

## Analysis of Some Indicators of the Social Insurance System in Albania

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### Abstract

The compulsory social insurance scheme in Albania (the state scheme) is a scheme based on the principle "pay-as-you-go", on the principle of individual responsibility for the social risks of the future and on the principle of solidarity between generations. This is a scheme funded by the contributions of employers, employees and self-employed people. Beneficial payments are guaranteed in an amount covering at least the minimum standard of living determined by the Council of Ministers. This paper analyzes the performance of the most important of individual indicators of the social insurance system (analytical indicators). There are analyzed only those analytical indicators that point to the current performance as well as those related to the prognosis of the progress of this scheme in the future such as dependency rate, replacement rate, ratio between beneficiaries to total population and coverage rate. Also, there is a quantitative analysis carried through the SPSS statistical program on the influence the coverage rate has over the pension deficit and the trend of this deficit is estimated.

**Keywords:** coverage rate, social insurance system, pensions, system indicators, rate

### 1. Introduction

The actual social insurance system in Albania started in 1993 and has undergone substantial changes over the years. Under the law, the management and administration of social security in the Republic of Albania is entrusted to the Social Insurance Institute (SII), which is an independent state public institution. The general system of social insurance consists of compulsory insurance, voluntary, supplementary and special state pensions. The system is based on the contributory principle, the principle of individual responsibility for the future risks in the social sphere, and on the principle "pay today to benefit tomorrow". So, the compulsory social insurance scheme in Albania is a scheme based on the "pay-as-you-go" principle, where current benefits are paid from current contributions. Beneficial criteria in the social insurance system are unique to all participants in the insurance scheme while the retirement amount of the pension consists of a basic benefit level for all citizens who must provide the necessary minimum subsistence and a supplement that is determined in relation to individual contributions. Almost all the elderly are covered by the pension program, mainly due to the almost complete participation in the pension system during the socialist period.

The pension system in Albania continues to suffer from a number of problems. One of the sharpest problems is related to the deficit of the scheme. The pension scheme suffers from a high deficit that makes it financially unsustainable. (Ministry of Social Welfare and Youth, 2014). In order to have a financially viable system, the contribution income should at least cover the costs of benefits. All of the social and economic changes, the country's economic power, macroeconomic stability, demographic situation, labor market developments, unemployment rates, wage levels, etc. have influenced the development of the social insurance system in Albania and the financial stability of the scheme. The impact of these indicators on the social insurance system in the early 1993 and onwards has dictated the undertaking of some reforms over the years. These reforms have changed some system parameters, in order to achieve the financial sustainability of the system as well as to achieve a unification with the European social insurance systems.

The pension reform is not only a challenge for our country but it is one of the biggest challenges facing national governments. Reforming the (PAYG) system is still under heated debate. The current global demographic changes because of the aging population are becoming more and more apparent. This long-term trend of population aging in both developed and developing countries is mainly driven by an increasing life expectancy and declining rates of fertility. Due to the increase in life expectancy and the nature of unfunded PAYG systems, most governments, both in OECD countries and in countries

with emerging market economies, have faced financial difficulties. The generosity of public pension systems has also contributed to the increase in current public pension liabilities. This way, many countries have begun to rethink their pension systems by being involved in a reform process. ( Hu, 2005)

The drafting of the new social insurance law in 1993, as well as the overall economic and social developments in particular, have led to the necessity of taking a range of measures from time to time with a view to adapting the social insurance system with the economic developments of the time, standardization of the provisions and their approximation with the basic legal framework of the EU and the basic standards set by the ILO.

## 2. Methodology of the Study

In accordance with the purpose of the work, a comparative analysis of some specific indicators of the state pension scheme has been carried out in years, based on statistical data from various sources such as the Statistics of the Institute of Social Insurance in years, INSTAT, IMF, World Bank. Also, statistical data processing methods (the SPSS statistical program) have been used to determine the degree of influence of the coverage ratio at the deficit level of the scheme and to forecast the trend of the pension scheme deficit.

