FACTORS IMPACTING THE PUBLIC SOCIAL INSURANCE SCHEME: THE DEVELOPING MARKET STUDY

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Abstract

This research deals with the performance and factors of the social insurance system in Albania, which is of great importance for the economy to analyze, and the pension system that is subject to Albania's government policies that can change over time. The purpose of this research is to analyze the relationship between social entrepreneurship and the social environment by analyzing public revenue, expenditure, fiscal policy, and the changes in minimum and maximum wages of public social contributions in Albania for the period 1999–2020. The authors find that public pension system variables such as income, expenditure, and minimum/maximum wage follow a normal distribution and their respective p-values are greater than 0.05, and income has an impact on public pension expenditure. For this study, the linear model is used, and the statistical tests used to obtain the required results are Kolmogorov–Smirnov and Shapiro–Wilk, and the correlation coefficient ($r = 0.986$) indicates that there is a strong positive relationship between them. The results are useful for Albanian politicians to manage the public welfare system geared towards social entrepreneurship and encourage the authors to proceed with the analysis of other financial instruments related to this system.

Keywords: Public Social Scheme, Social Entrepreneurship, Fiscal Policy

Authors' individual contribution: Conceptualization — A.D.; Methodology — A.D. and D.L.; Formal Analysis — I.S., D.L., and F.D.; Writing — Original Draft — S.X., I.S., and A.D.; Writing — Review & Editing — I.S., A.D., and F.D.

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1. INTRODUCTION

This research examines the social insurance system in Albania, focusing on its performance and factors. It analyzes the relationship between social entrepreneurship and the social environment, analyzing public revenue, expenditure, fiscal policy, and changes in minimum and maximum wages. The study finds a strong positive relationship between income, expenditure, and minimum/maximum wage, indicating a positive impact on public pension expenditure.

The analysis of the correlation between social policies and economic growth is an important topic since they directly affect the daily lives of each individual. The development, structuring, and improvement of social policies should be the basis of every government for creating employment and the equal distribution of income. Considering that this study spans a significant period, it should be highlighted that frequent changes to Albanian law in this area have an immediate impact on the analysis conducted.

The Council of Ministers establishes the minimum salary for the purpose of deducting social security contributions, and it is updated each time they raise salaries and pensions. In order to ensure the funding of the economic sectors that drive economic growth, attempts to improve the contribution of social security and health must continue to be a policy priority in order to avoid leaving behind a significant burden for future generations.

State intervention in economic flows through social policies is often justified by the adjustments made in order to avoid the phenomena that occur as obstacles to maintaining the general well-being of society. Social policy management plays an important role in budget policies in terms of decisions between financing the economy that helps economic growth and financing groups with social problems. It is worth noting that the aging of the population makes financing pension funds difficult. To ensure social protection as the main element of administrative data urban and rural pensions according to the social security scheme, unemployment payment, and economic aid are mentioned. Social security also provides protection to Albanian citizens and persons who work abroad, in accordance with bilateral agreements, as well as in accordance with the regulation of the Institute of Social Insurance.

This study will address the following research questions:

RQ1: Does the performance of this sector affect the general economy?

RQ2: Is the state following the right policies for economic reformation?

RQ3: Do the economic reforms affect the Albanian economy?

In Albania, since the beginning of the transition, social policy has been one of the main pillars of government programs. The private sector in our county started in 1991, after 50 years of the communist regime, and since then, employees in the public and private sectors in Albania have contributed to the state budget, so this analysis research includes both groups of contributors and aims to inform that this market should be regulated not only effectively but also transparently. Financing of pension funds has been increasing because of the social policies that the government has undertaken for different social groups, as well as the increase in the number of pensioners.

The data used in this study are provided by public institutions in Albania such as the: Social Insurance Institute (Instituti i Sigurimeve Shoqerore [ISSH], 2021), Institute of Statistics (https://www.instat.gov.al/), Albania General Directorate of Taxes (GTD, 2021), Ministry of Finance and Economy (Ministria Financave dhe Ekonomisë [MFE], 2021), as well as the legal acts published chronologically in the official bulletins from the Official Publishing Center (Qendra e Botimeve Zyrtare [QBZ], n.d.).

Social entrepreneurship is an extremely important issue in everyday life as each individual decides in which social components of the social environment to invest his/her retirement income (Demi (Mosho) et al., 2021).

The Social Insurance Institute in Albania was created in June 1992, and by the Decision of the Council of Ministers, it administers the social security system. The current insurance scheme socially mandatory in Albania began in 1993 with the entry into force of Law No. 7703 on Social Security[1] in the Republic of Albania.

The linear model is applied and the statistical tests used to achieve the required results are the Kolmogorov–Smirnov and Shapiro–Wilk. Many statistical methods such as linear regression, analysis of variance (ANOVA test), F-test, t-test, etc., are based on the assumption that the data follows either a normal distribution or a Gaussian distribution. It is called so because Carl Friedrich Gauss used it in 1809 although de Moivre described it first (Deviant, 2010).

Normalization of data in the model discussed in this research paper is done using Statistical Package for the Social Sciences (SPSS) software. To test data normalization, the authors need to consider these numerical and visual products: the Kolmogorov–Smirnov and Shapiro–Wilk tests. These two tests are used to understand whether the data follows a normal distribution or not.

In fact, social insurance is the most developed form of social protection, since it is a system that forces citizens to take care of themselves, and considers all their needs.

The social issue is defined as a contractual relationship of an individual with the Social Insurance Institute to receive short-term and long-term benefits.

Based on this finding, the authors of this study aim to reveal the importance of the social system as a whole as one of the main points of social entrepreneurship by analyzing the public social insurance system, the performance of its main indicators such as revenue and expenditure, reforms provided and their impact on this system in Albania.

In April 1999, in Albania, for the first time after the communist regime, it was decided to exert minimum and maximum wages for social insurance contribution, therefore, the authors (Table A.1, Appendix) have incorporated the first two years 1999–2000 and 2020 as the COVID-19 period.

In January 2020, the online platform e-Albania made it possible to publish old-age pension information[2]. Law No. 7703 on Social Insurance in the Republic of Albania of May 11, 1993, as modified, is the basic legal act for the system, so those who complete the age and contribution criteria are eligible to receive an old-age pension (Table A.2, Appendix).

The research study will fill a significant gap in the existing literature and provide valuable insights into the subject matter. Additionally, by conducting

[1] https://qbz.gov.al/eli/ligj/1993/05/11/7703/f85f44fc-aaba-4b6d-8ea1-7f00f6b3e670;q=1993

[2] https://e-albania.al/eAlbaniaServices/UseService.aspx?service_code=6166

this research, the authors aim to contribute to the advancement of knowledge in their field and potentially inform future studies on related topics. The findings are beneficial for Albanian politicians in managing the public welfare system promoting social entrepreneurship and encouraging further analysis of related financial instruments.

