Flat Tax versus Progressive Tax, which performs better in Economic Growth of Albania?

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Abstract

The main objective of this work is to look at the effectiveness of the tax model applied in recent years on the country's economic growth. Up to 2013 was applied flat tax, and so far to now, progressive tax model, according to the point of view that different political forces have on the influence of fiscal policies in the economy. Finding an optimal taxation rate that affects the economic growth with less negative effects on the other macroeconomic variables, is still a challenge today. The economists share different views, but they agree that the models have to take in consideration both macroeconomic and subjective variables. They define the optimal taxation rate as a percentage of real GDP, consequently different socio-economic environments generate different tax rate and fiscal policies. In the regression model, the main hypothesis to be tested is if flat tax or progressive tax influences better in the economic growth. The data of Albanian macroeconomic framework (AMF) are used in order to perform quantitative analysis and various tests, sometimes with a break in 2013. The findings turn out that the use of progressive tax performs better on economic growth than flat tax, however the line between them is not so decisive. Also, the progressive tax model influences positively than flat tax in the segment [40.000 all-70.000 all] of wages, which is the segment where the modal value of Albanian's wage falls, but the differences in relative term from one range to another into the segment, decrease with a small rate.

Key Words: Flat Tax, Progressive Tax, Economic Growth

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I. Introduction

Many researchers are focused on these issues and founded that the role of government is crucial, especially when the economic growth's of country goes worse. It's necessary to take action plans in order to reduce that phenomenon. The latest economic crisis has raised many questions about the measures that government has to take in order to stimulate economic activity. (Matascu and Danuletiu,2011). If government takes in consideration fiscal policies, that can derivate many opinions, pro and against, because taxes are the instrument of fiscal policy that influence a lot in the citizens welfare.

Tax rates are those which are immediately focus of a mainly social debate, as their application base is expensive. The sensitivity with which the agents react to tax changes, determines the efficiency of the action, so economics often do not concentrate on the absolute rate of tax but on the marginal rates. Also, because of tax burden on taxpayers the effective fiscal policy and the calculation of the appropriate tax rate for the economy, arises as a necessity how to distribute the tax burden in the optimal manner among the agents. Also, the researches show that if the tax revenues can be founded to reduce deficit budget and to increase the surplice of Net Export, then the policy is effective. The problem is to choose on the type of tax and on the base of application. Rosen and Gayer (2009) suggested four criteria for determining the type of tax: a) lump-sum tax, b) proportional taxation, c) and progressivity taxation. Many researchers share different point of view about the type of tax and, today the discussion is about flat tax or progressive tax, which of them can influence the economic growth of the country, both in short and long run term. They agree with the fact that higher taxes cause potentially higher distortions and can affect negatively economic growth, but higher tax rates lead to higher levels of public spending, so the probability to improve the economic growth is evident by the influence of accelerator and multipliers. In the recent years Albania is faced with 2 (two) kind of taxation: a) flat tax-during the period 2005-2013 and b) from 2013 and now the progressive tax. The different tax regime is most sensitive on the personal revenues. Table no. 1 shows the used formula in both systems:

Table no. 1: Tax rates of the two tax regimes on the personal revenues.

Taxable monthly income		Personal employment income taxation- Flat Tax
0	to 10.000 all	0%
10.001	30.000	+10% for amount over 10'000 all
30.001	more	10% of the amount over 0 all
Progressive Tax System		
0	To 14.000 all	1%
14.001	40.000	140 all+5% amount over 14.000
40.001	90.000	1.440 all+10% amount over 40.000
90.001	200.000	6.440all+15% amount over 90.000
200.001	more	22.940 all+20% amount over 200.000

Source: Ministry of Finance, 2017

The flat tax consists on the implementation of a tax system operating on a single level of taxation. In such a system, the mechanisms that are going to calculate taxes related to various levels, progressive and regressive, are replaced by a single level of taxation for income that exceed a determined threshold. In the moment that the incomes are earned, or in the moment of

possession according to this model of taxation, they will become taxable. This will be for the two important categories: business revenues and individual revenues. There are 4 (four) main revenues categories which are focus of taxation in Albania: a) Revenues from Tax Institutions, b) Revenues from Local Budgets, c) Revenues for Specific Funds, d) Non-taxation revenues or Others[2]. The base of taxation remains the same also in progressive tax regime, but is changed the structure of tax among the categories of revenues, according to the table above. Any time the tax rates will change, the presence of the effect of substitution leads to large positive incentives on short run, and so, on supply side of work trade, investment and saving. (Atkinson,1995). The effect of income is very small and negative, but shows that is very important to choose the optimal rate of taxation. An optimal tax regime will reduce the distortion among the type of revenues of economic sectors.

