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## ASSESSING THE IMPACT OF FISCAL FREEDOM AND THE RULE OF LAW UPON OUTPUT GROWTH IN SOME CENTRAL AND EASTERN EUROPEAN COUNTRIES

*The object of the study was selected to be several countries of Central and Eastern Europe (Poland, Romania, the Czech Republic, Hungary) and Ukraine, where one of the problem areas is the dependence of economic growth on fiscal freedom and the rule of law.*

*To study this functional relationship, it is possible to use empirical estimates for quarterly data from 2010 to 2022 using the GMM method. The empirical estimates obtained for individual countries show significant differences in the impact of fiscal freedom and the rule of law on income. This allows to better understand the specifics of fiscal policy and institutional transformation in the selected countries. There are several main results. First, improving the financial situation is favorable for economic growth in Poland, Romania, and Ukraine, but unfavorable in the Czech Republic (there is no effect in Hungary). Second, it was found that lower government spending is beneficial for economic growth only in Romania and Hungary (to a lesser extent). At the same time, for the Czech Republic and Ukraine, an increase in government spending is preferable. Third, the protection of property rights encourages economic growth only in Ukraine. The inverse relationship for Central and Eastern European countries may mean that administrative guarantees in the area of property rights are much stricter than the achieved income level would suggest. Fourth, the efficiency of the judicial system is found to encourage economic growth in 4 out of 5 countries except the Czech Republic.*

*The paper confirms the findings of other studies for Central and Eastern European countries and Ukraine that currency devaluation in nominal and real terms hinders economic growth. Money emission and interest rate increases in the US are favorable for economic growth in all countries. The consequences for economic growth of the increase in global crude oil prices, the COVID-19 pandemic and the period of extremely low interest rates (ZLB) in 2010–2020 differ across countries.*

**Keywords:** *institutes and institutions, institutional support, output growth, Central and Eastern European countries, Ukraine.*

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### 1. Introduction

It is common to acknowledge that the long-term output growth depends not only on capital stock, labor force or endogenous factors (education, social capital, health) but on the economic freedom and institutional developments as well. In particular, freedom of fiscal policy, for example [1–3], and the rule of law are of the greatest impact on output growth [4]. Among transmission channels, equity, the optimal allocation of resources, and the increase in total factor productivity used to be mentioned. As recently, a positive relationship between overall economic freedom and output growth is found for 42 developed and developing countries [5], 155 countries with different level of income [6], European countries [7], four South Asian economies [8], several African countries [9]. For the EU28 countries, it is found that both the greater scope of economic freedom and better governance contribute to higher economic growth either, though the relationship is not stable over time [10]. Economic freedom is favorable for economic growth in the transition economies as well [11, 12].

Though there is convincing empirical evidence that economic freedom is positively related to economic growth, the transmission channels are still insufficiently explained [13]. Despite numerous findings

of a positive relation between economic freedom and output growth, the results are rather conflicting at the disaggregated level of economic freedom [14]. For example, differences in the macroeconomic effects of individual components of economic freedom are found in [6] and [8]. Although a higher level of economic freedom, defined in general terms, is good for economic growth, some of the significant components can have negative effects [15]. As positive and negative changes of the components could offset each other, it means that the composite economic freedom index can be misleading as an indicator for shaping of both economic policies and institutional reforms.

In this paper, let's focus on the fiscal freedom and the rule of law indicators of economic freedom from the Washington-based Heritage Foundation as factors behind economic growth in four Central and Eastern European (CEE) countries (Czechia, Hungary, Poland, Romania), as well as for Ukraine, all countries with a post-socialist heritage. Such a choice allows for comparisons across the largest former transition economies, which are not homogenous per se as there are significant differences in the level of economic development and institutional features between, for example, Czechia and Romania, with important policy implications for Ukraine as a country with strong European Union aspirations. Regardless of socio-economic realities in the wake of the Russian

aggression of 2022–2024, there is a mounting task of necessary institutional improvements in Ukraine aimed at meeting the existing accession criteria. At this point it is of interest to provide with empirical assessment of the likely real sector effects of the implementation of several measures which used to be positioned within the space of economic freedom and the rule of law. Specifically, *the aim of this research* is to investigate the long-term output effects of fiscal health and government spending as components of fiscal freedom, as well as ones of the protection of property rights and judicial quality as components of the rule of law. If the output effects of the abovementioned measure are positive, it argues in favor of acceleration of the institutional measure required; otherwise, it implies a slower pace of the EU accession. Abovementioned CEE countries could be considered a useful reference point, no more than that.

## 2. Materials and Methods

### 2.1. Theoretical issues

The methodology of the Heritage Foundation implies that both fiscal freedom and the rule of law, along with regulatory efficiency and market openness, are essential components of the economic freedom that measures the degree of attaining free market criteria [16]. Fiscal freedom is characterized by fiscal health, government spending and tax burden, while the rule of law refers to property rights and judicial quality. Economic freedom is distinct from political freedom (transparent political process, actual competition for political power, and free and fair elections) and from civil freedom (protection against unreasonable visitations, access to fair trials, freedom of assembly, religion, and speech) [17]. Economic freedom stimulates output growth through efficient institutions that are capable of providing the growth-enhancing kind of incentives, such as low taxation, protection of property rights or better talent allocation. All these growth-enhancing measures brings about the flow of trade and capital investment to areas and sectors where preference satisfaction and returns are the highest. Specific arguments in favor of fiscal freedom and the rule of law are presented below.

