THE RELATIONSHIP BETWEEN TAX REVENUES AND DEMOCRACY: AN APPLICATION ON EMERGING AND DEVELOPING COUNTRIES

VERGİ GELİRLERİ VE DEMOKRASİ ARASINDAKİ İLİŞKİ: YÜKSELEN VE GELİŞMEKTE OLAN ÜLKELER ÜZERİNE BİR UYGULAMA

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ABSTRACT

States collect taxes as one-way revenues based on their sovereign power to provide public goods and services. However, over time, taxes have evolved from being based solely on the pure sovereign power of the states to an authority arising from the power of representation. In this context, the connection between taxation and democracy has become one of the critical discussion topics in the fiscal sociology literature. Since the 13th century, the expeditions guiding economic and political reform movements, cou-pled with rebellions against non-representative taxation, have played a fundamental role in shaping concepts such as representation and taxation in the evolution of the modern public financial structures. In parallel with the theoretical discussions, a broad empirical literature examining the connection between democracy and taxation has emerged due to attempts to measure the typology of political regimes in a country. Empirical findings indicate a positive relationship between democratization and taxa-tion in advanced economies; however, this connection is ambiguous for emerging and developing countries. This study takes this gap in the literature into account and exam-ines the effects of democratization, urbanization, and institutional quality indicators on tax revenues for 41 emerging and developing countries in the 2000-2018 period with dynamic panel data analysis techniques. Our findings indicate that democratization and the increasing share of urban population in total population have a positive impact on tax revenues in the context of emerging and developing countries.

ÖZ

Vergiler, devletlerin kamusal mal ve hizmet sunumunu gerçekleştirmek amacıyla egemenlik gücüne dayalı olarak tahsil ettikleri, karşılıksız gelirlerdir. Ancak vergiler başlangıçta devletlerin salt egemenlik gücüne dayandırılırken zaman içerisinde temsil yetkisinden doğan bir yetki haline evrilmiştir. Bu kapsamda vergilendirme ve demokrasi arasındaki bağlantı, mali sosyoloji literatürünün önemli tartışma konularından bir tanesi haline gelmiştir. 13. yüzyıldan itibaren iktisadi ve siyasi reform hareketlerine yön veren arayışlar, temsilsiz vergilendirmeye karşı başlatılan isyanlar, modern kamu mali yapısının evriminde önemli rol oynayarak temsiliyet ve vergilendirme gibi kavramların şekillenmesini sağlamıştır. Söz konusu teorik tartışmalara paralel olarak bir ülkedeki yönetim rejiminin tipolojisinin ölçülme girişimleri sonucunda, demokrasi ve vergilendirme arasındaki bağlantıyı inceleyen geniş bir ampirik literatür oluşmuştur. Ampirik bulgular gelişmiş ekonomiler açısından demokratikleşme ve vergilendirme arasında pozitif bir ilişkinin bulunduğuna, ancak gelişmekte olan ülkeler açısından bu bağlantının muğlak olduğuna işaret etmektedir. Bu çalışma literatürdeki bu boşluğu dikkate alır boyutta, 41 yükselen ve gelişmekte olan ülke için 2000-2018 döneminde vergi gelirleri üzerinde, demokratikleşme, kentlileşme ve kurumsal kalite göstergelerinin etkilerini dinamik panel veri analiz teknikleriyle incelenmektedir. Bulgularımız yükselen ve gelişmekte olan ülkeler açısından demokratikleşmenin ve kentli nüfusun toplam nüfus içerisindeki payının artmasının vergi gelirleri üzerinde iyileştirici bir etki oluşturduğuna işaret etmektedir.

INTRODUCTION

The economic success of developed nations is often attributed to the strength of their democratic systems and the effectiveness of their institutions. In contrast, many countries struggle with economic development due to the inability of their states to establish a strong institutional identity and functioning, ultimately failing to build a consolidated democratic regime (Acemoglu & Robinson, 2012). Certainly, in countries undergoing economic development, the nature and stability of the political regime are vital for the state to establish a strong institutional characteristic, operate effectively, and achieve long-term sustainability. According to Adam Smith, one of the many social and economic determinants that shape the wealth of nations is the state organization, which is essential due to its political dimension. Similarly, while searching for an answer to why nations fail, Acemoglu and Robinson (2012) pointed out exploitative and inclusive political institutions among the several elements they defined as determinants of economic development.

In the framework proposed by Weber, the state, possessing the "*legitimacy of monopoly on violence*," can deliver public services and promote economic activity through the centralization of power. On the contrary, failure of the state to ensure political centralization will drag societies, which are the creators of all economic institutions, into uncertainty. In other words, as Hobbes describes the "*Leviathan State*," the tendency of autocratic regimes to expand gradually will hinder economic development. In this context, Acemoglu and Robison (2019) argue that economic growth and development will be possible by controlling the Leviathan through the chains of democracy.

The ongoing debate in the field of fiscal sociology centers on the divergent perspectives regarding the state and its institutions. One view posits that the state and its institutions have a natural (*inherent*) structure, and that society exists to serve the state. The opposing view suggests that the state is a mechanical (*bureaucratic*) institution established to serve its citizens (Rosen & Gayer, 2010, p. 4). Despite characterizing the state organization in developed economies as possessing a mechanistic structure, it is imperative not to discount the substantial influence of democracies. Considered as the most optimal political regimes conceived by humanity, democracies play a significant role in shaping the evolution of this structural framework. Alternatively, the question of the channels through which the transition from non-democratic conditions to democracy will take place becomes important. One of the areas of debate within this framework deals with whether taxation strengthens democratization or democratization strengthens taxation.

The most important part of a state's economic activity is taxation, which refers to the revenues it collects compulsorily and unrequited (Yurdadog et al., 2022) from the society it represents. Historically, it is thought that taxes started as tribute or gifts given to the central king, but in modern times, taxes have become a means of representation. The principle "*no taxation without representation*" has a rich historical background, marked by significant events such as the Magna Carta Libertatum in 1215, the Petition of Rights in 1628, and the Bill of Rights in 1789. These developments contributed to the democratization of states and the establishment of specific civil and political rights within society, solidifying the concept as a constitutional norm. In other words, the limitation of taxation powers is included in the upsurge of democracy (Akca et al., 2019).