## 3. Comparative Analysis of the Values of the Pension Scheme Indicators (1994-2016)

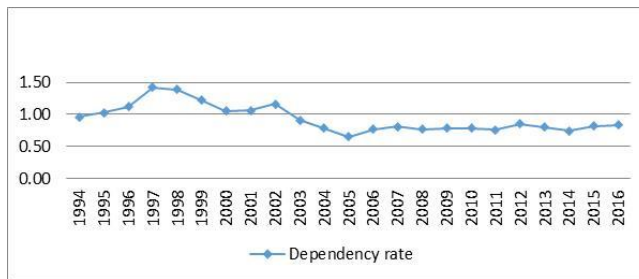
The state and the performance of the social insurance scheme is characterized by two sets of indicators:

- Indicators of financial performance (synthetic indicators) of the Social Insurance Institute, which is at the same time a fund and a financial intermediary.
- These indicators characterize the financial condition of the fund for different periods of time. In terms of our analysis these indicators are: the average annual number of contributors, the average annual number of beneficiaries, income from contributions, benefits expenses, financial result and subsidy from the state budget.
- Specific (analytical) indicators of the social insurance scheme, which are indicators that characterize the social insurance scheme.
- In order to clarify the problems with the pension scheme, it is important to examine the size of some analytical indicators. In this paper are treated only those indicators which highlight the performance so far as well as those indicators related to the prognosis of the progress of this scheme in the future such as dependency rate, replacement rate, ratio between beneficiaries to total population and coverage rate.

### 3.1 Dependency rate dynamics during the period: 1994-2016

The dependency rate expresses the ratio of the number of beneficiaries to the number of contributors to the social insurance scheme.

In the 1990s, the early retirement pension was used to absorb the large number of unemployed workers that resulted from massive economic restructuring. This is made evident in the sharp decrease in the number of contributors and simultaneous increase in the number of pensioners during this period. As a result, the system dependency rate increased rapidly after 1990. (Hirose, 2011). So from 0.45 beneficiaries to 1 contributor in 1990 this indicator deteriorated from year to year until 2002 and has started an improvement in 2003 with 0.91 beneficiaries per 1 contributor. Chart 1 draws attention to the deterioration of this indicator in 1997, reaching 1.42 beneficiaries per 1 contributor. The analysis of dependency rate proves that the most worrying problem remains its deterioration in the urban area. So if in 1994 (in the urban area) for a contributor we had only 0.71 beneficiaries in 2003 this rate has deteriorated, reaching 1.07 beneficiaries per 1 contributor and after this year we have an improvement of this indicator.



**Graph 1.** Dependency Rate; **Source:** Social Insurance Institute (SII) statistics over the years

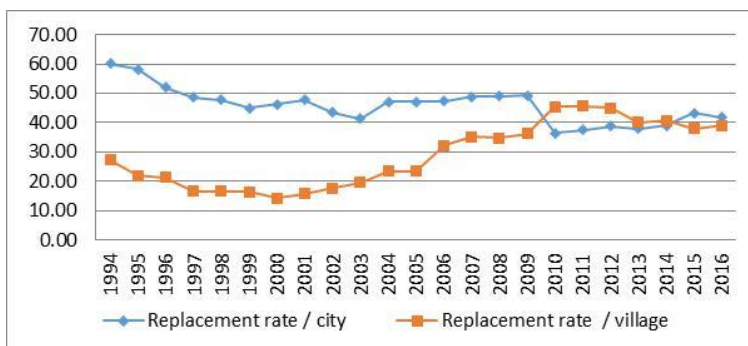
As a result of the collapse of cooperatives after 1992, the number of rural contributors dropped a lot and this is reflected in the high ratios of dependency rate in the years 1994-1999 for rural areas. After 2002 this rate regarding the village improved as a result of the increase in the number of contributors. However, referring to the data of this period it should be noted, that contributors in rural areas contribute about 15% of the necessary contribution and receive full rights in the pension system.

For these contributors the Government makes 85 percent of the contributions. As a result, they are contributors largely in name more than in substance. (Schwarz, 2006). This is the same as saying that 85% of rural sector contributors do not currently make contributions. And if we excluded these 85% rural contributors, the system dependency rate would increase more. As can be seen from Chart 1, the dependency rate continues to remain at very critical levels.

At the same time several factors have affected the magnitude of dependency rate such as: the still low number of employees, the high rate of evasion of contributions that contributes to reducing the number of contributors, and the inclusion in the scheme of some specific categories of pensions, such as early retirement. Another important factor that has an impact on this report and will have even greater impact in the future are demographic changes, which affect the reduction of active number of population compared to the number of retired people.

### 3.2 Replacement rate dynamics during the period: 1994-2016

The replacement rate expresses the ratio between average pension amount of money to average salary. It is still low in both the city and the countryside. In the city, from 60.2 % in 1994, in 2003 it reached 41.4 % and after this year has started to grow but at low rates. In the village until 2000 we have a decrease of 15.78% from 27.3 % in 1994 and after this year we have an increase of this ratio at higher rates than in the city. This growth was driven by the higher growth of the average pension increase in the village against the minimum contribution wage. In 2016 this rate reaches 41.7% in the city and 38.9% in the village.