As established within the game theory framework [18], there are at least four channels that judiciary affects economic environment. First, the probability of harsh punishment in monetary or non-monetary terms would heavily dissuade opportunistic agents to default ex-post on previous agreements. Although informal mechanisms of contract enforcement might fill the gap, it works only in small and close-knit communities where information can be exchanged. Second, it is the issue of relationship-specific investment. Effective judiciary prevent from an immediate incentive for the firm to renege on the contract and capture the suppliers' rents due to the sunk costs of the investment. On the other hand, higher search costs of finding a new supplier imply that there is an immediate incentive for the supplier to use its monopoly power in order to impose higher prices. Third, improving judicial efficiency reduces credit rationing and expands lending. More entrepreneurs get loans from friends rather than banks when judiciaries are slower. Finally, inefficient judiciary creates incentives for family-owned firms. Based on data from India, it is found that a slow judiciary implies more breaches of contract, discourages firms from undertaking relationship-specific investments, impedes firms' access to formal financial institutions, and favors inefficient dynasties.

Besides incentives to invest and better conditions for entrepreneurship, effective justice institutions help resolve conflicts and violence, thus contributing to economic and human development, enhance trust in public institutions and contain corruption [19]. Effective contract enforcement forms the basis of well-functioning markets—credit, insurance and other financial markets, in particular – by reducing moral hazard. Weak enforcement might hinder firm-to-firm trade, affect firms' incentives to invest, distort production decisions, increase the opportunistic behavior of borrowers and complicate the recovery of loans. In the case of using an unreliable supplier, there are direct losses to productivity as

well as indirect negative effects due switch to a more costly supplier or less efficient technology. In addition, firms become less affected through better access to resources and trade, with provision of security ensuring efficient allocation of resources. Legal aid improves productivity and well-being of citizens, for example via housing-related interventions, dispute resolutions or crime deterrence. Efficient legal institutions have a potential of cultivating a society-wide atmosphere of trust.

Protection of property rights is important for innovations [20]. Due to reduction of transactions costs and entry barriers, a high-quality legal system is associated with more creativity. The same outcome is expected from a higher level of fiscal freedom. Preferential governmental treatment in the forms of subsidies and regulation may divert entrepreneurs from innovations in favor of rent seeking behavior and other unproductive activities.

Fiscal freedom can boost growth by capital accumulation and better resource allocation. In the intertemporal context, there are arguments on the inverse relationship between government spending and output growth [21]. Potentially, higher government spending can stimulate output but expectations of future taxes to finance the expenditure would reduce investments and hence growth. However, certain country-specific features could prevent from realizing benefits of economic freedom in the fiscal sphere. For example, it hinders the tax revenue mobilization in the South Africa due to problems in the local agrarian sector [22].

It is common in the literature to acknowledge that there is a correlation between components of the economic freedom, though this fact is not formalized in the theoretical models [15, 23]. The relationship between fiscal freedom and judicial quality with economic growth implies interaction in several ways. First, it is common to assume that sound legal framework should help to improve tax collection and provide better control of government spending, both factors behind a long-term output growth. Second, access to justice promotes growth via higher government accountability and improved institutional quality, especially in less developed societies [24]. Third, institutional quality modifies the process of public debt accumulation [25]. Initially, corruption leads to higher accumulation of public debt while financing to improve the institutional quality in relation to government effectiveness, regulatory quality, and rule of law after changes in the regime increases the size of public debt again.

Independent judiciary is important in cases of conflict between government and the citizens as well as in cases of conflict between various government branches which could develop into counterproductive power games [26]. In a wider context, judicial efficiency also affects interest rate spread across countries [27], which could be another factor behind output growth in the long run.

### 2.2. Empirical studies

A brief review of empirical studies regarding the growth effects of disaggregated components of economic freedom is presented in Table 1. Researchers make use of both indexes of economic freedom from the Fraser Institute and the Heritage Foundation. Pooled and panel OLS estimators are the most frequently used statistical techniques, though alternative methods such as GMM, FGLS and VAR are utilized as well. Among cointegrating methods which are best suited for estimation of the long-term relationships, there is an example of the use of the FMOLS estimator as well [28]. All studies in this review are based on annual data.

Most of empirical studies confirm a favorable impact of fiscal freedom [1, 3], the rule of law [23, 38], or both abovementioned components of the economic freedom on the output growth, for example [2, 6, 9, 31, 36]. However, the results of several studies have been somewhat more mixed. Importance of property rights and lower tax burden as factors behind output growth is found recently for four South Asian countries, but the government spending effects on output are rather ambiguous [8]. Earlier studies establish positive effects of legal structure and private ownership but it is found that government size effects are dependent on the level of output per capita [15, 32].

