

# Tax Capacity and Tax Effort: Evidence From Albanian Economy

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## Abstract

The potential tax capacity is very important for assessing the tax space for policy response, especially after the COVID-19 crisis. The main objective of this paper is to study the tax capacity of the Albanian economy, relative to other transition economies with the same patterns of development. We rely on a regression-based approach for the period of 1998-2022 to estimate the potential tax capacity and tax effort. The study found that the structure of the economy, per capita income, openness to foreign trade and corruption are the most consistent explanatory variables of the potential tax capacity. The study also found that tax effort is below one for the Albanian economy, and tax-to-GDP collections are below the average level of the transition economies. We conclude that the country should continue improving the governance quality and fighting corruption to improve tax collection. The study does not support further increases in the statutory tax rates.

**Keywords:** fiscal policy, tax determinants, tax effort, panel data

**JEL codes:** E62, H29, C33

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## Introduction

After the global financial crisis, the fiscal position of the Albanian economy deteriorated considerably. The government debt has increased significantly from 59.67 per cent of the gross domestic product in 2009, the year when the crisis was present in Albania, to above 70 per cent of the GDP for the period of 2013-2017<sup>1</sup>. In the year 2020, due to COVID-19 pandemic, the debt exceeded 75 per cent of the GDP, imposing real constrain for the country's sustainable development (International Monetary Fund [IMF], 2023c). The present high debt to GDP needs to be brought down to a sustainable level. To achieve this objective, the government could rely on both expenditures and tax revenues. Government expenditure to GDP for the period of 2006-2022 has been around 30 per cent, consistent with the objective of keeping a small government. The tax revenue to GDP ratio in Albania is around 26 per cent, smaller than other developing countries and the EU countries, which have about 28 per cent and 40 per cent respectively (IMF, 2023c). This paper analyzes the tax capacity and tax effort of the Albanian economy. The possibility is that the country must use an increase in the tax rates to generate more revenue.

Based on the large informal sector and corruption, the capacity of Albania to generate revenues remains highly limited, despite important reforms done in the revenue side of public finance (World Bank, 2020). The value-added tax was introduced in the year 1995, with law number 7928 called "On value added tax", at the standard rate of 12.5 per cent without a reduced rate (Tax Code Albania, 1995). In October 1997, the standard rate of 12.5 per cent was replaced with 20 per cent, which is in force today. Since then, the VAT law has been improved and adjusted according to the European directives. The standard rate of the VAT hasn't changed. Considerable changes in tax policy are observed in personal income tax. Until the year 2007, Albania implemented a progressive personal income tax with a maximum rate of 20 per cent. During 2008 and 2013, Albania implemented a flat tax at the rate of 10 per cent, comparable with other Southeastern Balkan countries. Since January 2014, progressive tax has been in force, with a maximum tax rate of 23 per cent. The obligatory social security contribution during 2006-2009 in Albania was 11.2 per cent and 21.7 per cent for employees and employers, respectively. Since 2010, there has been a reduction of contribution for employers from 21.7 per cent to 16.7 per cent to stimulate the labor market. The corporate income tax was 20 per cent in Albania until the year 2007. From 2008 until 2013, the corporate income tax was 10 per cent, the same as personal income tax. In 2014, an increase of 50 per cent was implemented on this tax, which is still in force today (Mikel, 2014).

In the first part of the study, a selected literature review is conducted of determinant factors of tax performance and their estimation. The second part of the study, based on the panel data on the sample of 20 countries for the period of 1998-2022, an index of tax effort is constructed for the Albanian economy through

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<sup>1</sup> In Albania, 60 per cent debt to GDP ratio is defined with the organic law of the budget in 2008.

an inter-country comparison. The approach that has been used to examine the determinants of tax share and to construct the tax effort index is the regression analysis, used on a set of variables that serve as proxies for the country's "tax handles" and other variables that count for governance quality, such as the size of corruption index in these countries.

The comparison of tax efforts will reveal whether a country is limited in its revenue collection, relative to what is expected given its economic potential. For transition countries like Albania with low income per capita, low export and high agricultural share of GDP, low tax revenue to GDP ratios are expected. A tax effort index of less than one indicates that the country is exploiting its estimated potential less than the average. Countries with a low tax ratio and a low tax effort have the potential to increase taxes.

Knowing how countries are using their potential tax bases to raise revenue can be used as guidance to a proper mix of fiscal policy in the event of budget deficits. The study is relevant due to the fact that it will give a better understanding of the main determinants of tax effort in Albania. The study will give contributions to existing empirical literature on tax efforts for transition economies.

## 1. Literature review

In the simple form, tax effort is measured as the ratio of tax revenue to a simple tax base, such as GDP. Lotz and Moris (1967) discussed the criteria by which tax effort could be measured. The simple form does not give the proper measure of a country's tax potential, since there are other factors such as economic structure, the level of development and political constraints that influence a country's tax effort. Therefore, a measure of tax effort defined as a ratio of the actual tax share to the predicted tax share is used in this study, in the same framework as that used by Begum (2007) and Musgrave (1969).

