

SHADOW ECONOMY AND ITS IMPACT ON ECONOMIC GROWTH

Arjeta Hallunovi^{*}, Rovena Vangjel^{**}

^{*} Corresponding author, Finance Accounting Department, "Aleksandër Moisiu" University of Durrës, Durrës, Albania
Contact details: Finance Accounting Department, "Aleksandër Moisiu" University of Durrës, Spitallë, Durrës 2009, Albania

^{**} Finance Accounting Department, "Aleksandër Moisiu" University of Durrës, Durrës, Albania



Abstract

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This research aims to investigate the correlation between economic growth and the shadow economy in Albania between 1996 and 2019 and their connection to government tax revenue. Accurately measuring the informal economy can aid governments in developing more effective policies that are better targeted. To accurately measure the shadow economy, the autoregressive distributed lag (ARDL) bound test was conducted after verifying the data series' stationarity. The findings of the Granger causality test revealed a one-way relationship where the shadow economy impacted economic growth in Albania. However, there was no significant correlation between the two variables. However, there was a crucial and adverse association in the long run between the shadow economy and tax revenue (% GDP). The augmented Dickey-Fuller test (ADF) test produced a significant outcome, demonstrating that the shadow economy has a detrimental influence on tax revenue. In conclusion, the study emphasizes the Albanian government's need to combat the informal sector by enhancing tax collection.

Keywords: Albania, Shadow Economy, Economic Growth, Granger Cause, Tax Revenues

Authors' individual contribution: Conceptualization — R.V.; Methodology — R.V.; Investigation — R.V.; Resources — A.H.; Writing — A.H. and R.V.; Supervision — A.H.

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1. INTRODUCTION

Is it necessary to be concerned about the shadow economy? Do transactions occur in the shadow economy instead of the official economy matter? According to Dada and Ajide (2021), the shadow economy is an inherent "phenomenon" that cannot be argued against. It is crucial to differentiate between the tax gap and the shadow economy.

The tax gap equals the difference between the amount of taxes (or government revenue) that should theoretically be collected (based on the level of economic activity in each country and binding regulations) and the amount of taxes collected.

The shadow economy refers to various types of reported economic activity and is responsible for only a portion of the total tax gap (Berens, 2020).

Analyzing the hidden economy (shadow economy) to reduce its size is essential for

policymakers in measuring their success (Affandi & Malik, 2020). To reduce the size of the shadow economy, many governments try to implement measures, policies, or controls. The informal economy is particularly important for countries in transition, such as Albania, considering the extraordinary institutional change these countries face. After the 90s, in Albania, the building of financial institutions started from scratch by bringing a high level of informality and affecting the primary source of finance for the government, tax revenues. According to the International Labour Organization (ILO, 2018, p. 5), over 60% of the world's employed population is a part of the shadow economy, primarily concentrated in developing countries. Evidence from 2015 suggests that domestic tax avoidance in the European Union (EU) results in a tax gap of approximately €825 billion annually (Murphy, 2019, p. 1). The shadow economy

can negatively affect funding public goods and services through available public finances, as tax evasion is not adequately addressed. Additionally, it can create unfair competition for formally operating businesses (Nguyen & Luong, 2020). Authors using different definitions and methods in the literature have shown varying levels of informality. For example, the Quarterly Informal Economy Survey (QIES) according to World Economics (2023) estimates that informality in Albania accounts for 31.9% of the country's gross domestic product (GDP) in 2021, equivalent to approximately \$18 billion in GDP, and purchasing power parity (PPP) levels.

This study attempts to fill the gap in Albanian literature by providing an empirical analysis of the impact of the shadow economy on economic growth (% GDP) between 1996 and 2019. Since governmental policy on taxes is a significant issue for developing countries like Albania, this variable is used to identify the connection between the shadow economy and economic growth. The results show no significant relationship between the shadow economy and economic growth, despite the Granger causality estimate suggesting a unidirectional relationship where the shadow economy causes economic growth.

The structure of this paper is as follows. Section 1 explains why it is important to analyse the impact of the shadow economy on economic growth, during the years. Section 2 describes the literature selected for the analysis of the paper. Section 3 analyses the methodology that has been used to conduct empirical research on the shadow economy, by using an econometric model. Section 4 treats the results of the research about the relationship between informality and growth using annual time series data from Albania. In Section 5 the paper concludes with some recommendations, conclusions, and study limitations.