Table 1

## Review of empirical studies

Source	Data	Source of institutional quality indicator	Method	Main results
[15]	74 countries, 1975–1995	Fraser Institute	OLS	Positive and robust output effect of the legal structure and private ownership indicators. There is a hump-shaped relation between government size and output growth
[23]	58 countries, 1970–2000	Fraser Institute	OLS	The protection of property rights appears to be driving the causal relationship between economic freedom and growth
[2]	23 OECD countries, 2003–2007	Heritage Foundation	Panel OLS, 2SLS	Positive output effects of fiscal freedom, property rights freedom, and freedom from corruption
[29]	104 countries, 1972–2003	Fraser Institute	LTS, OLS, FWLS	A smaller size of the government is effective only in developing countries, which benefit from the quality of the legal system as well
[30]	68 countries, 1990–2005	Fraser Institute	Panel OLS	Legal structure and security of property rights (in levels) and changes of the size of government contribute positively to the output growth rate. No other areas are relevant for economic growth
[3]	23 OECD countries, 2003–2007	Heritage Foundation	Panel 2SLS	Fiscal freedom and freedom from excessive government size both lead to a higher rate of economic growth
[31]	23 OECD countries, 23 Latin American countries, 1984–2007	Heritage Foundation	FE	A smaller government and better property rights raise output per worker in Latin America but not in the OECD countries
[32]	94 countries, 2000–2010	Fraser Institute	OLS, FE, RE	The size of government has a positive effect on output in upper-middle- and lower-middle- income countries, but it is not significant in both groups of countries. Legal system and property rights have a positive impact for all countries
[33]	11 transition economies, 2000–2013	Heritage Foundation	RE	The rule of law (property rights, freedom from corruption) has a negative but not significant impact on output growth
[9]	13 SADC countries, 2000–2009	Fraser Institute	Panel OLS, LSDV, GMM	The size of government is negatively related to output. There is positive and highly significant output growth effect of the legal structure and property rights factors
[1]	186 countries, 2013–2015	Heritage Foundation	RE	Output growth is positively affected by fiscal freedom
[34]	11 transition economies, 1997–2015	Heritage Foundation	FE	Fiscal health and size of government are pro-growth for the 1997–2008 period but both effects become insignificant for the 1997–2015 period. Freedom from corruption is positively related to economic growth regardless of the sample
[35]	108 countries, 1980–2010	Fraser Institute	Panel OLS, 2SLS	The effects of economic freedom policies (monetary and fiscal) matter only during the catching up period, with no effect in the long run. Also, the fiscal freedom has a more straightforward effect
[36]	5 Balkan countries, 1995–2016	Heritage Foundation	FE	High levels of corruption, low level of protection of property rights and more of government spending are inversely related to economic growth
[37]	50 middle-income countries, 1970–2010	Fraser Institute	PVAR	Legal institutional quality has an impact on economic growth while the latter causes an improvement in public sector institutional quality
[28]	11 EU countries, 2002–2018	World Bank	Panel FMOLS	Economic growth benefits from government effectiveness, while the rule of law is neutral in respect to output
[38]	27 EU countries, 2010–2018	The EU Justice Score-board	OLS, IV	Positive developments in judicial efficiency can be growth enhancing
[39]	152 countries, 1995–2017	Heritage Foundation	2SLS	The U-shaped relation between economic freedom and the hidden economy is exclusively driven by both business regulation and the freedom in the legal system and property rights
[40]	The Western Balkan countries, 2000–2017	Fraser Institute	OLS, FE, RE, IV	There is a positive relationship between the size of the government and the economic growth
[14]	65 developing countries, 1995–2014	Heritage Foundation	FGLS	Smaller government spending and lower tax burden fosters economic growth. Property rights show a negative growth effect
[6]	155 countries, 2021	Heritage Foundation	Panel OLS	Property rights affect output positively while government spending affects it negatively. Judicial effectiveness is statistically insignificant
[8]	4 South Asian countries, 1995–2021	Heritage Foundation	OLS, RE, RLS	The effects of government spending on output are ambiguous, while the tax burden hinders economic expansion. Property rights have a positive and sizeable effect on economic growth

**Notes:** Abbreviations used are the Ordinary Least Squares (OLS), the Two-Stage Least Squares (2SLS), the Fixed Effects Model (FE), the Random Effects Model (RE), the Robust Least Squares (RLS), the Feasible Generalized Least Squares (FGLS), the Feasible Weighted Least Squares (FWLS), the Least Trimmed Squares (LTS), the Instrumental Variables (IV), the Fully Modified Ordinary Least Squares (FMOLS), the Panel Vector Auto-Regression (PVAR), the Least Squares Dummy Variables (LSDV), the General Method of Moments (GMM)

Panel data estimates for the 11 EU transition economies indicate that government effectiveness has positive effect on economic growth, with the rule of law being neutral in respect to output [28]. Also, it is found that the rule of law is positively influenced by economic growth.

Both indicators of institutional quality were obtained from the World Governance Indicators database prepared by the World Bank. Similar findings on the two-way causality between legal institutional quality and economic growth are obtained for 50 middle-income countries [37].

