International Migration and Its Determinants Evidence from Albania

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Abstract

This paper gives an overview of migration with specific evidence on the case of Albania. Albania is a country on the move, both internally and internationally. This mobility plays a crucial role in household-level strategies to face with economic hardship and it is the most important social, economic and political phenomenon in Albania. About one half of all Albanian households have an exposure to migration case, either through temporary migration of a household member or through their children living abroad. This study will provide a step towards understanding the potential of international migration of Albanians and analyses the determinants that influence more the intentions to migrate like unemployment and average monthly wage. For the preparation of this paper a lot of available data for Albania have been used. Mainly, the data are gathered from the publishing of World Bank and Albanian Institute of Statistics. The data were taken for a period of 16 years, from 1998 to 2013 by implementing the Johansen Cointegration Test. The cointegration results provide evidence of a unique cointegrating vector. In other words, a long-run stable relationship between migration, unemployment and wage exists. This indicates that migration, unemployment and wage move together in the long run in Albania.

Keywords: Cointegration, Migration, Albania, Unemployment, Wage

1. Introduction

Migration is one of the greatest driving forces of human progress and development. The movement of people around the globe has given a large contribution to the history of humanity. While migration is as old as humanity itself, theories about migration are fairly new. One of the early writers on modern migration is Ravenstein, who in the 1880s based his "Laws of Migration" on empirical migration data. Early migration models (Zipf, 1946) used the physical concept of gravity and explained migration as a function of the size of the origin and destination population and predicted to be inversely related to distance.

In addition, migration is one of the most important political, social and economic phenomenon in post-communist Albania, and has been a dominating fact of everyday life in the last decade. In addition, more than one fifth of the entire population has experienced large scales of movements internationally with Greece and Italy being the dominant places. (Carletto, Stampini, Davis, Trento, Zezza, 2004). Albania is one of the most known countries for its massive international migration flows. The high rates of unemployment and the severe poverty experienced by the household may have induced strong pressure toward migration. Albanians, among other transitional countries, are the most inclined to leave their country. According to a study conducted by the International Organization for Migration (Stacher and Dobernig, 1997), in 1993 over half of Albanians were willing to move and more striking, a fifth of them permanently. Statistics are poor, partly due to the irregular nature of much of migration, but most rough estimates of migration suggest that at least 15% of the population lives abroad and 40 percent of the people have some relatives settled outside the border of the country (UN, 2002).

The first step of this study is to investigate whether the time series data of migration, unemployment and wage are stationary or non-stationary. Mishkin (1992) noted that if the independent and dependent variables show the presence of unit roots (non-stationary) the regression results might not hold much meaning. This is referred as a spurious regression. Therefore, the Augmented Dickey-Fuller (ADF) tests were performed to find out if the time series were stationary or not. In addition, after proving to have stationary time series, the second step was that of applying the Johansen Cointegration test. The paper investigates the relationship that exists between migration, unemployment and wage in Albania.

The lack of relevant data, has constrained the attempt to analyze the migration in Albania, its determinants and

potential relationship between them. This paper aims to fill the gap in knowledge, providing a detailed analysis of unemployment and wage at individual micro level and examining the international migration.

The organization of this paper is as follows. Section II presents the theoretical studies. Section III details the data used and outlines the methodology adopted. Section IV presents empirical findings. Section V provides conclusions.

2. Literature Review

A variety of theoretical models have been indicated to explain why international migration begins, and even though each of them attempted to explain the same thing, they employed different concepts and assumptions. The first attempt to analyze the determinants of migration has been done by **Smith** (1776) and **Ravenstein** (1889), who arranged migration because of an individual utility maximization subject to a budget constrain. Individuals attempt to maximize their income from moving from one place to another one where the wages are higher; therefore the wages differentials are one of the main factors affecting the migration decision. Neoclassical approach presented by **Todaro** (1969) and **Harris-Todaro** (1970) stated that migration is expressed as a function of expected rather than actual earnings differentials and so the migrants chose places which maximize their earnings.

Lucas (1985) concluded that the tendency to migrate increases with higher wages in destination urban areas and decreases with higher home villages wages; moreover, the lower (higher) the chance to be unemployed the higher the probability of emigration.

