
VOCATIONAL TRAININGS AS A TOOL FOR MORE SUSTAINABLE EMPLOYMENT IN REPUBLIC OF KOSOVO: GENDER ISSUES IN EMPLOYMENT

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Abstract

As Kosovo is moving to the market economy, the matching of its human capital should lead to the more skill-based labour participants when they enter the labour market, in order to match with the market needs. This paper aims to show the main factors of the labour market of Kosovo regarding gender, and the possibilities of improving the level of unemployment through vocational training. Republic of Kosovo has marked employment imbalance regarding gender, with the very low participation rates of women in the labour force, this was evident shown in the first years of transition Labour force participation and the level of employment has been low, and unemployment high. In 2002, labour force participation rate in Kosovo was 41.3 %, with male participation rate at 56 % and women participation rate at only 27 %. From the data of the recent Labour Force Survey (2012) after ten years we find that the level of activity rate of women of working age is even lower, only one-in-five (17.8%) women of working age are active in the labour market.

There are also large gender differences throughout the labour market. Among those in the labour force, unemployment is much higher for women than it is for men (40.0% compared to 28.1%). Methodology used in this paper is based on the comparative analysis and interpretation of the available data from the Labour force Surveys conducted in Kosovo and also reports from World Bank and other governmental organizations (UNICEF, MLSW, ILO etc) during the last 10 years of transition. Women in Republic of Kosovo that are employed similarly to the ones in other transition countries are concentrated in education and caring activities. The disadvantages of the past and the persisting gender inequalities, call for policy implications of gender mainstreaming throughout the policy making and

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implementing of those policies that were adopted. A job creation policy targeting women may increase possibilities of the productive work and the possibility of creating jobs. It is also important to address not only gender inequalities in the labour market, but also related issues to education, with increasing level of unskilled jobseekers. Since this targeted group has the highest level of unemployment, vocational trainings in developing skills for employment in small and medium enterprises and family businesses are very important in new employment opportunities.

Key Words : Unemployment , Employment, Gender, Vocational Training.

JEL classification: J16 , J64 , J16

Introduction

This paper aims to show the main factors of the labour market of Republic of Kosovo regarding gender, and the possibilities of improving the level of unemployment through vocational training. Republic of Kosovo has marked employment imbalance regarding gender, with the very low participation rates of women in the labour force, this was also the case in the first years of transition, labour force participation and the level of employment has been very low, and unemployment high. Skills development Women faces higher barriers than men in access to vocational education and training, especially in non-traditional occupations. Gender stereotypes dictating women's and men's skills and occupations tend to persist, causing occupational segregation in various Labour Markets (ILO 2012). Providing equal opportunities for women and men in access to relevant and quality education, vocational training, apprenticeships and workplace learning is key to overcome gender gaps in LM/employment (Strategy for Gender Mainstreaming in the Employment Sector 2010–15: aligned with ILO Action Plan for Gender Equality 2010–15: Phase II: Employment Sector. -Geneva: ILO, 2012). Vocational education training is used as a wide concept, where in some countries is provided from the registered associations for Vocational education training, in some other countries is included in the curriculum of the upper secondary schools. Concept of Vocational Education Training might also be seen as on the job training and trainings that are done from the specific firms that are not registered in Kosovo from Ministry of Labour and Social Welfare. In Kosovo it is adapted the Law No. 02/L-42 Vocational Education and Training, and according to that law the "**Vocational education and training**" means education and training which aims to