Judicial quality contributes to economic growth by many channels. According to the study of 11 European countries over the period 2004–2011, improvements of enforcing contracts determine large, significant, and persistent reductions of banks' non-performing-loans thus contributing to economic growth [41]. Using a dataset over the post-crisis period of 2010–2018, it is established that such inefficiencies in the operation of judicial systems as lengthier court proceedings, lower rates of clearance of accumulated unresolved cases, increasing burden of pending cases and a high inflow of new cases, all pose obstacles to economic growth [38]. Also, it is argued that civil origin legal systems, with a higher degree of formalism in judicial procedures relative to common law origin systems, hinder economic growth. It is found for Italy that the failure of Italian justice results from excessive legal actions aimed at postponing a payment or avoiding an obligation [4]. Consequently, elimination of the distorted incentives for the users of the justice services should be helpful in improving the quality of judicial system as a prerequisite for stronger economic growth. For Italy, slow judicial proceedings have contributed to reduced investments, slow growth, and a difficult business environment [42]. However, it is obtained for both European and transition economies that the rule of law is neutral in respect to economic growth [28, 33]. Moreover, for developing countries there is an inverse relationship between property rights and economic growth [14]. Findings for the Western Balkan countries demonstrate that the size of the government is positively correlated with economic growth [40].

Among other effects which are relevant in the context of output growth, it is quite natural that stronger protection of property rights stimulates investments in Ukraine [43]. As it is established for a panel of 194 countries for the period 1995–2019, a negative effect of exchange rate volatility on economic growth is lower in high-corruption countries [44]. It is interesting that for that kind of countries there is the inverse relationship between the freedom in the legal system and property rights and the level of hidden economy [39].

The positive effect of economic freedom on economic performance is not observed in the countries with the highest economic freedom level [7]. As suggested, the optimal level of economic freedom can be characterized mostly by the fiscal policy stance and from other economic freedom areas related to labor, financial, and investment markets. Such findings support earlier results in that economic freedom causes growth in the short run, while being neutral in the long run [23]. The protection of property rights is singled as the most important factor behind a positive link between economic freedom and growth. On the other hand, the size of government as a component of fiscal freedom is a result of growth, rather than a cause of it. However, other studies do not find any significant causality working from growth to economic freedom, for example [45]. Also, there is empirical evidence in favor for a two-way causality between economic freedom and growth for both industrial and nonindustrial countries [46].

Finally, it is the question of the threshold effect in the economic freedom effects. For example, it is found for 35 emerging and developing countries over the period 1996–2018 that the estimated threshold level of economic freedom index in the former at 64.1 is significantly higher compared to that of the latter at 48.6 [47]. If it is the case, economic freedom effects on output for the CEE countries with higher level of income per capita are expected to be higher in comparison to Ukraine. On the other hand, there is evidence that the growth effects of economic freedom are largest for the poorest and richest countries [48].

### 2.3. Dataset

Our dataset comprises quarterly data for the period 2002–2022, except Ukraine for which the 2002–2021 dataset is used. Let's use time series of the real gross domestic product (index, 2010=100),  $y_t$ , the nominal and real effective exchange rates,  $neer_t$  and  $reer_t$ , respectively, the money supply (index, 2010=100),  $m_t$ , the world price of crude oil

(index, 2016=100),  $brent_t$ , the U.S. long-term interest rate (%),  $usratet$ . Data on these variables are taken from the IMF's International Financial Statistics [49] and Primary Commodity Prices databases [50].

Also, it is possible to use several sub-indexes of the Index of Economic Freedom (IEF) developed by the Washington-based Heritage Foundation [16], namely the fiscal health  $H_t^{fhealth}$ , the size of government spending,  $H_t^{fspending}$ , the protection of property rights,  $H_t^{fproperty}$ , and judicial effectiveness,  $H_t^{fjudicial}$ . Because of changes in the set of the IEF sub-indexes since 2018, sub-indexes "Fiscal health" and "Judicial effectiveness" are assumed to be a continuation of the previous "Fiscal freedom" and "Freedom from corruption" ones. The sub-indexes of "Tax burden" and "Government integrity" are omitted in the analysis as both ones are available only since 2018. The IEF has scores ranging from 0 to 100 with a higher score indicating a higher degree of economic freedom. The same holds for each of IEF sub-indexes. An index score of 100 indicates an economic environment or set of public policies that is most relevant to the concept of economic freedom [3]. It is worth noting that the use of alternative index of the level of economic freedom from the Fraser Institute brings about similar results, suggesting that both sets of economic freedom measures are potentially useful substitutes in the analysis of economic freedom effects on economic growth [2]. Annual data on the IEF sub-indexes are taken in the quarterly window using the exponential smoothing procedure for this purpose.

## 3. Results and Discussion

### 3.1. Statistical model

Table 2 shows the summary statistics of selected variables. In regard of economic freedom components, Czechia has the highest average score for the sub-indexes of fiscal health and the protection of property rights, Romania for government spending and Hungary for judicial effectiveness (Fig. 1). Ukraine lags behind in the domains of property rights and judicial effectiveness, while sub-indexes of fiscal freedom are comparable with those of the CEE countries. As for other variables, Poland is a country with the strongest economic growth, while Ukraine is on the opposite pole. Changes in the nominal and real exchange rates of the CEE countries are quite similar, with a much higher magnitude of depreciation in Ukraine. As expected, Ukraine is characterized by the highest increase in the money supply, followed by Romania, Poland and Hungary. Monetary aggregates have been more under control in Czechia.