Although the interaction between taxation and democracy theoretically indicates a reciprocal relationship, this structure is relatively complex in practice. Currently, some studies re-examine the relationship between taxation and democracy. It is possible to evaluate alternative explanations for this connection under two main headings. As the first proposition, we can consider the view that taxation strengthens democracy. This proposition focuses on the democratic institutional transformation created by taxation, as seen in the examples of developed Western democracies. Alternatively, it is based on the idea that legitimate democratic institutions can encourage citizens' participation in political decision-making and voluntary compliance with taxes (Cevik, 2018, p. 15).

It is possible to discuss a partial consensus in the ongoing discussions in the empirical literature, especially on developed economies, with many researchers supporting the view that there is a positive relationship between democracy and taxation in developed economies (Acemoglu et al., 2015; Baskaran, 2014; Baskaran & Bigsten, 2013; Cheibub, 1998; Rashid et al., 2021).

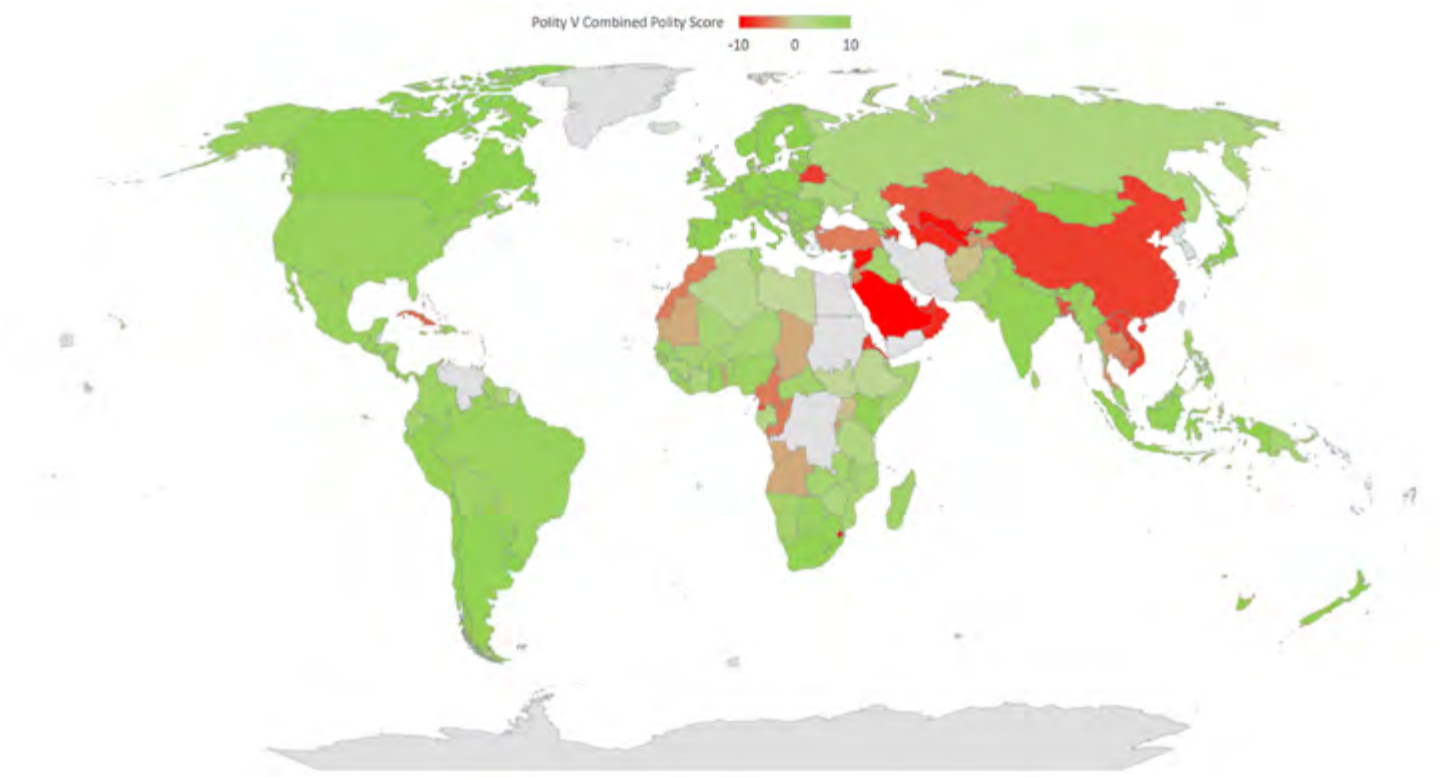

Figure 1: Worldwide Polity V Political Regime Index: 2018 (Source: WDI Prosperity Data360, 2024)

However, the empirical literature is far from consensus on the conditions of underdeveloped and developing countries where examples of autocratic or hybrid regimes can be observed. There are several pieces of evidence supporting the positive (Balamatsias, 2018; Prichard et al., 2018; Rashid et al., 2021) and negative (Fauvelle-Aymar, 1999; Özhan & Keyifli, 2020) relationships between tax revenues and democracy from underdeveloped and developing countries. Moreover, some researchers have found that autocratic regimes in developing countries can collect equal or, in some cases, higher tax revenues than democracies (Garcia & Haldenwang, 2016; Mulligan et al., 2004; Mutascu, 2011; Profeta et al., 2013). Moreover, multiple studies suggest that the relationship is statistically insignificant and should not be ignored (Jin Yi, 2012; Mahdavi, 2008).

At this stage, it would be useful to examine the distribution of political regimes around the world. The 2018 global political regime index (WDI Prosperity Data360, 2024) distribution shown in Figure 1 provides valuable insights. The Polity-V Combined Polity Score ranges between ±10, and when it converges to +10, it indicates the superiority of democratic regimes in the country. Most developed countries have strong democratic regimes, while some underdeveloped and developing countries (Middle East, Sub-Saharan Africa, and Asia) have autocratic or hybrid regimes.