Herzog et al. (1993) presented a survey of the empirical literature based on US data, reported that four out of eight studies found that both unemployment and wage rate are a significant determinant of migration.

Faini and Venturini (1994) reported that emigration rates for South European countries are influenced by wage differentials and by unemployment rates in destination countries.

Ilir Gedeshi (2002) stated that emigrants' remittances are an important source of income for Albanian households and a source of employment for many Albanians. He used surveys of emigrants and other data to analyze the role of emigration in the Albanian economy. Characteristics of emigrants, their motivation for emigrating and for sending remittances back to Albania are examined too. The finding suggests that the rapid growth of remittances will level off in the future.

Ankica Kosic and Anna Triandafyllidou (2004) studied how undocumented immigrants take advantage or react to the windows of opportunity opened to them by immigration policy design and implementation practices in the country of destination. The study is focused on Albanian and Polish immigrants in Italy. They studied how immigrants prepare and execute their migration plans, how they find employment once in Italy, and how they adapt their plans to the institutional and social environments of the host country. They emphasized the micro-level of the migration phenomenon and the relationship between policy design, implementation and immigrants strategies.

Adriana Castaldo, Julie Litchfield and Barry Reilly (2007) used Albania Living Standards Measurement Survey 2002 to examine the factors that render and individual most prone to international migration. They used novel data on whether individuals ever considered migrating abroad. The results show that the usual characteristics emerge as determining factors, with age, gender, employment status, and education all exerting predictable influences on migration risk.

Russell King and Julie Vullnetari (2009) studied three research projects based on fieldwork in Italy, Greece, UK and Albania. These projects have involved interviews with Albanian migrants in several cities, as well as migrants-sending household in different parts of Albania. The findings presented the intersections of gender and generations in three aspects of the migration process: the emigration itself, the sending and receiving of remittances, and the care of family members who remain in Albania. They found that, at all stages of the migration, Albanian migrants are faced with conflicting and confusing models of gender, behavioral and generational norms, as well as unresolved questions about their legal status and the economic, social and political developments in Albania, which make their future life plans uncertain.

Russell King, Matloob Piracha and Julie Vullnetari (2010) introduced an issue of Eastern European Economics on migration in Kosovo and Albania. It consisted on four parts. In the first two they sketched the background to the large-scale emigration flows: from Kosovo since the 1960s, and from Albania since 1990. They noted the equally large – scale internal migration within Albania since 1990. They made some general and speculative observations about current and future migration trends in Kosovo- Albania region.

Guy Stecklov, Calogero Carletto, Carlo Azzari and Benjamin Davis (2010) examined the dynamics and causes of the shift in the gender composition of migration and more particularly, in women's access to migration opportunities and decision-making. They focused on Albania case because of the complex layers of inequality existing at the time

when migration began: relatively low levels of inequality within the labor market and educational system- a product by the Communist era – while household relations remained stepped in tradition and patriarchy. They used micro-level data from the Albania 2005 Living Standards Measurement Study, including migration histories for family members since migration began. Based on discrete-time hazard models, the analysis showed a dramatic increase in male migration and a gradual and uneven expansion of the female proportion of this international migration. Female migration, which is shown to be strongly associated with education, wealth, and social capital, appeared responsive to economic incentives and constraints. They argued that women's migration behavior appears more directly aligned with household-level factors, and there is little evidence to suggest that increased female migration signals rising behavioral independence among Albanian women.

3. Data and Methodology

Time series data display a variety of behavior. The main reason why it is important to know whether a time series is stationary or non-stationary before one embarks on a regression analysis is that there is a danger of obtaining apparently significant regression results from unrelated data when non-stationary series are used in regression analysis. Such regressions are said to be spurious (Hill et al., 2008).

The study employs annual data obtained from INSTAT (www.instat.gov.al, accessed: 28 March 2014) and from WORLD BANK data.worldbank.org, accessed: 28 March 2014) for case of Albania. The sample period is from 1998 to 2013 so for a 16 year period. All tests are performed by using E Views7 statistical program.

