

## **Remittances in Albania in the frame work of South-Eastern European countries and crises gripped European Union members**

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### **Abstract**

*Our study aims at defining the reasons of a downward trend of remittances in Albania lately. We mainly adopted the method of the questionnaire to study such a topic. Our questionnaire covers Albanian migrants in Greece and Italy.*

*The analyses of the data provided by our questionnaire defines such factors influencing the level of the remittances:*

- *The economic crises i.e. the economic situation in the host country*
- *Job insecurity and wage lowering*
- *Living cost increase as well as rising costs of children's education*
- *Family reunion*
- *Weaker links of the migrants and his family members in Albania*

*Our study attempts that using rather simple methods to rank the factors influencing the money flow of the remittances based on their importance. There is quite a host of methods to analyze the main factors yet we adopted one of the simplest methods that of the contingences tables and Log-Linear Models for Contingency Tables as the data offered by the questionnaire are subjective ones and not so massive, too. The data on the money flow of the remittances are rather few and unstable ones thus all the predictions based on all other methods offer similar results. We stress the fact that it is beyond any doubt that the remittances follow a downward trend every year. Judging by the models there is a very low probability to this series that it changes its trend (i.e.it increases)*

*The main factors influencing the flow of the remittances to Albania are the economic crises and the family reunion.*

**Keywords:** remittances, the economic crises, family reunion, the contingences tables, Log-Linear Models for Contingency Tables

## Tables of Contingence

Thanks to the analyses of the questionnaires we came to the conclusion that the main factors influencing the remittances are:

- The economic crises i.e. the economic situation in the host country
- Job insecurity and wages
- An increase in the living cost especially the cost of the children education
- Family reunions
- Weaker links between the migrant worker and his beloved ones in Albania

We have attempted in our work to rank the factors influencing the remittances based on their importance by applying simple models. There is a host of methods suitable to analyze such factors but we have opted for one of the simplest methods, that of the Table of the contingence as the data received through the questionnaires are subjective ones (They depend on what the migrant workers answered to our questions). This method is adopted from our study.[55] The tables of the contingence for our data are as follows:

## Tables of Contingence

A two way table of our case reflects the values observed simultaneously on both categorical statistical variables (qualitative, quantitative),

### 1. Two ways tables

According to [31]: Let us have  $(x_1, y_1) \dots (x_n, y_n)$  the data of respectively to qualitative variables X and Y. A simple description of (X;Y) is the representation of the values  $x_i$  and  $y_i$  as a two ways table which is called a two ways table of contingence let us take  $p_1, p_2, \dots, p_k$  the modalities of the variable X, while  $q_1, q_2, \dots, q_r$  the modalities of the variable Y. Then the matrix M of the order  $k \times r$  whose elements are the numbers  $x_{ij}$ , where  $x_{ij}$  is the number of the individuals having respectively the values  $p_i$  and  $q_j$ ,  $i = 1, \dots, k$ ,  $j = 1, \dots, r$  it is the table of the contingence of the variables X and Y. This table of contingence is displayed on as well as some of the theoretical background. A more comprehensive material is in my PhD thesis

### Their APPLICATION in our study

Our study aims at discovering the correlation between the quantity of the remittances lately and the family reunion and the global crises. The data acquired by our study are displayed in the following table:

- a) The quantity of the remittances lately
- b) Why those quantities

**Figure 1.1** The reasons for the fall in remittances

Cause \ Remittances quantity	Crises	Family Reunion	Unemployment	Low wages	TOTAL
Less	87	22	27	4	<b>140</b>
Never	35	46	11	5	<b>97</b>
<b>TOTAL</b>	<b>122</b>	<b>68</b>	<b>38</b>	<b>9</b>	<b>237</b>

The percentage according to the lines of the date of the above table  
 The frequency of the correlation of the remittances to the family reunion, the crises etc.