Table 2

Descriptive statistics of selected variables for countries included in the estimations

Variable		Czechia	Hungary	Poland	Romania	Ukraine
1		2	3	4	5	6
$y_t$	Mean	105.2	110.6	110.4	110.7	98.46
	Min	76.9	88.3	71.6	72.4	74.3
	Max	127.8	141.7	159.6	151.8	118.2
$neer_t$	Mean	106.2	105.3	103.1	97.9	134.6
	Min	92.1	85.2	82.2	72.1	54.7
	Max	131.2	142.0	119.8	108.8	255.8
$reer_t$	Mean	106.8	108.1	105.0	102.7	108.3
	Min	79.4	90.1	84.8	85.8	80.4
	Max	130.6	125.5	121.5	124.6	158.2
$m_t$	Mean	118.4	114.1	137.7	131.2	156.0
	Min	50.2	42.2	47.0	23.5	9.6
	Max	224.6	272.5	277.9	305.7	419.8
$IEF_t^{fspace}$	Mean	80.8	72.2	74.6	78.4	77.8
	Min	66.8	38.9	60.2	17.7	66.1
	Max	98.1	85.0	94.6	91.1	90.2



Continuation of Table 2

1		2	3	4	5	6
$IEF_t^{spending}$	Mean	43.1	27.3	43.8	65.1	47.3
	Min	15.1	19.2	30.3	55.1	20.0
	Max	52.7	35.0	49.6	74.8	78.6
$IEF_t^{property}$	Mean	72.4	66.7	59.8	47.0	35.6
	Min	65.0	55.0	50.0	30.0	20.0
	Max	88.0	75.8	72.5	81.0	50.0
$IEF_t^{judicial}$	Mean	50.4	51.3	47.4	42.3	28.3
	Min	37.0	45.0	34.0	26.0	21.9
	Max	81.9	62.5	61.0	64.9	42.2

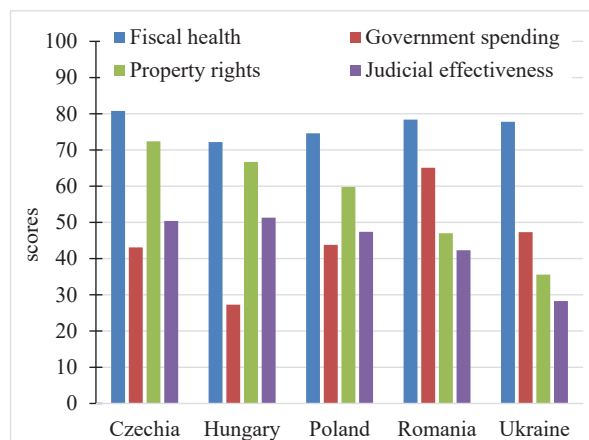


Fig. 1. Institutional features of the CEE countries and Ukraine (Heritage Foundation)

As individual components of economic freedom can interact [23], there is the potential problem with multicollinearity in the process of decomposing an index of economic freedom [15]. The correlation coefficients among the explanatory variables in the regression model are provided in Table 3. All correlation coefficients, except three, are below 0.5 in absolute value. In Czechia, Poland and Romania, there is a correlation between the protection of property rights,  $H_t^{property}$ , and judicial effectiveness,  $H_t^{judicial}$ , a result that is intuitively appealing. In the absence of pertinent correlation between the fiscal freedom and rule of the law sub-indexes of the IEF, the problem of multicollinearity is not of great concern.

The Johansen cointegration test indicates presence of at least one cointegration equation at the 5 % significance level for all countries (Table 4). It means that there is a long-term relationship between output, nominal exchange rate, money supply and selected sub-indexes of the IEF. If so, the Dynamic Ordinary Least Squares (DOLS) estimator can be applied. In comparison to alternative cointegrating regression estimators, as the Fully-modified Ordinary Least Squares (FMOLS) or

the Canonical Cointegrating Regression (CCR), the DOLS estimator implies the use of lead and lagged differences of the regressor which helps to deal with endogeneity in the exogenous variables [51]. As mentioned above, the level of economic freedom could be dependent on the level of output [23], though that kind of causality is not supported in other studies [45].

Table 3

Correlation between the fiscal freedom and rule of the law sub-indexes of the IEF

Correlation between variables	Czechia	Hungary	Poland	Romania	Ukraine
$IEF_t^{fhealth}$ and $IEF_t^{fspending}$	0.42	0.02	0.45	0.17	-0.08
$IEF_t^{fhealth}$ and $IEF_t^{property}$	0.30	-0.49	0.46	-0.37	0.37
$IEF_t^{fhealth}$ and $IEF_t^{judicial}$	0.49	-0.53	0.32	-0.30	0.04
$IEF_t^{fspending}$ and $IEF_t^{property}$	0.09	-0.12	0.16	-0.14	-0.18
$IEF_t^{fspending}$ and $IEF_t^{judicial}$	0.24	-0.07	0.25	-0.10	0.02
$IEF_t^{property}$ and $IEF_t^{judicial}$	0.72	0.17	0.55	0.87	-0.38

