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DEMOCRACY AND ECONOMIC GROWTH:
THE CASE OF MOLDOVA

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Abstract. This article addresses the issue of the cause-and-effect relationship between democracy and economic growth in Moldova from 1990 to 2020. This problem is one of the key topics of modern economic political science, but the results concerning the influence of the political system on economy are still ambiguous. No research has been conducted to date on this issue for Moldova. The econometric analysis was conducted using tree composite indexes of democracy, published by Freedom house, Polity V and V-Dem Varieties of Democracy. The causal impact between democracy indexes and per capita GDP growth is tested using Granger causality analysis. The results show that the choice of the democracy indicator and the time interval influences the modeling outcome. All three democracy indices depict different democratic trends at the country level. Although there is a positive causal link between the Polity index and GDP per capita in a short period, other results show no evidence that democratic reforms did contribute to economic growth in Moldova and vice versa. We conclude that democratization in conditions of weak law and political instability contributed to the emergency of a so-called hybrid democracy in Moldova.

Keywords: democracy, economic growth, Republic of Moldova, hybrid democracy, Granger causality analysis.

Rezumat. În acest articol se examinează relaţia cauză-efect dintre democraţie şi creştere economică în Republica Moldova din 1990 până în 2020. Această problemă de cercetare este unul dintre subiectele cheie ale ştiinţei politice economice moderne. Însă rezultatele privind influenţa sistemului politic asupra economiei sunt încă ambigue. Până în prezent, nu a fost efectuat nici un studiu pe această temă pentru Moldova. Analiza econometrică a fost realizată utilizând trei indici compoziţi ai democraţiei publicaţi de *Freedom House, Polity V* şi *V-Dem Varieties of Democracy*. Efectul cauzal dintre indicii democraţiei şi creşterea PIB-ului pe cap de locuitor este testat folosind tehnica cauzalităţii Granger. Studiul arată că alegerea indicatorului şi a intervalului de timp influenţează asupra rezultatului analizei. Toţi cei trei indici ai democraţiei descriu tendinţe politice diferite la nivel de ţară. Deşi există o legătură cauzală pozitivă între *Polity* şi PIB-ul pe cap de locuitor pe o perioadă scurtă de timp, celelalte rezultate nu atestă că reformele democratice au contribuit la creşterea economică în Moldova

şi viceversa. Concluzionăm că democratizarea în condiţii de lipsă a statului de drept şi instabilitate politică au dus la instalarea unei democraţii hibride în Moldova.

Cuvinte-cheie: *democraţie, creştere economică, Republica Moldova, democraţie hibridă, analiza cauzalităţii Granger.*

1. Introduction

In January 2020, a research team from Cambridge's new Centre for the Future of Democracy released a report on Global Satisfaction with Democracy in the world. According to the study, there is a dramatic decline in satisfaction with democracy in almost all regions of the world. From Europe to Africa, as well as in Asia, Australia, the Americas, and the Middle East the proportion of people who claim to be "dissatisfied" with democracy has grown from 47.9% to 57.5% since the mid-1990s. Among citizens of developed countries, this indicator is even higher. Over the past quarter century, dissatisfaction with democratic institutions in these countries has escalated from a third to half [1]. According to authors this phenomenon is due to high economic insecurity, corruption scandals unemployment and wealth inequality: "if confidence in democracy has been slipping, it is because democratic institutions have been seen failing to address some of the major crises of our era, from economic crashes to the threat of global warming. To restore democratic legitimacy, that must change" [1].

Based on another recent research from the Institute for Varieties of Democracy, in 2021 the level of democracy in the world has declined to where it was in 1989. Nowadays dictatorships are rising and control 70% of the world's population or nearly 5.4 billion people [2].

Autocratization in a number of countries raise doubt about the effectiveness of liberal political ideology. Thus, the relationship between economic development and the democracy is not only theoretical but also of great practical importance.

Despite a large body of theoretical and empirical literature examining the issue, no scientific consensus has been reached. In addition, it has not been achieved in studies concerning transition countries [2–7]. Researchers who use different approaches and methods in assessing this phenomenon sometimes come to opposite conclusions.

The purpose of this article is to investigate the cause-and-effect relationship between democracy and economic growth in the Republic of Moldova from 1990 to 2020. Moldovan case study is of interest due to its vulnerability to economic effects of armed conflict in Ukraine, the characteristics of its ruling elite and its current harsh social conditions. Any political upheaval in Moldova may have major geopolitical implications and further destabilize the region. Therefore, a better understanding of political conditions necessary for the country's economic development can provide insight on its future.

This research is organized in the following manner. Section 2 provides a synthesis of the literature related to the relationship between democracy and economic growth, both in general and in relation to the former Socialist countries. Section 3 introduces the data sources used in this paper. Section 4 presents the Granger causality model and tests results. Section 5 contain the discussion of key findings. The final section summarizes the overall conclusion of the study.

2. Literature Review

The large and growing body of scholarly literature that examines the link between economic development and democracy can be categorized into two approaches. In the first one the conditions that give rise and sustain democracy are analyzed [4, 8–11]. The second

is aimed at determining how democracy contribute to welfare [12–17]. Based on research objectives, the following literature review provide a critical appraisal of the second stream, on how political freedom influences the speed of economic growth. It should be noted that both theoretically and empirically, the contemporary discussions in this area can be similarly divided into two groups. Some researchers conclude that democracy promotes economic growth, others that it does not.

2.1. "Democracy promotes economic growth" position

The first analytical approach has a strong ideological basis of liberal democracy and market economy. According to proponents of this approach, freedom of initiative and entrepreneurship can only flourish based on values favorable to individualism. Individualism, in turn, implies the ability to express one's opinion freely through universal suffrage. Thus, liberal democracy promotes the emergence of political institutions that sustain the rule of law, guarantee the enforcement of contracts and the protection of property rights [18–21]. Moreover, this conducive environment in the long term encourage increased investments, efficient resource allocation, fairness of distribution and profit maximization.