**Figure 1.2** The reasons for the fall in remittances

Cause \ Remittances quantity	Crises	Family Reunion	Unemployment	Low wages	TOTAL
Less	62.14	15.71	19.29	2.86	<b>100</b>
Never	36.08	47.42	11.35	5.15	<b>100</b>
<b>TOTAL</b>	<b>51.48</b>	<b>28.69</b>	<b>16.03</b>	<b>3.8</b>	<b>100</b>

Percentage according to the columns of the date of the above table  
 The frequency of the correlation of the quantity of the remittances to the family reunions, the crises etc.

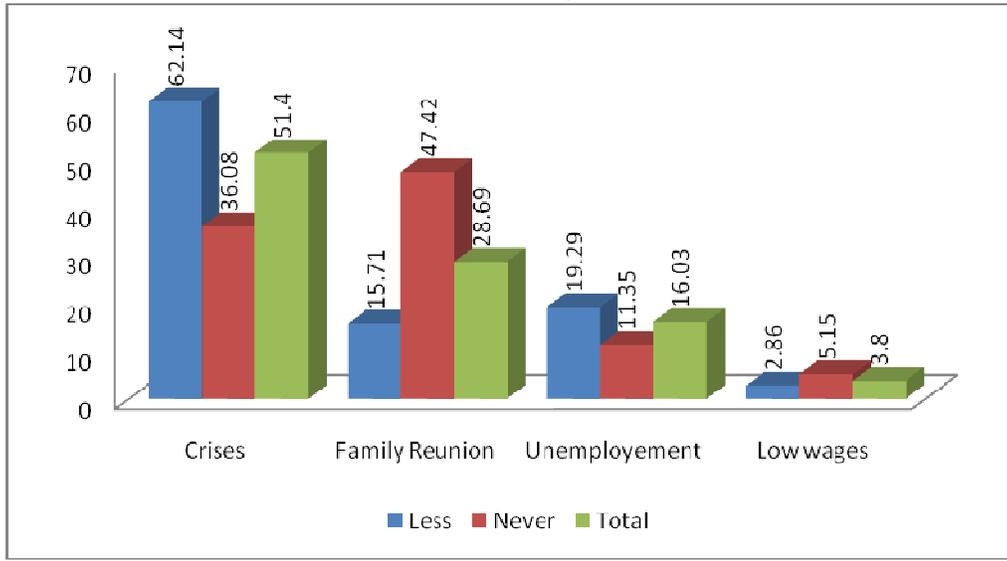
**Figure 1.3** The reasons for the fall in remittances

Cause \ Remittances quantity	Crises	Family Reunion	Unemployment	Low wages	TOTAL
Less	71.31	32.35	71.05	44.44	<b>59.07</b>
Never	28.69	67.65	28.95	55.56	<b>40.93</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

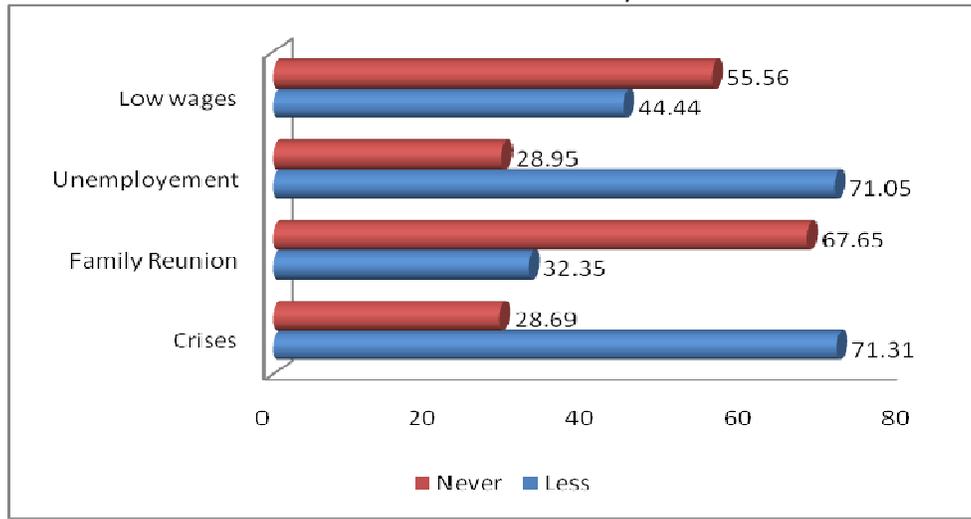
The results of the table of the contingences can be displayed graphically as a graphic where we put the variable X-the quantity of the remittances in the axis ox, while we put the other variable Y, the cause of such a quantity in the axis oy. The column equal to the value  $n_{i,j}$  or equal to the corresponding percentage is erected in the crossing point of the couples  $(p_i; q_j)$

The coming graphics are the graphics with columns of the corresponding percentage.