The study's aim is to see what effect the two tax regimes have on economic growth's of Albania, also in separated effects. This will be done through the data of fiscal macroeconomic framework (AMF, 2017) with the focus on tax revenues among the different categories. The main hypothesis to be tested is whether the tax regimes applied in the recent years have has a positive effect on the economic growth, evaluated through the GDP growth rate. Then, will be presented an overview of literature regards the problems of taxation. Also, the difference between flat tax and progressive tax in Albania- will be show by a simulation example on personal wage, following by the findings of the model created in order to prove or not the main hypothesis.

II. Literature Review

The first who try to understand the relation between the level of taxation and the tax revenues was Arthur Laffer, summarizing its idea on the Laffer curve. The graph suggests that tax revenues suffer immediate alterations if the level of taxation changes. Also, in the model it's not very explained what value have to takes the optimal level of taxation (t*) in order to get more tax revenues by which will depend the public expenditures. But Laffer curve suggests how will be a fiscal policy by the point of taxation. The supporters of flat tax believed that the actual rate of taxation is higher than - t*, so if the government rise the taxation rate, much higher will be the tax evasion. Many countries try to find the optimal tax rate according to the growth rate of GDP

[2] According to the data of Fiscal Framework of Albania

and show it as a percentage of it, with the focus on the marginal tax rates. Levine and Renelt (1992) in the empirical test on 107 countries with a series of overall tax rates suggest a significant impact on both short and long term, that a rise with 10% in tax rates will decrease output with an annually rate of 3.2%. Ramsey (1927) and Mirrlees (1971) suggest that, in order to do an optimal taxation, some lessons are important:

1. Optimal marginal tax schedules depend on the distribution of ability;

2. Optimal marginal tax rate could decline at high income

3. A flat tax with a universal lump-sum transfer could be closed to optimal

4. The optimal extent of redistribution rise with the wage inequality

5. Tax should depend on personal characteristics as well as income

6. Only final good ought to be taxed and better uniformly

7. Capital income ought to be untaxed, at least in expectation

8. In stochastic, dynamic economies, optimal taxation requires increased sophistication.

Sure that 8 (eight) lessons can be taken in account according to the economic, political, cultural environment of the country, as well by the social characteristics of the peoples.

With the aim to conduct an effective fiscal policy, two criteria are necessary to keep in mind:

- The type of tax, (especially flat tax or progressive tax, including also the rates) and,
- The tax structure (how the rates differ from one category to another category of tax revenues)

Many researchers are focused on which of the most taxes, indirect or direct tax, influence a lot in the economic growth. The discussion on the impact of tax structure on economic growth is mainly focused on the relative merits of direct taxes versus indirect taxes, especially how much those are in able to create growth-friendly environment. The research suggests a shift of the fiscal burden towards indirect taxes, especially those on consumption. Myles (2009). In general, today is a tendency to shift fiscal burden from direct to indirect taxation, in particular from labor

and capital towards consumption taxes. (EU Commission,2011). It's not the same situation for the economies which are not identified as "consumer economy".