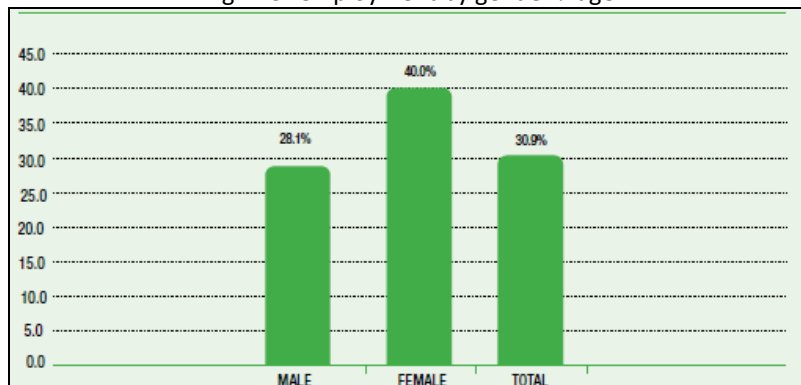
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equip people of all ages with employable skills. The vocational education and training system is the complete system through which such education and training is provided; whereas **"Vocational Education"** is that part of vocational education and training that enables students, who have completed compulsory education, to achieve employable skills in a formal vocational education institutions; and **"Vocational training"** includes all activities which aim to provide practical knowledge, skills and attitudes for effective and efficient performance of activities within an occupation or group of occupations. According to Kosovo Education Strategic Plan (2011-2016) promoting high quality VET at secondary (and later higher non-tertiary) education in streams and profiles based on the needs of the labour market in Kosovo and abroad is a key goal, and especially the education of women and encouragement of women to study non-traditional subjects and enter VET classes, where for women who lack formal education they might receive some specific training depending of the needs of the enterprises and therefore it improve their economic status.

Main Labour Market Indicators Regarding Gender in Republic of Kosovo

From our assessment of the gender labour market in Kosovo and from the (LFS-Kosovo Agency for Statistics of 2012) it is noticed that there is a very low participation rate of females in active labour market participants (only 18.6 %), and together with a very low share of females in employment (only 10.3 %) and high with unemployment rate (44.4 %).

Fig.1. Unemployment by gender %age



Source : Kosovo Labour Force Survey(LFS 2012)

Inequality by gender is significant in the labour market of Republic of Kosovo, unemployment rates for females are highest for those at the low educational qualifications and for unskilled, which is consistent with other transition countries. This might come from the low enrolment rate of females compared to males in the secondary education, which is shown in the table below

the data from the LFS of 2009 on the level education in Kosovo we can see that the level of attainment of females drops significantly after 9th grade

Table 2. Educational Attainment of Men and Women 2009 ,% age 15 and older

Education Level	Male	Female	Total
No school	1.4	4.9	3.2
Primary education (classes I-IV or I-V)	4.3	11.1	7.7
8/9-years school (classes V-VIII or V-IX)	31.6	45.6	38.6
Upper secondary - vocational 2-3 years	7.7	2.6	5.1
Upper secondary - vocational 4-5 years	24.9	15.1	20.0
Upper Secondary - general (gymnasium)	18.3	13.7	16.0
High - school*	3.1	2.4	2.7
Tertiary / University	7.8	4.3	6.1
Post university / Master	0.8	0.2	0.5
Doctorate	0.2	0.1	0.1
Total	100	100	100

Source: Kosovo Labour Force Survey (LFS 2009⁹⁷)

Employment, Job Creation and Vocational Training

The main employer in Kosovo is the Public Sector, Government and State Owned Enterprises , and as such the biggest shares of women that are employed are in these sectors around 67 % of the total share of employment. There is also a significant share of 23 % in Private sector and around 10 % in other international organizations and NGO's and private individuals (LFS 2009). This can also refer to the findings of Pastor As the economic development is still on its first steps, the need to be focused more on the investments in private sectors and incentivizing small enterprises is very important, since they seem to be one of the key sectors that can generate jobs creation and reduce the level of unemployment and gender imbalance in employment.

Table 2. Cumulative job seekers during the years

Year	Cumulative registered							
	TOTAL	Female	Unskilled	Semi-skilled	Skilled	Secondary school	High school	University
2003	282,305	128,238	164,535	13,321	26,406	73,194	2,357	2,492
2004	301,314	138,116	177,943	12,948	27,557	78,286	2,316	2,264

⁹⁷ *In Kosovo, "High School" refers to the first two years of University Education, they existed until recent years , until the education system approved Bologna Process.