The most used approach for calculating the potential tax share is the regression methodology. By this approach, *Tax to GDP* ratio is regressed for a sample of countries on a set of explanatory variables that serve as proxies for the tax base and other structural factors that affect tax performance. The panel analysis makes possible estimation of the tax effort of a country through an inter-country comparison. Based on Musgrave's (1969) view, it is better to estimate the average tax performance of a country relative to the performance of other countries, rather than measure a country's absolute performance, because it considers the differences among countries in their capacity to raise revenues. This method is used by other authors such as Lockwood and Kenn (2007) and Rao (1993).

The main determinant factors of tax effort are "tax handles", which are supply-side factors. Some authors, for example Fauvelle-Aymar (1999), Nashashibi et al. (1992), and Siqueira (2001), determine per capita income, the ratio of trade to GDP, and the share of agriculture in GDP as the most consistent variables of the tax ratio. Other authors, apart from these factors in analyzing tax effort in

Arab countries, found that the share of mining to GDP and (only for non-oil Arab countries) the outstanding foreign debt are important determinants of tax effort (Eltony, 2002). Ahmed and Mohamed (2010) found an important impact of the manufacturing sector and monetization on tax performance. For sub-Saharan countries, Stotsky and Wolde-Mariam (1997) found evidence that the tax efforts on agriculture and mining has a significant negative impact on GDP. In analyzing tax performance in African countries, Ehrhart (2009) found that the effect of the level of per capita GDP and inflation is positive, though not significant. Empirical work supported the negative impact of the agricultural sector on domestic taxes and the significantly positive impact of import share as part of GDP. The link between tax revenues and imports is analyzed by Li and Lopez-Murphy (2010), who found a significant link between substantial tax revenue downturns with import contraction in emerging and developing countries. The impact of globalization on tax bases is analyzed by Aizenman and Jinjark (2007). They found evidence that trade and financial openness have a positive association with “hard to collect” taxes and a negative association with “easy to collect” taxes. Other authors extended the model further and investigated the differences in tax shares and tax efforts by applying the model to the direct and indirect shares of the countries (Leuthold, 2002). Some other authors (Jorgenson & Yun, 2013; Saptono & Mahmud, 2021; Adan et al., 2023) are more focused on the relationship between tax revenue and efficiency. They found a positive relationship between these variables.

In an economy where income is typically derived from the self-employed, a large agricultural sector and small firms, the government has only limited tax handles. Therefore, in analyzing tax performance, not only supply-side factors, but also demand-side factors are included. Bird et al. (2008), in an empirical assessment of tax effort in Latin American countries, included societal institutions as explanatory variables. They concluded that societal institutions matter significantly in the determination of tax efforts. Their conclusion is supported by Gambaro et al. (2007), who concluded that the effectiveness of administrative institutions is a crucial factor influencing the structure and collection of tax revenue. Based on a large panel data analysis of 105 developing countries for 25 years, Gupta (2008) included in the model institutional and policy variables, together with structural variables. The results for institutional factors were mixed, no significant effect from the variables that capture government stability, corruption, law and order was found. Other authors in their work stressed improving the institutional framework in developing countries to increase the range of policy options (Bird, 2008). Mkandawire (2010) found evidence of a significant impact on government effectiveness and the rule of law in African countries. In their work, Davoodi and Grigorian (2007) concluded that the weak institution and a large shadow economy are the main responsible factors for the low tax-GDP ratio in Armenia. Hoek (2004) found weak empirical evidence supporting a negative relationship between corruption and tax efforts. Manasan (2002) found that tax evasion is the major source of the leakage of rev-

venues in the Philippines. Fenoehietto and Pessino (2013), based on a large panel data study for 133 countries, found that corruption and the ease of tax collection are important determinants of the country's tax effort. The importance of government administration in developing countries to increase tax performance was stressed by Bahl and Bird (2008).

The comparison between the tax ratio estimated from the tax equation and the actual tax level for a given country indicates whether, in comparison with other countries and considering its statistics, the country's tax level is above or below the expected one. Goode (1984) stresses that it is important to know that a low index of tax effort does not indicate that the country should raise taxes, other factors should be considered carefully, which include the effects of taxes that could be changed, administrative capacity, and the political acceptance of the program that could be changed.

The expected value of the tax effort index is around one for countries that are utilizing their full revenue potential. If this value is greater than one, it implies that the country has collected more taxes than predicted and every fiscal imbalance should be corrected through expenditure reduction rather than tax increases.

Few authors have included in their study the measurement of the tax effort index for Albania's economy. Gray et al. (2007), Mertens (2003), and Turley (2006), for the period 1992-2000, 1992-1998 and 1995-2003, respectively, concluded that Albania has a relatively high tax effort index. In their work, they focused only on conventional determinants as explanatory variables and did not consider other factors such as the quality of the institutions and the impact of the shadow economy on revenue performance. This work is aimed at updating the previous empirical work, by constructing a tax effort trend until the end of 2022. In the model, institutional variables such as the corruption index are included, and their importance in taxable capacity are tested.