The study reveals a normal distribution of public pension system variables like income, expenditure, and minimum/maximum wage, with a strong positive relationship between income and public pension expenditure using a linear model. This research examines the correlation between social entrepreneurship and the social environment in Albania from 1999 to 2020, analyzing public revenue, expenditure, fiscal policy, and wage changes.

The main purpose of this study is to deal with some main issues regarding the factors that affect the social insurance scheme, leaving open the discussion on this issue. With the goal of a stable macroeconomic environment, the priority for the government remains the financing of the sectors of the economy that promote economic growth and ensure social well-being for the population.

The remaining structure of this paper is as follows. Section 2 reviews the relevant literature analyzing hypotheses. Section 3 analyses the methodology that has been used to conduct empirical research on social insurance schemes. Section 4 includes the results of this research. Section 5 presents a discussion of the findings. Section 6 concludes the paper.

2. LITERATURE REVIEW

This section examines the methodologies used in studies on public pensions, arguing that the lack of significance may be due to data limitations or sample size. It examines the relationship between expenditure and income, focusing on international research studies (Demi, 2015; Thomas & Spataro, 2016). The authors also explore alternative explanations for the observed relationship highlighting the services of general interest.

Munodei and Sibindi (2023) suggest that fintech, as an innovative technology, can better present results in the digital economy because it overcomes constraints in competition, concentration, efficiency, and access, improving financial development in the global network of commercial transactions.

A social security administration culture that prioritizes human-centric data usage is more likely to create public value than one prioritizing automation for compliance and productivity gains (Lee-Archer, 2023).

Research conducted for both EU and non-EU member states reveals that studies conducted on social security services are few and generally focus on legislation and access to information, while individuals may have different experiences (Spasova et al., 2023).

Kimiyaghalam (2023) presents that sustainable fiscal and monetary policy coordination in emerging markets can reduce inflation concerns, minimize supply shocks, and maintain low government financing costs. However, fiscal policy can skew monetary policy, as financial flows reverse due to tightening policies and rising inflation. International forces now exert greater influence on domestic pricing and economic conditions, weakening national transmission of monetary policy. Foreign exchange market intervention can help control currency appreciation or depreciation, while a deeper financial system facilitates intermediation and draws in more capital (Kimiyaghalam, 2023).

Some studies (Kganyago, 2023; Singh, 2023; Villar, 2023) discuss foreign exchange intervention, inflation targeting, and coping with high inflation presenting that labor market reform aims to improve labor conditions, increase productivity, and competitiveness. Ensuring the pension system fulfills its obligations is a significant concern for the workforce. Countries worldwide have attempted to enhance pension schemes, some privatizing them to reduce government burden. The five pillar pension schemes are used by Kganyago (2023), Singh (2023), and Villar (2023) to select retirement plans and examine these schemes to illustrate the connection between pension system type and effectiveness.

The Canadian and Finnish pension systems face collective uncertainty about future pension provisions due to long-term actuarial projections, investment returns, population aging, and economic development. The shift towards financialization has made these systems relatively viable over the long term, but their integration with financial markets raises risks. Despite this, the risks they encounter diverge from employment and aging-related risks in pay-as-you-go (PAYG) systems. The current events in Finland and Canada highlight the interplay between financialization and statutory insurance and solidarity (Liukko et al., 2023).

Albania has improved the quality of social service delivery over the years to improve the quality of life for those who use these services. To increase the efficiency of social services, EU member states are modernizing social services and welfare.

In Albania, the public social insurance system includes various types of benefits, such as health insurance, pension insurance, and unemployment insurance. Contributory pensions and other social insurance programs do not prioritize the poor and have different effects on spending and saving.

To provide an overview of the public social scheme, the authors focus on various international research studies in the social field, such as Demi (2015) and Thomas and Spataro (2016), which show that increasing the tax burden and social insurance contribution is one of the main factors in the household economy.

Increasing general social safety as the primary objective purpose of a consolidated society is only probable under conditions of economic, political, and social stability and is intimately associated with fiscal policies and monetary policy adopted for macroeconomic purposes to influence total product, income, price level, spending, employment, pensions, and social assistance. Statutory public insurance provides contributors with benefits, simplifying the requirements for a pension (Demi & Mosho, 2015).

Periodicity, transparency, sensitivity, the effect of policy changes on distributional characteristics, and the feedback effects between macro-level and fiscal variables are all important considerations when analyzing aggregate predictions. Distributional impacts describe how alternative policies affect various socioeconomic groups, while feedback effects explain how household economic behavior is

impacted by fiscal policies, leading to increased acceptability and rationality (Song, 2023).

The European Commission (EC, 2011) has pointed out that the imprecise and interchangeable use of concepts related to services of general interest has led to a debate about the lack of clarity of terminology. In some of its treaties, notably the treaties of Rome and Amsterdam, the European Union only provides for public services in the context of transport. However, despite the differences in member states, European legislation accepts some concepts about public services that are more accurate such as:

• *Service of general interest:* These types of services are classified as services of general interest. They are governed by the member states of the European Union and are therefore subject to public service obligations.

• *Service of general economic interest:* These types of services are provided for remuneration and are subject to the European Union's internal market rules. Transport, communications, postal services, and energy are some examples of services of general economic interest.

• *Social services of general interest:* These services are key features of the European social model and quality of life and symbolize a fundamental feature of European society. They are mostly offered free of charge and financed by taxes or compulsory contributions. Education, health, social insurance, or social assistance are among the social services of general interest.

The European service model requires the avoidance of bureaucratic phenomena, the lack of democracy in the design and delivery of services, and disregard or underestimation of the ultimate purpose of services, which is to satisfy the needs and demands of citizens. The European social model presupposes the coordination and integration of economic and social progress, which are the very basis of the social economy of the market. Social Services of General Interest were introduced with the 2004 White Paper, presented as an extension of the Green Paper (EC, 2004). The 2004 White Paper describes the EU's approach to creating and promoting quality services of general interest. It is important that users have access to affordable, high-quality services of general interest. While social services of general interest are embedded in the public policy environment and are therefore not fully subject to application rules, they nonetheless contribute to ensuring that all citizens receive an equitable service.

Social services of general interest are mainly understood to mean basic services provided in the public interest, while they are seen as social services and often linked to social protection rights and regulations (Altiparmakov & Nedeljkovic, 2021). Social services of general interest correspond to the social aspect of public services (Bazzani, 2023).