2. LITERATURE REVIEW

According to Abela et al. (2022), during the last decade, the shadow economy became an important aspect in some research studies because it related with the negative impact on some world economies began to outspread. Collinson's (2023) results confirm that sovereign debt interest rate and credit rating risk are positively correlated with the size of the shadow economy (SE). Authors attempting to measure the shadow economy often require assistance defining it (Borlea et al., 2017).

It is important to mention to highlight that there are two opposite sides when discussing about shadow economy and economic growth. On the first side, it is the positive effect of the shadow economy on economic growth because the production of the informal economy is considered to be more efficient. Also, this is related with the empirical results of Mughal and Schneider (2020), which confirm the positive relation between the shadow economy and expenditure for consumption. On the second side, results show that the shadow economy leads to a reduction of the GDP growth rate. The results of Huynh's (2020) studies show that the shadow economy is a factor that negatively affects economic growth. The informal sector in each country is known as the undeclared or shadow economy, but there has yet to be a consensus on its definition (Esaku, 2021). The term shadow economy

encompasses several aspects and is often referred to as the underground economy, hidden economy, black economy, grey economy, undeclared economy, scarcity economy, cash economy, or informal sector (Goel et al., 2018; Hoinaru et al., 2020). These synonyms allude to various shadow economy activities and require consistent usage. These definitions imply that any activity that avoids government surveillance, regulation, or taxation is part of the shadow economy. The shadow economy's definition, size, and main characteristics have been the subject of a prolonged debate in political and academic circles (Khuong et al., 2021). Recent global developments such as migration, climate change, and technological change have reignited interest in the shadow economy (Affandi & Malik, 2020; Klein, 1998). There is a need for more clarity in defining and measuring the shadow economy (Erum et al., 2016). Different studies have identified variables such as unemployment, tax burden, corruption, trade openness, or globalization as determinants of the shadow economy (Medina & Schneider, 2018; Schneider, 2022).

Typically, in a thriving formal economy, individuals have numerous opportunities to earn a decent income and generate "extra money" through formal means (Saleem et al., 2019). However, in a recessionary economy, many people resort to additional activities in the shadow economy to make up for their lost income from formal means (Schneider & Buehn, 2018). Some studies focus on measuring the extent of informality in an economy, while others investigate the correlation between informality and growth. Most of the authors highlight two direct and indirect methods for measuring the informal sector. Direct estimation involves conducting surveys, utilizing tax auditing methods, and employing microeconomic approaches. In contrast, indirect estimation relies on a macroeconomic approach using secondary data. Some of the methods used for indirect estimation include using data on electricity consumption, the currency demand approach by Bean (1989), which measures the gap between income and expenditure measures of GDP, assumptions on the velocity of money, the transactions approach by Feige (1986), and the physical input method according to Giles (1999). However, indirect estimation only measures the size of the informal sector. It does not account for other relevant indicators such as economic development, social protection, access to credit and markets, working conditions and salary differences, and poverty (Bean, 1989).

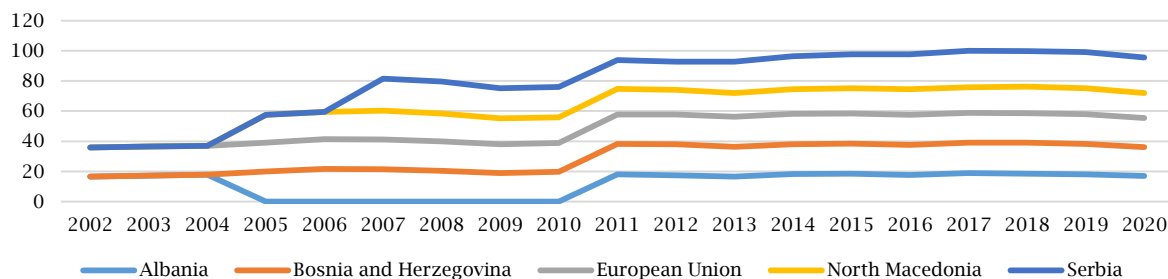
Firm size is not an accurate indicator of the size of the informal sector, as many small firms operate formally and employ only formal workers. In contrast, many large firms use informal workers (Ojong et al., 2016). However, when evaluating the size of the informal economy it is critical assessing the size of firms, as it is highly correlated with informality (Tran, 2021). In Albania and Southeast Europe, measuring the informal economy is challenging due to the need for more reliable data, making most measurement methods unreliable (Toska & Torluccion, 2013; Tran, 2022). The shadow economy lowers tax revenues, reducing the government's ability to invest in social programs and public goods, ultimately affecting citizens' access to essential services, infrastructure, and social

programs (Nguyen & Luong, 2020; Robert, 2021). The shadow economy is a part of the economy that is not taxed or monitored by government institutions and is not included in the GDP. Tax evasion is a concern in the shadow economy, leading to reduced government revenues and investment (Pula & Elshani, 2018).