The average overall tax burden in the EU-28 varies within the limits 38.5%-40% of GDP. From one country to another it differs considerably. The lowest average total tax-to-GDP rates are reported from Romania with 28.1% and Bulgaria with 28.7%., while the higher rates are in Denmark with 47.7%, Sweden with 46.2% and Belgium with 45.5%. Stoilova, D., (2017). The facts show that the countries with higher welfare have a large tax burden rate than countries with smaller welfare. According to the conventional economic theory taxation creates distortions and impacts negatively on economic growth. With a simple production function it is apparent that taxation affects growth via a) physical capital; b) human capital and c) through its effect on total factor productivity. Some studies show that corporate and personal income taxes are the most detrimental to growth, while consumption, environment and property taxes are less harmful (OECD, 2008). Saavedra *et al* (2007), Radulescu (2011) consider that flat tax reduces the complexity of tax system, so reduce the administrative costs, creating incentives for effective tax compliance by taxpayers and also incentives to saving and investments. Feng Yi and Eko Suyono (2014) find that the negative impact of increase of tax revenue on economic growth may not be as serious as most of researches might think and, tax cuts would create more positive effects. Russian model of flat tax approve this, because the rise of tax revenues was faster than labor supply and output. Tax rate cuts increased tax revenues through tax compliance spillovers in such manner. Also they stressed the importance of marginal tax rate on the concept of tax multiplier, as basic to implement the new reform of taxation.

Gravelle G, J., and Marples J, D (2014) find that marginal tax rate reductions are more likely than average tax rate reductions to induce a positive supply response because marginal reduction have grater proportional effects on substitution than on income, although this difference becomes small at very high income levels. In general, however tax cuts still lead to similar effects as wages because both income and substitution effects are small. The researchers find also that gender criteria are very important. Their study stress that tax changes have no measureable effect on labor supply of high income men who tend to be relatively unresponsive.

The crucial debate that exists today is focused on applying a flat tax model or a progressive tax model. The main conclusion is that flat tax encouraged the richest peoples because by their investments the economic growth will rise, meanwhile the progressive tax encouraged the poor people because by their consumption will affect positively the economic growth. The flat tax concept was applied by most industrial countries in the 19th century and now especially on the developing post – communist countries. Such countries like Estonia, Ukraine, Slovakia, Rumania etc, have applied the fat tax regime, but in some of them the implementation was negative due to the fact that the average income level was reduced, and in other countries with some positive effects, especially to the increased tax revenues by the indirect taxes. Indirect taxes are subject of those firms which are part of hard industry and contribute a lot into the rate of employment in the country. The efficiency of flat tax or other tax systems is another direction where researchers are focused. The supporters of flat tax system tend to stimulate the growth economy by the amplification of potential investments and by absorbing foreign investment. Application of this tax regime depends on many instructions, and so the performance of overall economy.

Hall.R and Rabushka .A (1995) suggest that taxation must be in a single level for all the income sources, which are subject of the taxation only once, at the moment of earned, (they supposed the tax rate, at 19%, in that time). The bureaucratic procedures will be very easy and with the minimal required time. Some revenues, like dividend of firms are subject of the double taxation. So, the authors suggest that double taxation will be avoided and all the revenues, despite the source of them, are subject to taxation at an equal level. According this model of taxation, those who have revenues under a certain level of taxation will not pay the tax, and those who exceed the minimum level, for the difference will pay the same rate of taxation. Many countries have applied this model of taxation, despite some deviations by the original idea.[3]

Some of the advantages that the flat tax system offers are:

- The reduction of the bureaucratic tax procedures,
- The absorption of foreign investments which will tend to rise the growth rate of economy
- Reducing the tax fraud,

[3] The flat tax regime of Albania can be categorized like that.

- The potential saving will be invest in economy, rising in this manner the rate of employment,

Meanwhile some of the disadvantages of flat tax system are:

- Since the taxation is not progressive, the possibility to encourage the inequality rise, so the rich would get more richer and the poor would get more poorer,
- The social dimension of policies is going to be reduced by the application of flat tax,

A tax model can be effective or not, if is in able to reduce the budget deficit of state, deficit trade balance and increased the incentives for work, via the effect of spillover tax.

III. Flat Tax versus Progressive Tax in Albania

From 2005 until 2013 the Albanian government has applied the flat tax, with parallel fiscal actions as:

- Re-categorizing the reference wages, in order to calculate taxation better,
- The modification of tax rate income,