Contributory pensions and other social insurance programs, in contrast to social assistance, rely on employment-related contributions and do not prioritize the poor. Different studies have studied how social insurance affects spending and saving, and others claim that social insurance boosts consumption but has a negative impact on savings. Countries that already have a minimum wage per economy are committed to raising it in accordance with a formula that guarantees a livable standard of living, is consistent with the rate of inflation, and can pay for the essentials in a minimal shopping basket. It is advised that member states revise their minimum wages at least every two years and at least every four years in nations that use an automated indexation method.

On the way to EU membership and in adapting to economic and social changes, Albania has improved the quality of social service delivery over the years to improve the quality of life of those who use these services. One of the social services discussed in this research, social insurance, was first regulated by Law No. 8220 on Civil Pensions No. 129, of October 28, 1927, to assume that there were already regulatory provisions on pensions before this act (ISSH, 2023). To increase the efficiency of social services, EU member states are modernizing social services and welfare. Pensions are high on the agenda of EU member state governments, pension providers, and even workers.

In line with these modernization processes, Albania seeks to ensure that seniors can live with dignity and security in their old age, even if they are unable to accumulate enough savings or investments to support themselves. An old-age pension is a social benefit for older people to support them financially in old age. For retirees who have finished their working years and might no longer have a steady income from employment, it acts as a crucial safety net. It aims to provide a basic income to eligible individuals who are retired and have no other source of income to support themselves. Social services are essential to building a just, equitable, and prosperous society. By investing in these programs, can ensure that all people have access to the resources they need to thrive, regardless of their background or circumstances. In Albania, the public social insurance system includes various types of benefits, including health insurance, pension insurance, unemployment insurance, etc. These benefits are funded by contributions from employees, employers, and the state, while they are administered by the Albanian Social Insurance Institution, which guarantees that all citizens have access to basic social security.

Based on the research studies mentioned in this section of the literature review, the study examines the sources of public pension funds in Albania, including contributions from workers and government subsidies. It also examines the utilization of these funds, their impact on retirees' quality of life, and their economic contribution to the economy. The study also examines the balance between pension receipts and expenditures, the impact of policy changes, demographic shifts, and investment efficiency. The findings can inform policymakers to create sustainable and beneficial pension systems for Albanian citizens during their retirement years. The study aims to understand the economic implications of the pension system on Albanian citizens during their retirement years.

The authors analysed the factors impacting the public insurance market in Albania by the hypotheses:

H_0 (null hypothesis): The data represents a normal distribution.

H1 (alternative hypothesis): The data differs from a normal distribution.

H_0 is not accepted if the p-value is less than 0.05, so the data we tested differs statistically significantly from the normal distribution. On the other hand, if the p-value is greater than 0.05, H_0 is accepted, and the data represent a normal distribution.

The research is concluded with some dates and tables related to the social insurance market. In future studies, the authors will be able to compare the results achieved by this study with the performance of private pension funds in Albania.

3. RESEARCH METHODOLOGY

The authors selected this scientific research topic with the intention of researching and updating economic developments, as well as the effects of social policies on public governance. By utilizing various data from reputable national sources, we can effectively differentiate and gain a comprehensive understanding of social security. This enables us to accurately highlight the key components and primary goals set by the government. Additionally, analyzing diverse datasets helps us identify any disparities or gaps in social security policies for a more informed evaluation.

The purpose of this research is to study the economic benefits for Albanian citizens during retirement and link what exists between public pension receipts and public pension expenditures and the economic impact that pension payments have on the economy. Examining the use of public pension receipts money by analyzing their expenditures, which include worker contributions, government subsidies, investment returns, etc. This study seeks to explore what portion of the total is allocated to investments, administrative expenses, and retirees directly.

On the other side is the effect on the public which means how pension benefits affect the standard of living of retired individuals. Does the pension cover the necessities? What effect does it have on senior poverty rates? Are pension benefits different for people in different professions, regions, or genders?

Studying these aspects will help in understanding the economic implications of the pension system on Albanian citizens during their retirement years, as well as the intricate relationship between public pension receipts and expenditures. This knowledge can inform policymakers to create sustainable and beneficial systems for citizens.

The SPSS program was used to analyze the data in the tables, in particular the chi-square test, since this test describes the progress of the management (implementation) of the pension system in Albania (income and expenditures).

ANOVA tests to see whether the model is statistically significant or not, and the Kolmogorov–Smirnov and Shapiro–Wilk tests to assess the normality of each variable's data. Testing using the chi-square test showed that there was a positive relationship between the variables. Continuing further analysis using the ANOVA test to see the relationship between the explanatory variable and the dependent variable.

The chi-square test is often used to assess the association or independence between categorical variables. Using this test, the authors showed a positive relationship between the variables, suggesting that they are not independent. ANOVA is typically used to analyze the differences among group means in a sample. The authors used this test to extend the analysis to explore the relationship between the explanatory variable (independent variable) and the dependent variable. To evaluate the normality in relation to the data taken into consideration, the authors have used Kolmogorov–Smirnov and Shapiro–Wilk tests which help determine whether the data follows a normal distribution. Assumptions of normality are often required for some statistical analyses, including ANOVA.

Data on public pension receipts, public pension expenditure, and minimum and maximum wages were used to analyze factors that can affect the relationship between these variables, such as economic conditions, government policies, and demographic factors. Additionally, it is important to consider potential outliers or missing data to ensure the accuracy and reliability of the analysis.

There are many questions raised by this research area, but in this study, the authors choose to answer some of them, such as: Are public pension expenditures affected by the level of public pension income? Are public pension incomes affected by changes in minimum and maximum wages?

To give a detailed overview of the relationship that exists between public pension income and public pension expenses, income and expenditure for public pension, minimum and maximum wages, were used. The dates belong to the years 2001–2020.

The analysis of these data revealed that there is a positive correlation between the level of public pension income and public pension expenses. Additionally, it was found that changes in minimum and maximum wages do have an impact on public pension incomes. These findings suggest that adjustments in minimum and maximum wages can influence the overall financial stability of public pension systems.

The authors' first goal is to find out if the amount of public pension revenue influences public pension expenditures.