The taxation-democracy nexus is investigated in this study, focusing mainly on debates in the empirical literature on emerging and developing countries. During the sample selection process, countries included in the emerging and developing countries classification of the IMF (2024) World Economic Outlook were considered. Under data access limitations, our study's sample covers the period 2000-2018 for 41 countries, including Türkiye. Moreover, our research covers not only the democratic regime index but also the institutional factors and the degree of urbanization that play a role in strengthening democracy in a country. Our study will provide new information to the existing literature with these aspects.

The remaining parts of the study are structured as follows: The second part examines theoretical debates and empirical literature and discusses the main hypotheses and findings. The third section covers the empirical design, including the dataset, model, and methodology. The following section presents the empirical findings. The last section evaluates the democracy-taxation nexus findings in emerging and developing economies and offers some policy recommendations.

THEORATICAL AND EMPRICAL LITARATURE REVIEW

An extensive literature discusses the relationship between political regimes and taxation in different theoretical and empirical dimensions. Although the empirical literature is far from consensus, a substantial number of researchers claim that the democracy-taxation nexus has a positive correlation (Acemoglu et al., 2015; Ashraf & Sarwar, 2016; Balamatsias, 2018; Baskaran, 2014; Cheibub, 1998; Ehrhart, 2012; Rashid et al., 2021; Timmons, 2010; Zarra-Nezhad et al., 2016). Even if these studies support the claim that democratization will boost taxation, it is possible to mention evidence in the empirical literature that contradicts this statement. For instance, there are studies suggesting that the relationship in question exhibits a negative relationship (Fauvelle-Aymar, 1999; Özhan & Keyifli, 2020; Ross, 2004), a nonlinear U-shape (Garcia & Haldenwang, 2016; Mutascu, 2011; Profeta et al., 2013), or is statistically insignificant (Jin Yi, 2012; Mahdavi, 2008).

The difference in the empirical literature can be attributed to the diverse theoretical foundations used to make predictions, which include modernization theory, public choice theory, and fiscal sociology approach. Other reasons arise from the empirical design, the differences in the samples and periods examined, and the non-uniformity of the methodology used in measuring democracy.

Researchers who prioritize economic growth within the scope of modernization theory associate the positive relationship between democracy and tax revenues with the increase in taxable income through economic growth. Democratic regimes are expected to encourage economic growth by strengthening economic freedoms, which, in turn, will further enhance democratic regimes through higher income levels (Persson & Tabellini, 2009, p. 124).

Empirically, Cheibub (1998) examined whether political regimes are necessary for a particular aspect of economic performance, using 1970-1990 data for 108 countries at different levels of economic development. The author found that in democratic regimes, the share of tax revenues in GDP (26.7%) can be collected at a higher level than in autocratic regimes (17.8%). Similarly, Rashid et al. (2021) investigated the impact of democracies on different tax revenues using panel data analysis techniques for 59 countries (29 developing and 30 developed) between 2006 and 2013. Researchers stated that a 1 percent improvement in the democracy index increased total tax revenues by 0.74 percent and that there was a strong positive relationship between income, wealth, and indirect taxes and democracy, as well as a weak positive relationship regarding corporate taxes.

On the contrary, Özhan and Keyifli (2020) investigated the effects of democracy and urbanization on tax revenues in G20 countries from 2005 to 2018. The authors assert a negative relationship between democracy and tax revenues, but they also found a positive relationship between urbanization rate and tax revenues, with the impact of democracy on tax revenues turning positive at high levels of urbanization. The findings obtained in this study coincide with the results presented by Andersson (2018). Additionally, Kaplan and Dayıoglu Erul (2023) analyzed the nonlinear structure of the relationship between tax revenues and democracy, which they defined as the Montesquieu paradox, in 2014: M1-2020: M1 period, using time series analysis techniques for five Turkic Republics. The study suggests that in Kazakhstan, Kyrgyzstan, and Uzbekistan, the tax burden positively affects democracy up to a 15% threshold, after which it has a negative impact, forming an inverted U shape. Additionally, in Türkiye and Azerbaijan, a positive linear relationship exists between tax revenues and democracy after the 15% tax burden threshold. On the other hand, Mahdavi (2008) examined the determinants of tax revenues in developing countries using panel data analysis techniques on data from 43 countries from 1973 to 2002 and found no statistically significant correlation between democracy and tax revenues.

Alternatively, within the framework of public choice theory, the redistribution of income is considered the determining factor in the relationship between taxation and democracy. In this context, within the scope of the median voter theory (Meltzer & Richard, 1981), society and pressure-interest groups use the right to vote as a redistribution tool for better and additional public goods and services (Garcia & Haldenwang, 2016, p. 486). In this scenario, citizens will pressure governments to produce more public goods and services as a condition for re-supporting governments in elections. Consequently, governments willing to produce more public goods and services tend to increase tax revenues to finance public expenditures. Additionally, Boix (2003) emphasizes that in democracies, taxes and public expenditures should implement redistribution if the median voter›s income level falls below the income distribution.

Conversely, there is no direct obstacle to collecting higher tax revenues in autocratic or hybrid regimes than in democratic regimes. However, in strong democratic regimes, the most critical component of the tax revenue composition is income (Kenny & Winer, 2006) and wealth taxes, which are the instruments for ensuring income redistribution. In this regard, Ehrhart (2012) stated that the development of democracy will positively affect national tax revenues based on empirical findings from 66 countries within the scope of the 1990-2005 period. On the other hand, the author has argued that democracies are essential for establishing redistribution in natural resource-rich countries. In addition, Kato and Tanaka (2019) conducted an analysis using the entropy-balancing method, which spanned 143 countries from 1960 to 2007, to explore the factors affecting democracy. They argued that the introduction and implementation of value-added taxes had positive effects on democracy. However, Profeta et al. (2013) examined 38 countries from 1990 to 2005 using panel data analysis techniques to explore the connection between fiscal policies, redistribution tools, and democracy indicators. The study reported positive relationships between civil liberties and income and indirect tax revenues, U-shaped relationships between democratic institutions and income taxes, and negative relationships between civil liberties and corporate taxes.