**Graphics 1.1** Percentage per lines. The frequency of the connection of the quantity of the remittances to crises and family reunion



**Graphics 1.2** Percentage per column. The frequency of the connection of the quantity of the remittances to crises and family reunion



- **Table of contingency 2X2**

The tables of the contingency cover the relation between the features (variables) according to their frequencies based on how they regard the information

- **Table of contingency m x n**

These two ways tables of contingency can be enlarged into multi ways tables of contingency of multi nominal variables.

## 2. The statistical independence of the tables of the contingences

- **The statistical independence of the tables of contingency 2x2**

Let us study two ways table of contingency.

Based on the theoretical material (stuff) we can study the practical application using the data of our study:

The statistical independence of the tables of remittances **Table 2.1**

	$X_1 = 0$ (Less)	$X_1 = 1$ (Never)	TOTAL
$X_2 = 0$ (Crises, unemp. wage)	118	51	169
$X_2 = 1$ (Family Reunion)	22	46	68
TOTAL	140	97	237 (= N)

After checking we come to the conclusion that these variables can be dependent ones

Let us separate the crises from the other factors and the table will be like:

**Crises separated from other factors Table 2.2**

	$X_1 = 0$ (Less)	$X_1 = 1$ (Never)	TOTAL
$X_2 = 0$ (Crises, unemp. wages)	87	35	122
$X_2 = 1$ (Family Reunion)	22	46	68
TOTAL	109	81	190 (= N)

Let us prove that it is true also in the case of the table of contingency of the type 2x3

- **The statistical independence of the table of the contingences 2x3**

Let us take into consideration the table of the contingency of the type and then let us see how our variables are following this theorem.

**Table 2.3** Table of contingency 2x4

	$X_1 = 0$	$X_1 = 1$	$X_1 = 2$	$X_1 = 3$	TOTAL
$X_2 = 0$ (Less)	87	22	27	4	140
$X_2 = 1$ (Never)	35	46	11	5	97
TOTAL	122	68	38	9	237 (= N)

Thus we realize that these variables can be dependent ones.

Such a phenomenon is true even for a general case.

### 3. Log-linear models of the Tables of Contingence the model of the chi-squared test ( of the independence)

The main hypothesis of two qualitative variables is whether they are independent ones. Such results are used for the quantitative variables, too. Let us take X and Y as two qualitative variables. Let us suppose that the modalities of the variable X are  $p_1, p_2, \dots, p_k$ , while the modalities of the variable Y are  $q_1, q_2, \dots, q_r$

By definition X and Y are independent if

$$P(X=K, Y=r) = P(X=k) P(Y=r) \quad (5.4.3-1)$$

for every couple of values k and r of the X and Y respectively displayed in. To check the hypothesis:

**H0: X and Y are independent to**

**H1: X and Y are not independent**

we would use the chi-squared test.

**Independence between variables**

Let us consider such a phenomenon in our study taking into consideration at very beginning all the modalities of causes, then taking as its modalities only two of them, namely: family reunion and crises.' First let us take into consideration the connection between the global crises, the family reunion, the unemployment, the low wages and the quantity of the remittances of these several last years.

First we use the table of the contingences 2x4

**Table 3.1** Table: The frequency of the connection of the quantities of the remittances to the respective causes.

	$X_1 = 0$	$X_1 = 1$	$X_1 = 2$	$X_1 = 3$	TOTAL
$X_2 = 0$ (Less)	87 (72.07)	22 (40.17)	27 (22.45)	4 (5.32)	140
$X_2 = 1$ (Never)	35 (49.93)	46 (27.83)	11 (15.55)	5 (3.68)	97
TOTAL	122	68	38	9	237 (= N)

**Source:** The data from the questionnaire 2013

By calculating the value of the statistics chi-squared, we come to the conclusion that the hypothesis of the independence is not true i.e. the quantity of the remittances is independent of the crises, the family reunion, etc.