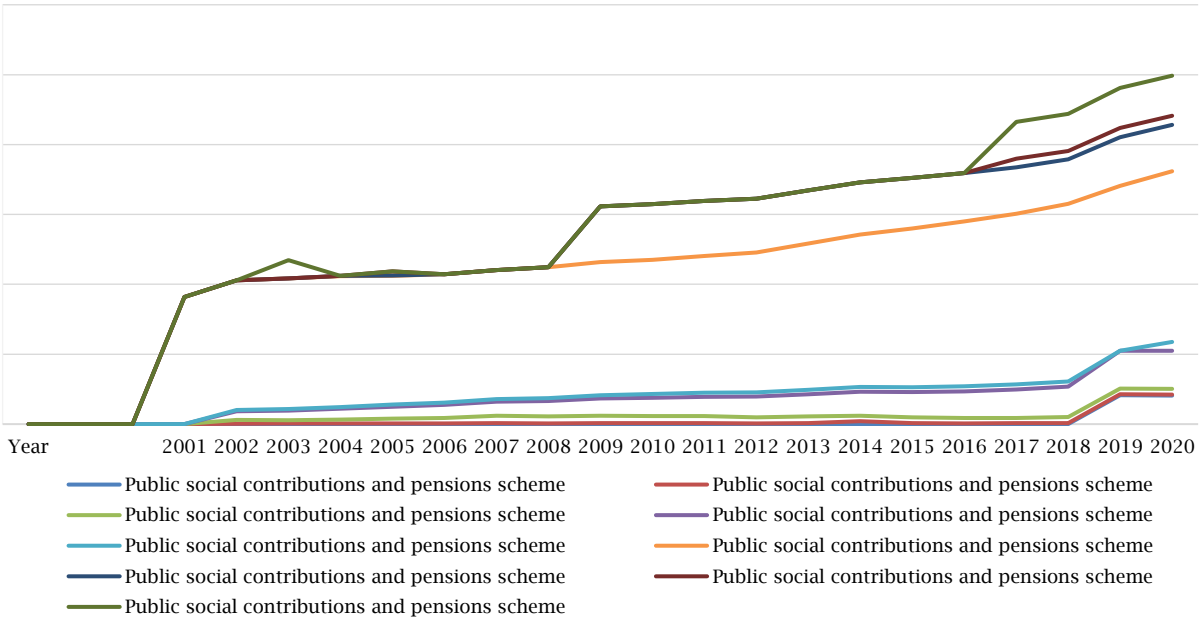
Since dataset analysis offers a thorough understanding of the range of experiences and demands within a population, it is essential for authors to find inequities or gaps in social security programs, such as demographic and income inequalities, regional variations, patterns of use and access, trends, and legal changes over time, as well as continuous improvement. We can learn more about the efficiency and equity of the current social security programs by looking at data from various demographic groups, socioeconomic backgrounds, and geographic locations. So, a thorough and accurate evaluation of social security programs depends on the analysis of a variety of datasets. It makes the specific difficulties that various demographic groups experience more understandable to legislators, which promotes the creation of social security policies that are more inclusive and successful.

Table 1. Public social contributions and pensions system

Year	Total revenue for public pensions scheme (million ALL)			Expenditures for public pensions scheme (million ALL)		Urban/rural pensions (Beneficiary individuals)		The minimum salaries for social contributions	The maximum salaries for social contributions
	Company	Individuals	Budget (subventions)	Old age pension	Other pensions	Urbane pensions	Rural pensions		
2001	19,892	507	10,931	21,973	3,377	362,811	182,38	8,396	25,188
2002	22,295	623	11,379	24,844	3,824	370,550	184,885	9,403	47,015
2003	25,091	1,474	9,286	27,546	4,496	374,061	185,128	10,343	51,715
2004	27,891	2,160	10 962	30,580	5,183	374,847	182,895	11,376	56,881
2005	30,594	2,143	13,379	34,241	5,898	368,970	170,349	12,514	62,570
2006	33,54	1,857	15,702	37,461	6,899	366,872	158,803	13,140	65,700
2007	34,704	2,626	21,196	40,343	7,533	369,282	158,53	14,140	66,700
2008	39,748	2,292	19,521	43,895	8,424	374,838	159,433	14,830	74,150
2009	40,997	2,534	20,980	49,425	9,686	380,852	159,570	16,120	80,600
2010	41,483	2,536	20,096	52,909	10,734	384,187	158,866	16,820	84,100
2011	44,537	2,790	19,841	55,723	11,593	390,956	157,719	17,540	87,700
2012	45,731	2,287	17,247	59,200	12,260	399,959	154,143	18,295	91,475
2013	47,587	2,662	19,059	63,562	13,133	418,399	152,024	19,026	95,130
2014	52,464	8,035	16,270	68,312	13,850	436,337	149,146	19,406	97,030
2015	56,473	2,375	17,356	71,814	14,060	454,163	144,769	22,000	97,030
2016	62,691	2,336	15,104	76,282	14,100	472,390	138,154	22,000	97,030
2017	69,433	2,594	14,720	82,072	14,530	488,408	132,788	24,000	105,850
2018	74,525	2,617	17,984	86,382	15,023	508,651	127,084	24,000	105,850
2019	82,747	2,750	16,159	107,880	23,358	472,390	139,154	26,000	114,670
2020	82,000	2,022	16,973	108,830	25,322	488,408	132,778	26,000	114,670

Note: ALL is for Albanian lek.
Source: Authors' elaboration.

Figure 1. Public social contributions and pensions system



Source: Authors' elaboration.

Test of normality: Data normalization is a process that involves adjusting the data to ensure it is representative of the original data. This data normalization is a preprocessing step that entails scaling and altering a dataset's attributes to a specified range. The aim is to bring the values of various aspects to a similar scale. Normalization focuses on ensuring that the features are comparable and contribute equally to the analysis, rather than trying to make the data reflective of the original data. Robust scaling, Z-score normalization, and min–max scaling are examples of common normalization methods.

The normalization of data in the model treated in this paper is made with SPSS software. To test data normalization, we need to consider these numerical and visual products: *Kolmogorov–Smirnov* and *Shapiro–Wilk tests.* These two tests are used to understand whether the data follow a normal distribution.

H_0 is not accepted if the p-value is less than 0.05, so the data we are testing differs statistically significantly from the normal distribution. Conversely, if the p-value is greater than 0.05, H_0 is accepted, and the data represent a normal distribution.

Table 2. Tests of normality

Variables	Kolmogorov–Smirnov[a]			Shapiro–Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ln Total revenue for public pensions scheme	0.145	20	0.200*	0.942	20	0.264
Ln Expenditures for public pensions scheme	0.080	20	0.200*	0.970	20	0.758
Ln The minimum salaries for social contributions	0.108	20	0.200*	0.952	20	0.397
Ln The maximum salaries for social contributions	0.154	20	0.200*	0.867	20	0.010

*Note: *. This is a lower bound of the true significance; a. Lilliefors significance correction.*

Table 2 presents the results of two tests, Kolmogorov–Smirnov and Shapiro–Wilk, for the data of each variable. According to both tests, it turns out that the variables revenue for public pension, expenditures for public pensions, minimum wage and maximum wage follow a normal distribution in respective p-values that have values greater than 0.05. This means that H_0 is accepted, so the data of our variables represents a normal distribution.

Skewness and kurtosis (z-values): These are two measurements, the values of which for a normal distribution should be as close as possible to zero. To obtain the z-value, we must divide each measurement by the corresponding standard error.

