basrah

The following table was created: -

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It is indicated from Table (2) that the governorate of (Maysan) belongs to the fourth group, while the governorates (Sulaymaniyah, Anbar, Kirkuk, Erbil and Baghdad) belong to the second group and that each governorate (Salah al-Din, Diyala) belongs to the third group. As for the rest of the governorates, they belong to the first group, in the case of classification into four groups. Where the results of accuracy in the case of classification into four groups were as follows: -

Table 3: Results of Classification Accuracy into Four Groups

Classification Results[a,c]							
		الترميز	Predicted Group Membership				Total
			1.00	2.00	3.00	4.00	
Original	Count	1.00	10	0	0	0	10
		2.00	0	5	0	0	5
		3.00	0	0	2	0	2
		4.00	0	0	0	1	1
	%	1.00	100.0	.0	.0	.0	100.0
		2.00	.0	100.0	.0	.0	100.0
		3.00	.0	.0	100.0	.0	100.0
		4.00	.0	.0	.0	100.0	100.0
Cross-validated[b]	Count	1.00	9	0	0	1	10
		2.00	0	3	2	0	5
		3.00	0	1	1	0	2
		4.00	1	0	0	0	1
	%	1.00	90.0	.0	.0	10.0	100.0
		2.00	.0	60.0	40.0	.0	100.0
		3.00	.0	50.0	50.0	.0	100.0
		4.00	100.0	.0	.0	.0	100.0
a. 100.0% of original grouped cases correctly classified.							
b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.							
c. 72.2% of cross-validated grouped cases correctly classified.							

It is noted from Table (3) that the governorates of Group I, II, III, and IV were classified and accurate (100%). This corresponds to the variables used in the research, and is evidence of deprivation in Iraq.

3.2 Average Variables in Different Groups

In order to study the advantages of each of the groups, and to classify them according to the guide of deprivation in Iraq. The following cases were identified: -

For the purpose of knowing the advantages of groups in relation to the deprivation index in Iraq. The second method was used for the methods of mass analysis, represented by the average of the variables, as follows: -

Table 4: Average of the Variables in the Different Groups Regarding the Variable of the deprivation Guide in Iraq

Final Cluster Centers				
	Cluster			
	1	2	3	4
Zscore (economy_set)	.70957	.25584	-.40082-	-.65444-
Zscore (social_security_security)	-.04180-	1.99343	-.28638-	-.57713-
Zscore (Education)	.80621	-.59029-	-.01026-	-1.19495-
Zscore (Health)	.61116	-.28343-	-.19506-	-.57822-
Zscore (infrastructure)	.76527	1.03064	-.94361-	-.01588-
Zscore (housing)	.91593	-.75975-	.08833	-1.53145-

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From Table (4), the following are noted:

1. With regard to the economic situation, the average economic situation for the governorates of the first group is higher than the average for all governorates, which is equivalent to (0.70957) for the standard deviation. While the problem of infrastructure and the governorates of the second group stands out more than the other governorates with an amount of (1.03064). The same applies to housing, as the governorates of the first group were suffering from this problem greater than the rest of the governorates and the equivalent (0.91593) of the standard deviation.
2. With regard to social protection and safety, the governorates of the second group suffer from this problem by (1.99343) greater than the standard deviation .. As for the health variable, the governorates of the first group are: higher than the average of all governorates and the equivalent of (0.61116) Of the standard deviation.
3. With regard to education, the governorates of the first group suffer from this problem more than the rest of the governorates and the equivalent (0.80621) of the standard deviation

3.3 Determine the Dependent Variable

It is an index of the classification of governorates into groups, which will be predicted through independent variables (evidence of deprivation in Iraq). For the purpose of reaching this variable, a hierarchical analysis was used, as follows:

Table 5: Classification Variable According to the Deprivation Index in Iraq

AL Hirman Guide	**Provinces**	**ت**
1	Dohuk	**1**
1	Nineveh	**2**
2	Sulaymaniyah	**3**
2	Kirkuk	**4**
2	Erbil	**5**
3	Diyala	**6**
2	Anbar	**7**
2	Baghdad	**8**
1	Babylon	**9**
1	Karbala	**10**
1	Wasit	**11**
3	Salahuddin	**12**
1	Najaf	**13**
1	Al-Qadisiyah	**14**
1	Double	**15**
1	Dhi Qar	**16**
4	Maysan	**17**
1	Basrah	**18**

3.4 Independent Variables

It is the variables that were used to find a differential equation for classifying cases according to the groups of approved variables represented by the Iraq Deprivation Manual. When selecting these variables, which consist of the proposed model to distinguish between provinces with problems, according to the criterion of the highest value (F)

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and the lowest value (for wolves Lambda Wilks Lambda) and using discriminatory analysis, the variables were defined as follows: -

Table 6: (Wilkes Lambda Progressive, F) Test for Variables Included in the Analysis

		Tolerance	F value	Lamda value
	% protection	**.544**	**77.614**	**.946**
	% infrastructure	**.544**	**6.184**	**.147**
b. Minimum partial F to enter is 3.84.				
c. Maximum partial F to remove is 2.71.				