Finally, the legitimacy approach within the scope of fiscal sociology, known for its pioneers such as Goldscheid and Schumpeter, is also essential (Ross, 2004) and is widely concerned in the literature. A reliable and legitimate democratic regime will lead to high tax compliance among citizens from this perspective (Fauvelle-Aymar, 1999; Mahdavi, 2008). Citizens who believe that a legitimate and reliable government will use the taxes it collects for public benefit, establish the tax burden reasonably, ensure that no rent is provided to an elite group in the tax system and that there will be no radical changes in tax policies will be willing to pay higher taxes (Garcia & Haldenwang, 2016, p. 487).

In this context, using panel data analysis techniques, Baskaran and Bigsten (2013) examined the relationship between fiscal capacity and government quality for 31 Sub-Saharan African countries from 1990-2005. They underlined that increasing fiscal capacity reduces corruption, creates a higher-quality government structure, and improves democracy. Baskaran (2014) researched the period 1981-2008 for 122 countries using panel data analysis techniques to answer whether taxation has a causal relationship with democracy. Among the findings obtained in this context, it was reported that taxes can strengthen the democratic structure at a moderate level, and a positive relationship exists between total public revenues and democracy. In their seminal work, Acemoglu et al. (2015) scrutinized the connection between democracy and redistribution of income from 1960 to 2010 for a substantial sample of 184 countries. The authors noted a positive relationship between democracy and tax revenues, but this effect reached its maximum in 15 years. Balamatsias (2018) examined the period 1993-2012 for 74 countries using panel data analysis techniques to investigate how democratic regimes affect indirect and direct tax revenues through tax compliance. The researcher reported a positive relationship between democratization and the increase in tax revenues; democratization positively affects direct tax revenues, and the use of indirect taxes is dominant in countries with low levels of democracy.

On the other hand, Fauvelle-Aymar (1999) used cross-sectional analysis techniques for 89 developing countries in the 1980-1989 period to investigate tax capacity

determinants. The author argued that democracy can negatively affect tax revenues. Therefore, autocratic regimes (leviathan states) can collect more taxes than democratic regimes. It has also been reported that there is a positive relationship between government effectiveness, reliability, and tax revenues and a negative relationship between military coups and tax revenues. In addition, Mutascu (2011) investigated the connection between tax revenues and democracy in 51 countries from 2002 to 2008 using panel data analysis techniques. This study shows that strong democratic and autocratic regimes can increase tax revenues. In other words, the relationship between tax revenues and democracy is U-shaped. Additionally, Garcia and Haldenwang (2016) analyzed data from 131 countries from 1990 to 2008, using panel data analysis techniques to examine the connection between political regimes and tax revenues. The authors find strong evidence of a U-shaped relationship between political regimes and tax revenues. In addition, the authors stated that tax revenues are higher in democratic regimes than in hybrid or autocratic regimes. Moreover, Mulligan et al. (2004) also examined whether political regimes altered public policies. The only significant difference in tax systems is that income tax is more likely to be flat rated in democratic regimes. Ross (2004) investigated data from 1971 to 1997 for 113 countries, using panel data analysis techniques to explore the connection between taxation and democracy. Investigators emphasized that a higher tax burden does not always lead to a more and robust democracy.

Lastly, Jin Yi (2012) analyzed the period 1970-2000 for 84 countries to determine the connection between tax revenues and democracy based on regime transitions, but the author could not find a significant relationship. Prichard et al. (2018) also analyzed the relationship between tax revenues, non-tax public revenues, and tax compliance with democracy for 188 countries from 1990 to 2012. The authors found a positive relationship between tax compliance and democracy and a negative relationship between non-tax public revenues and democracy. Accordingly, they stated that the anti-democratic effect of non-tax public revenues is more dominant in autocratic regimes. Table 1 summarizes the studies in the empirical literature, including sample, period, method, and findings.

Table 1: Previous Empirical Literature Review

Authors(year)	Sample & Period	Method	Findings
Cheibub (1998)	108 Developed & Developing C. 1970-1990	PDA	Democracy → Taxation (+)> Autocracy → Taxation (+)
Fauvelle-Aymar (1999)	89 Developed & Developing C. 1980-1989	CSA	Democracy→ Taxation (-)
Ross (2004)	113 Developed & Developing C. 1971-1997	PDA	Higher Tax Burden ≠ Higer Democracy
Mulligan et al. (2004)	142 Developed & Developing C. 1973-1990	PDA	Autocracy → Taxation (+) > Democracy → Taxation (+)
Mahdavi (2008)	43 Developing C. 1973-2002	PDA	Democracy → Taxation (insignificant)
Timmons (2010)	100 Developed & Developing C. 1970-1999	PDA	Democracy → Taxation of Consumption (+)
Mutascu (2011)	51 Developed & Developing C. 2002-2008	PDA	Democracy → Taxation (Inverted U)
Jin Yi (2012)	84 Developed & Developing C. 1970-2000	PDA	Taxation→ Democracy (insignificant)
Ehrhart (2012)	66 Developed & Developing C. 1990-2005	PDA	Democracy →Taxation (+)