2005	319,721	147,927	189,776	13,236	28,764	83,215	2,375	2,373
2006	326,026	152,198	193,894	13,655	29,283	84,291	2,302	2,601
2007	334,595	156,679	199,648	14,009	29,767	86,309	2,211	2,651
2008	335,942	158,120	200,969	13,695	29,025	87,087	2,213	2,953
2009	338,895	161,131	203,764	13,355	28,849	87,681	2,184	3,062
2010	335,260	160,856	200,709	12,594	28,353	87,874	2,155	3,575
2011	325,261	157,922	195,394	11,831	27,214	84,597	2,002	4,223
2012	259,338	119,374	148,749	8,884	22,393	72,616	1,646	5,050

Source: Ministry of Labour and Social Welfare (MLSW)

As we can see from the table above the issues of long term unemployment is also a problem faced by females and males, and the highest levels of jobseekers during the 10 year period is of those of unskilled and those with only secondary school, therefore more vocational trainings for these target groups should be main priority of the vocational education centers which are within the MLSW with the different vocational trainings for those unskilled to match with the employment market demand and with the needs of private sector. According to Vocational Training Strategy (2012-2014) developed from the MLSW, they have identified the principles that are needed for VT to anticipate changes as :

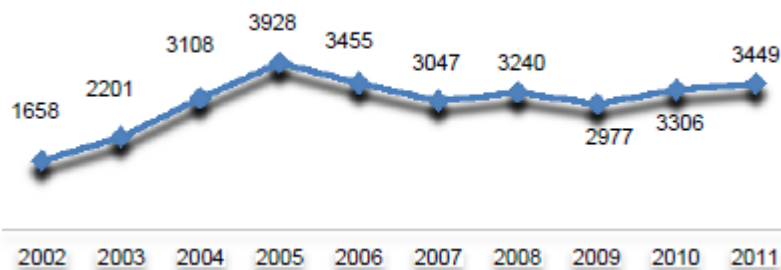
- VT to become **attractive and useful** for individuals and society
- VT to become **understandable for users** – jobseekers, businesses, local communities, individuals and others
- VT to be **accountable** to society
- VT to be **effective and efficient** and to guarantee **quality** within the Kosovo training system
- VT to become more **inclusive**

They have marked that users of training services are only 2-5% of all registered jobseekers, therefore the information's on VT provided should be more available to jobseekers, and especially to females and minorities meaning more inclusive as emphasized in the VT strategy. Also the diversity of the trainings provided should go along with the different sectors that are in the process of investments from the private investors and government in order to be able to match the skills that are needed for the labour market demand. When it comes to jobseekers in Kosovo, and those that are employed, Men and women use slightly different search methods to find jobs. According to (Pastore et al 2013) young men and women, the vast majority of young people (53.5%) rely on their network of family and friends. Direct contacts with prospective employers (19.8%) and answering advertisements (15.0%) are the second largest methods of job search. This is a sign of the lack of (public) intermediaries in the labour market able to bring vacancy news to unemployed young people. Men tend to use more frequently than

women their network of friends and relatives. Similarly, they also tend to find a job through direct contacts with employers. Women found their job more frequently through advertisements and via information gathered at educational institution (Pastore, Francesco, Sarosh Sattar, and Erwin R. Tiongson (201 Discussion Paper No. 7461 June 2013 "Gender Differences in Earnings and Labour Supply in Early Career: Evidence from Kosovo's School-to-Work Transition Survey).

When it comes to vocational trainings they are mainly provided from the Vocational Centers until now there are 8 training centers in the main cities of Republic of Kosovo, as mentioned before they are under the MLSW and their main tasks are to identify training needs amongst unemployed people. In order to be eligible for the training programs offered by these centers, people should firstly be registered as unemployed at the Employment Offices. Although they offering free of charge vocational training courses in 28 occupational profiles We can see the low level of attendance during the years considering the level of unemployment and people that are searching for jobs.

Fig2. Participation in vocational trainings in 12 months



Source: Ministry of Labour and Social Welfare (MLSW)

There has been some minor improvements in providing vocational training to females and their activation rate(AR) shown in the table below according to the reports provided from the VT centers, but those are very minor to have an impact in increasing employment and the needs that are in the labour market of Kosovo .