In the presence of cointegration, the effects of fiscal freedom and judicial quality on output can be estimated by the following regression model (in levels):

$$y_t = \alpha_0 + \alpha_1 neer_t + \alpha_2 m_t + \alpha_3 brent_t + \alpha_4 usrate_t + \alpha_5 IEF_t^{fhealth} + \alpha_6 IEF_t^{fspending} + \alpha_7 IEF_t^{property} + \alpha_8 IEF_t^{judicial} + \alpha_9 covid19_t + \alpha_{10} zlb_t + \alpha_{11} zlb_t \cdot neer_t + \varepsilon_t, \quad (1)$$

where  $covid19_t$  is the dummy for crisis developments of the 2020–2021 pandemic;  $zlb_t$  is the dummy for the post-crisis period of 2010–2021;  $\varepsilon_t$  is the stochastic factor. Except dummy variables, all the independent variables are transformed into logs to minimize the variance and reduce the effect of outliers (consequently, the coefficients can be interpreted as a semi-elasticity).

Starting with the multi-faceted nature of institutional variables, fiscal freedom is characterized by the fiscal health and government spending sub-indexes of the IEF while the property rights and judicial efficiency sub-indexes refer to the rule of law domain. The fiscal health sub-index accounts for the average level of budget deficit for the most recent three years and public debt (both in % of GDP). As more of fiscal health is associated with macroeconomic stability and less of economic uncertainty, it can be hypothesized that better fiscal management contributes positively to productive investment and ultimately to economic growth ( $\alpha_5 > 0$ ). On the opposite, accumulation of excessive public debt driven by persistent budget deficits, especially because of government consumption or transfer payments, used to undermine overall productivity growth and thus provoke economic stagnation in the long run.

Table 4

The Johansen cointegration test

No. of CE(s)	Czechia		Hungary		Poland		Romania		Ukraine	
	Trace	Max-Eig	Trace	Max-Eig	Trace	Max-Eig	Trace	Max-Eig	Trace	Max-Eig
None	84.2***	34.1**	65.8**	32.1**	97.2***	51.5***	68.1***	30.3**	113.1***	68.2***
At most 1	50.1**	23.5	33.7	15.5	45.7*	25.1	37.7*	15.6	44.9*	22.3
At most 2	26.6	18.7	18.2	12.9	20.6	14.4	22.1*	10.7	29.8	14.9
At most 3	7.9	6.8	5.3	5.3	6.5	5.4	11.4	9.5	15.5	7.40
At most 4	1.1	1.1	0.1	0.2	1.0	1.0	1.9	1.9	3.8	0.3

Notes: \*\*\*, \*\*, \* – denotes rejection of the hypothesis at 1 %, 5 % and 10 %, respectively

The aggregate effect of the size of government spending on economic growth depends on the relative strength of several channels ( $\alpha_6 < 0$ ). Government spending on infrastructure, technology improvement, or human capital investment can increase productivity and thus positively contribute to faster economic growth. In a negative channel, excessive government spending crowds out private economic activity via distortions in the market allocation of resources, private investment disincentives, or such anti-growth effects of the larger public sector as bureaucracy, lower productivity and inefficiency. As a higher score for  $IEF_t^{spending}$  means a lower size of government spending, a positive relationship with output implies that cuts in government spending are pro-growth. It should be noted that the optimal level of government spending is country-specific, depending on numerous factors that range from culture to geography to level of economic development.

The property rights component of the IEF provides with the assessment of the legal framework in its ability to secure individuals' rights to acquire, hold, and utilize private property, with a need for clear laws that can be enforced effectively. Property rights account for risk of expropriation, respect for intellectual property rights, and quality of law enforcement. As property rights provide with the confidence to undertake economic activity and make long-term investment plans due to protection against unfair expropriation or theft, it should contribute positively to economic growth ( $\alpha_7 > 0$ ).

The score for the judicial effectiveness component is based on such sub-factors, as judicial independence, quality of the judicial process, and the independence of the civil service. There are numerous evidences that a well-functioning legal framework is essential for protecting the property rights and other fundamental liberties. In general, it should contribute positively to economic growth ( $\alpha_8 > 0$ ). Judicial effectiveness requires efficient and fair judicial systems to ensure respect for law and its enforcement.

It is worth noting that the institutionalist definition of the rule of law focuses on property rights and the efficient administration of justice, including the judiciary, the executive branch, the legislature, and other independent agencies [19]. Judiciary activities include courts, court-annexed alternative dispute resolution, and commercial and property registries, while executive branch is responsible for ministry of justice, law enforcement, regulatory agencies, etc. Earlier versions of the IEF accounted solely for freedom from corruption which can assume many forms, such as bribery, embezzlement, extortion, nepotism, and "graft" (where public officials either directly steal public funds or illegitimately benefit from public funds) [2].