### **1.1. The main tax code changes due to global financial crisis and COVID-19**

The period under survey includes two crises, the global financial crisis and the COVID-19 pandemic crisis, with important implications for tax policy. After the global financial crisis, the tax policy is used to promote economic growth, facing the change to consolidate public finance. In Albania, the VAT statutory rate of about 20 per cent has remained unchanging during the period under survey (Tax Code Albania, 2014). Hungary and Czechia have increased the VAT statutory rate following the global financial crisis. In Hungary, the VAT statutory rate from 20 per cent in the year 2008 increased to 25 per cent in 2010 (Tax Code Hungary, 2007). In Czechia, the VAT statutory rate from 19 per cent increased to 20 per cent in the year 2010 (Tax Code Czech Republic, 2004, 2009).

Albania used the decrease of direct taxes to stimulate economic activity. The corporate income tax (CIT) from 20 per cent in the year 2007 decreased to 10 per cent in the year 2008 (Tax Code Albania, 1998). From the panel of countries

under survey, besides Albania, CIT decreased in five other economies. In Czechia, from 24 per cent in 2007, the CIT decreased to 21 per cent in 2008, 20 per cent in 2009, and 19 per cent in 2010 (Tax Code Czech Republic, 1992). In Slovenia the CIT was 23 per cent in 2007, which then decreased to 22 per cent in 2008, 21 per cent in 2009 and 20 per cent in 2010 (Slovenian Business Point, 2023). In Georgia, the CIT in 2007 decreased from 20 per cent to 15 per cent in 2008 (Department of Revenue, 2023). In Moldova, from 15 per cent in 2007, the CIT decreased to 0 per cent in 2008, and in Russia from 20 per cent and 24 per cent in 2007, it decreased to 16 per cent and 20 per cent in 2009 (PwC, 2023).

A decrease in the personal income tax (PIT) rate or progressivity, was also a widely used fiscal policy tool following the global financial crisis. In Albania, a flat rate of 10 per cent PIT was set in 2007. Before that, a progressive tax rate was used, with a band between 1 per cent and 20 per cent (Tax Code Albania, 1998). A flat rate of PIT was implemented by Bulgaria and Czechia. From a progressive tax with a band between 0 per cent and 24 per cent, Bulgaria implemented a flat rate of 10 per cent in 2010 (Ministry of Finance of Bulgaria, 2023). In Czechia, the progressive tax with a band between 12 per cent and 32 per cent was replaced with a flat tax rate of 15 per cent in 2009. Poland reduced the progressivity of PIT from the band between 19 per cent and 40 per cent to a band between 18 per cent and 32 per cent in 2010 (PwC, 2023). The progressivity of PIT decreased from the band of 7 per cent and 20 per cent in Moldova to a band of 7 per cent and 18 per cent in 2008 (PwC, 2023). Only one country, Slovakia, increased PIT from 19 per cent to 26 per cent in 2010 (PwC, 2023).

In the year 2014, Albania implemented an increase in CIT from 10 per cent to 15 per cent and changed to a progressive PIT with band from 0 per cent to 23 per cent (Tax Code Albania, 1998). To deal with the COVID-19 pandemic, there were no changes in the tax rate. In Czechia, the VAT statutory rate from 21 per cent increased to 23 per cent (PwC, 2023). In Poland and Slovenia the progressivity of PIT decreased (PwC, 2023). In Poland, the band of 18 per cent and 32 per cent in the year 2019 decreased to a band of 12 per cent and 32 per cent in 2022 (PwC, 2023). In Slovenia, the band of 16 per cent and 50 per cent in the year 2019 decreased to a band of 16 per cent and 45 per cent in the year 2022 (PwC, 2023). During the COVID-19 pandemic, decreases in the tax rate were mainly temporary, therefore, the recovery of tax revenues to the levels comparable to the pre-crisis ones is expected in a shorter period of time.

## 2. Methodology

For the empirical work, we used the revenue equation as a base. The estimation method is panel data analysis for the period of 1998-2022. Following the tax literature, in this work the tax effort in Albania is estimated relative to East, Central and Southeast European countries with comparable levels of economic development measured by GDP per capita in purchasing power parity, in the same framework as

used by Gray et al. (2007) and Lockwood and Keen (2007). The countries included in the panel data analysis are Albania, Armenia, Bosnia and Herzegovina, Bulgaria, Belarus, Croatia, Czechia, Georgia, Hungary, Macedonia, Moldova, Monte Negro, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Türkiye and Ukraine. The data sources are World Bank (2023), IMF (2022, 2023a, 2023b), and OECD (2023).