Table 3. The impact of public pension income on public pension expenditure

Regression analysis			
r^2	0.973	n	20
r	0.986	k	1
Std. Error	0.082	Dependent variable	y_1

ANOVA					
Source	Sum of squares	df	Mean square	F	p-value
Regression	4.405	1	4.405	649.291	0.000
Residual	0.122	18	0.007		
Total	4.527	19			

Regression output						
Variables	Coefficients	Std. Error	T (df = 20)	P-value	Confidence interval	
					95% lower	95% upper
Intercept	-4.009	0.590	-6.792	0.000	-5.249	-2.769
x_1	1.363	0.053	25.481	0.000	1.250	1.475

Note: y_1 is the dependent variable expenditures for public pension expenditures; x_1 is the independent variable of public pension income.

Table 3 explains that the level of public pension revenues has an impact on public pension expenditures. The correlation coefficient ($r = 0.986$) indicates that there is a strong positive correlation between them. This means that the independent variable of public pension income is explanatory for the dependent variable of public pension expenditure, so it is important. This means that an increase in the level of public pension revenues has led to an increase in the level of public pension expenditures. This influence is statistically significant with a p-value of $0.000 < 0.05$.

The equation used to perform these measurements is the logarithmic one:

$$ln\, y_1 = \alpha + \beta\, ln\, x_1$$
$$ln\, y_1 = -4.009 + 1.363\, ln\, x_1 \quad (1)$$

Table 4. The impact of minimum and maximum wage levels on public pension income

Regression analysis			
r^2	0.970	n	20
r	0.985	k	1
Std. Error	0.065	Dependent variable	y_2

ANOVA					
Source	Sum of squares	df	Mean square	F	p-value
Regression	2.300	2	1.150	270.454	0.000
Residual	0.072	17	0.004		
Total	2.372	19			

Regression output						
Variables	Coefficients	Std. Error	T (df = 20)	P-value	Confidence interval	
					95% lower	95% upper
Intercept	1.126	0.454	2.480	0.024	0.168	2.083
x_1	0.060	0.124	0.482	0.636	-0.203	0.323
x_2	0.952	0.135	7.072	0.000	0.668	1.236

Note: y_2 is the dependent variable of public pension income; x_1 is the independent variable of maximum wage; x_2 is the independent variable of minimum wage.

Table 4 presents the influence that the maximum and minimum wage levels have on public pension income. The equation used to perform these measurements is again logarithmic:

$$ln\, y_2 = \alpha + \beta\, ln\, x_1 + \beta\, ln\, x_2$$
$$ln\, y_2 = 1.126 + 0.06\, ln\, x_1 + 0.952\, ln\, x_2 \quad (2)$$

The minimum wage level has an impact on public pension income; a statistically significant impact with a p-value of 0.000 < 0.05 is accepted. The change in the minimum wage affects the level of public pension income through a positive relationship. This means that an increase in the minimum wage causes an increase in public pension income.

The change in the maximum salary affects the level of public pension income through a positive relationship. This means that an increase in the maximum salary causes an increase in public pension income, but this impact is not statistically significant since the p-value is 0.636 > 0.05 and H_0 is accepted.

4. RESULTS

This study emphasizes the importance of efficient fund management and transparency in resource allocation and distribution, especially with the growing aging population. It also highlights the need for sustainable pension system support and promotes social and economic interests. Government investment management offers products like universal life insurance, retirement planning, and group savings plans. Legal guidelines are being developed based on research projects and analysis of Albanian law. Social security legislation requires an analysis of progress and long-term prospects, considering financial sustainability, suitability, and reforms. The government must assess social and economic variables' impact on income and financing government programs. The realization of these objectives depends on the government's ability to coordinate influencing instruments, analyze trends, and coordinate macroeconomic policies. Policymakers must consider the impact of proposed policies on interest groups, law enforcement, and economic policies. Macroeconomic stability and an appropriate monetary policy framework are crucial for reforms and investment in Albania. Understanding social issues, law enforcement institutions, and regulatory frameworks is essential for effective fiscal policies.

The authors used the chi-square test to show a positive relationship between categorical variables, indicating they are not independent. They also used ANOVA to analyze differences among group means, examining the relationship between the explanatory and dependent variables. They also used Kolmogorov–Smirnov and Shapiro–Wilk tests to assess normality.

The independent variable of public pension income is explanatory for the dependent variable public pension expenditure, so it is important.

The level of the minimum wage has an impact on public pension income, a statistically significant impact with a p-value of 0.000 < 0.05, *H1* is accepted. A change in the minimum wage affects the level of public pension income through a positive correlation. This means that an increase in the minimum wage will result in an increase in public pension income.

A change in the maximum wage affects the level of public pension income through a positive correlation. This means that an increase in the maximum wage leads to an increase in public pension income, but this effect is not statistically significant accepting a p-value of 0.636 > 0.05, H_0 is accepted.

Based on the model of the social and health insurance system developed by some countries, there should be a gradual reform of the social protection system.

The results showed that public pension expenditure is affected by receipts for those pensions and pension receipts are influenced by the level of the minimum and maximum wage.

Based on the analysis carried out and the tests used, the indicators show a normal distribution.

The authors conclude that it is time to think about appropriate professional restructurings that enable the increase of value for individuals. Also, it is suggested that the methods that will be applied should be seen as related closely to the existing framework, since due diligence, the process of consultation of the parties, the use of expertise, and other factors are already consolidated and practice exists.

Governments are considering pension reforms to address demographic shifts like aging populations. Public-private partnerships are being explored to fund and manage pension schemes, and innovative pension products are being developed to provide comprehensive coverage for retirees. Social and environmental impact investing is becoming a key consideration in pension fund management. Inflation concerns, digital transformation, sustainable development, remote work, trade dynamics, and technological advancements are all influencing the effectiveness and sustainability of pension systems. Staying informed about these developments is crucial for maintaining the sustainability of pension systems.

It is noted that digitization of the pension system is a necessity of the time as it will significantly improve the efficiency of providing the service. Investments in pension funds require contemporary technology to manage the system. In this perspective, the authors encourage the public government to consider pension reforms, demographic changes, and the population aging index. The public pension scheme must be well managed to provide comprehensive coverage for contributors.

The authors can segment data according to factors like age, gender, race, ethnicity, and socioeconomic status. The differences in the ways that various groups utilize and benefit from social security programs can be made clearer by further research. Geographically analyzing varied datasets will facilitate the identification of regional differences in outcomes, utilization, and accessibility. Analyzing data on income is crucial to comprehending how different income levels are impacted by social security programs. It assists in determining whether there are discrepancies in the distribution of benefits or whether income groups are not sufficiently covered. A variety of databases make it possible to examine the ways in which various demographic groups use and obtain social security benefits.