The tax rate influences on the level of tax revenues, but also the implementation of the new structure of the reference wage has direct impact on the efficiency of fiscal policy. The relationship between two those fiscal keys was in that time, not very clear. Now the situation is clearer, since Albania has suffered a high level of state deficit, accompanied by a high level of inflation and rate of unemployment.(AMF-Albania Macroeconomic Framework, 2017). According to the AMF data, the unemployment rate in 2009 was 13.8% and rose up to 16.4% on 2013-the year that made a break on the tax regimes, so the change was with 18.8%. Meanwhile, in 2014 the unemployment rate was 17.9% and now in 2017 is 14.2%, so has decreased with 20.6%. According to the results and their direction of change, without take in consideration some other variables, this is an indicator that the economic growth performs better on progressive tax than in flat tax. However, this variable and others will be evaluated in order to conduct the econometric model in the section below. The supporters of progressive tax have believed that the economic parameters will perform better due to: a) the reduction of time to tax payments, b) the reduction of bureaucratic costs and corruptions during the payment, c) the reduction of the

number of annual payments etc. Anyway, as our economy can be define as "consumer economy", in order to see how the two tax models can influence the net revenues of the individuals, are taken in consideration different levels of wage. Then, according to the formula shows in table no.1, are calculated the tax on both the systems.

Table no. 3: Various versions of taxable income on both tax systems.

	Taxable Income	**Version 1 (V1) Progressive Tax**	**Version 2 (V2) Flat Tax**	**Conclusions**
Case 1	0 all	0 all	0 all	The taxpayers do not pay tax in both systems
Difference V2 vs V1		0 all		
Case 2	18.000 all	340 all	800 all	Progressive Tax has positive effect
Difference V2 vs V1		460 all		
Case 3	25.000 all	690 all	1.500 all	Progressive Tax benefits the taxpayers
Difference V2 vs V1		810 all		
Case 4	30.000 all	940 all	2.000 all	Progressive Tax has positive effect
Difference V2 vs V1		1.060 all		
Case 5	40.000 all	1.440 all	4.000 all	Progressive Tax has positive effect
Difference V2 vs V1		2.560 all		
Case 6	55.000 all	2.940 all	5.500 all	Progressive Tax

Difference V2 vs V1		2.560 all		has positive effect
Case 7	70.000 all	4.440 all	7.000 all	Progressive Tax has positive effect
Difference V2 vs V1		2.560 all		
Case 8	105.000 all	8.690 all	10.500 all	Progressive Tax has positive effect
Difference V2 vs V1		1.860 all		
Case 9	140.000 all	13.940 all	14.000 all	Progressive Tax has positive effect
Difference V2 vs V1		940 all		
Case 10	160.000 all	22.940 all	16.000 all	Flat Tax has positive effect
Difference V2 vs V1		-.940 all		

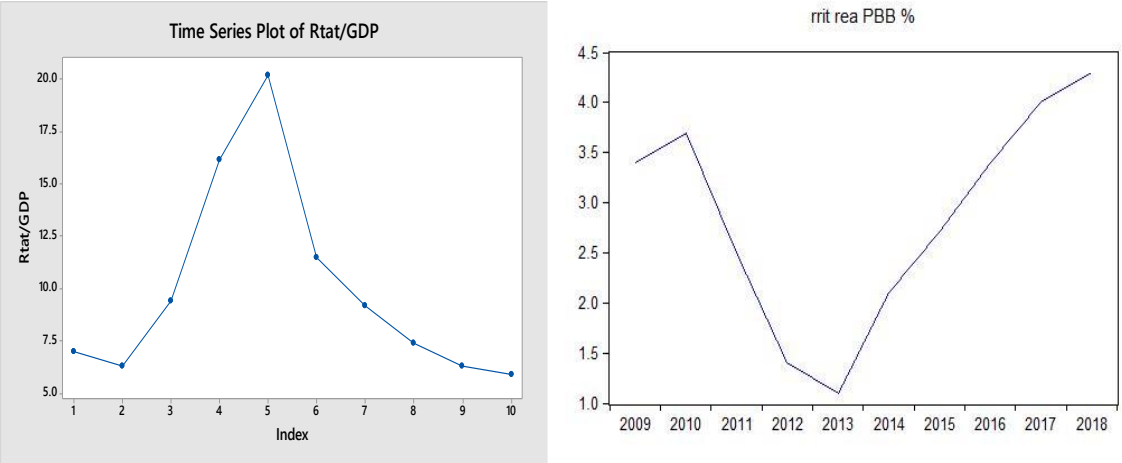
Source: Author's calculation

By examining the information on the table no.3, the two systems differ a lot on the minimum and maximum levels of revenues, on the range limits of wage that Albanian takes mostly. So, flat tax makes better rich peoples (the wages over 160.000 all refers to table no.3) and progressive tax makes better poor peoples, but tax revenues difference in absolute term increases up to wage 40.000 all, the most frequently wage taken among Albanians. In the segment wage [40.000-70.000], the absolute difference remains constant at the level 2.560 all.