Generally it is expected that the falling quantity (the shrinking) of the remittances is dependent on the family reunion What we want to demonstrate is that such a fall (shrinking) is not only a consequence of such a cause, but also that mainly it is because of the global crises and other causes all connected to such a crises. That's why we check once more the hypothesis taking into consideration the feature "causes" in two modalities: the crises and the family reunion. In order to proceed we begin with:

**Table 3.2** Table of contingency 2x2

	$X_1 = 0$	$X_1 = 1$	TOTALI
$X_2 = 0$ (Less)	87 (69.99)	22 (39.01)	109
$X_2 = 1$ (Never)	35 (52.01)	46 (28.99)	81
TOTAL	122	68	190 (= N)

**Source:** The data of 2013 questionnaire

After the testing we conclude that there is a dependence between the quantity of the remittances of the last several years and the global crises.

In order to strengthen our conclusion we have repeated the checking of the hypothesis once again adding in the answers "Yes" the crises is the main cause of the falling of the quantity of the remittances and also the answers which give us as causes also the low wages, the unemployment, as these are the effects of this crises in those countries. We follow the table:

**Table .3.3** Table of contingence 2x2

	$X_1 = 0$	$X_1 = 1$	TOTAL
$X_2 = 0$ (Less)	118 (99.83)	22 (40.17)	140
$X_2 = 1$ (Never)	51 (69.17)	46 (27.83)	97
TOTAL	169	68	237 (= N)

**Source:** Data of 2013 questionnaire

Applying once more the test we come to the statistical conclusion that:

1. The economic crises and the family reunion are the main factors influencing the remittances.
2. The other factors such as the low wages, the job insecurity are influent ones, but they are themselves by-products of the economic crises, while the increase of the family spending has a constant influence on the income and remittances.

## Conclusions

1. All the prognosis using different methods offer similar results because the data on the income and remittances are scarce and variable ones. We stress that it is important that it is a hard fact that the remittances have adopted a continuous downward trend every passing year, and our models show us that there is a very low probability of such series changing their tendency ( i.e upward trend).
2. The income accumulated through remittances maybe is being transformed into a new type of FDI, small investments by our migrant workers, returning home for good.
3. The factors influencing the downward trend of the remittances are:
  - a. The economic crises especially in Greece and Italy
  - b. This crises causes jobs insecurity and lowering wages
  - c. Higher costs for the education of the children of Albanian migrant workers in the host countries.
  - d. Family reunions leads to no family member remaining in Albania, thus nobody is to receive the remittances in Albania.
  - e. Weaker family links between the migrant worker and his beloved ones in Albania
  - f. Some of the migrants due to the difficulties facing in the host countries are seriously thinking to return for good in Albania, thus their remittances are replaced by their life savings in the host country returning to Albania together with the migrant workers. Such savings are changed into a sui generis kind of FDI, as these savings are invested in order to self-employ the returned migrant workers.
4. Though the migrant workers are being accustomed at keeping their savings in banks in the host countries (not under the pillow), yet nowadays most of the remittances are transferred to Albania informally. This tends to make difficult a precise calculation of the remittances and the adoption of the due measures to use them for investments in Albania.

5. The residence of the migrant worker (in Albania or abroad) has no influence on the remittances

6. The economic crises and the family reunion are the main factors influencing the flow of the remittances.

Other factors like low wages, job insecurity do influence but they are by-products of the economic crises, too. The increase of the family spending has a constant influence on the income and the remittances

### **RECOMANDATION**

We would suggest that:

1- The Albanian economy should by all means find new sources and new means to make for the lowering of the income do to the shrinking of the remittances of the migrant workers.

We do not think it is salutary to the economy the covering of such falling remittances by increasing the sovereign debt or by siphoning continuously trade loans.