According to another series of studies, pluralistic democracy allows citizens to regularly and honestly change and exercise control over political leaders through accountability [22]. Thanks to the built-in culture of dialogue and negotiations, a democratic society better manages conflicts and promotes their resolution through cooperation. In the long run it prevent them from developing into open political crises that generate economic instability [23,24]. Also, democratic governments adopt a less aggressive, more peaceful foreign policy than countries ruled by dictators [23].

Under authoritarian regimes, the indicator of the effectiveness of public administration depends on the personality of a particular dictator and his tenure in office, which in the long run negatively affects the economic growth rate [25,26]. Firstly, the dictator is much more likely to experience a constant lack of information which leads to inevitable mistakes in decision-making. In the absence of a free and independent press, civil society and opposition, there are no means of find out whether citizens are dissatisfied with public policies. In an effort to maintain their position and wealth, the dictator's associates deliberately disseminate misleading or incomplete information to convince the dictator of the effectiveness of his rule, which, of course, is ineffective in improving the quality of public administration [27].

Various writings highlight the contribution of democracy to equitable economic and social development. By improving the population's social conditions and increasing secondary education funding, democratic regimes foster human development and stimulate innovation in production and management. For example, D. Rodrik's (1999) study shows that the democratization process increases the average wage and the share of wages in GDP, while a return to authoritarianism has the opposite effect [16]. According to D. Acemoglu and his co-authors (2015), democratic regimes provide more social benefits than autocratic ones. In particular, this concerns education and healthcare [28,29]. A. Sen, on the other hand, believes that the most important advantage of democratic regimes is their ability to avoid disasters and save lives and protect people in humanitarian crises. The presence of the opposition, an active civil society, elections and a free are built-in natural regulators of the system that can counteract a tyrannical government [17,30] . In democratic regimes, the risk of famine is thereby reduced.

The third argument relates to the "constructive role" of democracy for development.

By facilitating the dissemination of information and the organization of public debate, democracy ensures the acquisition and spread of knowledge which is important, for instance, in terms of public health (benefits of breastfeeding, HIV prevention). When comparing countries with an equal level of development, it can be noted that in democratic regimes, people live longer, infant mortality is lower, and women give birth to fewer children. Przeworski and al. (2000) conclude that, despite the fastest growth rates often observed under dictatorial regimes, democracies demonstrate greater stability in growth rates. In other words, no democracy has ever worked as badly as the worst of dictatorships. If democracy does not guarantee the best, it protects against the worst [32].

A prominent example of visible effects of authoritarian dissemination is the recent sharp reduction in freedoms and quality of life, especially of women in Afghanistan. Following US troop withdrawal from Afghanistan in August 2021, the Taliban regime expanded rapidly across the country. After this ultraconservative and religious faction seized power, 40% of the Afghan media closed down, and 60% of journalists were dismissed [2]. Repression against civil society intensified. Any criticism of the Taliban movement or any expression of alternative socio-political and religious views is categorically prohibited. However, women have suffered the most in the current situation. In six months, the Taliban regime has abolished almost all the rights that Afghan women fought for so hard over the past 20 years.

Several research papers find positive effects of democratic regimes on population's welfare, reduction of poverty and reduction of inequality. An empirical study performed by D. Acemoglu and his co-authors (2019) proves that over the past 25 years, democratization has increased GDP per capita by 20% [13]. According to K. Knutsen (2020), democratic regimes provide stable and predictable growth, as evidenced by the fact that only 7% of democracies experienced negative growth between 1900 and 2009 compared to almost 30% of autocracies [33]. These democratic gains are primarily driven by vertical accountability mechanisms created by fair elections and freedom of expression [32]. Papaioannou and Van Zanden (2015) argue that each year of authoritarian rule reduces economic growth by 0.088% in the short term and by 1.77% after 20 years of dictatorship. Gründler and Krieger (2016) used machine learning algorithms for an extensive data set for 185 countries from 1981 to 2011 and found democratization's significant and positive impact on income growth [34].

Research in a historical-comparative vein also indicates some positive correlation between democracy and development. Namely, the coincidence of the phases of development with the establishment of a pluralistic democracy in Western and Northern Europe, North America, Australia, and New Zealand makes it impossible not to recognize a real convergence between their respective logics of functioning [35]. Besides, nowadays most of the wealthiest countries in the world are democratic.

2.2. The position "democracy does not promote economic growth"

Supporters of this position appeal to historical examples, real politics and effectiveness of public administration. They assume being independent from value orientations and try to move away from prejudices of the liberal democratic discourse.

Early in the 70s, the American sociologist and political scientist S. Huntington analyzes the positive experience of socialist states' development and comes to the conclusion that not democracy but order and stability are the primary goals for development [36]. The sustained and rapid economic growth of China, Japan, South Korea, Vietnam, Singapore, and a number of other states of East and Southeast Asia provide additional importance to Huntington's

argument. In the context of a rigid state regulation and a bureaucratic authoritarian regime these countries made decisive breakthrough in development and moved into the ranks of newly industrialized countries. As Huang and Ho (2017) point out, the authoritarian regimes success in this region is primarily the result of the efficiency of their political governance, rather than their political system. Further empirical evidence for Middle East and North Africa's countries suggest that democratization negatively impacts economic growth [38]. State's capacity to guarantee the rule of law, private property and economic freedom show to be the most critical factors for long-term development [4,39–43].