**Graph 2.** Replacement rate (city / village)

**Source:** Social Insurance Institute (SII) statistics over the years

Graph 2 displays that the replacement rate in town and village since 1996 does not exceed in any case 50%, compared to 70-75%, which is the legal obligation. Also, the source of the above analysis data are statistics of Social Insurance Institute, in reality it is discussed that this ratio is still lower than it appears, strengthening the idea that this space should definitely be compensated by private pension schemes.

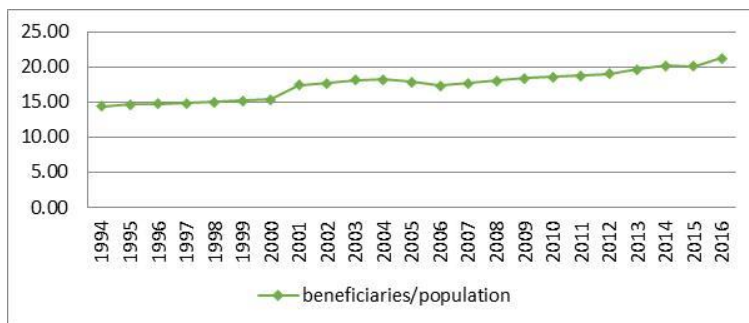
It should be remembered that promoting the private pensions is only part of the solution to ensure the adequacy of benefits paid by this plan. Policy makers also need to address other challenges facing these arrangements, such as management costs and investment risk. (Payet and Yermo, 2012).

### 3.3 The dynamics of the ratio between beneficiaries to the total number of population during the period: 1994-2016

The ratio between beneficiaries to the total population is increased from 14.5 % in 1994 to 18.2 % in 2003 and 21.3 % in 2016 (Graph 3). This trend towards increasing this ratio indicates its negative impact on the insurance social scheme. The deterioration of this indicator is caused by an increase in the number of beneficiaries and their retention for a relatively long time as beneficiaries because of the average life expectancy of the population.

This indicator should be taken into account because it results in an upward trend in the future.

Currently, Albania has a moderately young population, but one with a rapidly growing share of elderly. By 2050 Albania is expected to have 25% of its population aged 65 and older which put it well over the 2050 ECA average of 23.1%. (Guvén & Schwarz, 2013)

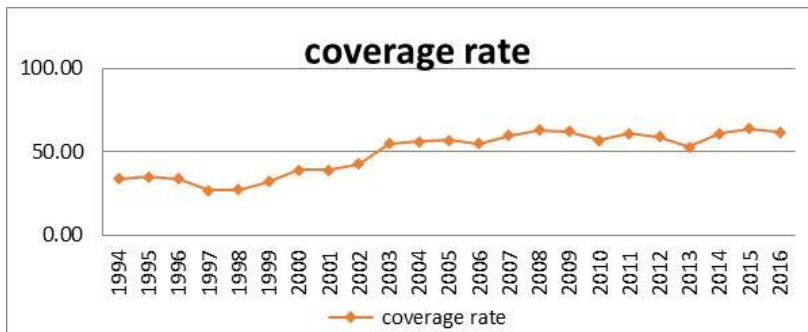


**Graph 3.** The ratio between beneficiaries to the total number of population

**Source:** Statistics of Social Insurance Institute, World Bank database, author's calculations

### 3.4 The dynamics of the coverage rate during the years: 1994-2016

The coverage rate which expresses the ratio of the number of contributors to the real number of skilled laborers, results in a significant decrease for the period 1993-1999. Specifically, this indicator is deteriorated in 1997 and 1998. It falls down to 26.8% and 27.5%, compared to 54% in 1993 and 33.8 % in 1994.(graph 4) The reduction of GDP after the 1990's (with a drastic reduction in 1997) and at a low rate of recovery over the years, definitely had an impact on the labor market.



**Graph 4.** Coverage rate

**Source:** Statistics of Social Insurance Institute, IMF, World Bank, author's calculations

The evident change of these conditions related to the labour market after 1990, had a negative impact in the inclusion of contributors in the social insurance scheme and demographic indicators. With the youngest population in Europe the labour market informality has increased, accompanied by the avoidance of the obligatory contribution payments. On the other hand, the high rate of emigration in this period has caused a considerable reduction in the workforce, and consequently the inclusion in the pension scheme. (European Commission, 2008).

After 1999, the coverage ratio is increased and this also attests to reducing the phenomenon of tax evasion. Informal employment remains a significant challenge. The informal employment decreased from 51.3 percent in 2014 to 46.8 percent in 2015. (Vidovic, Koettl, Mara, and Posadas, 2017). This is reflected in the increase in coefficient in 2015. However, this indicator remains low again and does not exceed 65%. In rural areas, this indicator is still lower, with less than 50%.