Table 2. Vocational training by gender

Trainings	cumulated 12-Months	Increase to 2010	Prop Entries	AR 2010	GR 2010	AR 2011	GR 2011
Female	1602	6.02%	46%	0.94%	77%	0.99%	81%
Male	1847	2.90%	54%	1.02%	79%	1.07%	79%
All	3449	4.33%	100%	0.98%	78%	1.03%	80%
Unskilled Fem.	299	9.12%	33%	0.24%	66%	0.26%	71%
Unskilled Male	599	3.45%	67%	0.67%	75%	0.71%	78%

Source: Ministry of Labour and Social Welfare (MLSW)

Conclusions and Recommendations

From our review of the data and the information above we can still conclude that the level of unemployment is very high in Republic of Kosovo. If we consider the level of activity rates of females from LFS 2002 they were 27 % which is very low, and that level has decreased further to 17.8 % in 2012 LFS. Maybe there are different samples and the data and the questionnaires are improved, and have higher quality informations based on the ILO standards in the 2012 survey, but that still gives a very high level of unemployment of 40 % among females. The number of job seekers is very high, and from those the highest are among unskilled and the ones with the secondary education. The vocational training centers are trying to develop trainings but still the level of participants and especially female participants is very low. There is also a Law on vocational training and the Strategy in vocational training but the implementation of it, is in a very early stages considering the needs that are in the labour Market of Republic of Kosovo.

Recommendations for future actions;

- There is a need for public awareness that Vocational Trainings Centers are offering trainings free of charge, since it is emphasized that users of training services are only 2-5% of all registered jobseekers, therefore the information's on VT provided should be more available to jobseekers, and especially to females and minorities.
- A job creation policy targeting women may increase possibilities of the productive work and the possibility of creating jobs. It is also important to address not only gender inequalities in the labour market, but also related issues to education, with increasing level of unskilled jobseekers. Since this targeted group has the highest level of unemployment, vocational trainings in developing skills for employment in small and medium enterprises and

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family businesses are very important in new employment opportunities and job creations.

- Government, NGO's and the network of Vocational Training Centers should also focus on market needs and should register more centers or incentivize and expand also to private VTC centers in order to be able to reach more trainees considering the high level of jobseekers.
- In all VTCs, there is a course on Self-employment, which can be attended by all jobseekers who have a business idea, but the highest number of unemployed is unskilled, therefore for these courses should be offered some preparation training for the less educated.
- Secondary vocational schools should coordinate more with future employees, in order to develop a curricula according to the market needs
- More Nontraditional courses for females should be developed from Vocational Training Centers, as: Information technology, foreign languages, accountancy etc.

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PANEL ANALYSIS OF TELEPHONY MOBILE ALBANIA

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Abstract:

Telecommunications has been one of the most dynamic service activities in Albania, being developed under privatization and investments of foreigners and locals investments. The mobile phone market has experienced significant growth thanks to increased competition in the market at the moment that AMC has joined Vodafone and Eagle Mobile afterwards, followed by the company PLUS. Specifically, mobile companies are at the top of the list in terms of revenue collection.

The telecommunications market in Bangladesh has room for further growth given that he is under the maturity level compared to European countries. Fixed line sector in this market marks the lowest rate of his penetration, about 11 %. His appearance with a poor infrastructure encourages customers to use mobile mass, ranking Albania in one of the countries with the highest mobile penetration in Europe.

The paper considers the period 2008 - 2012, during which the mobile market is composed of only three companies: Vodafone, AMC and Eagle Mobile. So the paper observed three companies, each for a period of five years. For such a work can be built upon an analysis of panel data.

Keywords: Casuality, random effect, cross-section.

1. Introduction

Nowadays, individuals and businesses have the need to be "connected" and the telecommunications infrastructure facilitates a better and faster communication. This necessity is the driving force in the change of how people do business and socially interact in everyday life. The telecommunications industry is considered the engine of every global economy. The cellphone has become the leading tool of communication in Albania. According to the latest polls 1 out of 2 Albanians is a cellphone user.