According to A. Hirschmann (1986), in the long run, authoritarian regimes may demonstrate greater efficiency compared to democracy [44]. Next election limits the planning horizon of a democratic leader. Trying to secure the maximum chance of re-election, he tends to base his economic and social policies on predictable short-term commitments, while authoritarian leaders are not exposed to the uncertainty of electoral outcomes. In other words, a democratic decision-making system, unlike an authoritarian one, is more subject to pressure from certain interest groups interested not in maximizing social welfare but in increasing their rent. M. Olson (1993) points out that autocrats have encompassing interest in the territories they rule. This leads them to provide a peaceful order and other public goods that maximize his profits in the long run and create conditions for the prosperity of his subjects, thereby favoring the country's economic development [24].

J. Bhgwati (2002) notes that democratic institutions easily succumb to populist demands and are forced to redistribute the state budget among low-income groups. Whereas authoritarian regimes are better at suppressing social, ethnic, and class conflicts, opposing private interests, and taking coercive measures to sustain growth [15]. According to A. Przeworsky and his co-authors (2000; 2019) democratic governments have stronger preferences for current public consumption at the detriment of long-term investments [12,23]. Accelerating economic growth calls for an increase in investment, which in consequence may need a reduction in public social spending. Although beneficial in the long run, such a policy cannot be implemented in a democratic environment since it will not receive the necessary social support [45]. This leads to the impression that only under a dictatorship, governments can pursue successful growth acceleration episodes [46].

Some other research studies indicate that democracy does not improve social welfare since such political regimes do not reinforce discipline and social order. E. L. Glaeser and his co-authors (2004) conclude that low-income countries get out of poverty thanks to human capital development and good policies, often pursued by dictators [46].

According to Persson and Tabellini (2006), democratization and economic liberalization separately lead to an acceleration of growth [47]. However, countries that liberalize their economy before democratic transition, perform better than those carrying out the opposite sequence. This phenomenon is explained by the fact that young and fragile democracies in closed economic conditions are more likely to deepen into redistributive conflicts and populist politics. In contrast, emerging democracies with open economies are forced to pay more attention to economic efficiency.

A. Alesina and his colleagues (1996) examined the development patterns of 113 countries from 1950 to 1982 and found that democracy is a secondary variable that does not significantly affect the economic growth. Growth rates remained significantly lower in democratic government systems during periods with frequent government changes than in countries with authoritarian regimes but with stable governments [48]. In addition, when

taking into account other economic and regional factors affecting the growth rate and political stability, it can be noted that democratic countries are not more successful in terms of growth indicators than non-democratic ones [45,48].

According to an empirical study performed by Barro (1996), the relationship between economic growth and democracy is best explained by a curvilinear function (in the form of an inverted U-shaped curve). In other words, democratization promotes growth when political freedom is low but slows growth when there is already a high level of freedom in society. The author suggests that this non-linear relationship can be partly explained by the mechanisms of distribution and redistribution of economic resources. For example, under the worst dictatorships, political empowerment can boost economic growth through equal access to productive resources. However, states that have already reached moderate levels of democracy, further political empowerment could slow economic growth due to a rise in income inequality.

2.3. Le link between democracy and economic growth in transition countries

The fall of the Soviet Union marked the beginning of a process of profound socio-economic transformations for a number of countries. In a rapidly changing environment, democratization has been identified as the primary task for the formation and gradual development of a number of States. This trend described as a third wave of democratization (Huntington 1993) propelled human rights and civil liberties concerns into the global conscience and were seen as an extraordinary and remarkable achievement (see The End of History by F. Fukuyama, 1989).

Despite the initial rumored interest in this large scale political transformation, the literature on the impact of democracy on transitional economies is rather scarce. According to several authors, different development rates in post-socialist countries are closely related to each country's structural and historical heritage [4,7]. Pre-existing socio-economic institutions influenced the model of interaction between State and market and predicted how successful economic liberalization was going to be. Privatization led to long periods of rent-seeking and corruption in systems that previously lacked a social structure that encouraged entrepreneurship, private property rights, or a diversified industrial structure of the economy. Studying the correlation between political institutions and economic development in Russia, V. Mau and his co-authors found a significant and positive relationship between basic individual rights, freedoms and economic growth rates [39]. V. Polterovich and V. Popov (2005) prove that democratization in countries with poor rule of law undermines growth and entails high economic and social costs. In this type of countries, democratization "*leads to the emergence of so-called illiberal democracies* [known as] *a governing system in which shadow economy is expanding, institutional capacity of the state is weakening, and quality of macroeconomic policy is deteriorating*". The transition from autocratic government toward democracy in the absence of rule of law result in an overall decline in economic growth.

S.N. Cheung also warns against introducing democracy before establishing a transparent system of private property, arguing that this can lead to over-regulation, misallocation of resources and rent-seeking [49]. According to the author, in the transition from a hierarchical communist system of distribution to a democratic system of private property, there is a risk that the system will be mired in corruption, especially if voting is introduced prematurely.

According to Kopstein and Reilly (2000), the structural heritage is no less critical than the historical one. Some countries advantageous geographical proximity to the former

Western border of the communist world gave them a comparative advantage in the development and advancement of democratic norms and institutions. This socio-economic proximity made it possible to overcome the negative consequences of counterproductive state policy. Fidrmuc (2003; 2021; 2000) demonstrates that the link between democracy and economic growth is not so unambiguous and depends (in addition to structural and historical parameters) of the selected time interval. In the author's point of view, the relationship between democratization and growth can be depicted as a U-shaped curve (which contradicts the Barro's (1996) conclusions who notes that the relationship follows an inverted U-shaped curve).