The estimated regression has the form:

$$\frac{T}{Y} = \alpha_i + \beta_1 \text{LGDP} + \beta_2 \text{Agri value added} + \beta_3 \text{Pop growth} + \beta_4 \text{Trade} + \beta_5 \text{Exp to GDP} + \beta_6 \text{CPI}$$

Where:

- T/Y is the ratio of total tax revenue to GDP,
- LGDP is the logarithm of GDP per capita,
- Trade is the ratio of exports plus imports relative to GDP,
- Exp is the ratio of government expenditure relative to GDP,
- and CPI is the corruption perceptions index.

Theoretically, it is expected to have a positive impact on GDP per capita in tax performance, because GDP per capita counts for the overall level of development of a country. The higher the country's economic development, the higher the country's capacity to pay taxes is expected to be. The agricultural sector in developing countries is represented by small farms, most of which are subsistence, which is difficult to tax. Therefore, a big agricultural sector could have a negative expected impact on total tax collection. Openness to foreign trade is also an important factor for tax performance, since it is easy to tax foreign trade that takes place in specific locations. The countries in the survey all follow the policy of free trade and reduction of foreign trade tariffs and quotas, therefore, the effect on revenue could be ambiguous. The government expenditure to GDP ratio also has an impact on tax performance, because the large expenditures need to be financed by a large tax collection. Therefore, there is a positive relationship between the size of public expenditure and tax levels. The corruption index is used to measure the governance quality. In more corrupt countries, the level of tax revenues is expected to be small. Another determinant variable is the population density. The impact of this variable on tax performance is difficult to determine without a systematic study, as the size of the population grows public expenditure on social services, but sometimes, the level of tax revenue cannot rise as much as expenditure.

### 3. Results

For the estimation panel regression, we use the random effect following Brun and Diakite (2016). The expected results of random effects are anticipated to be consistent, because the random effect estimator assimilates only part of the unobserved heterogeneity to structural factors.

Table 1: Determinants of taxable capacity

Variable	2007-2019		2020-2022		1998-2022	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
Constant	0.379***	0.001	-0.203	0.467	0.328*	0.016
GDP per capita	0.021	0.077	0.035	0.213	0.011*	0.032
Trade	0.073***	0.000	0.046**	0.004	0.038***	0.001
Agriculture value added	-0.332**	0.003	-0.276	0.254	-0.237**	0.002
Population growth	0.006	0.216	-0.003	0.739	0.003	0.371
Government expenditure to GDP	0.367***	0.001	0.522***	0.001	0.450***	0.001***
Corruption index	-0.005*	0.038	-0.007	0.405	-0.004*	0.01
Observations (n)	259		60		491	
Adjusted R-Squared	0.447		0.765		0.665	

Source: Edited by the authors

From the data reported in the table above, it could be said that the model has performed well, in line with previous studies. GDP per capita, agriculture value-added, and trade-to-GDP ratio have the expected impact on the tax collection performance. Total government expenditure has a positive and statistically significant impact on tax collection, confirming that larger government expenditure needs larger tax collection by the government to maintain the stability of fiscal balance.

The variable included for measuring the quality of governance, the corruption perception index, had a considerable improvement on the average for the period of 2007-2019, relative to the previous period. Decreasing informality and tax fraud has been a priority of all governments to improve tax collection. Electronic invoices in Hungary were introduced with Act CXXVII in 2007 for the VAT (Tax Code Hungary, 2007). The real-time invoice reporting became effective on the first of July 2018, with the Act LXXXIII of 2018 (Tax Code Hungary, 2018). In Turkey, this began in 2010 with the approval of the Tax Procedure Law (Tax Code Turkey, 2010). In Slovenia, e-invoice has been mandatory since the first of January 2015 (Tax Code Slovenia, 2014). Albania has been a fiscal country since 2014. E-invoicing was introduced in 2020 and became mandatory in 2021 (Tax Code Albania, 2019).

Improvement in the corruption index is reflected in higher tax collection. The variable is statistically significant. After the global financial crisis, all the countries under the survey experienced very low, and in some countries negative, economic growth. The growth rate in year 2013 was positive for all the Western Balkan countries, but below its levels before the global financial crisis (World Bank, 2023). The economic recession due to the economic lockdown following the COVID-19 pandemic had an important impact on both sides of public finance, tax revenues



and government expenditure. All the countries relied on expansionist fiscal policy, which further deteriorated public finance (PwC, 2023). The impact of trade openness on tax collection is positive and statistically significant for the period under survey. The impact of population growth on tax collection is not robust.

### 3.1. Robustness Check

We include in the regression analysis the total consumption to GDP as an alternative determinant of total tax to GDP share. Higher consumption is expected to increase the indirect taxes collected by the government. We expect a positive effect of consumption on tax collection.