In order to study the massive international migration flows of Albanians, I have taken into consideration two of the most important determinants: unemployment status and average monthly wage. Since, Albania is one of the economically least developed countries in Europe; the poverty line is still very high. There is a strong link between poverty, unemployment and low average monthly wage in Albania and these are the reasons that push more Albanians to migrate abroad for a better opportunity of life.

In light of the migration theories, the empirical approach followed in this study attempts to explain the probability of international migration of Albanians. In order to test the average monthly wage and unemployment level which are predictive of whether an individual will migrate abroad, the probit model is applied, where the dependent variable is an outcome, which captures the existence of international migration flows within Albania. Furthermore, the model takes form:

$Pr(Y=1|X) = \Phi(X'\beta)$

Where Pr denotes probability, Φ is the Cumulative Function of the standard normal distribution, β are the parameter that will be estimated by maximum likelihood and X is a vector of explanatory variables.
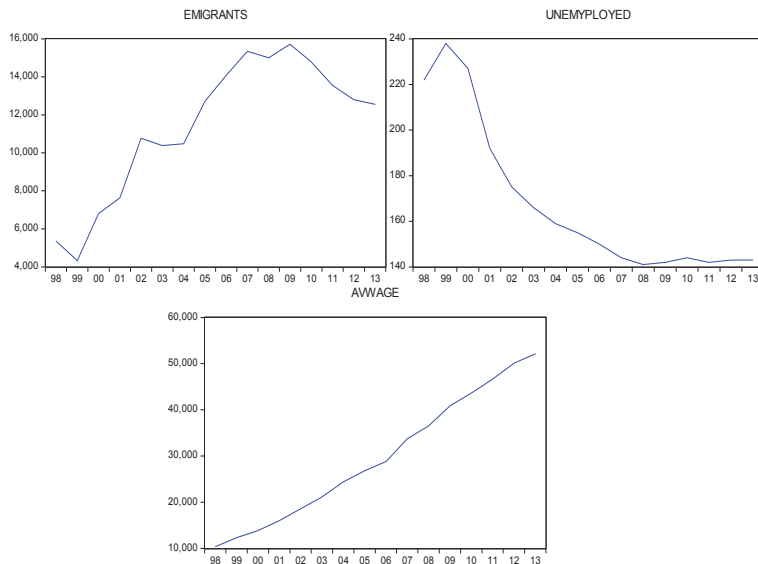
4. Empirical Findings

In figure 1(a) and 1(b) is shown a graphical scatter plot between emigrants and unemployed and emigrants and average wage. As the graphs show the relationship is not spurious and this can be understood that a causal relationship exists between emigrants, unemployed and average wage.
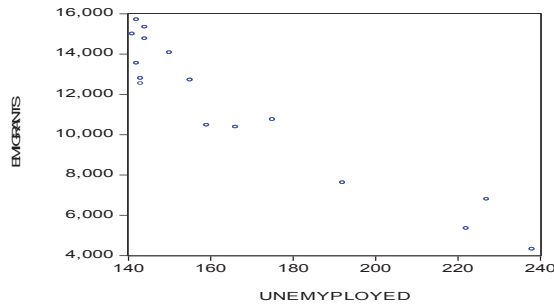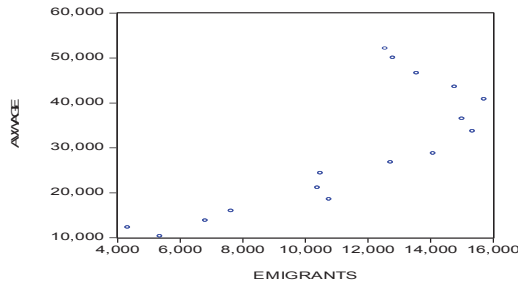

Figure 1 (a)

Figure 1 (b)

In figure 2 (a, b and c) and also table 1 are shown the group statistics performed in order to test the distribution of data. The results showed to be asymmetric and not in a bell shaped because of the unit root presence for all the three variables.