The research also examines the effect on the standard of living of retired individuals, including coverage of necessities, senior poverty rates, and differences in pension benefits for different professions, regions, or genders.

The study aims to answer questions about the relationship between public pension income and

public pension expenses, including whether public pension expenditures are affected by the level of public pension income and changes in minimum and maximum wages.

Social security policies can be modified to accommodate changing demands by analyzing data over time to determine the effects of policy changes and societal changes. Policymakers can make timely and informed changes to social security programs by keeping a close eye on statistics and identifying rising inequities and gaps.

5. DISCUSSION

Based on the literature review section, the authors in this research explore the lack of significance in studies on public pensions, focusing on international research and the relationship between expenditure and income. It highlights the potential of fintech in the digital economy and the importance of human-centric data usage in social security administration. The article also discusses the need for sustainable fiscal and monetary policy coordination in emerging markets to reduce inflation concerns and maintain low government financing costs. It also highlights the importance of foreign exchange market intervention and a deeper financial system for successful pension schemes.

Since there was a statistically significant positive relationship between them, the results suggest that expenditure increases as income increases. As a result, costs associated with public pensions will generally increase with income. The expense is caused by an increase in the number of retirees, an increase in pension benefits due to changes in the law, an improvement in the quality of life of retirees, and an internal rate of return (program continuation). However, due to the impact of the legislative change on maximum and minimum payment levels, income levels will also vary, and this fact resulted in a statistically significant positive association.

Unfortunately, these programs have a negative impact on people's attitudes towards employment to varying degrees. Many people use these programs and receive unemployment benefits while also looking for work or self-employment in the unorganized economy.

There are three financial incentives to assist these individuals:

- unemployment insurance;
- earnings from illegal work;
- non-payment of required social security contributions, and taxes.

As a result, such a system reduces the likelihood that individuals receiving these transfers will seek formal sector employment, even if their overall income is higher if they do so while working in the informal sector.

Social insurance is vital for workers, their families, and the community at large. This is a fundamental human right and a crucial mechanism for promoting social cohesion. An equitable social safety net that covers all individuals and families strengthens the country's workforce, improves its capacity to foster growth and embrace change, and supports greater levels of social and political stability.

The social insurance system in Albania was inherited from the communist system and is based on contributions from both employers and employees. It is intended to provide completed insurance protection against the risks of old age, disability, death, short-term illness(es), and unemployment. With a high rate in the formal sector, this type of structure performs comparatively well. The sharp decline in formal labor market participation raises the question of whether the social security framework is indeed structured to ensure future social protection benefits for the whole population, or whether the system needs to be changed. The financial incomes benefited from the collection of contributions are determined or intended to be used only in favor of the insured persons and cannot in any way pass in favor of other persons. As a result of employment and social policies, it is predicted by law that the increase of retirement age for categories of employees to be done gradually (Appendix).

Old-age pension expenditure in the city is growing faster than old-age pension expenditure in the rural sector. Expenditure on pensions represents the highest expenditure compared to the expenditure on other types of pensions in both urban and rural areas.

The authors note that another element that affects socioeconomic policies, as well as the state budget, is the tendency of the population to age. Also, from the demographic point of view, it can be said that in Albania the trend towards the aging of the population has started and will continue. At this rate, it is expected in the future the share of the population in the third age.

Changes in social instruments have a direct effect on employment and prices so, in general, economic flows. Better redistribution of income and in the economy increases investments and improves the issues of education, culture, and health.

The correlation between social policies and economic growth is crucial as they directly impact daily lives. Social policies should be the basis for government to create employment and equal income distribution. The Council of Ministers establishes minimum salaries for deducting social security contributions, which are updated as salaries and pensions increase. Improving social security and health is a policy priority to avoid burdening future generations. Social policy management plays a significant role in budget policies, balancing economic growth with social problems. The aging population makes financing pension funds difficult. Social security provides protection to Albanian citizens and those working abroad, in accordance with bilateral agreements and the Institute of Social Insurance regulations. The state's economic reforms should be effective and transparent.

6. CONCLUSION

The study found a significant positive relationship between expenditure on public pensions and income, suggesting that costs increase with income. This is due to increased retirees, pension benefits, improved retirees' quality of life, and internal rate of return. However, these programs can negatively impact people's attitudes towards employment, as

many use them and receive unemployment benefits while seeking work or self-employment in the unorganized economy. The social insurance system in Albania, inherited from the communist system, provides protection against risks such as old age, disability, death, and unemployment. The decline in formal labor market participation raises questions about the effectiveness of the social security framework and whether the system needs to be changed. The study also noted that the aging population in Albania affects social economic policies and state budgets.

As a result, it is crucial to ensure that the funds are managed efficiently and there is transparency in the allocation and distribution of these resources. Additionally, with the continuous growth of the aging population, it becomes imperative to implement sustainable measures to support the pension system in the long term, ensuring a stable and reliable source of income for future retirees.

This study provides a framework for promoting and defending the social and economic interests of society and its members. Government investment management offers products such as universal life insurance, retirement planning, and group savings plans. On the basis of analyses and findings from research projects in science legal guidelines are being developed on issues relating to the social and economic framework. Analysis of Albanian law in relation to the rights of people who have left the country but have made tax contributions in the past.

Evaluation of the main regional or EU pension schemes, including the offer of a single wage, with the aim of guaranteeing social protection to each individual. Creating new investments productivity, and politicies that address people's need and increase transparency about their role in the economy.

Social security legislation requires an analysis to be undertaken on the progress of the system so far, as well as on the prognosis of its long term. This analysis should consider the degree of sustainability and financial suitability, as well as the reforms that must be implemented to further strengthen the existing scheme of the social security system. The government must assess the factors involved and the performance of social and economic variables, due to their impact on the amount of income realized for the purpose of financing government programs. Such decisions are also influenced by external factors, so the government must consider global trends. Government objectives intend to increase the general social welfare as a primary goal of contemporary society. This well-being is ensured only under conditions of economic, political, and social stability. The realization of these objectives depends on the government's ability to coordinate influencing instruments at the level of aggregate demand, the accuracy of analyses for the trends of the main economic and financial indicators; regulation and institutional arrangements for the coordination of macroeconomic policies.

Any policymaker must consider the impact of the proposed policies and the impact on various interest groups, on law enforcement, and on economic policies that directly affect society before developing socio-economic policies. It is impossible to study to explain or design socio-economic policy without first having a solid understanding of the main subject of policy public law. Each individual, every company, and every organization makes purchases based on income. The government collects money through taxes and develops a spending plan based on that money.

This rule will not be broken by anyone. The creation of macroeconomic stability, or the development of an appropriate framework for monetary policy through an interactive process is another crucial component of the structural adjustments required for reforms in socio-economic system and advantages to invest in Albania.