Receiving soft loans will be always most welcoming but the possibilities for such loans are really limited. Such credits sometimes are accompanied by political tags quite unacceptable by a NATO member country, one also aspiring to join EU.

Soft loans originating from countries belonging to the Axes of Evil such as Iran, or from ex Soviet republics such as Azerbaijan or Kazakhstan. Even soft loans originating from the wealthy oil countries of the Persian Gulf should be accepted in moderate way in order not to become a source of geopolitical troubles.

Understandably a fall in remittances can be compensated by a tighter consume, but this is no solution. A reduction in consume will cause a crises in the retail sector, will cut down jobs in this sector, will lead to social strife etc.

2- A wise solution will be the increase and the diversification of the exports, aiming at an export-orientated economic model, not like the present system of an economy based on the consume of the material goods generally imported from the neighboring countries.

Such goods are imported thanks to the remittances and the hard currency earned thanks to trafficking in drugs, human beings, prostitution, weapons etc, and the so called black sector economy.

The model is: The hard currency generated thanks to the toil of our migrant workers enters Albania. Then it leaves Albania once more as it serves to import goods and services precisely from the host countries of our migrant workers. In this case the positive influence on our economy exerted by such a flow of remittances (hard currency) is a minimal one as the hard currency enters Albania and immediately returns to the countries (host countries) it originated from.

The export orientated model of economy has proven itself dozen of years ago from the so called "Asian Tigers" to the rising economies in the Latin America, such as the regional giants: Brazil. Mexico and Argentina.

3. The luring of the tourists is highly recommended. We should aim at tourists from EU countries, including the so called new Europeans.

Such new Europeans like Lithuanians, Poles, Slovaks, Bulgarians and Hungarians thanks to the private initiative of Albanian tourist agencies are visiting Albania either on board cruising boats or by coaches due to a cooperation between our tour operators and the foreign ones.

The so called patriotic tourists i.e. Albanians from Republic of Kosova, Macedonia etc. or from the diaspora, the so-called tomato tourists, with their bags with potatoes, beans and "paprika" bring very little hard currency into Albania as they consume very little while vacationing in my country.

Any way elite tourism calls for elite services and facilities i.e. more investments, better qualified personnel and so on and so forth. The labor market in this case can profit qualified stuff from the returning Albanian migrants from Greece and Italy.

4. The development of the extremely fragmented and backward Albanian agriculture into an import source of hard currency especially through the export of the produce and agricultural products, bio-ones I mean would be highly recommended as another instrument suitable to cover (make do for) the deficit caused by the shrinking remittance.

#### **REFERENCES**

- [1] **A. Agresti and A. Gottard.** Independence in multi-way contingency tables: S. N.Roy's breakthroughs and later developments, *Journal of Statistical Planning and Inference*, (2007).
- [2] **S. Tsumoto,** On Pseudo-Statistical Independence in a Contingency Table. *Studies in Computational Intelligence*.2005, Volume 6/2005. Pp 131-141.
- [3] **Steffen L. Lauritzen.** (October 2002). "Lectures on Contingency Tables" Electronic edition - Aalborg University
- [4] **J. T. Gene Hwang and Ming-Chung Yang.** "An optimality theory for mid  $p$ -values In  $2 \times 2$  contingency tables" *Statistica Sinica* **11**(2001), 807-826 .**Cornell University and National Central University**
- [5] **S. Taheri, G. Hesamian, and R. Viertl. (December 2010).** "Contingency tables with fuzzy categories" Institut f. Statistik u. Wahrscheinlichkeitstheorie 1040 Wien, Wiedner Hauptstr. 8-10/107AUSTRIA
- [6] **Saeid Amiri.** (2011) On the Application of the Bootstrap- "Coefficient of Variation, Contingence Table, Information Theory and Ranked set sampling" – Department of Mathematics –UPPSALA University ISSN-1401--2049
- [7] **Olga Špatenková and Jukka Matthias Krisp** (1978). "Use of contingency tables to value variables for spatial models" - Laboratory of Geo information and Positioning Technology Department of Surveying - Helsinki University of Technology