Series: EMIGRANTS	
Sample 1998 2013	
Observations 16	
Mean	11391.31
Median	12636.00
Maximum	15711.00
Minimum	4325.000
Std. Dev.	3647.921
Skewness	-0.653641
Kurtosis	2.186376
Jarque-Bera	1.580649
Probability	0.453698
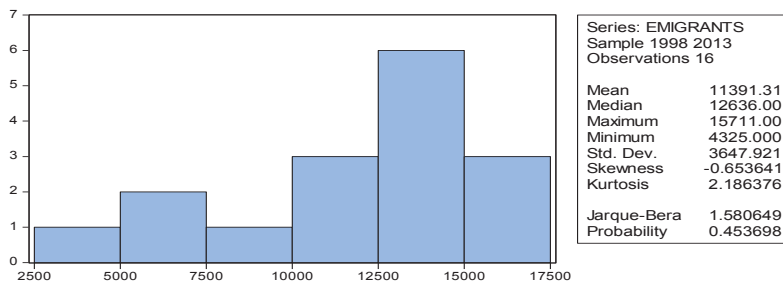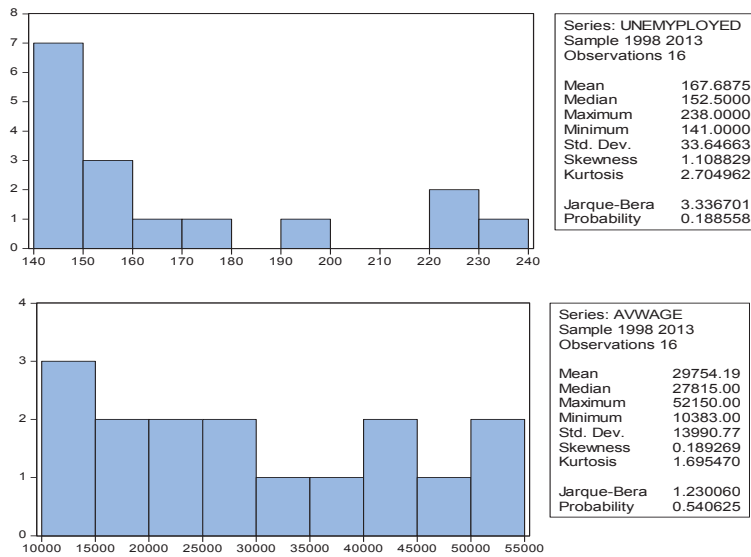
Figure 2 (a, b and c)

Table1. Group statistics

	EMIGRANTS	UNEMPLOYED	AVGWAGE
Mean	11391.31	167.6875	29754.19
Median	12636.00	152.5000	27815.00
Maximum	15711.00	238.0000	52150.00
Minimum	4325.000	141.0000	10383.00
Std. Dev.	3647.921	33.64663	13990.77
Skewness	-0.653641	1.108829	0.189269
Kurtosis	2.186376	2.704962	1.695470
Jarque-Bera	1.580649	3.336701	1.230060
Probability	0.453698	0.188558	0.540625
Sum	182261.0	2683.000	476067.0
Sum Sq. Dev.	2.00E+08	16981.44	2.94E+09
Observations	16	16	16

Before analyzing the cointegrating relationship between emigrants, unemployed and average wage, it is important to carry out a univariate analysis. The economic series like those of emigrants, unemployed and average wage tend to possess unit roots (Hill et al., 2008). The presence of unit roots in the underlying series points towards the nonstationarity of the underlying series. If both the independent and the dependent variables show the presence of unit roots, the regression results do not hold much meaning. This is referred to as spurious regression, whereby the results obtained suggest that there are statistically significant relationships between the variables in the regression model, when in fact all that is obtained is the evidence of contemporaneous correlation rather than a meaningful causal relation. The problem of spurious regression is compounded by the fact that the conventional t- and F-statistics do not have standard distributions generated by stationary series; with nonstationarity, there is a tendency to reject the null in both cases and this tendency increases with sample size.

The stationarity of each series was investigated by employing the unit root tests developed by Dickey and Fuller. The test consists of regressing each series on its lagged value and lagged difference terms. The number of lagged differences to be included can be determined by the Akaike information criterion (Hill et al., 2008).

Table 2 below reports the Augmented Dickey–Fuller test statistics under the null hypothesis of a unit root. This table also presents the number of lagged difference terms included in the regression. The hypothesis of unit root against

the stationary alternative is not rejected at 5% levels for emigrants, unemployed and average wage with or without deterministic trend. However, the first differences of these variables are stationary under the test.