According to Fidrmuc the post-communist transition process superposed with two other phenomena. Firstly, the reform of authoritarian regimes was implemented simultaneously with large-scale economic liberalization measures. The former communist countries abandoned centralized planning and policymaking and introduced market economy (in some cases gradually and cautiously, in other cases quickly and on a large scale). Secondly, instead of rapid transformation and modernization, most transition economies plunged into deep and protracted recessions [6]. By 2000, only four transition economies had exceeded the 1989 production level. Nevertheless, over a long period, democracy impacted positively on growth – it promoted economic liberalization which consequently lead to higher growth rates [2]. Piątek, Szarzec, and Pilc (2013) studied the consequences of democracy on economic development in 25 post-socialist countries using 20 economic and political freedom indicators and Granger's causal relationship criteria. The authors conclude that although economic freedom positively affects economic performance in transition economies, political freedom is neutral for economic growth. Apolte (2011), using data on democracy, liberalization, and income for a sample of 25 transition economies for the period 1991-2011 found that only a moderate level of democratization has a significant positive effect on economic growth, while the acceleration of democratization leads to a decrease in growth rates. The author explains this ambiguous result by the institutional features of different countries in which formal democratic structures are embedded or on which they are superimposed.

Concluding this part, it is essential to note that despite many theoretical and empirical studies aimed at exploring the link between democracy and economic growth, scientific consensus has not been reached. It has also not been achieved on the issue of the possible impact of political systems on the speed and consistency of market reforms and development in post-socialist countries. Scholars using different approaches and methods come to opposite conclusions.

3. Data: Gastil, Polity V and V-Dem democracy indices

Moldova's political and economic transformation towards democracy and a market economy started after its independence in 1992. According to Gastil's indices there has been a positive trend in the scope of political and civil freedom until 2000. Political rights (i.e., organization of free and fair elections, freedom of assembly, demonstrations, freedom to form and operate associations) increased during this period, thereby raising the country's rating from "partially free" to "free."

In the sphere of civil liberties (i.e. freedom of speech and religion, working conditions, and individual rights), a positive evolution was also noted during the first ten years of independence, but less abrupt and more gradual (Figure 1).
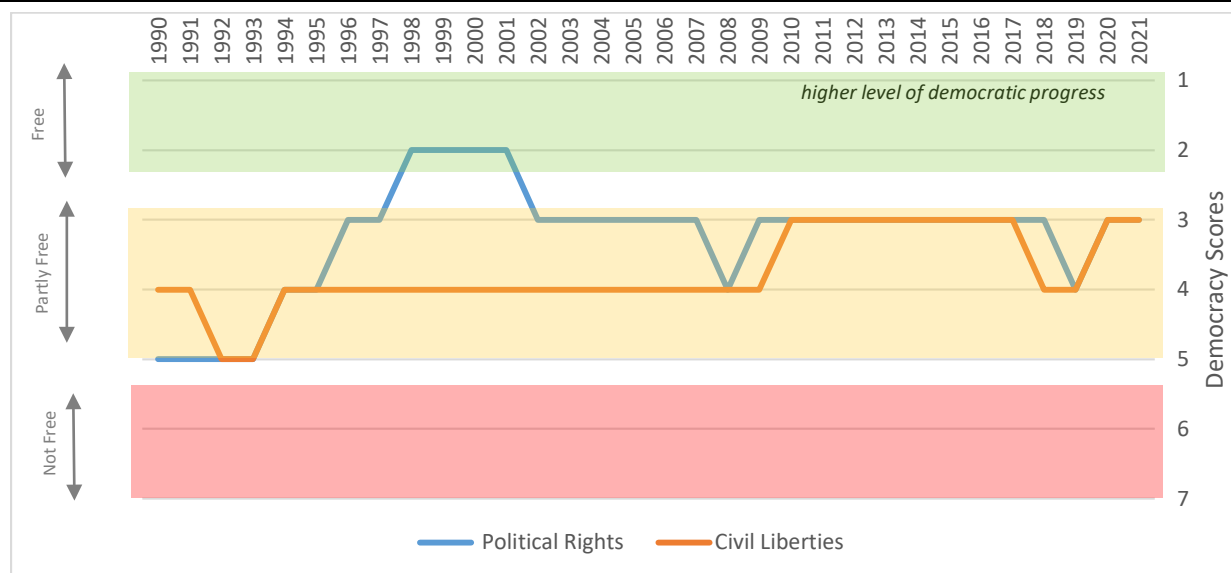
Figure 1. Political and civil freedom scores in Moldova according to Freedom House, 1990-2021.

Note: The "political rights" and "civil liberties" scores in 1990 correspond USSR democracy index scores.

Since 2000, the level of political rights in Moldova has decreased and fluctuated between 4 and 3.

As noted in the reports of the OSCE's Office for Democratic Institutions and Human Rights (ODIHR) the electoral processes that are taking place in Moldova are "partially free, but incorrect" since "they do not meet some criteria that are central to a truly competitive electoral process," such as: unbalanced coverage by the media [52], abuse of administrative resources in elections [53]; insufficiently clear rules for financing of campaigns [54].

According to the general rating of Freedom House, due to incomplete and unsatisfactory democratic transition, Moldova's political regime is a mixed or "hybrid" democracy characterized by a weak pluralism syndrome.

This means that the country has the external attributes of a democracy (relatively free and fair elections, multiparty system, legal opposition). However, at the same time, there are also some manifestations of authoritarianism (low civic and political participation, widespread distrust in political institutions and low degree of citizen-centered political representation).

The Polity index reveals a positive long-term trend of Moldova's political transition from authoritarianism to democracy (Figure 2). During the analyzed period 1989-2018, the democratic index of Moldova increased from the initial value of -4, which corresponds to the almost absence of political freedom, to the 9th level of the value of democracy (i.e., almost the maximum indicator). It should be recalled that this index shows the general level of openness of political institutions and is mainly reduced to the study of 3 characteristics of the political regime:

1) free recruitment of representatives of the executive power;
2) restriction on executive power;
3) the presence of political competition.