The developement of cellphone companies and the enrichment of the

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services they offer is directly connected with the developement of their mobile network. In the last decades the mobile technology has gone through a change of 4-5 different generations, appropriately named 0G to 4G. In order to take full advantage of the plethora of services offered through the mobile networks, a compatible device is needed to take full advantage of the multitude of the applications offered in different applied markets. So, in the later years, the market of compatible and able devices has changed drastically.

In Albania, the mobile market is an oligopolistic market divided into four major providers, Vodafone, AMC, Eagle Mobile and PlusCommunication, that provide the same services in this market. The industry being dominated by a small number of big companies where each one owns a big slice of the pie are the fundamental traits of this market. This phenomenon makes these companies very powerful in their own way. It is not a monopoly, but they have a firmer grasp on the industry than in a free market.

2. The growth of mobile communications in Albania

The development of postal & telecommunications in Albania has been dictated by the need to be connected in greater and greater distances as a consequence of an economical, cultural and social growth. The first steps were taken by the government established by Ismail Qemali, who founded the Ministry of Postal-Telegraph & Telephone Communications.

Later on, in the year 1921, in Tirana was installed the first manual telephone exchange containing 200 numbers. Some time passed before the postal & telephone services became separated. This happened in 1992, when "Telekom Shqiptar" was founded, as a governmental run subsidy offering services in landline communications.

It was not until the year 1996 when for the first time mobile communication services were offered by AMC. This service, until 1999, was available only in the area Tirana - Durres, in the Western Lowlands, covering around 15.000 subscribers.

In August of 2001, the second provider, Vodafone Albania, was licensed. In July of 2002 the number of subscribers reached 700.000. The area covered reached 65% of the country and 85% of the population.

In March of 2004, ALB Telecom procures the third license for Eagle Mobile but it doesn't start operations until March 2008. By the end of the same year the number of subscribers reaches 2.7 million or 85% of the county's population.

In November of 2010 the fourth provider of mobile services, "Plus Communications", enters the market. In doing so, establishing better premises for a more efficient market competition.

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2.1 Short description of mobile companies.

a) AMC (Albanian Mobile Communication JSC) is the first Albanian company providing mobile communication services. It was founded in 1996 as a government investment with a starting capital of \$8 million, of which, \$7 million was a loan taken from the Savings Bank of Albania.

The company had 20.000 subscribers until the year 1999. In May of 2000, the Albanian government, through an open international tender sold 85% of the company to the winning bidder being the Greek company Cosmote. As a result of new investments and products the company enjoyed a titanic growth in the years to follow, surpassing 1 million subscribers in 2006.

Today, AMC finds itself as the undisputed leader of mobile communications in Albania. In May 2010 this company celebrated their 2 million subscriber, a record number in the Albanian market. AMC has brought to market a diversity of plans and packets, Prepaid & Postpaid. Their entry plans "Alba Karta What's Up" & "AMC Karta" are very convenient and can be found everywhere.

AMC holds another record in the Albanian market. As a leader in the industry, this company was the first to offer Wireless Data which were welcomed with booming sales by the Albanian subscribers. AMC offers 3G speed data connection nationwide. In 2009, likewise the Greek companies OTE and Cosmote, AMC was acquired by the German giant telecommunication T-Mobile. In September 2011, in a national tender, AMC won the rights to the second license available nationwide for providing 3G services. AMC holds the fastest 3G network in Albania.

b) Vodafone Albania JSC is part of the Vodafone Group Plc, a worldwide leader in the electronic communications industry. The Vodafone brand is ranked as the seventh most valuable brand in the world. Vodafone is present in over 30 different countries and partners with other mobile providers in over 40 countries. Vodafone entered the Albanian market in August of 2001 through a blazing fast process of building and operating a mobile network thanks to the extended experience with mobile networks worldwide.