Increasing employment and reducing informality will lead to an increase in the number of contributors, and thus to the improvement of this ratio. The increase in the coverage ratio means more contributors, as a result more income from contributions and consequently a reduction in the pension scheme deficit.

#### 4. Analysis of coverage rate impact on the scheme deficit and the deficit trend

Expenditure on benefits in the pension scheme is higher than income from contributions. This means that the pension scheme results in a deficit and in the meantime this deficit continues to increase. Although the financial indicators show that the rural scheme deficit is important, the financial performance of the pension fund is dominated by the urban scheme, which accounts for 90% of spending and almost all income. So the state pension plan is currently not financially sustainable.

##### 4.1 Analysis of the relationship between the coverage rate and the pension scheme deficit

In this section of the study we analyze the hypothesis: The coverage rate values affect the deficit of the pension scheme. Undoubtedly, economic factors have an important impact on the pension scheme, and therefore its deficit. There are close links between the pension scheme and the main economic indicators in Albania. (Gjini, 2017). The deficit of the public pension scheme has been presented as a dependent variable, which, as discussed above, represents the difference between income from contributions and benefits expense. As independent variables, some economic indicators are thought to have an impact on the scheme's deficit, such as GDP, inflation, unemployment and coverage ratio. The data for these indicators have been analyzed for a period of about 20 years. The source of data for the analysis is taken from the Statistics of Social Insurance Institute, IMF, INSTAT. Initially, we will study the simple correlation between the indicators taken in the analysis.

**Table 1.** Simple correlation correlations among the main studied indicators

Indicators	GDP at current prices	GDP per Capita (in \$)	Inflation (in %)	Unemployment (in %)	Coverage ratio	Deficit (in millions)
GDP at current prices	1	#N/A	-0.585022	-0.569615	0.784276871	-0.8855751
GDP per Capita(in \$)		1	-0.535871	-0.601669	0.848072749	-0.8837343
Inflation			1	0.3469916	-0.393633304	0.3552039
Unemployment				1	-0.319370276	0.4358262
Coverage ratio					1	-0.7967266
Deficit						1

By studying the correlation coefficients that present the relationships that exist between some indicators taken into account in the analysis and the deficit of the pension scheme, we note that the value of these coefficients justifies our expectations. Thus, the correlation coefficient expresses the relationship between GDP at current prices and the deficit is  $-0.8855751$ . So there is a strong negative correlation, which means that GDP growth is associated with a decline in the deficit. The same would be said for linking GDP per Capita to deficit. From the matrix, we see that the correlation coefficient that expresses the relation between coverage ratio and deficit is  $-0.7967266$ . So there is a relatively high negative correlation, which means that the increase of the coverage ratio affects the reduction of the deficit. Meanwhile, inflation and unemployment are positively correlated with the deficit, which means that their growth affects the growth of the deficit. However, the correlative correlations for these two indicators are lower than the other indicators, respectively  $0.3552039$  for inflation and  $0.4358262$  for unemployment.

Let's go back to the coverage ratio indicator. From the matrix we see that there are correlations of this indicator with all the economic indicators selected by us. Thus, we have a high positive correlation of the coverage ratio with GDP and GDP/capita ( $0.848072749$  with GDP per capita), which means that the growth of this ratio will depend heavily on the economic growth. While with inflation and unemployment it is negatively correlated and these values are smaller, respectively  $-0.393633304$  and  $-0.319370276$ .

Let's further deepen our analysis through regression analysis.

**Regression Analysis:** Deficit versus coverage ratio

The regression equation is

$$\text{Deficit} = 10088 - 35387 \text{ Coverage ratio}$$

Predictor	Coef	SE Coef	T	P
Constant	10088	2977	3,39	0,004
Coverage ratio	-35387	6126	5,78	0,000

S = 3425,25 **R-Sq = 67,6%** R-Sq(adj) = 65,6%

Analysis of Variance

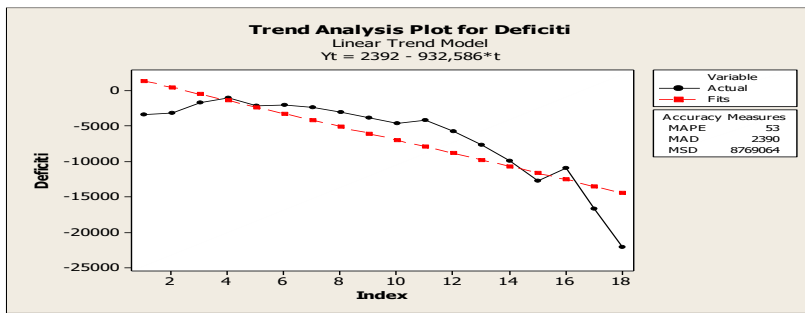
Source	DF	SS	MS	F	P
Regression	1	391503940	391503940	33,37	0,000
Residual Error	16	187717084	11732318		
Total	17	579221024			