Table 2: Robustness check alternative determinants of tax revenues

Variable	2007-2019		2020-2022		1998-2022	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
Constant	0.105***	0.004	0.169***	0.000	0.141***	0.000
Trade (in % of GDP)	0.074***	0.000	0.025*	0.030	0.033***	0.000
Agriculture value added	-0.392***	0.001	-0.281*	0.029	-0.131**	0.003
Population growth	0.008	0.060	-0.004	0.248	0.003	0.505
Government expenditure (in % of GDP)	0.367***	0.000	0.744***	0.001	0.509***	0.000
Corruption index	-0.010*	0.013	-0.004	0.605	-0.010*	0.055
Total Consumption (in % of GDP)	0.110**	0.004	0.064*	0.037	0.018*	0.025
Observations (n)	259		60		491	
Adjusted R-Squared	0.462		0.689		0.522	

Source: Edited by the authors

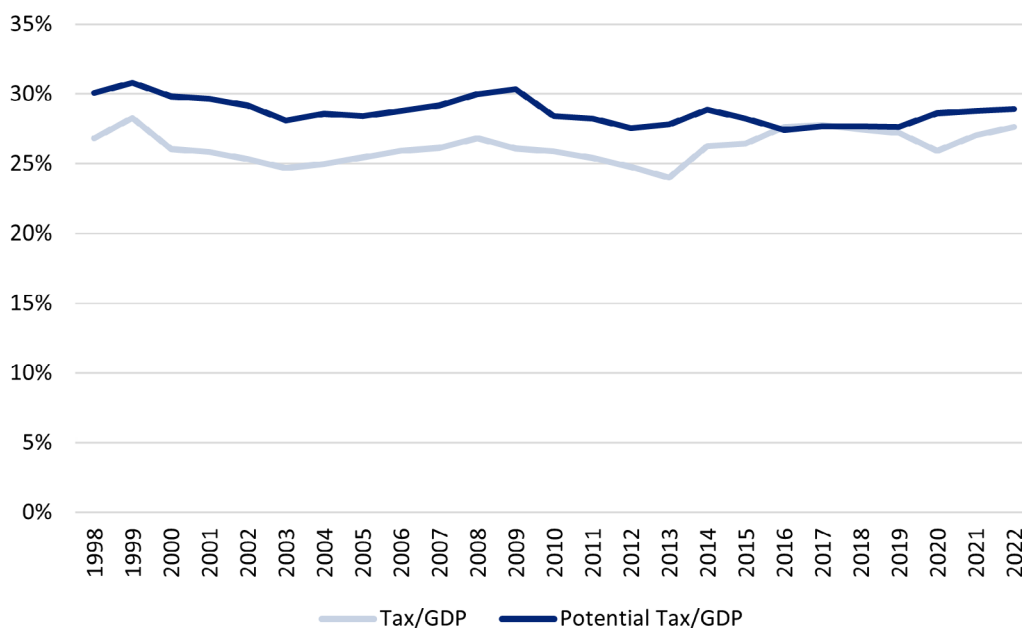
Total consumption as a percentage of GDP is positive and statistically significant. The other coefficients are robust to the inclusion of total consumption as a percentage of GDP.

### 3.2. Tax potential in Albania

The estimation of the potential tax-to-GDP ratio is done based on the equation:  

$$\text{Potential Tax/GDP} = 0.011*(\text{GDP per capita}) + 0.038*(\text{Trade}) - 0.237*(\text{Agriculture value added}) + 0.003*(\text{Population growth}) + 0.450*(\text{Government expenditure to GDP}) - 0.004*(\text{Corruption index}) + 0.342$$

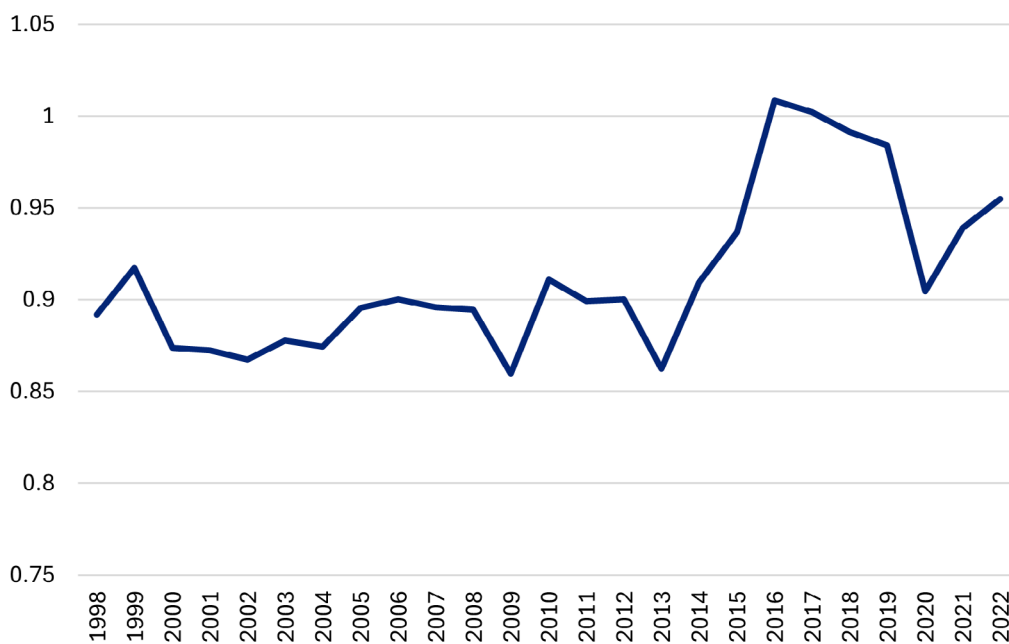
Figure 1: Actual and potential tax-to-GDP ratio in Albania