Part of the government's economic strategy that influences the level of public policy is an understanding of how changes in the financial sector can contribute to the recalibration of monetary policy through an interactive process and vice versa.

Studying social issues, understanding the fundamentals of how law enforcement institutions work, designing power, strengthening rights over legislative power, and strengthening the regulatory framework, particularly with regard to reporting and oversight issues.

The specific strategies utilized and how they are carried out influence the manner in which various fiscal policies affect different socioeconomic categories. Feedback effects are important in determining how households behave economically and how reasonable and acceptable these policies are in general. An equitable strategy that takes into account the requirements of various stakeholders and foresees possible cascading effects is important for the proficient management of fiscal policy.

Social programs, such as welfare programs, can strengthen the economy through the income effect, but questions arise about financing and inflation. Feedback effects include changes in employment incentives and household financial decisions. Infrastructure investment and education and healthcare policies can stimulate economic growth and create jobs, benefiting both lower and middle-income groups. Despite initial budget challenges, these policies can lead to a skilled workforce, higher productivity, and stability. Expansionary fiscal policies during recessions can stimulate economic activity, benefiting lower-income groups through increased employment opportunities. However, critics argue these policies could lead to inflation, disproportionately impacting lower-income groups.

Social protection contributes not only to the reduction of poverty but also to social inequality, so the design and effectiveness of social policies promote the exchange of information between the involved parties. Expanding social security policies and contributions is essential for improving social protection coverage. Government initiatives to include insurance help achieve maximum coverage and equity.

The limitations of the paper are related to the fact that there are a lot of factors that influence social economic policies and the authors admit that this study would be more complete if the database used could also include the education of individuals.

In future studies, the authors will focus on the policies in which the government intends to promote programs for employment, the expansion of the contribution base in the social security scheme, as well as the level of education.

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APPENDIX

Table A.1. Gradual extension of age and insurance period for retirement for male

Year	*Category I*		*Category II*		*Category III*	
	Age	*Working years*	*Age*	*Working years*	*Age*	*Working years*
1999	53	23	58	30	60	30
2000	53	23	58	31	60	31
2001–01.07.2002	54	24	59	32	60	31
01.07.2002–30.06.2003	54	24	59	33	60.5	33
01.07.2003–30.06.2004	55	25	60	34	61	34
01.07.2004–30.06.2005	55	25	60.5	35	61.5	35
01.07.2005–30.06.2006	56	26	61	35	62	35
01.07.2006–30.06.2007	56	56	61.5	35	62.5	35
01.07.2007–30.06.2008	57	28	62	35	63	35
01.07.2008–30.06.2009	57	29	62.5	35	63.5	35
01.07.2009–30.06.2010	58	30	63	35	64	35
01.07.2010–30.06.2011	58	31	63.5	35	64.5	35
01.07.2011–30.06.2012	59	32	64	35	65	35
01.07.2012–30.06.2013	59	33	64.5	35	65	35
01.07.2013–30.06.2014	60	34	65	35	65	35
01.07.2014–31.12.2014	60.5	35	65	35	65	35
01.01.2015–31.12.2015	61	35 years and 4 months	65	35 years and 4 months	65	35 years and 4 months
01.01.2016–31.12.2016	61 years and 4 months	35 years and 4 months	65	35 years and 4 months	65	35
01.01.2017–31.12.2017	62	36	65	36	65	36
01.01.2018–31.12.2018	62.5	36 years and 4 months	65	36 years and 4 months	65	36 years and 4 months
01.01.2019–31.12.2019	63	36 years and 8 months	65	36 years and 8 months	65	36 years and 8 months
01.01.2020–31.12.2020	63.5	37	65	37	65	37

Table A.2. Gradual extension of age and insurance period for retirement for female

Year	*Category I*		*Category II*		*Category III*	
	Age	*Working years*	*Age*	*Working years*	*Age*	*Working years*
1999	48	20	53	26	55	26
2000	48	21	53	28	55	28
2001–01.07.2002	49	22	54	30	55	30
01.07.2002–30.06.2003	49	23	54	32	55.5	32
01.07.2003–30.06.2004	50	24	55	34	56	34
01.07.2004–30.06.2005	50	25	55.5	35	56.5	35
01.07.2005–30.06.2006	51	26	56	35	57	35
01.07.2006–30.06.2007	51	27	56.5	35	57.5	35
01.07.2007–30.06.2008	52	28	57	35	58	35
01.07.2008–30.06.2009	52	29	57.5	35	58.5	35
01.07.2009–30.06.2010	53	30	58	35	59	35
01.07.2010–30.06.2011	53	31	58.5	35	59.5	35
01.07.2011–30.06.2012	54	32	59	35	60	35
01.07.2012–30.06.2013	54	33	59.5	35	60	35
01.07.2013–30.06.2014	55	34	60	35	60	35
01.07.2014–31.12.2014	55.5	35	60	35	60	35
01.01.2015–31.12.2015	56	35	60 years and 2 months	35 years and 4 months	60 years and 2 months	35 years and 4 months
01.01.2016–31.12.2016	56.5	35	60 years and 4 months	35 years and 8 months	60 years and 4 months	35 years and 8 months
01.01.2017–31.12.2017	57	35	60.5	36	60.5	36
01.01.2018–31.12.2018	57.5	35	60 years and 8 months	36 years and 4 months	60 years and 8 months	36 years and 4 months
01.01.2019–31.12.2019	58	35	60 years and 10 months	36 years and 8 months	60 years and 10 months	36 years and 8 months
01.01.2020–31.12.2020	58.5	35	61	37	61	37