Loayza (1997) presented evidence for Latin American countries, showing that an increase in the informal economy decreases the availability of public goods, while Feige (1986) found a negative relationship between informality and growth in 25 transition economies. Studies at the micro-data level, such as Tran (2022) and Taymaz (2009), suggest that formal firms are more productive than informal firms, leading to higher productivity, more investment, and better access to public services, markets, and infrastructure.

Tax rates are one of the most popular determinants of the shadow economy, with higher tax burdens incentivizing work in the unofficial economy. In Albania, the total tax revenue as a percentage of GDP is significantly lower than the EU average, leading to a higher percentage of the shadow economy (Tabak & Borkovic, 2019). The agriculture sector has the highest values of informality, but it is also present in other sectors, decreasing government revenues and negatively affecting economic growth and competitiveness. According to Ohnsorge and Yu (2021, p.17), the informal sector accounts for about a third of GDP and over 70% of employment, with self-employment accounting for more than half of emerging market and developing economies (EMDEs).

Figure 1. Tax revenue as a percentage of GDP



Source: Ohnsorge and Yu (2022).

Despite various efforts to measure the size of the shadow economy, making international comparisons remains challenging (Muceku & Balliu, 2017). The COVID-19 pandemic has further impacted the shadow economy, with over 55% of Albanian employees working in the grey zone in 2020 (ILO, 2020, p. 38). Informal work is prevalent in low- to medium-risk sectors such as agriculture, forestry, and fishing, significantly impacting employment and the economy.

Referring to Figure 1, tax rates are one of the most popular determinants of the shadow economy, with higher tax burdens incentivizing work in the unofficial economy. In Albania, the total tax revenue as a percentage of GDP is significantly lower than the EU average, leading to a higher percentage of the shadow economy (Tabak & Borkovic, 2019).

Previous studies attempted to measure Albania's informal economy using indirect approaches such as electrical energy consumption, simple currency ratios, national accounts discrepancies, and labour market developments (Toska & Torluccio, 2013). However, Giles (1999) noted that using the monetary method to estimate the size of the informal economy may be more reliable than other approaches, as some methods led to absurdly high estimates for the informal economy.

Considering Muceku and Balliu's (2017) study about the Albanian taxpayer perception and how the tax system impacts economic growth, most respondents think that Progressive taxation is unfair, increasing their tendency not to declare their incomes. According to the study, Albanian taxpayers in the current tax system do not believe in fairness.

Most (70%) are sure they must pay their liabilities with the right value. The respondents believe it is essential to implement a tax system that applies horizontal justice. The respondents who pay personal income disagree that the progressive rates are fair, and these results are in the same conclusions as Bean (1989). Determining how inclusive economic growth can be is possible if the informality is estimated. This makes policies challenging to function for citizens. Loayza (1997) associates high informality with lower growth. Recent panel data studies suggest a dynamic and complex inverted-U relationship between GDP and the size of the informal sector (Elgin & Birinci, 2016). Finding a clear connection between economic growth and informality is difficult and takes many debates. The impact of informality on economic growth depends on some characteristics of the country.

According to Ohnsorge and Yu (2022), Albania is classified with a shadow economy of 26.21% of GDP and is estimated to reach up to 50% of GDP. Albania is categorized as a country with no high tax rates. However, the governmental system and regulation have problems and need to be more effective in implementing the law, creating possibilities for a growing informal economy. On the other side, Pula and Elshani (2018) conclude that widespread corruption, legal problems, arbitrary framework and high bureaucracies in the public administration, and lack of information are the main factors that brought about the development of the shadow economy in Albania. Berens (2020), in his paper, talked about some suggestions for decreasing the possibility to have of having a shadow economy by: a) increasing the registration of private enterprise through a decrease of entry

barriers; b) change gets in the structure of bureaucracies; c) re-enforcing legal institutions by international assistance; e) protecting and strengthening property rights by the government. Williams and Schneider (2016) emphasize that there is no specific solution for transforming the shadow economy into a formal economy.