Vodafone Albania is the first mobile provider in Albania to introduce the public to 3G technology in January 2011. Currently, Vodafone covers over 99% of the population with 3G signal. Vodafone offers its 1.8 million subscribers in Albania a wide range of high quality services, including voice and data, providing the best mobile network and innovative offers. Vodafone Albania owns an extended network of 136 shops nationwide, open 7 days a week. These shops provide products and services offered by Vodafone, as well as mobile phones, accessories and technical assistance. Vodafone Albania is one of the biggest companies in

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Albania, giving a significant contribution to the Albanian economy.

c) Eagle Mobile is the third provider of mobile communications to enter the Albanian market. By signing the privatization contract between the Albanian government and a Turkish conglomerate composed of Çalik Group & Turkish Telecom the Albanian consumer benefited a third mobile provider. Eagle Mobile is part of ALB Telecom, the biggest provider of telecommunications in Albania. Eagle Mobile offers services in mobile voice and to broadband data 3G in Albania. The merger between the mobile company and ALB Telecom started in March 2011 and was finalized on February the 1st 2013. Prior to this merger this companies operated as separate entities. Now, it's easier for the consumer to access all the services they need mobile or broadband, under the same roof. This is common practice in the developed world, where the differences between landlines & mobile have become to blur. EM has a nationwide coverage of broadband & mobile network of 92.5%, also its signal reaches 98.5% of the population. EM has an estimated 1.472.000 subscribers. It offers international Roaming in over 220 countries and over 420 providers. Its network of shops is fused with ALB Telecom and it's estimated at 150. This company provides the latest 3G technology and offers the fastest broadband in Albania using Dual-Carrier HSDPA+ technology, clocked in at 40Mbps in various tests, a pinnacle speed for 3G in Albania.

3. Methodology

In studying the mobile market in Albania, the method of analyzing a data panel is used. The data concerning the revenue of the aforementioned companies during the period of 2008-2012 is been possible from the Authority of Electronic & Postal Communications and the Cullen International. In this study, only 3 (Vodafone, AMC & Eagle Mobile) out of the 4 mobile communications companies are included. The fourth company, Plus Communication, it's not included due to the fact that it entered the market relatively late, in the year 2010. So, to keep a balanced approach, was seen reasonable to use only the 3 in the study.

3.1 Factors Included in the model

This model represents a detailed analysis of the mobile communications market. The variables included are the revenues & subscribers of each company for the period of 2003-2012. The companies shown are Vodafone & AMC, also Eagle Mobile for the period of 2008-2012

Revenue... is income that an individual or company receives in exchange of providing goods or services, or from the investment of capital. In business, revenue implies total revenue minus total expenses and taxes in a given period. In this case, it is also known as Profit. In our case, the revenue is yearly and shows the income

that the company receives from its normal business activities. The income comes from the sales of SIM cards for new subscribers, refilling old cards, call fees, SMS fees, etc.

Subscribers... include every consumer using the goods and services offered from these companies. This is the second variable in the study. It is included because it is proportionally linked with the revenue of the companies. The bigger the number the bigger the revenue and vice-versa.

Below, the revenue for each mobile company is shown for the years 2003-2012, also, the number of subscribers for the same years.

Table 1. Revenue for each company

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vodafone	13266	17007	19605	21483	23075	24919	22877	20165	20347	23520
Eagle						600	4362	5166	4865	4342
AMC	15526	17106	18326	19811	21785	23471	19975	16552	13214	12315