The progressive tax takes priority over the flat tax among the wages between [40.000-70.000] with a decrease rate of 51% for the wages on segment [40.000-55.000], up to 33.7% for the wages on interval] 55.000-70.000]. In that time, fiscal attempts were made in order to stimulate the employment, through the creation of new jobs, but the informal economy makes the situation more problematic. Concerning on the real rate of GDP and total personal tax ($Rtat$) over time,

the personal tax revenues will rise over time up to 2013, then will has slightly decrease on that year. (Please see the graph no. 2). After it will rise up to now, meanwhile the real GDP will decrease up to 2013 with an increasing value in the next years, showing a good performance of the economy.

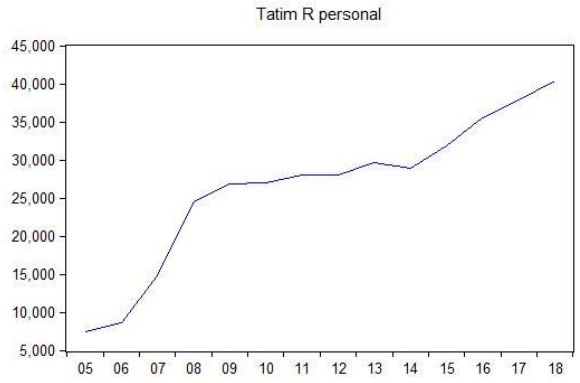
Graph no.1: The trend over time of the variable $R\,tat/GDP$ and real GDP in percentage.



Source: Author's presentation: a) and b)

An important variable suggested by the literature review is the ratio of personal tax revenues on real GDP ($Rtat/GDP$). The literature shows that this variable has a trend over time like the variable of realGDP, but in the opposite direction. If not, something goes wrong and the overall tax regime has to change especially on the two criteria: tax rate base, and tax structure.

Graph no.2: The line of personal revenues tax over time.



Source: Author's presentation

As we see in graph no.1, a) the time series of variable $Rtat/GDP$ has the same trend with the real GDP over time (with the maximum level referred as minimum level of real GDP at 2013). The trend is in the opposite direction of the realGDP. If the variable will be take in consideration to the creation of the regression model, perhaps the model will suffers by the autocorrelation.

IV. Methodology and Empirical findings

Testing the impact of tax on economic growth, measured by overall tax burden, is used the regression technique and test regards the relationship between flat tax and progressive tax. Refers to the conclusions of many researchers, the effect of taxes on the economic growth is calculated using fixed effects regression, a standard approach capable of accounting for many unobservable factors that may be confounded with the functioning of tax system. The fixed effects estimator may remedy the problem of omitted variable bias as long as these are constant over time. Factors such as national culture, legal-political institutional infrastructure, government efficiency etc, are likely to be correlated with tax rates. Omitting such factors would lead to bias estimates. The total tax revenues are re-group in order to take in consideration the distorting effect that tax have on the different levels of tax structure. Also, inflation rate and unemployment rate will be considered for the evaluation of the regression model, because those variables are likely to be correlated with the net revenues (after taxes) and determine the consumer's power. More precisely, the variables used in the study are:

(1) Rate of real GDP growth, measuring the economic growth

(2) Fiscal Revenues on GDP, measuring fiscal policies

- MDR variable-Distorting fiscal revenues, which contains personal income taxes, corporate income taxes, social security contributions and property taxes, calculated in marginal term, from one year to another.
- $MNDR$ variable-Non-Distorting fiscal revenues, which contains value added tax, excise duties, calculated in marginal term, from one year to another.

(3) Unemployment rate,

(4) Inflation rate.