It is noted from Table (6) that the most important variables in distinguishing between groups with regard to the deprivation index is the relative distribution of the lack of (protection and infrastructure) due to the fact that the calculated values of F for them amount to (77.614,6.184) greater than the minimum levels necessary to include the variable in the analysis . In addition, the relatively high value of the tolerance index indicates that these variables do not have a linear correlation problem between them. [13]

3.5 Border Point

In order to determine the separation point between the governorates groups, the average distance between the middle centers of each group was depicted as follows:

Table 7: Rounded Jobs in the Midpoint Group

Functions at Group Centroids			
symbolization	Function		
	1	2	3
1.00	3.048	-.385-	-.176-
2.00	-5.073-	-.633-	.670
3.00	-3.912-	1.760	-2.015-
4.00	2.705	3.496	2.442
Unstandardized canonical discriminant functions evaluated at group means			

It is noted from Table (7) that the mean values that distinguish between groups with respect to the first discriminatory job have reached (3.048, -3.912, - 5.073 2.705). This means that the value of the mark of the province with respect to the first job, if it is negative, the province is classified in the third or second group. If the token value is positive, it is classified under the first or fourth group, and the second discrimination function is moved to more accurately classify that province within one of these groups.

3.6 Determine the Standard Discriminatory Coefficients

Table 8: Standard Discriminatory Transactions

Standardized Canonical Discriminant Function Coefficients			
	Function		
	1	2	3
Economic situation	1.450	-.272-	-.492-
Social_security	-1.404-	.393	-.516-
Education	.342	.488	.339
the health	.203	.686	.655
Infrastructure	-.060-	.789	.083
The dwelling	.447	-.412-	-.036-

In order to measure the actual contribution of the independent variables in relation to the dependent (taxonomic)

13 Tolerance =1- determination coefficient

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variable of the deprivation index in Iraq, the following table was created:

It is noted from Table (8) that the independent variable (economic situation), whose standard value was (1.45), had the largest contribution to the first discriminatory function. As for the second discriminatory position, the variable (infrastructure) made a significant contribution to creating that function with a record value of 0.789.

3.7 Determination of Non-Standard Discriminatory Factors

For the purpose of calculating the distinctive signs of governorate groups in relation to the deprivation index in Iraq, the following table was created: -

Table 9: Nonstandard Discriminatory Coefficients

Canonical Discriminant Function Coefficients			
	Function		
	1	2	3
Economic situation	.254	-.048-	-.086-
Social_security	-.280-	.078	-.103-
Education	.037	.053	.037
the health	.023	.079	.075
Infrastructure	-.004-	.058	.006
The dwelling	.043	-.040-	-.003-
(Constant)	-4.312-	-7.012-	2.580
Unstandardized coefficients			

3.8 The Ability of the Discriminatory Function to Distinguish between Groups

The Eigen value, illustrative contrast ratio, and statutory correlation coefficient were used to distinguish between posts of statistical significance for all governorates according to the Iraq Deprivation Index, as follows: -

Table 10: Results of Underlying Root Values

Eigenvalues				
Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	18.537[a]	87.1	87.1	.974
2	1.564[a]	7.3	94.4	.781
3	1.189[a]	5.6	100.0	.737
a. First 3 canonical discriminant functions were used in the analysis.				

It is noted from Table (10) that the interpretation of the contrast ratio for the first discriminatory position has reached (87.1). In addition, the job is characterized by a high quality of conciliation, as the value of its legal correlation coefficient (0.974). Note that the square of the legal correlation coefficient equals (0.948) and the square of the coefficient of determination, that is, (94.8%) represents the change in group membership due to the change in the expected variables and the following table shows the statistical significance of the estimated model:

Table 11: Statistical Significance Test for the Model

Wilks' Lambda				
Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 3	.009	56.368	18	.000
2 through 3	.178	20.700	10	.023
3	.457	9.400	4	.052

It is noted from Table (11) that the first distinct job has a statistical significance under the level of (0.05) due to the fact that the level of importance and quantity (0.000) is less than the level of importance (0.05). The second distinguishing function, is not statistically significant below the level (0.05)

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IV. CONCLUSIONS

Achieve

1. With regard to the economic situation, the average economic situation for the governorates of the first group is higher than the average for all governorates, which is equivalent to (0.70957) of the standard deviation. While the problem of infrastructure and the governorates of the second group is more prominent than the rest of the governorates by (1.03064). The same applies to housing, as the governorates of the first group were suffering from this problem greater than the rest of the governorates and the equivalent (0.91593) of the standard deviation.
2. With regard to social protection and safety, the governorates of the second group suffer from this problem by (1.99343) greater than the standard deviation .. As for the health variable, the governorates of the first group are: higher than the average of all governorates and the equivalent of (0.61116) Of the standard deviation.
3. With regard to education, the governorates of the first group suffer from this problem more than the rest of the governorates and the equivalent (0.80621) of the standard deviation

Recommendations

1. Attention to the security situation, especially for the governorates of the first group
2. Paying attention to the economic situation, especially for the governorates of the second group
3. Attention to education, especially for the governorates of the first group
4. Attention to infrastructure, especially the governorates of the second group.

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