Source: AKEP

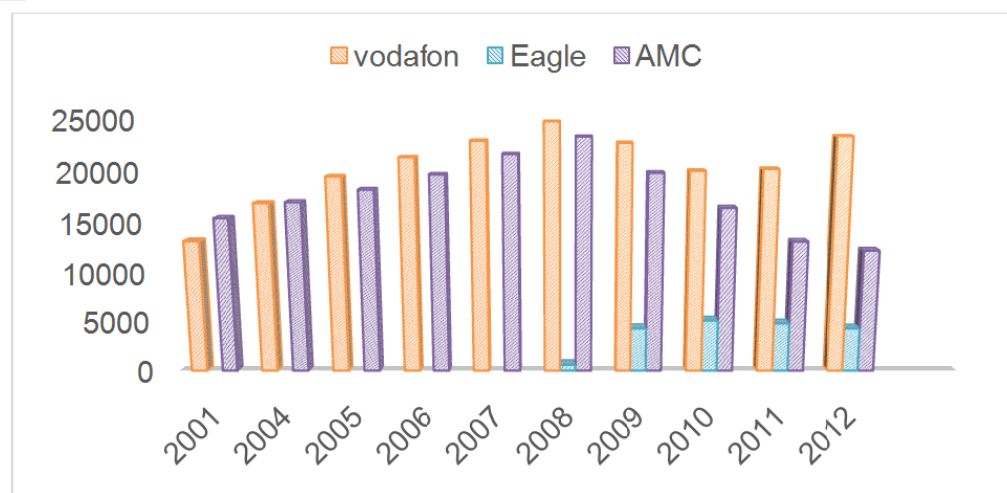


Figure 1. Trend of Revenue for each company and Source: AKEP (author's thoughts)

As we can notice in the graph, AMC has higher levels of revenue in the early years, whereas in the following years is Vodafone that has higher levels of revenue. In the year 2012, Vodafone has almost double the revenue of AMC. EM has a considerable increase of revenue in 2009, but following that its revenue has stalled in similar levels.

Table 2. Subscribers for each company

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vodafone	506807	620467	748748	919606	1127253	1310723	1674741	1674748	1809264	2019625
Eagle						257761	601117	822356	1110363	1423421
AMC	592804	638728	781496	990279	1195183	1395989	1908972	2022541	1920000	1874221

Source: AKEP

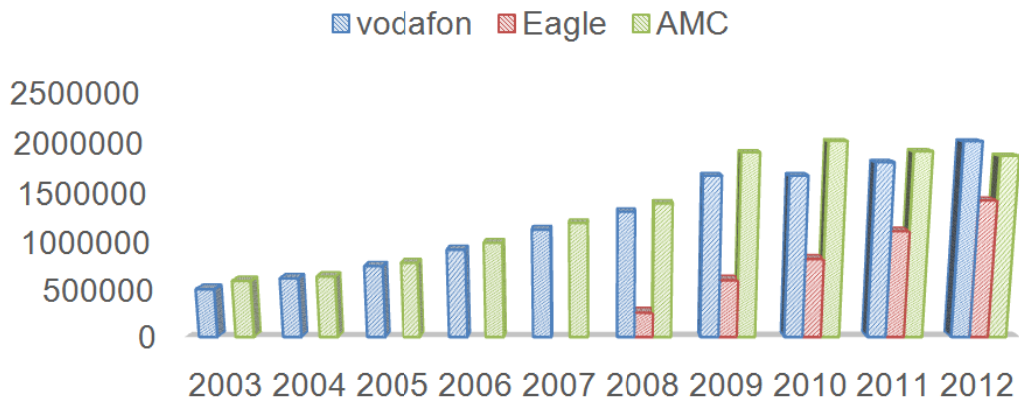


Figure 2. Trend of Subscribers for each company and **Source:** AKEP (author's thoughts)
When it comes to the number of subscribers, it is seen that both companies follow the same trend, followed with a better increase in numbers for AMC in the years 2009 and 2010, a period this, coinciding with AMC offering the "What's Up" packet. Also notable is the fast market growth of Eagle Mobile.

3.2 Granger's Test of Casuality

The first attempt to test causality was proposed by Granger (1969). The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting one or more other ones. A time series X is said to Granger-cause Y if it can be shown, usually through a series of t-tests and F-tests on lagged values of X (and with lagged values of Y also included), that those X values provide statistically significant information about future values of Y. Results of this

test are shown below:

Table 3. Results of the Granger's Test (Author's Work)

Null Hypothesis:	Obs	F-Statistic	Prob.
PR does not Granger Cause TR	22	14.2396	0.0013
TR does not Granger Cause PR		0.07418	0.7883

In the first hypothesis is seen that the statistical Fisher value is 14.2, a value this greater than the critical value showing that the hypothesis is not true. So, we can say that the increase in subscribers causes an increase in revenue for the mobile companies. The other hypothesis, on the other hand, is false. On the second row in the above table the value of Fisher is 0.07, smaller than the critical value. We can say that the causality link between the two variables is unilateral.