The Polity index uses variables reflecting the features of formal institutions in order to ensure consistency, verifiability, and unambiguity of comparison between different countries.
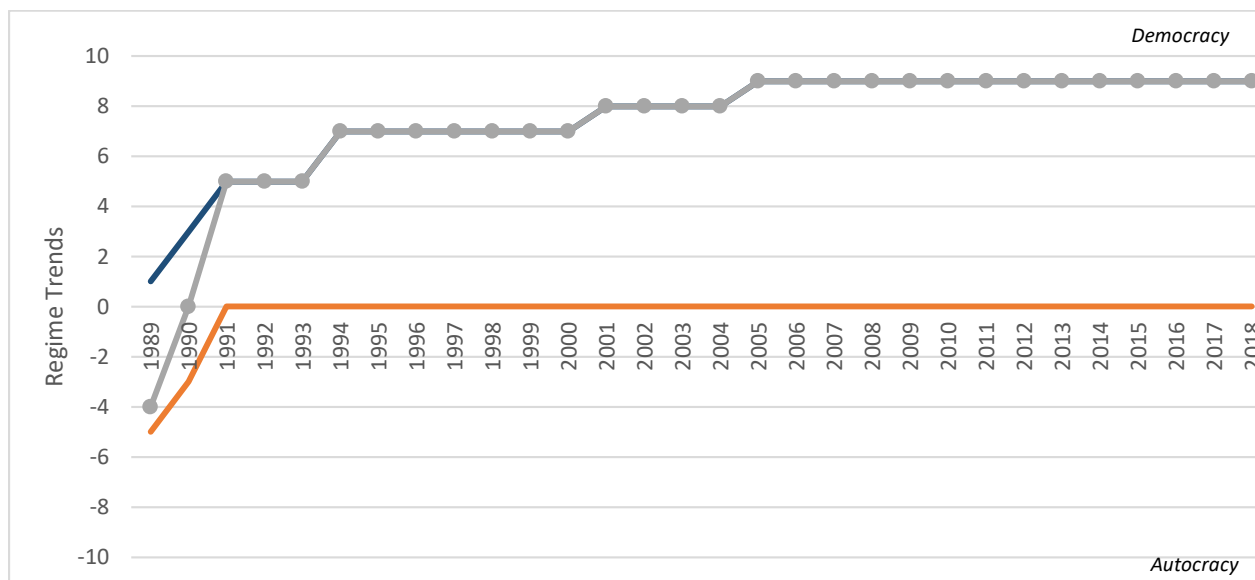
Figure 2. Polity V scores for Moldova, 1989-2018 [55].

According to the research project "Varieties of Democracy" (abbreviated V-Dem), the evolution of democracy in Moldova from 1990 up to 2021 fits the form of an increasing wave-like curve with alternating phases of ups and downs (Figure 3).
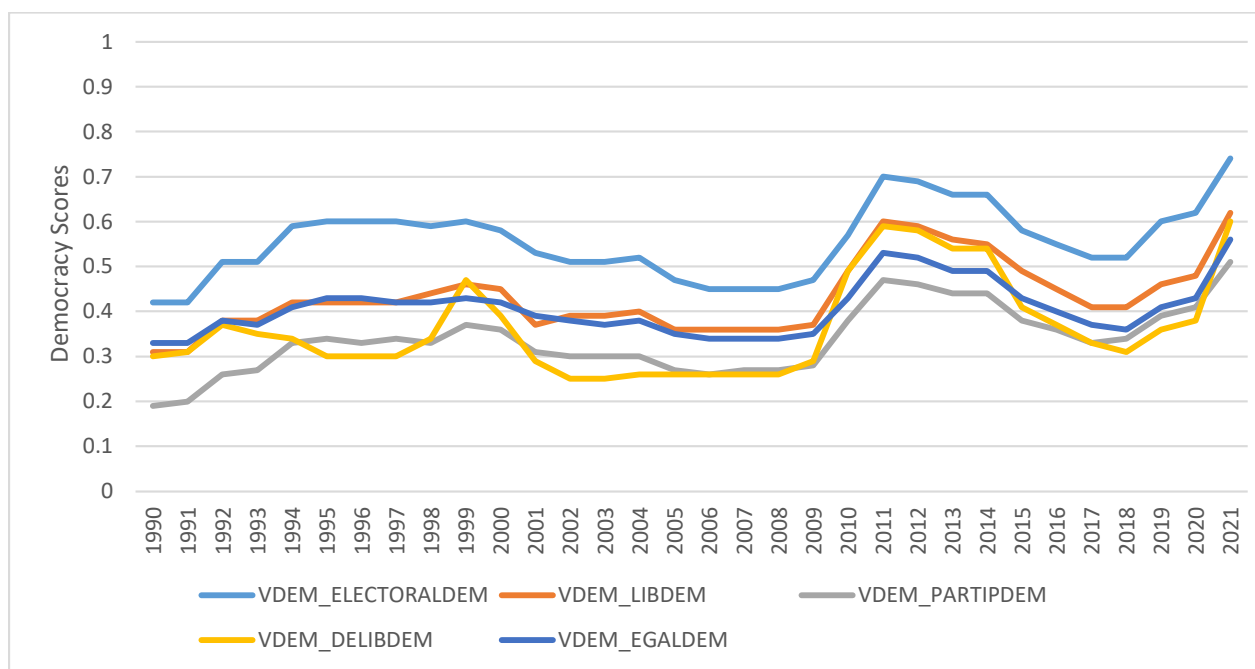

Figure 3. Democracy indices for Moldova according to V-Dem Varieties of Democracy, 1990-2021.