Source: Edited by the authors

For all the time under survey, a higher tax potential can be noticed than tax collection. Following the global financial crisis, the tax-to-GDP ratio in Albania decreased until the year 2013. During these years, Albania has applied a flat tax. After the tax reform in 2013 and various measures of the government to fight informality, an improvement in tax collection can be noticed. In the year 2020, there was a significant deterioration in tax collection due to the COVID-19 pandemic. The recovery was quite immediate after the lockdown.

Figure 2: Tax effort index in Albania



Source: Edited by the authors

Tax effort, defined as a ratio of actual tax base to predicted tax share, is, on average, 0.91 for the Albanian economy for all the period under survey. In 2010, a fiscal cash register became obligatory for all businesses. This was followed by an increase in revenue collection and an improvement of the tax effort index, but the effect was not persistent in time. A new tax procedure to fight tax evasion was introduced in the year 2015, which brought significant improvements in tax collection. Law no 87/2019, on the Invoice and Circular Monitoring System, effective since 2021, improved compliance and increased tax collection.

## Conclusions

Very important parts of fiscal reform have been the tax reforms in developing countries. Retrenchment of expenditure, even in situations of significant fiscal deficit, is better to be avoided, and fiscal adjustment needs to be focused more on revenue enhancement and improvement in expenditure efficiency according to Alam and Sundberg (2002).

The empirical results of this work are consistent with and reinforce earlier studies (Boukbech et al., 2018; Piancastelli & Thirlwall, 2020). GDP per capita and trade to GDP are important determinant factors of tax performance. Previous studies that also included Albania in panel data, such as (Le et al., 2012), for the period of 1994-2009, concluded that tax effort is not stable for Albania, and classified Albania in a group of low tax effort (the benchmark value used was 1) and low tax collections (the benchmark value used was 18.31%). This study brings new data for tax efforts in Albania. The data supports that the tax effort has not been stable for the period of 1998-2022. After 2014, there is a notable increase in the value of tax effort due to successful new procedures of fighting tax evasion, and lastly introducing e-invoice. For the period of 2010-2022, the average tax effort is below one, which means that the country is exploiting its estimated potential less than the average, but there has been a notable improvement in the tax effort index since 2014. Tax collections in Albania are below the average of transition countries considered in this study, 36.03 per cent.

The study contributes to empirical literature by giving evidence of a strong and significant negative impact of corruption on tax revenue for the transition countries. The corruption perception index is the variable that was used to measure the governance quality. Good governance will increase tax collection, and all the countries under survey should improve further governance quality. The country is utilizing quite the full estimated revenue potential. The empirical results are consistent with previous empirical work. Gray et al. (2007), Mertens (2003), and Turley (2006) found a high tax effort index for Albania's economy. According to empirical findings, Albania needs to collect more taxes, since tax efforts are smaller than one and tax-to-GDP collections are less than the average of transition countries. The introduction of electronic payments improved tax collection, especially the value-added tax, in post-Covid years, and helped the fiscal consolidation. The country must continue improving the governance quality and fighting corruption to improve tax collection. The study does not support the increase in the statutory tax rate.