Despite strong growth rates, Albania's GDP per capita has remained less than half that of the new EU member states (EU-11) and less than one-third of the EU average over the past two decades. In 2017, the poverty rate was estimated at 31%, and the average gross monthly wage in 2018 was around €400, with significant variations by industry and sector (Ohnsorge & Yu, 2022). The European Bank for Reconstruction and Development [EBRD] (2019) reported that the shadow economy is most prevalent in agriculture but also in other sectors. Drawing from the previously mentioned studies, the following hypotheses are proposed as reasonable for this study:

H1: Economic growth negatively impacts the shadow economy.

H2: Tax revenue Granger causes economic growth and vice versa.

H3: The shadow economy Granger causes economic growth and vice versa.

H4: Tax revenue Granger causes shadow economy and vice versa.

H5: There is a long-run relationship between the variables.

3. RESEARCH METHODOLOGY

There is no single "correct" way to measure the shadow economy. However, three main approaches are commonly used:

- Micro-level approaches use surveys or other direct methods to collect data on the shadow economy.

- Macroeconomic indicators use indirect methods to estimate the shadow economy by analysing macroeconomic data such as GDP, employment, and income.

- To estimate the shadow economy as an "unobserved" variable, statistical models use statistical tools.

In this study, we use an econometric model to estimate the shadow economy in Albania. The model uses time series data from 1996 to 2019 to explore the relationship between the shadow economy and economic growth. The model also includes the variable of tax revenue as a percentage of GDP. The econometric model is estimated using EViews 13 software. The data for the shadow economy is obtained from the International Monetary Fund (IMF), the economic growth rate is sourced from The World Bank, and the tax revenue data is extracted from CEIC data. The econometric modelling process involves several tests, including the unit root test for the variables, the determination of lag length, the bound cointegration approach, the ARDL test, and the Granger causality test. The equation for the study is constructed based on the following model:

$$SE = f(EG, TaxR) \quad (1)$$

where, *SE* is the shadow economy; *EG* is the economic growth rate; *TaxR* is tax revenue as a percentage of GDP.

The results of the study suggest that there is a positive relationship between the shadow economy and economic growth. This means that the shadow economy can contribute to economic growth but can also have negative consequences, such as tax evasion and unfair competition. The study also found that tax revenue hurts the shadow economy. This means that increasing tax revenue can help reduce the shadow economy's size. The results of the study have implications for policymakers in Albania. The government can use the results to develop policies to reduce the size of the shadow economy and promote economic growth.

$$SE_t = \alpha + \beta_t EG + \delta_t TaxR + \varepsilon_t \quad (2)$$

where, *SE* is the dependent variable and shows the shadow economy of Albania at time *t*; α is the coefficient of the constant term; β_t is the coefficient of explanatory variable *EG*; δ_t is the coefficient of explanatory variable; *TaxR* (% GDP); ε_t is the coefficient error term; *t* indicates the year (1996-2019).

Generally, the econometric estimation of a time series model demands the stationarity of time series because non-stationarity series usually tend to confuse the results. Engle and Granger (1987) provided a technique that involves testing the variables for stationarity. First step, Augmented Dickey-Fuller (ADF) test helps run the regressions for all the series at levels difference I(0); first I(1) or second difference I(2), taking into consideration the constant and trend in the equation (Dickey & Fuller, 1979). The second step is determining lag length, which can be run using the Akaike information criterion (AIC). The third step helps to establish cointegration among the variables in Eq. (2). Pesaran et al. (2001) help run the bounds cointegration approach. Cointegration exists if F-statistic (calculated) is larger than the critical upper bound. Otherwise, if it is less, no cointegration exists. However, the results can only be conclusive if the value falls between the lower and upper critical bounds.