It should be noted the relationship (positive correlation) between the indices of electoral, liberal, participatory, advisory and egalitarian democracy.

Next, using an econometric model, we will study the relationship between the three democracy indices and the level of GDP per capita in Moldova (Figure 4).

Over 30 years of democratic transformations, the results of social and economic achievements in Moldova are unsatisfactory. The country still lacks most of the qualities that are critical for democratic development. First, the country is extremely poor. According to the World Bank's most recent estimate, by the end of 2020, Moldova's GDP per capita based on

purchasing power parity (PPP) is the lowest in Europe – $ 4,547. For comparison, it is 87% of the same indicator in Albania, 40% in Romania, 45% in Russia, and 7% of that found in the United States.
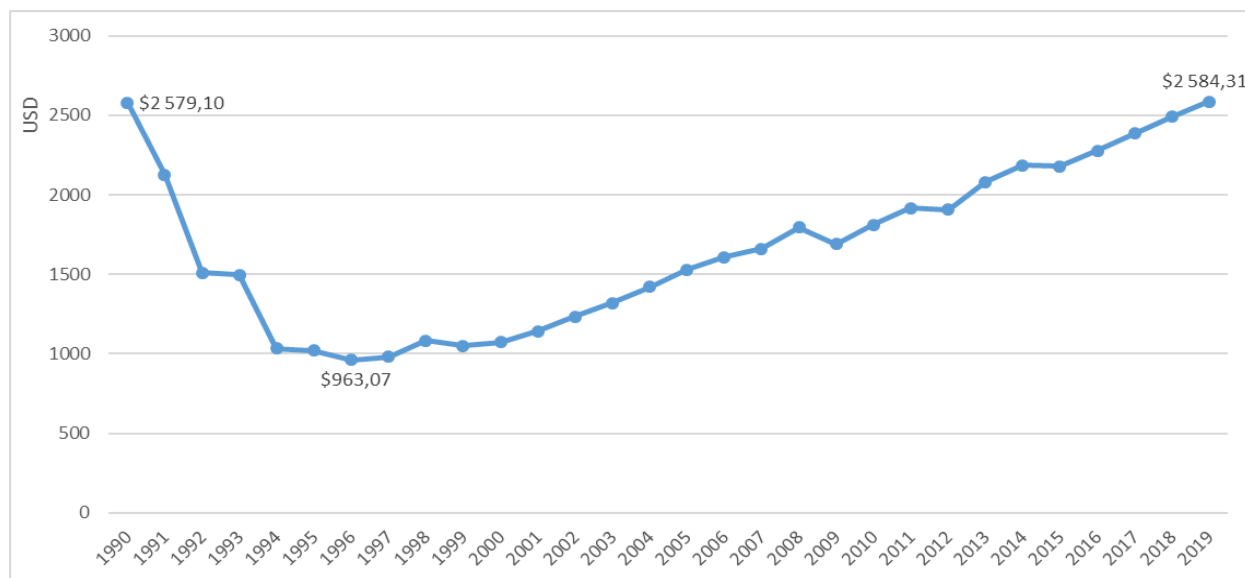

Figure 4. GDP per capita in Moldova, 1990-2019, in US dollars
at constant prices in 2015 [56,57].

4. The Model

Most of the scientific works related to the impact of political regimes on a country's economic development are based on the tradition of comparative research established by Lipset (1959). Indices and ratings characterizing the political regimes of states are used as indicators of political institutions. GDP per capita [10, 13, 14, 58] or the Human Development Index [59, 60] measure economic development.

Since the early 1990s, regression analysis has been used in most empirical studies to determine the relationship and interdependence of changes in political institutions and the dynamics of economic growth. Nevertheless, various methodological approaches have been proposed in recent years. For example, cross-country regression analysis [10, 14], interval or dichotomous variables based on expert assessments [13], procedural algorithms and machine learning [34], new democracy indices [61] and meta-analysis [62, 63].

With the development of research practices and techniques, theoretical approaches to the problem have also changed. Modern theory distances itself from traditional philosophical disputes about the possible conflict in the relationship between democratic regimes and economic development and focuses on the study of the nature of their relationship. For example, scientists have separated the concept of economic democracy or economic freedom from political democracy. From this perspective, the question is not about whether democracy contributes to economic growth but to what extent political regimes increase economic freedom.

A number of other researchers prefer to study the importance of public administration's quality for ensuring society's development and well-being. According to Kaufmann, Kraay, and Mastruzzi (2011), both approaches of a "strong" or "minimalist" state have proved inconsistent in practice. It is not the political regime but the quality of public administration that is a prerequisite to development. Previously, different dimensions of the rule of law, voting rights, government accountability and effectiveness, political instability,

corruption or regulatory quality were partially or wholly attributed to political democracy. Today, scientists agree that democracy may not be a necessary prerequisite to build an effective State. Different development patterns are registered in different regions of the world. Based on this model, scholars are trying to determine the relationship between political regime and effectiveness of public management, which in turn allows to determine the relationship between political regime and growth [39, 40].

Other scientists chose an alternative approach and prove that a democratic regime substantially impacts economic growth through the accumulation of human capital, income distribution, economic freedom, and political stability [8, 9, 48]. Thus, in the question of the relationship between political democracy and growth, researchers are trying to identify other indirect or additional effects of democracies on growth rather than an unambiguous causal link between the form of government and economic development.

The progress in methodology for analyzing the empirical relationship "political regime – economic development" is accompanied by an increase in the number of institutional indicators. The differences in data collection methods and procedures among indicators influence analysis and results. At the same time, there is no consensus among scientists about which indicator is more accurate and complete in reflecting institutional quality.