## References

- Adan, H., Atsebi, J-M., Gueorguiev, N., Honda, J., & Nose, M. (2023). *Quantifying the Revenue Yields from Tax Administration Reforms*. International Monetary Fund. <https://www.imf.org/-/media/Files/Publications/WP/2023/English/wpiea2023231-print-pdf.ashx>
- Ahmed, Q. M., & Muhammad, S. D. (2010). Determinant of tax buoyancy: empirical evidence from developing countries. *European Journal of Social Sciences*, 13(3), 408-418.
- Aizenman, J., & Jinjark, Y. (2007). *Globalization and developing countries - a shrinking tax base?*. UNSC and NBERG. [http://129.199.194.17/files/AizJin\\_WP.pdf](http://129.199.194.17/files/AizJin_WP.pdf)
- Alam, A., & Sundberg, M. (2002). *A Decade of Fiscal Transition*. World Bank Working Paper. <https://documents1.worldbank.org/curated/es/500761468766835046/pdf/multiopage.pdf>
- Bahl, R. W., & Bird, R. M. (2008). Tax policy in developing countries: Looking back and forward. *National Tax Journal*, 61(2), 279-301.
- Begum, L. (2007). *A panel study on tax effort and tax buoyancy with special reference to Bangladesh*. Bangladesh Bank Head Office.
- Bird, R. M. (2008). *Tax challenges facing developing countries*. Institute for International Business. <http://dx.doi.org/10.2139/ssrn.1114084>
- Bird, R. M., Martinez-Vazquez, J., & Torgler, B. (2008). Tax effort in developing countries and high income countries: The impact of corruption, voice and accountability. *Economic analysis and policy*, 38(1), 55-71. [https://doi.org/10.1016/S0313-5926\(08\)50006-3](https://doi.org/10.1016/S0313-5926(08)50006-3)
- Boukbech, R., Bousselhamia, A., & Ezzahid, E. (2018). Determinants of tax revenues: Evidence from a sample of Lower Middle-Income countries. *Applied Economics and Finance*, 6, 11-20.
- Brun, J. F., & Diakite, M. (2016). *Tax Potential and Tax Effort: An Empirical Estimation for Non-resource Tax Revenue and VAT's Revenue*. Centre d'Études et de Recherches sur le Développement International. <https://shs.hal.science/halshs-01332053/>
- Davoodi, H., & Grigorian, D. A. (2007). *Tax potential vs. tax effort: A cross-country analysis of Armenian's stubbornly low tax collection*. International Monetary Fund. <https://ssrn.com/abstract=984611>
- Department of Revenue. (2023). *Corporate Income and Net Worth Tax*. <https://dor.georgia.gov/taxes/corporate-income-and-net-worth-tax>

- Ehrhart, H. (2009). *The political economy determinants of domestic tax mobilization in developing countries* [Conference session]. German Development Economics Conference, Frankfurt a.M., Germany. [https://www.econstor.eu/bitstream/10419/39951/1/9\\_ehrhart.pdf](https://www.econstor.eu/bitstream/10419/39951/1/9_ehrhart.pdf)
- Eltony, M. N. (2002). *The determinants of tax effort in Arab countries*. Economic Research Forum. <https://erf.org.eg/app/uploads/2017/05/0229-ElTony.pdf>
- Fauvelle-Aymar, C. (1999). The political and tax capacity of government in developing countries. *International Review for Social Science*, 52(3), 391-413.
- Fenochietto, M. R., & Pessino, M. C. (2013). Understanding countries' tax effort. International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2013/wp13244.pdf>
- Gambaro, L., Meyer-Spasche, J., & Rahman, A. (2007). *Does aid decrease tax revenue in developing countries*. The London School of Economics and Political Science. [https://www.researchgate.net/publication/228375006\\_Does\\_Aid\\_Decrease\\_Tax\\_Revenue\\_in\\_Developing\\_Countries](https://www.researchgate.net/publication/228375006_Does_Aid_Decrease_Tax_Revenue_in_Developing_Countries)
- Goode, R. (1984). *Government finance in developing countries*. The Brookings Institution.
- Gray, C., Lane, T., & Aristomene, A. (2007). *Fiscal policy and economic growth: Lesson for Eastern Europe and Central Asia*. World Bank Publication. <https://documents1.worldbank.org/curated/en/372621468030613197/pdf/411740REVISDo1PUBLIC1June029102007.pdf>
- Gupta, A. (2008). *Determinants of tax revenue efforts in developing countries*. International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2007/wp07184.pdf>
- Hoek, M. P. (2004). *The European Union: Eastern enlargement and taxation*. MPRA. [https://mpra.ub.uni-muenchen.de/5907/1/MPRA\\_paper\\_5907.pdf](https://mpra.ub.uni-muenchen.de/5907/1/MPRA_paper_5907.pdf)
- International Monetary Fund. (2023c). *Albania: Datasets* [Data set]. <https://www.imf.org/external/datamapper/profile/ALB>
- International Monetary Fund. (2022). *IMF International Financial Statistics, 1920-2022* [Data set]. <http://doi.org/10.5257/imf/ifs/2022-03>
- International Monetary Fund. (2023a). *Government Finance Statistics* [Data set]. <https://data.imf.org/?sk=a0867067-d23c-4ebc-ad23-d3b015045405>
- International Monetary Fund. (2023b). *IMF Country Information* [Data set]. <https://www.imf.org/en/Countries>
- Jorgenson, D. W., & Yun, K-J. (2013). Taxation, Efficiency and Economic Growth. In P. B. Dixon & D. Jorgenson (Eds.), *Handbook of Computable General Equilibrium Modeling* (pp. 659-741). Elsevier. <https://doi.org/10.1016/B978-0-444-59568-3.00010-9>