Figure A.1. Normality test

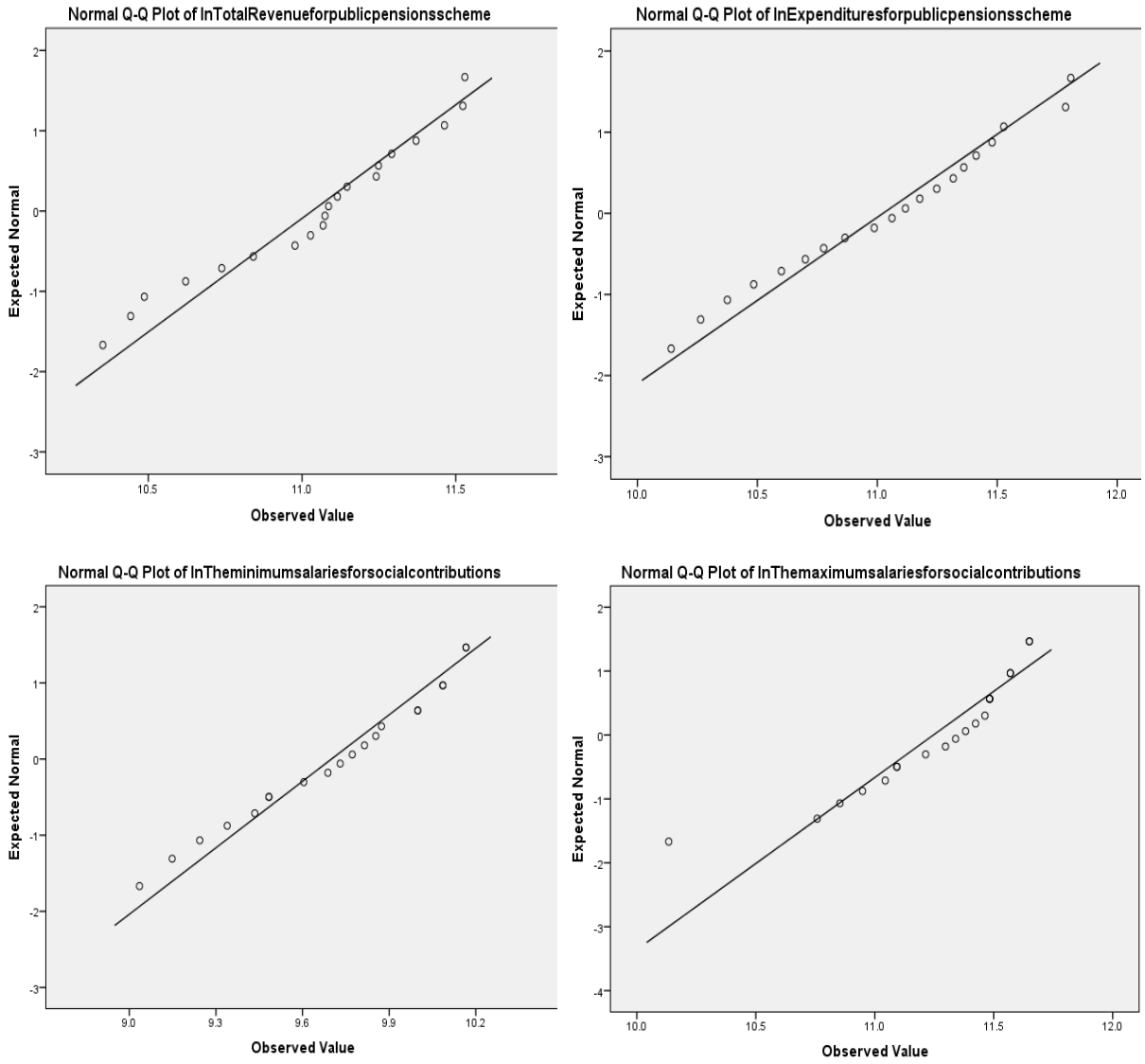
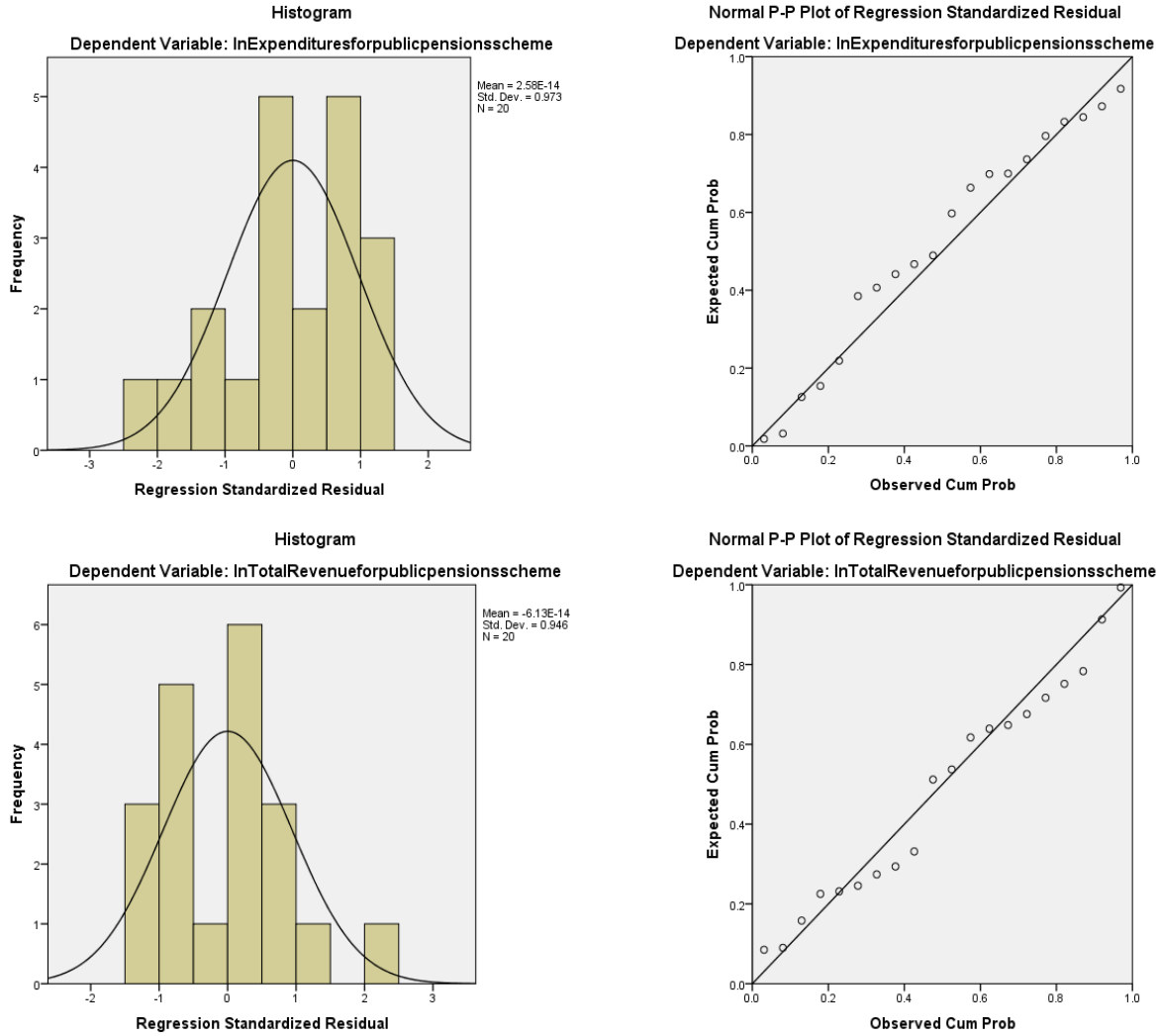
Figure A.2. Regression