Profeta et al. (2013)	38 Developing C. 1990-2005	PDA	Democratic Institutions → Taxation of Income (Inverted U)
Baskaran & Bigsten (2013)	31 Sub-Saharan C. 1990-2005	IV & Sys-GMM	Fiscal Capacity→ Democracy (+)
Baskaran (2014)	112 Developed & Developing C. 1981-2008	PDA	Taxation → Democracy (+)
Acemoglu et al. (2015)	184 Developed & Developing C. 1960-2010	GMM	Democracy → Taxation (+)
Ashraf & Sarwar (2016)	50 Developing C. 1996-2013	PDA	Democracy → Taxation (+)
Zarra-Nezhad et al. (2016)	83 Developed & Developing C. 1990-2012	PDA	Democracy → Taxation (+)
Garcia & Haldenwang (2016	131 Developed & Developing C. 1990-2008	PDA	Democracy → Taxation (Inverted U)
Balamatsias (2018)	74 Developed & Developing C. 1993-2012	PDA	Democracy → Taxation (+)
Cevik (2018)	135 Developed & Developing C. 2011-2016	CSA	Democracy → Tax Compliance (+)
Prichard et al. (2018)	188 Developed & Developing C. 1990-2012	PDA	Democracy →Tax Compliance (+)
Andersson (2018)	31 Developed & Developing C. 1800-2012	SUR	Urb .x Democracy → Tax Revenue of Income and Wealth (+) Urb. x Democracy → Tax Revenue of Consumption (-)
Kato & Tanaka (2019)	143 Developed & Developing C. 1960-2007	EB	VAT → Democracy (+)
Özhan & Keyifli (2020)	19 Developing C. 2005-2018	Sys-GMM	Democracy → Taxation (+) Urb. → Taxation (+) Urb. x Democracy → Taxation (+)
Rashid et al. (2021)	59 Developed & Developing C. 2006-2013	PDA	Democracy → Taxation (+)
Kaplan & Dayıoglu Erul (2023)	5 Turkic Rep. 2014:1-2020m1	PDA	Democracy → Taxation (+): Türkiye, Azerbaijan Democracy → Taxation (Inverted U) Kyrgyzstan, Kazakhstan, and Uzbekistan

Note: PDA: Panel Data Analysis; CSA, Cross-section Analysis; EB, Entropy-balancing, IV, instrumental variable; SUR, Seemingly Unrelated Regression; Sys-GMM, system generalized method of moments. Urb, Urbanization level, → represents the effect of independent variables on dependent variable, >, represent comparatively grater effect.

Numerous investigations frequently discuss a positive relationship between democracy and tax revenues in developed countries in the empirical literature. Conflicting findings have been reported for emerging and developing countries, with various factors contributing to this inconsistency, including the underdevelopment of political institutions in developing nations, political instability, low levels of urbanization and tax awareness, and the prevalence of shadow economies, as outlined in theoretical discourse. Nevertheless, empirically testing the validity of these propositions and discussing them within the framework of fiscal discipline are necessary steps to further our understanding of this subject.

DATA, MODEL, AND METHODOLOGY

Dataset and the Model

Within the scope of this study, the tax revenues-democracy connection, where there are significant conflicts in the empirical literature, is examined with dynamic panel data analysis techniques for 41[4] selected emerging and developing countries within the period 2000-2018. The empirical analysis process consists of three stages. In the first stage of the empirical analysis, a single proxy variable will be created to represent institutional quality in countries by applying the principal component analysis (PCA) technique to Kaufmann and Kraay (2024) Worldwide Governance Indicators. The second stage is the application of the two-step System Generalized Methods of Moments (hereafter Sys-GMM), which is a dynamic panel data analysis technique and is frequently preferred in empirical literature. The last stage is the application of essential diagnostic tests regarding Sys-GMM results.

The base model to be estimated to examine the interaction between tax revenues and democracy is presented in equation 1.Furthermore, as part of the empirical analysis process, an additional submodels for equation 1 will be estimated to ascertain the consistency of the indicators' structure.

$$Ttax_{it} = \alpha Ttax_{it-1} + \beta Dem_{it} + \gamma Gdp_{it} + \delta IQ_{it} + \theta Urb_{it} + u_{it} \quad (1)$$

$$\varepsilon_{it} = \mu_i + \lambda_t + v_{it} \; i = 1, \dots 41 \; t = 1, \dots 19 \quad (2)$$

The indices i and t in Equation 1 represent countries and time respectively, and u represents the error term. The error term is defined as a two-way error component model. Accordingly, in Equation 2 shows country-specific effects, and shows time-specific effects. The notations, measurement units, and sources for the variables included in Equation 1 are presented in Table 2.

Table 2: Explanations of Variables

Variables	Explanation	Unit	Source
Ttax	Total Tax Revenue	% of GDP	World Bank Open Data (2024)
Dem	Combined Polity Score	Index	WDI Prosperity data360 (2024)
Gdp	Gross Domestic Product	% of Annual Growth	World Bank Open Data (2024)
Iq	Institutional Quality	Index	Authors calculation based on Worldwide Governance Indicators (2024)
Urb	Urban Population	% of Total Population	World Bank Open Data (2024)

The IQ in Table 2, which represents institutional quality, was created by applying the PCA technique, a type of factor analysis, to the Worldwide Governance Indicators (WGI) indicators generated by Kaufmann et al. (2010). PCA is used to limit the use of many variables, prevent multicollinearity problems within the model's scope, allow the reduction of large data sets, and thus make the results understandable (Akgül, 2022, p. 455). WGI[5] consists of 6 variables with values between ±2.5. For each indicator, +2.5 represents the best, and -2.5 represents the worst. The relevant variables reveal various aspects of governance

4 The list of countries is as follows: Argentina, Bangladesh, Belarus, Bhutan, Bulgaria, Burkina Faso, Chile, Costa Rica, Cote d'Ivoire, Dominica, El Salvador, Ethiopia, Georgia, Ghana, Guatemala, Hungary, Jamaica, Jordan, Kazakhstan, Lebanon, Lesotho, Malaysia, Mali, Mauritius, Moldova, Morocco, Namibia, Nepal, Nicaragua, Peru, Philippines, Poland, Romania, Russian Federation, South Africa, Sri Lanka, Thailand, Türkiye, Ukraine, Uruguay, Zambia.

5 The variables are Voice and Accountability (VA), Political Stability and Absence of Violence/Terrorism (PV), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), Control of Corruption (CC), respectively.

Table 3: Explanatory Statistics for Institutional Quality

Variable	Number of Observation	Mean	Standard Deviation	Min.	Max
VA	779	-0.040	0.687	-1.77	1.29
PV	779	-0.223	0.806	-2.26	1.28
GE	779	-0.130	0.583	-1.35	1.24
RQ	779	-0.030	0.609	-1.60	1.54
RL	779	-0.195	0.602	-1.54	1.35
CC	779	-0.203	0.623	-1.60	1.59

quality and are preferred to represent the institutional quality in a country due to its general structure. Table 3 presents descriptive statistics regarding the variables used in the creation process of the IQ indicator.