In this model, from the regression analysis, the independent variable of the coverage ratio results statistically significant because the value  $p = 0.000$ . So the coverage ratio is an indicator with a significant impact on the deficit. From the analysis of regression data, the coverage ratio explains 67.6% of the deficit variation. An exception is only the eighteenth observation which is considered unusual with a large standardized waste (error prediction).

At the same time, it was analyzed the combined effect of the coverage ratio and GDP (independent variables) on the deficit (dependent variables). This analysis was carried out through a multiple regression. It resulted that the coverage rate in this model was a non-important variable. This can be explained by the fact that it is an indicator that has an important link with GDP and labor force. So in this model this indicator gives its effect through GDP variables.

#### 4.2 Analysis of the deficit trend

Two models were used for the analysis of the deficit trend: the linear trend model of the deficit and the quadratic trend model of the deficit.



**Graph 5:** Deficit vs. Time / Linear Model

Quadratic Model.

$$Y_t = -4825 + 1233 \cdot t - 114,0 \cdot t^2$$

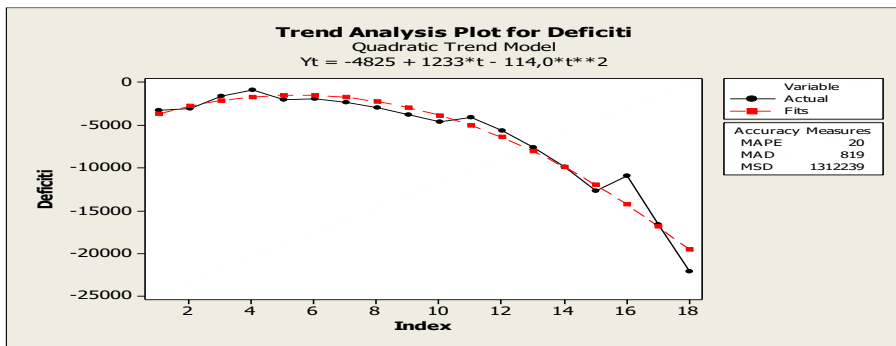
$$S = 1254,87 \quad R\text{-Sq} = 95,9\% \quad R\text{-Sq}(\text{adj}) = 95,4\%$$

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	2	555600731	277800365	176,42	0,000
Error	15	23620293	1574686		
Total	17	579221024			

Sequential Analysis of Variance

Source	DF	SS	F	P
Linear	1	421377870	42,71	0,000
Quadratic	1	134222860	85,24	0,000



**Graph 6:** Deficit vs. Time / Quadratic Model

From the analysis of competitive models, it is clear that the quadratic trend model is the perfect prediction model. Specifically this model explains 95.9% of the variance while the linear trend model explains 72.7% of the variance. From the graph above we note that the real values are very close to the predicted values (or the forecast line).

## 5. Conclusions and Recommendations

The current pension scheme in Albania is not financially sustainable. It suffers from a deep deficit and according to the analysis of the deficit trend, this deficit will continue to deepen if the pension scheme is not reformed.

The ratio of beneficiaries to the total number of population is increased during the study period and it is expected that this increase will continue in the future. The growth of this ratio has a negative effect on the sustainability of the scheme, so this report should be kept under control.

The dependency rate that expresses the ratio of the number of beneficiaries to the number of contributors to the social insurance scheme continues to be high, violating the sustainability of the scheme. Other important factors that have an impact on this report and are expected to have even greater impact in the future are demographic changes. These changes will bring a reduction in the number of active population compared to the number of retired people.

In conclusion of the quantitative analysis using the simple and multiple linear regression method, the correlation of the coverage ratio with the pension scheme deficit was verified. Increasing the value of the coverage ratio would have an impact on reducing the deficit. But the growth of this report will require in the future strong economic pressures and significant administrative efforts.

The replacement rates during the study period continue to remain low. Encouragement to participate in the urban scheme continues to be low due to low replacement rate for high pay contributors. To help solve this problem, we must certainly encourage the development of private pension funds.

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**Statistical data from**

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