Null Hypothesis: EMIGRANTS has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			**-1.773296**	0.3779
Test critical values:		1% level	-3.959148	
		5% level	**-3.081002**	
		10% level	-2.681330	

Null Hypothesis: UNEMYPLOYED has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			**-1.565120**	0.4748
Test critical values:		1% level	-3.959148	
		5% level	**-3.081002**	
		10% level	-2.681330	

Null Hypothesis: AVWAGE has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			**1.421466**	0.9978
Test critical values:		1% level	-3.959148	
		5% level	**-3.081002**	
		10% level	-2.681330	

Table2. ADF tests for emigrants, unemployed and average wag

The hypothesis of unit root against the stationary alternative is not rejected at 5% levels (critical value) for emigrants with or without deterministic trend. Since the calculated ADF t- Statistic
(-1.77) is greater than the 5% critical value of (-3.08) do not reject the null of non-stationary. Therefore, emigrant variable has a unit root.

Also, since the calculated ADF t-Statistic for unemployed (-1.56) is greater than the 5% critical value of (-3.08) do not reject the null of non-stationary. Therefore, unemployed has unit root.

Moreover, average wage has a unit root, since the ADF t- Statistic (1.42) is greater than the 5% critical value of (-3.08).

The three variables emigrants, unemployed and average wage have unit root, needed taking differences of all of them. Table 3 reports, after taking the first differences (lags) of emigrants variable since the calculated ADF unit root test statistic (-3.27) is less than 5% critical values of (-3.09) do not reject the null hypothesis of non-stationary. Therefore, the

variable of emigrants has not a unit root, or it is stationary.

Moreover, after taking the second differences (lags) of unemployed variable since the calculated ADF unit root test statistic (-3.52) is less than 5% critical values of (-3.11) do not reject the null hypothesis of non-stationary. Therefore, the unemployed variable has not a unit root, or it is stationary.

Furthermore, after taking the first differences (lags) of average wage variable since the calculated ADF unit root test statistic (-3.50) is less than 5% critical values of (-3.09) do not reject the null hypothesis of non-stationary. Therefore, the average wage variable has not a unit root, or it is stationary.

Null Hypothesis: D(EMIGRANTS) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.279678	0.0365
Test critical values:	1% level	-4.004425	
	5% level	-3.098896	
	10% level	-2.690439	

Null Hypothesis: D(UNEMYPLOYED,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.520055	0.0253
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

Null Hypothesis: D(AVWAGE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.501271	0.0246
Test critical values:	1% level	-4.004425	
	5% level	-3.098896	
	10% level	-2.690439	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
 and may not be accurate for a sample size of 14

Table 3. ADF test after taking the differences

The final step after having stationary time series is the application of Johansen Cointegration test in order to study whether there is a long relationship between the variables. According to the test results of table 4 is suggested that there exists a Cointegration relation between variables as long as Trace statistics (42.175) is greater than 5 % Critical Value (29.797). Also, by looking at the Maximum Eigenvalue test the maximum eigenvalue statistic (26.871) is greater than 5%

Critical Value (21.131).

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.853306	**42.17530**	**29.79707**	0.0012
At most 1	0.505258	15.30361	15.49471	0.0534
At most 2 *	0.322534	**5.451547**	**3.841466**	0.0195

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.853306	**26.87169**	**21.13162**	0.0070
At most 1	0.505258	9.852064	14.26460	0.2218
At most 2 *	0.322534	**5.451547**	**3.841466**	0.0195

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4. Johansen Cointegration Test

In other words, a long- run stable relationship between emigrants, unemployment and average wage exists. This indicates that emigrants, unemployment and average wage move together in the long run in Albania.

5. Conclusion

This master thesis analyzed empirically the cointegrating relationship between emigrants, unemployment and average wage. Since the variables in this article are non-stationary and present a unit root, Johansen's cointegration technique has been applied. This methodology has allowed for obtaining of a cointegrating relationship among these variables. The cointegration results provide evidence of a unique cointegrating vector. In other words, a long-run stable relationship between emigrants, unemployment and average wage exist. This indicates that migration, unemployment and average wage move together in the long run in Albania.

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