The classical mathematical method of least squares is mainly used to determine the degree of correlation between political and economic variables. This approach allows to identify the straightforward nature of the relationship between two or more parameters but is ineffective in describing the causal relationship between the phenomena. In other words, studies based on the least squares method do not allow us to unequivocally assert that the development of democratic institutions has a stimulating effect on economic growth and not vice versa.

The methodological approach we have chosen to assess the relationship between democracy and economic growth in Moldova is based on a Granger causal analysis. This method involves examining whether the information provided by the lagged values of one variable increase forecast accuracy of another variable's present value. In other words, it can be said that the process X_t is Granger causing Y_t if variable X_t could be used to predict future movements in variable Y_t [64]. It should be noted that Granger's technique does not mean causation *per se*. Unlike cause and effect analysis, Granger test indicates that there is a "temporal relation" or "predictive causality" between the past values of one variable and the present value of another.

This mathematical method is used in the works of Corujo and Simões (2012) to study the eventual link between democracy and economic growth in Portugal in the period 1960-2001; Fidrmuc (2003) and Piątek, Szarzec, and Pilc (2013) to measure the impact of democratization on growth rates in post-communist countries; Heo and Tan (2001) to identify the relationship between democracy and development for a sample of thirty-two developing countries from 1950 up till 1982.

Based on this model the following two hypotheses are stated. The first one: democracy is not a cause in the Granger sense of GDP growth in Moldova during 1992-2020. The verification of this hypothesis require following two equations:

$$\Delta y_t = a_0 + \sum_{i=1}^{\infty} \alpha_i \, \Delta y_{t-i} + e_{1t} \tag{1}$$

$$\Delta y_t = a_0 + \sum_{i=1}^{\infty} \alpha_i \, \Delta y_{t-i} + \sum_{j=1}^{\infty} \beta_j \, x_{t-j} + e_{1t} \tag{2}$$

Where Δy stands for the GDP per capita growth in Moldova, *t* denotes time, *x* denotes the level of political freedom, a_0 represents a deterministic part (time trend or absolute coefficient), while e_{1t} is the error term. Equation (1) is employed to test to which extend the economic growth volatility can be explained by the lagged or passed valued of economic growth, while equation (2) is used to verify whether any new information about growth volatility can be extracted from the past values of democracy scores respectively. If the past values of a particular democracy index do not provide any new information to the model, then this variable cannot be considered to Granger cause economic growth. On the other hand, is the past values of a particular democracy index bring new background information about economic growth volatility, then this specific variable can be considered a cause in Granger sense of economic growth. Thus, the null hypotheses tested can be written as follows: $\beta_1=\beta_2=...=\beta_j=0$, which means that democracy variables cannot be considered to Granger cause growth. The second hypothesis of our research work is to verify whether the economic growth do not Granger cause democracy in Moldova during the transition period. Similar procedure is implemented to verify this hypothesis.

$$\Delta x_t = a'_0 + \sum_{i=1}^{\infty} \alpha'_i \Delta x_{t-i} + e_{1t} \qquad (3)$$

$$\Delta x_t = a'_0 + \sum_{i=1}^{\infty} \alpha'_i \Delta x_{t-i} + \sum_{j=1}^{\infty} \beta'_j y_{t-j} + e_{1t} \qquad (4)$$

These are analogous to equations (1) and (2). Respectively, in this case the null hypothesis is: $\beta'_1=\beta'_2=...=\beta'_j=0$ which implies that economic growth cannot be regarded as a Granger cause of democracy.

Before assessing the causal relationship, we have to determine a number of previous measurements (lag order) taken into account to predict future values. Since theoretical guidance is not available and a priori information about the proper lag length is lacking, estimations were reported for three different time lags. This procedure allows us to verify short-term and intermediate-term effects.

For all calculations an augmented Dickey–Fuller test (ADF) unit root test for stationarity was conducted. All variables but "Polity" were transformed into their first difference to become stationary. Polity index proved to be stationary in levels.

Granger causality was performed with the Wald test at the 5% level of significance (p-value). EViews 12 version was used for estimation. The statistical procedure built-in EViews allows us to check the relationship in both directions (i.e., the program checks two hypotheses simultaneously: X cause Y and Y cause X).

Final results of Granger's causal relationship estimations for democracy indices and GDP growth per capita are presented in the table below. If the calculated F-stat value is higher than the critical values of F at the p=0,05 level of significance, there is a reason reject the null hypothesis and to conclude that one variable does Granger cause another.

Table 1

Results of Wald tests for null hypothesis: GDP growth is not a cause of changes in democracy index scores vs. democracy scores is not a cause of GDP growth in Granger sense

	Lag 1			Lag 2			Lag 3		
	Obs.	F-Stat	p-value	Obs.	F-Stat	p-value	Obs.	F-Stat	p-value
Polity index									
Growth ➔ Polity	27	**8.2**	**0.87%**	26	3.2	6.25%	22	1.75	19%
Polity ➔ Growth	27	**13.5**	**0.12 %**	26	1.7	20%	22	0.2	87%

Freedom House index								
Growth→ Political Rights	28	0.21	64%	27	3.07	6.7%	26	2.62	40%
Growth→ Civil Liberties	28	0.39	54%	27	1.24	31%	26	1.91	16%
Political Rights→ Growth	28	0.98	33%	27	0.56	57%	26	1.04	7.9%
Civil Liberties→ Growth	28	0.03	86%	27	1.45	25%	26	1.61	19%
V-DEM index								
Growth→ Electoral Dem	28	0.15	70%	27	1.43	25%	26	1.15	35%
Growth→ Lib Dem	28	0.21	65%	27	0.38	68%	26	0.42	74%
Growth→ Partip Dem	28	0.29	59%	27	0.61	54%	26	0.51	20%
Growth→ Delib Dem	28	0.01	91%	27	0.19	82%	26	0.24	86%
Growth→ Egal Dem	28	0.14	70%	27	0.68	51%	26	1.07	38%
Electoral Dem→ Growth	28	0.13	71%	27	2.26	77%	26	1.04	40%
Lib Dem→ Growth	28	0.01	92%	27	0.39	68%	26	0.69	57%
Partip Dem→ Growth	28	0.00	97%	27	0.41	66%	26	1.15	35%
Delib Dem→ Growth	28	0.00	95%	27	0.48	62%	26	0.79	51%
Egal Dem→ Growth	28	0.02	89%	27	0.15	85%	26	0.88	46%