In the first stage of the PCA analysis, the appropriateness of the variables for factor analysis was tested using the Bartlett (1950) test. According to the results obtained, the p-value is 0.00 and is smaller than 0.05, and the variables were found suitable for factor analysis. In the next stage, within the scope of PCA, the minimum eigenvalue was determined to be one according to the Kaiser (1974) criterion. Increasing the number of variables with high correlation within the scope of PCA will improve the explanatory power of the factor to explain the data (Akgül, 2022). Figure 2 presents the determination of the eigenvalue according to the Kaiser criterion.

According to the PCA results, it was determined that the variance of a single variable had a high level of explanatory power of 74.3%. In addition, the Kaiser-Meyer-Olkin sample adequacy test result is 86.3%, which is at the meritorious level (Kaiser, 1974, p. 35). Therefore, it was decided that a factor created from the variables could strongly represent the data set and represent the institutional structure in a country. Essential descriptive statistics for all variables, including institutional quality, introduced in Equation 1 are presented in Table 4.

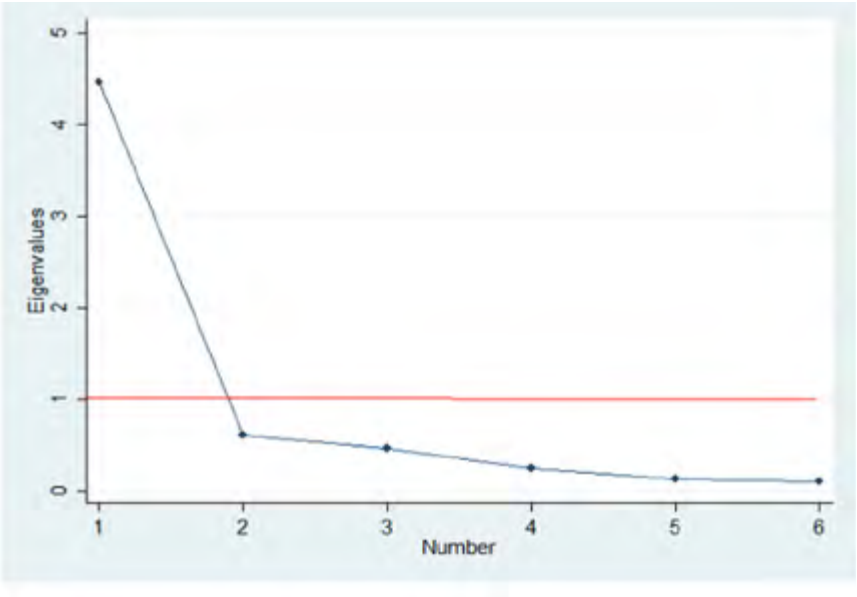

Figure 2: Minimum Eigenvalue determination based on the Kaiser (1974) Criterion

Table 4: Explanatory Statistics for Empirical Model

Variable	Number of Observation	Mean	Standard Deviation	Min.	Max
Ttax	779	16.085	5.459	6.58	39.99
Dem	779	5.304	4.972	-10	10
Gdp	779	4.25	3.439	-15.14	18.36
IQ	779	-0.001	1.000	-2.088	2.347
Urb	779	55.369	20.795	13.4	95.33

Dynamic Panel Data Analysis: Sys-GMM

Dynamic panel data models consist of distributed lag and autoregressive panel data models. In both approaches, defining the lagged value of the dependent variable as an independent variable within the model may lead to endogeneity problems (Nickell, 1981). In other words, the existence of a correlation relationship between the independent variables and the error term leads to the endogeneity problem (Gujarati & Porter, 2018, p. 656). Theoretically, there is an endogeneity problem, and estimates using the least squares technique will produce inconsistent and biased results (Baltagi, 2021). Nevertheless, changing the observation and time interval to address the endogeneity problem, especially in micropanels where N>T, may not always be feasible due to the challenges of accessing past data on an economy or making appropriate estimations for forthcoming years.

Considering these restrictions, Arellano and Bond (1991) developed GMM to overcome the endogeneity problem. Later, Ahn and Schmidt (1995) contributed significantly to developing the GMM technique by developing the nonlinear moment method. In addition, the contributions of Arellano and Bover (1995) and Blundell and Bond (1998) in evolving the GMM method into its current structure should not be ignored.

The first stage of the estimation process of the GMM model involves transforming the first difference model through the instrumental variable matrix and estimating this transformation using the generalized least squares method. Because of this structure, the GMM estimator can also be called a two-stage instrumental variable estimator (Yerdelen Tatoğlu, 2020, p. 131). Using the first difference model and the transformation through the instrumental variable matrix enables the GMM model to produce consistent results under the endogeneity problem or heteroskedasticity of micropanels (Baltagi, 2021). Moreover, estimates made using the Sys-GMM technique will be asymptotically consistent. However, for the Sys-GMM, the standard errors should be biased downwards, so it is possible to use the Windmeijer (2005) robust standard error estimator. Finally, Baltagi (2021) stated that Sargan (1958) and Hansen and Singleton (1982) tests can be used to test overidentification restrictions for diagnostic tests of the Sys-GMM estimator.

EMPRICAL FINDINGS

The first-order autocorrelation problem is frequently observed in dynamic panel data analysis processes because the dependent variable's lagged value is modeled as an independent variable in the model. However, according to Baltagi (2021), the situation that should be considered in dynamic panel data analysis processes is the absence of a second-order autocorrelation problem. In this context, the AR(2) statistic must be greater than 0.05. It can be observed that there is no second-order autocorrelation problem for all models presented in Table 5. In addition, the number of instrumental variables used in the models must be equal to or less than the number of units (Roodman, 2009; Yerdelen Tatoglu, 2020). Violating this condition will cause the estimated parameters to be inconsistent. In all models presented in Table 5, the maximum number of instrumental variables is 16, and the number of units is 41.

The lack of resistance of the Sargan (1958) test made it undesirable for use with the Sys-GMM estimator. Instead, Hansen and Sigleton (1982) applied the robust Hansen J test. Overidentification restrictions apply because the Hansen J test statistic value is greater than 0.05 for all models. Roodman (2009) stated that the Sys-GMM estimator cannot preserve asymptotic properties when the Hansen J statistic converges to 1. Therefore, each of the eight predicted models can meet all the requirements of the main diagnostic tests of the Sys-GMM.