The database of AMF contains annual values for the period 2009-2018 (2018-predicted). The time series for the separated models is not numerically grater, (approximately 8 years), so the tax models are going to be evaluated through descriptive statistics on the respective variable (especially on the tax revenues and realGDP), for the two time periods.

The descriptive statistics for the flat tax is as follow:

Descriptive Statistics: $MDR, MNDR, \%\ of\ GDP$ (2009-2012)

Variable	Mean	SE Mean	StDev	Variance	CoefVar	Sum of Squares	Minimum	Maximum
MDR	1755	1030	2060	4243737	117.38	25051310	-246	4371
MNDR	3681	4965	9930	98599398	269.74	350004601	-5406	17052
% of GDP	2.750	0.517	1.034	1.070	37.61	33.460	1.400	3.700

And, for the progressive tax:

Descriptive Statistics: $MNDR, MDR, \%\ of\ GDP$ (2013-2018)

Variable	Mean	SE Mean	StDev	Variance	CoefVar	Sum of Squares	Minimum	Maximum
MNDR	11101	3726	9128	83312711	82.23	1155912360	-5273	21289
MDR	4995	1467	3592	12905760	71.92	214228950	-744	9813
% of GDP	2.933	0.494	1.211	1.467	41.29	58.960	1.100	4.300

As defined in the above information, the main explanatory variables which will be used on the regression model, show econometric values that are almost in the same range of limits. Some little differences can be derivate from the fact that the time period is not the same (lack of data), but the overall conclusion is that the two tax models offer the same results.

Focusing on the question: which categories of tax revenues (calculated in marginal term- $MNDR$ and MDR) influence more in the economic growth, was generate the regression model, analysis of variance and other test, as in the information below:

The regression equation is:

$$\%\, of\, GDP = 5.28 + 0.000094\, MDR + 0.000068\, MNDR - 0.277\, \%Unempl + 0.326\, \%Infl$$

Predictor	Coef	SE Coef	T	P	VIF
Constant	5.281	2.320	2.28	0.072	
MDR	0.00009353	0.00004510	2.07	0.093	1.135
MNDR	0.00006770	0.00001655	4.09	0.009	1.261
%Unempl	-0.2774	0.1193	-2.32	0.068	1.919
%Infl	0.3258	0.2859	1.14	0.306	1.881

S = 0.428404 R-Sq = 91.4% R-Sq(adj) = 84.5%

PRESS = 3.95068 R-Sq(pred) = 62.81%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	4	9.7063	2.4266	13.22	0.007
Residual Error	5	0.9177	0.1835		

Total 9 10.6240

Durbin-Watson statistic = 2.49360

Comparing the results, the $MNDR$ variable is the independent variable that influences on the response variable of the model. So, value added tax, excise duties are the ones that have the greatest impact on the economic growth then other tax revenues, related the p-values of it. The model is good in 91.4% of cases with a significant level of 5%. All the coefficients have the expected sign on the response variable $\%GDP$, where the behavior coefficient of $MNDR$ and MDR variable tends to be lower because of the marginal terms of them. The Durbin-Watson test shows almost no presence of autocorrelation, according to its value at 2 level.

V. Conclusion

Understanding the difference between flat tax and progressive tax model, as the literature review shows, in accordance with the econometric results, does not exists a precise effect of taxation model in the economic growth of the country. The difference between the two models applied in the country is very small, underlining the influence of other factors in the economic growth. Perhaps the main factor to be taken in consideration is the education of the population to pay taxes in order to reduce the informal economy. As the $MNDR$ variable was the only one which influences in the economic growth, the probability to raise the informal economy is to be done by those agents that determine this variable, so is necessary to be focused on fiscal education of them, without overlooked the others. Also, the re-configuring of the tax structure is necessary, because as the tax revenue simulation between two models shows, exist a range of [40.000-70.000] of wages (the wage segment where fall the modal value wage of Albanians) where the absolute difference remains constant at the level 2.560 all. The progressive tax model influences positively than flat tax in that segment, but the differences in relative term from one range to another, decrease with a small rate. So, the Albanian does not feel very much the difference between the two systems, determining low levels of consumption over time. It's necessary to take more in consideration the references of literature according the economic situation, the supply

side effect of tax in labor market, in order to promote the incentives of works and to influence the economic growth associated with effective social policies.

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