5. Results and Discussion

Based on our analysis of the democracy-growth relationship, we are unable to provide a definite statement about causal correlation between economic growth and the level of democracy. The results suggest that variations in economic growth per capita may be useful in forecasting Polity democracy index scores in the short period and vice versa. However, in a longer period, any causal relationship disappears (2 and 3 years). Our econometric model did not reveal any other cause-and-effect relationships between the Freedom House and V-Dem Verities indices and economic growth. Therefore, we can affirm that democratization is not the primary or dominant factor of economic growth in Moldova.

It should be noted that Polity data captures minimalist democratic key qualities related to political competition, executive selection and the existing constraints on executive authority. Despite a large number of institutional characteristics taken into account, Polity does not reflect other fundamentally essential parameters, such as equality of opportunity, political participation, human rights or other fundamental freedoms. For Moldova, Polity scores indicate slow but positive dynamics of changes in democracy. From 2005, the state's Polity score is almost at its maximum, 9 out of 10, indicating very high level of democratic institutional characteristics which, certainly, raises a lot of questions. Despite Moldova's competitive electoral political system, the country exhibit systemic deficiencies in guaranteeing the rule of law, political stability and corruption enforcement in the government sector. All these considerably hamper democratic governance, and by extension, hinder the potential of participatory democracy in Moldova.

The Freedom House's index also points to a slowly changing political reality in the country. If Polity scores paint a somewhat optimistic picture of democracy development in Moldova, then, according to according to Gastil's classification criteria, since 2000, Moldovan political system has been in a stable "gray zone", characterized by "government in transition or hybrid regime". Such countries combine democratic features with autocratic ones and can simultaneously hold regular elections and carry out various forms of political repression. Hybrid regimes comprise external attributes of democracy (elections, political pluralism, opposition) but low level of political representation and participation. Political progress in such countries may not occur for decades.

Besides, the population's poverty affects the formation and strengthening of democratic institutions and the legitimization of democracy. According to the World Values Survey results, Moldovans citizens survival values have priority over support for democracy, freedom of choice, or autonomy [67]. In other words, while the physical survival of the population remains uncertain, the orientation toward utilitarian interest is obvious. However, people's priorities for survival increase the risk of manipulation by unscrupulous politicians. Populists and demagogues more easily influence voters with incomes close to the subsistence level. Impoverished people are more likely to trade their sovereign electoral rights and are easily influenced by manipulative techniques. Concentration and opaque media ownership increase the risk of fake news, disinformation and other tactics to undermine democracy. The Freedom House's report on media in Moldova 2020 proves that many mass media in the country are captured and serve as mouthpieces for political interests [68].

The prospects of pluralism in Moldova are also threatened by the Transnistrian conflict, the lack of consensus on national identity, the demographic crisis, the inefficient, highly specialized sectoral structure of the economy, and others [69]. The country continues to be predominantly a rural with 61.82% of the population living in the countryside (2014 census, NBS). Agricultural sector is a central pillar of the national economy and the main source of income. It is engaging about a fourth of moldovan active population [70].

The above-mentioned socio-economic characteristics indicate that democracy in Moldova is less a result of its citizen's strong support of democratic values or liberal and individualistic views but rather a result of social inertia. As Lucan Way rightly noted in his study, democracy in Moldova lasted so long not because of insufficient attempts of Moldovan politicians to weaken it but despite such attempts [71]. During its 30 years of independence, the country was confronted to high political instability and unpredictability which, in itself, was bound to negatively influence its economic development. Undoubtedly, these dynamics also affected confidence in political parties and political elite in general. For example, according to Vox Populi opinion poll conducted in February 2021, only 12% of respondents trust the Parliament, and only 9% trust political parties. Thus, the parties of the Republic of Moldova occupy the last place in the rating of public confidence among public and private institutions.

6. Conclusions

In this study, we investigate the issue of causal direction between democracy and economic growth, based on Moldova's experience. Using a data set of three democracy indexes and economic growth rates over the 1991-2020 period, we apply Granger causality techniques. Our results show that democratic reforms did not precede economic growth in the Republic of Moldova. The causal relationship between the Polity democracy index and GDP per capita in a short period (1 year) is not a sufficient reason to assert the opposite. The constructed model indicates the importance of choosing quantitative indicators when assessing the empirical relationship "institutional factor – economic development". All three democracy indices depict different democratic trends at the country level. The results therefore are sensitive to the choice of variables and time interval.

Democratization in conditions of weak law and order, political instability, and blurred social identity led to the emergence of so-called hybrid democracy in Moldova. In such countries, early democratization is associated with lower institutional capacity and higher corruption and respectively with lower growth rates. For more accurate results, it is necessary

to develop other econometric approaches that allow not only to identify the relationship between the time series but also to measure the impact such factors as economic liberalization, the rule of law, and the level of corruption. We emphasize that this work does not question the intrinsic value of democracy in a pluralist society. However, we assume that democratization under particular conditions is associated with costs and can result in illiberal or hybrid regimes. Indirectly, this research emphasizes the importance of understanding the need for consistent and progressive democratic developments.

Conflicts of Interest. The authors declare no conflict of interest.

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