In all models, under theoretical expectations, the lagged value of the dependent variable affects the dependent variable statistically significantly and positively at the 1% significance level. In addition, the annual economic growth rate, represented by GDP, has a positive and statistically significant effect on tax revenues. In other words, increasing economic growth rates improves total tax revenue. In all models, a positive and statistically significant relationship was found between the combined polity score (POLITY V) represented by Dem and total tax revenues. This structure indicates that transitioning to a democratic political regime or strengthening the existing democratic regime can increase total tax revenues. This finding is compatible with a significant part of the empirical literature (Acemoglu et al., 2015; Ashraf & Sarwar, 2016; Balamatsias, 2018; Cheibub, 1998; Ehrhart, 2012; Rashid et al., 2021, Zarra-Nezhad et al., 2016).

Historically, the first examples of transition to democracy were practiced in cities, so we can assume that urbanization and democracy have some common points. The connection between urbanization, democracy, and taxes has also been examined in empirical literature (Andersson, 2018; Özhan & Keyifli, 2020). In this context, one of the most important issues that should be emphasized is the significant positive correlation between the urbanization of a country's population and the observation of transactions subject to taxable events. The fact that it is difficult to follow the economic activities of the rural population creates a structure that is more open to unregistered activities. Moreover, modern tax systems are shaped according to the consumption and life patterns of the urban population. In this dimension, the share of the urban population

Table 5: Empirical Results

Dep. var. TTAX	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
L.TTAX	0.936*** (0.363)	0.969*** (0.009)	0.866*** (0.654)	0.879*** (0.616)	0.938*** (0.355)	0.947*** (0.015)	0.823*** (0.071)	0.822*** (0.076)
GDP		0.148*** (0.0397)				0.147*** (0.039)	0.142*** (0.0396)	0.139*** (0.395)
Dem			0.235** (0.109)			0.056** (0.025)	0.107** (0.045)	0.103** (0.048)
Urb				0.032** (0.157)			0.257* (0.147)	0.026* (0.189)
IQ					0.036 (0.200)			0.022 (0.098)
N. Obs.	738	738	738	738	738	738	738	738
N. Countries	41	41	41	41	41	41	41	41
N. IV	13	14	14	14	14	15	16	16
AR (2)	0.350	0.332	0.260	0.354	0.349	0.322	0.306	0.306
Hansen j.	0.190	0.478	0.177	0.164	0.190	0.508	0.326	0.421

Note: *, **, and *** signs represent statistical significance at the 10%, 5%, and 1% level, respectively, and values in parentheses represent standard errors.

in the total population is included instead of the total population, both as a control variable of tax revenues and to observe its effect on democracy. In accordance with theoretical expectations, a positive and statistically significant relationship between the share of the urban population represented by Urb in the total population and total tax revenues. Moreover, while the coefficient of the Dem variable estimated in model 6 is 0.056, in model 7, which is re-estimated by including the Urb variable, the coefficient of the Dem variable increases to 0.107. In other words, increasing the urban population's share of the total population can strengthen the effect of democratic regimes on tax revenue. Finally, we found that the IQ was positive however it was statistically insignificant.

We created a distribution chart to assess the consistency of empirical results with real data. This involved taking the 19-year average value of total tax revenues (% of GDP) and the democracy index in the 2000-2018 period. The data depicted in Figure 3 illustrates that the majority of the 41 emerging and developing economies are governed by democratic regimes. Nonetheless, there are still a notable number of examples of autocratic and hybrid regimes.

Based on the 19-year average values, it is possible that, in line with Ross (2004), more democracy does not generate more tax revenue throughout the sample. In this context, it is possible to examine the examples of Poland-Belarus, Uruguya-Jordan, Georgia-Morocco. While the share of average tax revenue (% of GDP) for Poland, which is one of the examples of highly democratic regimes within the scope of the sample, is 16.60%, the share of tax revenues (% of GDP) for Belarus, which has an autocratic regime is 16.80%. Similarly, the average tax revenue (% of GDP) for Uruguay and Jordan is around 17.7%, but while Uruguay offers a strong example of democracy, Jordan has a weak autocratic regime. A similar relationship is observed for Georgia and Morocco. However, empirical findings and descriptive studies strongly support the view that democracy increases tax revenues. However, democracies do not always generate high tax revenues, and a high tax burden does not always positively affect democracy. Moreover, considering that tax revenues (% of GDP) in emerging and developing countries is at the level of 15% in terms of the sample average, total tax revenues (% of GDP) that exceed 25% in terms of developed economies with institutionalized democratic regimes and reach 40% in Northern European social welfare states. We assume