Depending on the type of differences in the series, it is decided which kind of regression will be performed. Using ARDL is tested through ADF, which can be executable only when variables are I(0) and I(1), but there are no I(2) variables. Referring autoregressive distributed lag approach helps identify if there is any long-run cointegration (besides short-run effects) of the *economic growth* and *tax revenue* (% GDP) on the shadow economy. Granger causality helps understand which past value of one variable (X_t) helps predict the future values of Y_t . Granger causality identifies cause happens before effect, and the cause has unique information about the future value deals of its effect:

$$y_t = F(y_{t-p}, X_{t-p}) \quad (3)$$

$$y_t = \alpha_0 + \alpha_1 y_{t-1} + \beta X_{t-1} + \dots + \varepsilon_t \quad (4)$$

where, y_t is a function of the lag of 1, y_{t-1} but the lag of X_{t-1} . To see if the subscriptions are significant to the effect caused will be run the hypotheses:

$$H_0: \alpha_1 = 0 - H_0: X_t \text{ does not Granger cause } Y_t.$$

$$H_0: \alpha_1 \neq 0 - H_1: X_t \text{ does Granger cause } Y_t.$$

The volume of tax revenues as a percentage of GDP, obtained from The World Bank, is used as the dependent variable in several studies, including those by Ghura (1998), Piancastelli (2001), Taymaz (2009), Medina and Schneider (2018), and Esaku (2021). The shadow economy is commonly used as a measure of the informal economy. Data sources for this variable include the studies by Medina and Schneider (2018), which draw on theoretical frameworks, including Schneider and Buehn (2018). In a cross-country panel analysis of 12 East-European countries, Davoodi and Gregorian (2007) estimate tax potential and efforts in Armenia, finding that the size of the shadow economy and institutional quality are critical factors affecting tax effectiveness. Elgin and Birinci (2016) also find a negative correlation between the informal economy and tax efforts.

To measure the shadow economy, the data are taken from by IMF (Medina & Schneider, 2018). For economic growth, the rate of economic growth (annual %) from The World Bank and Institute of Statistics (Instat, 2023). Tax revenue data as a % of GDP are provided from CEIC data (CEIC, n.d.). The *SE* is represented as a time series available until 2019, encompassing data spanning from 1996 to 2019, resulting in a total of 22 observations. The estimation methodology for *SE* involves utilizing the multiple indicators multiple causes (MIMIC) approach, which considers *SE* as a percentage of the GDP, as employed in this study. This approach has been adopted as a variable by various authors including Njangang et al. (2020), Khan et al. (in press), Ajide (2021), and Aliaj and Vangjel (2023). The mean estimate of *SE* for Albania stands at 29.365%, with the lowest recorded value of 22.1% and the highest value of 38.16% (according to Table 1).

According to policymakers and analysts, there is no best method of estimation because each approach has weaknesses and strengths. So, the estimation method affects the way to analyze the shadow economy.

4. RESULTS

This study aims to address the existing gap in the literature on the impact of informality on economic growth by utilizing the most extensive macroeconomic dataset available. This research is the first to examine the empirical relationship between informality and growth using annual time series data from Albania. Furthermore, our main finding highlights the non-linear relationship between informality and growth. The interaction with per capita income provides new evidence that could further contribute to the literature. Finally, the empirical results of this study have practical implications for policymakers seeking to reduce informality and achieve optimal economic growth.

In a different study, Feige (1986) found a negative relationship between informality and growth in 25 transition economies. Gatti and Honorati (2008) employed an alternate variable known as tax compliance to gauge the formal economy. Their findings indicated a positive correlation between tax compliance and credit accessibility, signifying growth. Their analysis suggested that heightened economic growth would lead to a decrease in the magnitude of tax evasion.

Moreover, they identified a negative association between the level of financial development and instances of tax evasion. Consequently, an upsurge in the informal economy could impose constraints on various publicly funded services by the government, consequently diminishing the potential for economic expansion, as observed by Williams and Schneider (2006). The shadow economy, not being subject to taxation, contributes to a reduction in tax revenues, compelling governments to explore alternative avenues for financing their expenditures. In this section, we outline the tests developed to investigate the hypotheses in this study. Descriptive data are presented in Table 1.

Table 1. Descriptive data

Variables	Mean	Max	Min	Std. Dev.
<i>EG</i>	4.37	12.89	-10.92	4.33
<i>SE</i>	29.365	38.16	22.1	5.36
<i>TaxR</i>	16.88	20.04	8.86	2.75

Source: Authors' calculations.

Table 1 presents the result of the ADF test. *Economic growth* and *tax revenue* data series are stationary at level I(0). Only the shadow economy is stationary in the first level I(1) (constant + trend) with a p-value (0.0002).

H_0 : Variables have unit root test (ADF Test).

Table 2. Unit root test (stationarity of the series)

Variables	Level
Shadow economy is stationary (Intercept+Trends).	I(1)
Economic growth is stationary (Intercept+Trends).	I(0)
Tax revenue % GDP is stationary (Intercept+Trends).	I(0)

Source: Authors' calculations.