Among other independent variables aimed at capturing the impact of domestic and external economic conditions, the exchange rate depreciation is likely to have a long-term effect on output, albeit with an unclear sign ( $\alpha_1 < 0$ ). If the demand-side channels dominate (it means that the stimulating impact on the net export outweighs the opposite balance sheet and real interest rate effects), the expansionary effect on output should prevail. However, importance of the supply-side factors such as dependence on imported raw materials and intermediate goods or labor market adjustments implies an opposite contractionary effect. For the CEE-4 countries, most of empirical studies are in favor of the latter, for example [52, 53], though evidence in favor of the former is not lacking either [54–56]. Based on empirical evidence that do not support an assumption of the monetary policy neutrality for the CEE countries [57–59], it is likely that an increase in the money supply is expansionary ( $\alpha_2 > 0$ ). For Czechia, Hungary, Poland and Romania, a long-term contractionary effect of both anticipated exchange rate depreciations and money supply shortages has been found [60].

It is likely that both world crude oil prices and interest rate abroad are inversely related to the output in the long run ( $\alpha_3, \alpha_4 < 0$ ). For example, it is found that economic growth is negatively impacted by higher long-term nominal interest rates, so that maintaining economic freedoms should help promote economic expansion through a lower

cost of capital [2]. Although high foreign interest rates have a contractionary effect on domestic output, it is established that this effect is centered on countries with fixed exchange rates [61].

Finally, the regression model controls for the COVID-19 pandemic and specific features of the post-crisis period of 2010–2022, which are supposed to have a contractionary effect ( $\alpha_9, \alpha_{10} < 0$ ). Also, it is hypothesized that the exchange rate impact on output is modified in the environment of the zero-lower bound on the interest rate. Assuming a decrease in the inflationary expectations under ZLB, strengthening of the expansionary effect of exchange rate depreciation would be quite natural ( $\alpha_{11} > 0$ ). Among other studies, a control for the crisis developments blurs the link between economic freedom and growth [34] or investments [43].

### 3.2. Empirical results and discussion

Estimates of the output determinants are presented in Table 5. It is clear that institutional effects on output are quite heterogeneous across countries. Fiscal health as measured by smaller budget deficits and a decreasing debt burden contributes to output growth in Poland, Romania and Ukraine, but it is not the case in Hungary (neutrality) and Czechia (contraction). The burden imposed by government spending is unambiguously counterproductive in Czechia either, but it is likely that it contributes to output growth in Hungary and Romania (the coefficient on  $H_t^{spending}$  is statistically significant at the 10 % level). In Ukraine, there is strong and statistically significant negative impact of government spending on output. Such an outcome may reflect a strong dependence of the economy, including the private sector, on government purchases. Poland is the country with government spending neutrality in respect to output.

Table 5

Determinants of output (specification with the nominal exchange rate)

Variables	Countries				
	Czechia	Hungary	Poland	Romania	Ukraine
$neer_t$	−0.292***	−0.314***	−0.137***	−0.223***	−0.552***
$m_t$	0.498***	0.052**	0.481***	0.075*	0.565***
$brent_t$	−0.037**	0.036***	−0.038***	0.035**	0.229***
$rbusa_t$	0.049***	0.038***	0.026***	0.019***	0.096***
$IEF_t^{health}$	−0.141*	0.184	0.611***	0.128***	0.898***
$IEF_t^{spending}$	−0.043***	0.057*	0.011	0.130*	−0.135***
$IEF_t^{property}$	−0.425***	−0.102**	−0.159	−0.047**	0.242***
$IEF_t^{judicial}$	−0.047	0.252***	0.263***	0.148***	0.243***
$trend_t$	–	−0.005***	–	0.006***	−0.012***
$covid19_t$	−0.035***	0.016*	−0.006	−0.023*	−0.155***
$zlb_t$	−1.253**	–	1.468**	−1.784***	−0.647*
$zlb_t \cdot neer_t$	0.260**	–	−0.331**	0.377***	0.133
$R^2$	0.99	0.96	0.99	0.99	0.94
ADF	−7.65***	−8.13***	−12.96***	−7.97***	−7.56***

Notes: here and hereafter \*\*\*, \*\* and \* mean statistical significance at the 1 %, 5 % and 10 % level, respectively; authors' estimations with EViews 10 statistical software program

Our results are similar to other studies in that the effects of government spending on output can be either expansionary, for example [40], or contractionary [9, 14, 31]. On the example of similar contractionary government spending effects in Czechia and Ukraine, there is support to the assumption of a hump-shaped relation between government size and output as obtained in [15]. No support for the finding that public spending cuts are pro-growth only in developing countries [29]. Contrary to results in [34], there is no reasons to claim that fiscal health and government spending have become neutral in respect to output if more

recent data of the 2009–2015 period are included. For the CEE countries, it is likely that fiscal freedom effects on output are country-specific thus undermining the information content of the panel data estimates.

Somewhat surprisingly, strong evidence that property rights are positively correlated with output growth is obtained only for Ukraine (the coefficient on  $IEF_t^{property}$  is statistically significant at the 1 % level). Property rights are inversely related to output in Czechia, Hungary and Romania, with no effect in Poland. A similar negative growth effect of property rights in the developing countries is explained by inadequate legal framework to protect intellectual property rights for foreign technology or new ideas [14]. Consequently, local businesses are able to make use of advanced technology that contributes to the production of goods and services and thus higher economic growth. However, the output effect of judicial effectiveness is positive and statistically significant in all countries (except Czechia). It is in accordance with majority of other empirical studies, for example [2, 29, 34, 36, 38], though neutrality of judicial effectiveness in respect to output is found as well [6, 28].