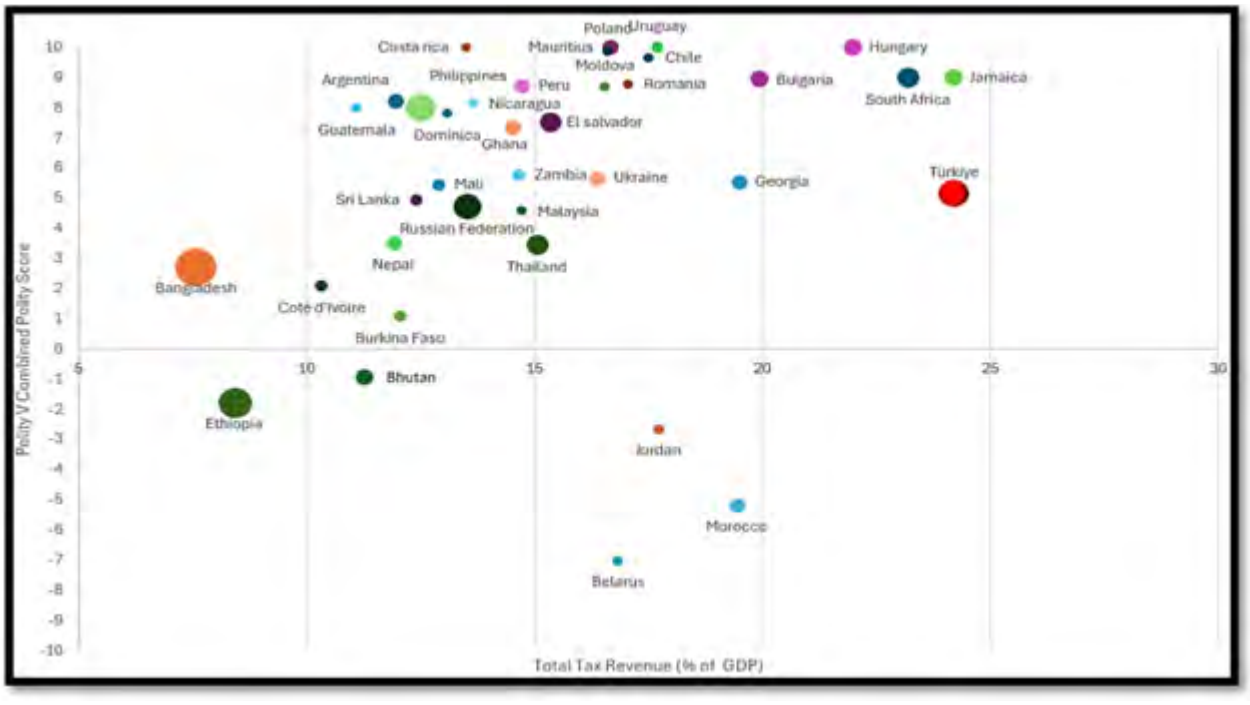

Figure 3: Total Tax Revenue and Democracy Relationship: Average Values for 2000-2018

that democratization and increasing institutional quality will be important determinants in increasing social welfare. In this context, Türkiye draws attention in Figure 3 as the developing country closest to this process. Türkiye, whose democratic regime score has decreased in recent years, is in a strong position in terms of total tax revenues compared to the sample of developing countries, with a 19-year average tax revenue (% of GDP) 24%.

CONCLUSION

Democracy, one of the oldest known forms of government, was first experienced in Ancient Greece at Athens, where the state was organized as a city-state (*Polis*). After the fall of Athenian democracy, democracy began to resurface during the Roman Empire. However, after these eras, until the 19th century, democratic forms of government lost their importance compared to other forms. Starting from the 16th century, social developments such as the Renaissance, Reformation, Age of Enlightenment, Industrial Revolution, and French Revolution created radical transformations in economic, social, and political institutions. These changes came to the fore when philosophers from the social contractarian tradition, such as Locke, Rousseau, Hobbes, and Montesquieu, re-discussed the phenomenon of democracy. Later, democracies became the most popular regime of nation-states.

However, in the context of Athenian democracy, "*demos*" define a numerically small minority of the people, which contradicts today's ideals of democracy. Today, in countries whose population is measured in millions or even billions, the direct participation of the people in government and the impossibility of making social decisions unanimously have led to democracies turning into a "*representative*" character. Moreover, Huntington's argument of third wave of democratization, which has continued since 1974, includes transforming authoritarian governments into democracies or hybrid governments between authoritarianism and democracy, especially in many developing countries.

No matter the regime, the state, as the dominant power, must fulfill social demands and expectations. This requires fiscal resources, which have historically been sourced from various forms of taxation since the inception of human society. The development of modern taxation was made possible by the strengthening of democratic regimes. Historically, the connection between representation and taxation began to be discussed only after this change. At the last point, the view that there is no taxation without representation has evolved into a constitutional principle. However, in this context, the question of whether democratization strengthens taxation or taxation shapes democracy still awaits an answer. Researchers examining the democracy-taxation link in terms of developed economies strongly argue that these variables have a positive relationship. However, research conducted in underdeveloped, emerging, and developing countries offers many different findings. Therefore, there is no consensus on the democracy-taxation connection in societies that have not completed the transformation of their economic and social institutions.

In this study, the taxation-democracy connection for 41 emerging and developing economies was investigated with the Sys-GMM method, one of the dynamic panel data analysis techniques, for the period 2000-2018. Our findings indicate that democratic regimes can create positive effects on tax revenues. In other words, it is possible for the government regime in a country to increase its level of tax collection as a result of increasing its level of democratization. This issue, which is discussed within the framework of the fiscal sociology approach, is explained by the view that under the democratic regime, citizens' trust in state institutions increases, and through this, their voluntary compliance with taxes increases. To put it more simply, the democratization of the form of government will strengthen the legitimacy of the state in the eyes of citizens. Citizens who act from the idea that a legitimate state will produce policies that are in line with the interests of the whole society, not a part of it, will fulfill their tax duties. However, it is not easy to defend the view that democratic regimes within the scope of modernization theory will increase economic freedoms and stabilize democracies by leading to economic growth, for example of emerging and developing countries, because many of these countries may be exposed to frequent crises due to their macroeconomic fragility. In addition to the empirical findings we obtained, it is also possible to make some inferences based on the descriptive data. The data presented in Figure 3 shows that some of the countries with very similar tax revenues (% of GDP) have autocratic regimes, while others have democratic regimes. In other words, democratization increases tax revenues, but, although

exceptional, some autocratic regimes can collect high taxes under different conditions.

In this context, one of the main issues that policy makers should pay attention to is to increase the share of direct taxes in terms of tax revenue composition to strengthen and stabilize democratic regimes. This phase will be an important step towards combating income inequality through tax revenues and ensuring tax justice, just like in developed economies. In the second phase, institutional transformations such as the rule of law, protection of fundamental rights and freedoms, and constitutional guarantee of minority rights must be implemented. This initiative will increase the legitimacy of the state and its institutions and will also contribute to the consolidation of democracy in the long term. As is common with empirical studies, this research also has some limitations, with the primary concern being the reliance on total tax revenues as the dependent variable. This approach restricts the exploration of the correlation between tax revenues and democratization based on tax types. Future research should delve into the democracy-taxation connection by incorporating different tax categories to overcome this limitation. Furthermore, employing Fourier-based techniques to accommodate structural breaks in the analysis may offer valuable insights and enhance the existing literature.

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