By establishing the stationarity level of the variables, it proceeds to the cointegration Johansen test to identify any cointegration between series. The selection of the lag length is important for a correct model specification. The cointegration test can be run through the most common criteria for the selection of the lag, which are the Akaike information criteria (AIC), Hannan and Quinn's (HQ), Schwarz criterion (SC), and the likelihood ratio (LR). According to Table 3, AIC has the lowest values, and it was chosen for the lag length criteria:

Table 3. Akaike information criteria

Variables	AIC	Lag
<i>EG</i>	3.55	3
<i>SE</i>	3.15	1
<i>TaxR</i>	2.24	1
All the equation	9.35	2

Source: Authors' calculations.

After determining the lag, it proceeded with Granger causality in Table 4, as from the results, there is a unidirectional cause: shadow economy Granger causes economic growth, tax revenue Granger causes economic growth, and tax revenue Granger causes shadow economy. Developing countries with severe problems with informal employment can cause production activities to be increased, avoiding legalities and bureaucracy. This is a supporting fact when the income and savings from the informal sector can be naturally spent on consumption goods, especially when cash is widely used and can increase the money's velocity. In their

study, Elgin and Lyidost (2021) identified that the velocity of money is higher in countries where the shadow sector size is more significant.

Table 4. Granger causality

Hypothesis	P-value
H2: Tax revenue Granger cause economic growth.	(0.00001 < 5%)
H3: The shadow economy Granger causes economic growth.	(0.00005 < 5%)
H4: Tax revenue Granger Cause shadows economy.	(0.08 < 10%*)

Note: * is for the significance of p-value = 10%.
Source: Authors' calculations.

Because the data are stationary at level I(0) and at the first difference I(1) combine. For this reason, it is necessary to run ARDL and bound test for the cointegration test. Since the calculated F-statistic is 8.23 above the upper bound critical value, it can determine that there is a long-run cointegration. As hypothesized, the informal sector has a significant negative impact in the short-run shadow economy (-3) with a coefficient of -0.7434, while the shadow economy (-4) tends to be positive with a coefficient of 0.4669, please refer to Table 5.

Table 5. ARDL short run test

Variables	Coefficient	Prob.*
SE (-3)	-0.7434	0.0227
SE (-4)	0.4669	0.0324
TaxR (% GDP) (-2)	-1.127	0.0084
TaxR (% GDP) (-4)	-0.932	0.0371
C	92.285	0.0117
@Trend	-1.1169	0.0119
R-squared	0.998	
F-statistics	137.44	
Prob (F-statistics)		0.000119

Note: * significant with p-value 5%.
Source: Authors' calculations.

Tax revenue (-2) and tax revenue (-4) in the short run negatively affect the shadow economy, respectively, with the coefficients -1.127 and -0.932. In the case of the combined variable being stationary at the level and first level, it needs an error correction model (ECM) to check for a short-run relationship that leads to a long run. So, the bound test will be run to identify if there is a long-run cointegration between variables. Table 6 shows that the F-statistic is 41.2 above the lower bound value (4.87) and the upper bound value (5.85), establishing a long-run cointegration.

H0: There is a long-run relationship between variables.

Table 6. Testing the long-run relationship between variables

Variables	Coefficient	Prob.*
C	53.3	0.000
@Trend	-0.7	0.000
D(TaxR)	0.32	0.315
D(TaxR -1)	1.Mar	0.00
COINTEQ (-1)*	-0.83	0.000
R-squared		0.94
F-statistics		75.24
Prob (F-statistics)		0.00
Durbin Watson stat.		2,224
Bound test	F-stat 41.2 > 4.87	(I0 lower) *
	F-stat 41.2 > 5.85	(I1 upper) *

Source: Authors' calculations.

The result of the ARDL in the Table 7 test shows that a negative relationship exists between economic growth and the shadow economy (H1). Also, based on the findings the variable tax revenue % of GDP impact negatively the shadow economy. The results state our expectations of negative results between variables.

Table 7. ARDL long run test

Variables	Coefficient	P-value
SE	-1.13	0.036
TaxR	-0.97	0.047

$$EC = EG - (-1.13SE - 0.97TaxR) \quad (5)$$

$$EG = -1.13SE - 0.97TaxR \quad (6)$$

where, EC is equilibrium correction; SE is the shadow economy; EG is the economic growth rate; TaxR is tax revenue as a percentage of GDP.