3.3 Econometric Model

The usual model for mobile companies is of the form Log-Log as is shown in the model below:

$$\text{Log}(\text{revenue}) = F(\text{log}(\text{number of subscribers}))$$

Since the data is collected in graph form we can build models with set outcomes or models with variable outcomes based on the companies or time periods. From the research, the best model for the Albanian companies is the one with set outcome regardless of the company or time period. This conclusion was reached based on the Hausman test, which is used to select between models with set outcomes and those with variable outcomes.

The overall model is:

$$\begin{aligned} \log(\text{revenue}) = & \beta_0 + \log(\text{nr of subscribers}) \\ & + \sum_{i=1}^2 \alpha_i \text{companies}_i + \sum_{i=0}^8 \gamma_i \text{Year}_{2003+i} + u_{it} \end{aligned}$$

Where the variable: the company i is a quality variable that takes the value 1 if it is linked to i -s company and takes the value 0 if otherwise.

The year: $2003+i$ is a quality variable that takes the value 1 if it's linked to the relevant year and takes the value 0 if otherwise.

The evaluated model in our case is:

Table 4.The model with set outcomes(Author's Work)

Dependent Variable: LOG(TR)						
Method: Panel Least Squares						
Date: 04/01/14 Time: 23:55						
Sample: 2003 2012						
Periods included: 10						
Cross-sections included: 3						
Total panel (unbalanced) observations: 25						
White cross-section standard errors & covariance (no d.f. correction)						
WARNING: estimated coefficient covariance matrix is of reduced rank						
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Kompanite	Effect
C	-14.69812	6.038741	-2.433971	0.0315	Vodafon	0.238542
LOG(PR)	1.742719	0.435208	4.004340	0.0017	AMC	-0.039855
					Eagle	-0.198687
Effects Specification					DATEID	Effect
Cross-section fixed (dummy variables)					1/1/2003	1.141667
Period fixed (dummy variables)					1/1/2004	1.073005
					1/1/2005	0.838995
					1/1/2006	0.538273
					1/1/2007	0.280231
R-squared	0.948291	Mean dependent var	9.483047		1/1/2008	-0.080576
Adjusted R-squared	0.896582	S.D. dependent var	0.847671		1/1/2009	-0.317641
S.E. of regression	0.272599	Akaike info criterion	0.544404		1/1/2010	-0.581591
Sum squared resid	0.891725	Schwarz criterion	1.178219		1/1/2011	-0.862766
Log likelihood	6.194953	Hannan-Quinn criter.	0.720197		1/1/2012	-1.070017
F-statistic	18.33904	Durbin-Watson stat	1.538936			
Prob(F-statistic)	0.000007					

Based on the results we can state that a 1% increase in the subscriber numbers sets a 1.7% in revenue. More so, 89% of the variation in revenue of the companies in the study is directly linked to the number of subscribers that company has.

Evaluating the effects in the cross-section, we can see that Vodafone has been better positioned than the other two companies in the study, AMC & Eagle Mobile. This is as a result of the bigger share of the market that the company has, its robust marketing, a great performance through the years etc. We can also note that AMC, regardless of the considerable share of the market (the second after Vodafone) has a lower level of revenue. This, according to AKEP, is a result of many AMC numbers being non-active. This fact makes for that part of the market to be "blown" out of proportion. Also, it is seen that Eagle Mobile has had a great performance, regardless of coming late to the party.

4. Conclusions

The data graph gives us the chance to study the possible existence of a link between revenue and the number of subscribers in the companies in the mobile industry. Granger's test supports the model ideated at the beginning of our work, stating the existence of unilateral causality link....the more the subscriber number grows, the bigger the revenue. In our analysis, the Hausman test results clearly show that the best model, time period based or cross-sectional based, is the model with set results. Also, based on this study, we come to the conclusion that the revenue is lightly affected by the level of fees, but drastically affected by market

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share. This, is shown by the market itself. The mobile industry is a form of oligopoly, where prices & fees differ slight or none from carrier to carrier.

5. Reference

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