- Le, T. M., Moreno-Dodson, B., & Bayraktar, N. (2012). *Tax capacity and tax effort: Extended cross-country analysis from 1994 to 2009*. World Bank. <http://documents1.worldbank.org/curated/en/534031468332056098/pdf/wps6252.pdf>
- Leuthold, J. H. (2002). Tax shares in developing economies: A panel study. *Journal of Development Economics*, 35(1), 173-185.
- Li, K., & Lopez-Murphy, P. (2010). *Tax revenue downturns: Anatomy and links to imports*. International Monetary Fund Working Paper, 138
- Lockwood, B., & Keen, M. (2007). *The value added tax: The causes and consequences*. International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2007/wp07183.pdf>
- Lotz, J. R., & Moriss, E. R. (1967). *Measuring tax effort in developing countries*. International Monetary Fund. <https://www.elibrary.imf.org/view/journals/024/1967/003/article-A004-en.xml>
- Manasan, R. G. (2002). *Explaining the decline in tax effort*. Philippine Institute for Development Studies. <https://www.pids.gov.ph/publication/policy-notes/explaining-the-decline-in-tax-effort>
- Mertens, J. B. (2003). Measuring Tax Effort in Central and Eastern Europe. *Public Finance and Management*, 3(4), 530-563. <https://doi.org/10.1177/152397210300300406>
- Mikel, A. (2014). *Characteristics of the VAT in Albania*. *European Journal of Social Sciences Education and Research*, 1(1), 228-233.
- Ministry of Finance of Bulgaria. (2023). *Personal Income Taxes*. <https://www.minfin.bg/en/827>
- Mkandawire, T. (2010). *On tax efforts and colonial heritage in Africa*. Institute for Future Studies. <https://www.iffs.se/media/1387/20100909124338fillOoq1WIW53k340ag3KWn.pdf>
- Musgrave, R. (1969). Public finance and Finanzwissenschaft traditions compared. *Public Finance Analysis*, 53(2), 145-193.
- Nashashibi, K., Gupta, S., & Linksila, C. (1992). *Fiscal dimension of adjustment in low income countries*. International Monetary Fund. <https://www.imf.org/en/Publications/Occasional-Papers/Issues/2016/12/30/The-Fiscal-Dimensions-of-Adjustment-in-Low-Income-Countries-55>
- OECD. (2023). *Global Revenue Statistics Database* [Data set]. <https://www.oecd.org/en/data/datasets/global-revenue-statistics-database.html>
- Piancastelli, M., & Thirlwall, A. P. (2020). The Determinants of Tax Revenue and Tax Effort in Developed and Developing Countries: Theory and New Evidence 1996-2015. *Nova Economia*, 30(3), 871-892. <https://doi.org/10.1590/0103-6351/5788>
- PwC. (2023). *Worldwide Tax Summaries Online* [Data set]. <https://taxsummaries.pwc.com/>

- Rao, H. (1993). *Taxable capacity, tax efforts and forecasts of tax yield of Indian states*. Institute for Social and Economic Change Reserach.
- Saptono, P. B., & Mahmud, G. (2021). Factors Influencing Tax Income: A Panel Data Analysis. *International Journal of Scientific and Research Publications*, 11(8), 456-463. <https://doi.org/10.29322/IJSRP.11.08.2021.p11657>
- Siqueira, M. P. (2001). *Measuring the tax effort of developed and developing countries: Cross country panel data analysis - 1985/95*. Instituto de Pesquisa Econômica Aplicada. [https://www.econstor.eu/bitstream/10419/220192/1/dp\\_103.pdf](https://www.econstor.eu/bitstream/10419/220192/1/dp_103.pdf)
- Slovenian Business Point. (2023). *Tax regulations in Slovenia*. <https://spot.gov.si/en/info/taxes/taxes/>
- Stotsky, J. G., & Wolde-Mariam, A. (1997). *Tax Effort in Sub-Saharan Africa*. International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/wp97107.pdf>
- Tax Code Albania. (1995). *Act No. 7928 on value added tax*.
- Tax Code Albania. (1998). *Act No. 8438/1998 on income tax, as amended*.
- Tax Code Albania. (2014). *Act No. 92/2014 on value added tax*.
- Tax Code Albania. (2019). *Law No. 87/2019 on Invoice and Circulation Monitoring System*.
- Tax Code Czech Republic. (1992). *Act No. 586/1992 on income tax, as amended*.
- Tax Code Czech Republic. (2004). *Act No. 235/2004 on value added tax*. Retrieved from [URL]
- Tax Code Czech Republic. (2009). *Act No. 362/2009*.
- Tax Code Hungary. (2007). *Act CXXVII on the value added tax*.
- Tax Code Hungary. (2018). *Act LXXXIII on electronic invoicing*.
- Tax Code Slovenia. (2014). *Provision of Payments Services to Budget Users Act*, Official Journal, no. 77/16 in 47/19.
- Tax Code Turkey. (2010). *The Tax Procedure Law*.
- Turley, G. (2006). *Transition, taxation and the state*. Ashgate Publishing.
- World Bank. (2020). *Albania Fiscal Sustainability and Growth Development Policy Financing*. <https://documents1.worldbank.org/curated/en/959131608001564065/pdf/Albania-Fiscal-Sustainability-and-Growth-Development-Policy-Financing.pdf>
- World Bank. (2023). *World Development Indicators [Data set]*. <https://databank.worldbank.org/source/world-development-indicators>