As highlighted from the bound test, there is a long-run relationship between the shadow economy, tax revenue, and economic growth due to the significance of the variables (H5). The relationship between variables is a negative one. The shadow economy negatively affects economic growth with a coefficient of -1.13. If the shadow economy rises by one-unit, economic growth will decrease by 1.13 units. The same goes for tax revenue; when it does rise by one-unit, economic growth will decrease by 0.97 units. If tax revenue (% GDP) increases by one unit, the shadow economy decreases by 0.78 units. Shadow economy means tax evasion in the formal economy. This can imply a greater tax burden for the formal sector. Tax evasion means fewer revenues for the public budget and a decrease in public expenditure, such as public utilities, less investment, etc. If the tax revenue increases, the government tends to control tax evasions, meaning a decrease in the shadow economy or an increase in the tax burden for the formal sector.

Based on the raised hypotheses and the results of the study, it is concluded the confirmation of the first hypothesis, which is in accordance with the study of Baklouti and Boujelbene (2019). The results of the study confirm the second hypothesis, a conclusion also reached by Luong et al. (2020). Also, the third hypothesis is confirmed in accordance with the study of Canh and Thanh (2020). The results for the fourth hypothesis are consistently with previous studies about shadow economy reasons, based also in the study of Baklouti and Boujelbene (2019). For the last hypothesis, the results show that there is a long-run relationship between the shadow economy, tax revenue, and economic growth due to the significance of the variables. The results are also in accordance with Esaku and Tajani (2021), Bayar and Öztürk (2019), Berdiev et al. (2018), Blanton et al. (2018), where these authors highlight that to reduce the informal sector activity can be helped by more freedom in trading.

The findings of the study consist of several useful implications for policy makers and scientific researchers:

- Large reductions in tax rates may be able to stabilize the economy, not shrink it.

- It can be seen that the improvement of tax compliance is unlikely to be done only by replacing direct taxes with indirect taxes.

- The reduction of the shadow economy can be achieved if more frequent tax controls are carried out, also if heavier fines are imposed for fiscal evasion.

- The liberalization of the labor market is a good opportunity that governments can use to emphasize the legalization of certain shadow economy activities.

- One way to reduce incentives for corruption and encourage firms to move from the shadow economy to the official one is through the implementation of reforms that liberalize regulations and make the economy more competitive.

- For governments, the priority should be to increase the number of regulations, and not to emphasize the rule of law and the strict implementation of a set of minimum necessary regulations.

5. CONCLUSION

Lower tax rates have been associated with a lower level of informal economy in some countries. However, it is important to note that merely reducing taxes may only sometimes significantly reduce the informal economy. Therefore, there may be a need for modifications in the tax system, such as simplifying its structure, making it more understandable for citizens and more appropriate for the Albanian economy. Bridging the gap between contributions and benefits of the fiscal system could also encourage individuals and businesses to move towards the formal sector. According to the study, in Albania, economic growth and the shadow economy are both influenced by tax revenue. There is a long-term connection between economic growth, tax revenue, and the shadow economy. There is

a negative relationship between the shadow economy and economic growth, but not statistically significant. As hypothesized, there is a negative correlation between tax revenue and the shadow economy. Increasing tax revenue leads to a reduction in the shadow economy, with a decrease of 0.78 units.

Better government policy in controlling and monitoring and digitalization means a better collection of taxes, better economic growth, transforming it into a formal economy and decreasing shadow economy.

In general, it is said that economic growth, shadow economy, and tax revenue are connected in the long run, meaning that the informal sector, due to its dynamic nature, may affect economic activities. Considering that bureaucratic formalities accompany the formal sector, tax evasion is more common, decreasing the revenues from the tax, less budget, less investment, and difficulties for an economic boost. As it is known, corruption will increase informality, increasing the cost of formality. Also, a poor policy in collection taxes or frequent changes in taxes bounds will increase the possibilities of an informal sector, penalizing the formal sector. Hence, it may be necessary to consider that reforms and a strong fight against informality through tax collection will decrease informality.

How to reduce informality? Tran (2022) suggests reforms that would not face political distress and can be seen as win-win revolution for business and government: continuous improvement of doing business issues: reduction of the number of business licenses, lower administrative and costs procedures, boost online applications and information, digitalizing administrative procedures, avoiding contacts with administration, applying simple tax systems, enhancing access to capital markets and non-cash payment and advance in the legalization process of mortgages.

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