On the whole, Ukraine seems to be a country with a very robust positive relationship between the rule of law components and output growth. In contrast to the CEE countries, not only improvement in judicial effectiveness but better protection of property rights as well are pro-growth factors. Our study provides further support for the importance of the rule of law for economy of Ukraine, similar to [43], all the more that in the present period of war with Russia and future post-war recovery.

When it comes to effects of other independent variables, it is common for all countries that the exchange rate depreciation is contractionary, while the money supply is expansionary. Both effects are strongest ones in Ukraine. On the other hand, the exchange rate effects on output seem to be rather weak in Poland and Romania. The latter is characterized by a weak relationship between the money supply and output, along with Hungary. Our results support conclusions on the exchange rate and money supply long-term effects on output in the CEE countries in [60]. Similar to other studies for the CEE countries, for example [57–59], there is no support for the hypothesis of the monetary policy neutrality.

All countries are characterized by a strong positive relationship between output and the interest rate abroad proxied with the U.S. 10-year bond yield (the coefficients on  $rbusa_t$  are significant at the 1 % level). Such a result runs counter to intuitively appealing empirical evidence of the inverse relationship between the long-term nominal interest rates and economic growth, for example [2]. Higher crude oil prices bring about an increase in output in Hungary, Romania and Ukraine, with an opposite contractionary effect in Czechia and Poland.

A positive output growth trend is found for Romania, with an opposite effect in Hungary and Ukraine. The COVID-19 pandemic has exerted a negative pressure on the economies of Czechia, Romania and Ukraine, while a positive growth effect is a distinct feature of Hungary (no effect of pandemic is observed in Poland). Contrary to intuitive expectations, realities of the extremely low interest rates are complemented to output growth in Poland, with a significant negative effect in Romania, Czechia and Ukraine (to less extent). Under low interest rates, exchange rate depreciation has become less contractionary in Czechia and Romania, being in line with an argument of lower inflationary expectations under ZLB. On the opposite, the contractionary effect has been strengthened in Poland. No changes to the exchange rate effects on output in the post-crisis environment of low interest rates is found for Ukraine.

Most of our results stay intact if to use the real exchange rate variable,  $reer_t$  (Table 6). Differences are only a few. First of all, the coefficient on  $IEF_t^{health}$  loses statistical significance for Hungary and Ukraine, with a more favorable implementation for fiscal health in the latter case. Other economic freedom components are of same output effects as in the specification with a nominal exchange rate. In the specification with  $reer_t$ , the anti-growth effect of property rights is not observed for Romania. It is confirmed that judicial effectiveness contributes to economic growth in 4 out of 5 countries, except Czechia. Among other

variables, expansionary monetary policy effects are lost for Hungary and Romania, there is no impact of the COVID-19 pandemic on Hungary and the post-crisis environment of extremely low interest rates on Ukraine. It is confirmed for all countries that exchange rate depreciation is contractionary in real terms either, with a mixed impact of the ZLB period depending on a country. There are no changes in the reaction of output to the foreign interest rate and the world crude oil prices, as well in the estimates of trend slope.

Table 6

Determinants of output (specification with the real exchange rate)

Variables	Countries				
	Czechia	Hungary	Poland	Romania	Ukraine
$reer_t$	−0.149**	−0.265**	−0.157***	−0.239***	−0.579***
$m_t$	0.515***	0.034	0.516***	−0.011	0.205*
$brent_t$	−0.022*	0.050**	−0.058***	0.047***	0.340***
$rbusa_t$	0.048***	0.044***	0.029***	0.013**	0.043**
$IEF_t^{health}$	−0.182***	0.193	0.568***	0.104**	1.397***
$IEF_t^{spending}$	−0.044***	−0.036	0.022	0.168*	−0.139
$IEF_t^{property}$	−0.432***	−0.310***	−0.153	−0.022	0.233*
$IEF_t^{judicial}$	−0.002	0.231***	0.299***	0.141***	0.289***
$trend_t$	–	−0.009***	–	0.008***	−0.008**
$covid19_t$	−0.022***	0.013	0.008	−0.025**	−0.237***
$zlb_t$	−1.065***	–	1.360**	−2.126**	−1.354
$zlb_t \cdot reer_t$	0.218***	–	−0.310**	0.448**	1.242
$R^2$	0.99	0.96	0.99	0.99	0.95
ADF	−7.50***	−8.13***	−12.51***	−9.25***	−9.04***

Note: authors' estimations with EViews 10 statistical software program.

First of all, our results highlight ambiguity of both fiscal freedom and the rule of law as determinants of output growth. Although there is a pro-growth effect of fiscal health in most of countries, including Ukraine, an inverse relationship is observed in Czechia, with a neutrality in Hungary. The same heterogeneity in the output effects is observed for fiscal spending effects. It means that any attempts to improve fiscal freedom should be country-specific. Results are much more uniform in respect to the positive output effects of judicial effectiveness. As for the better protection of property rights, Ukraine is the only country with a positive output effect.

All said, it is certain that any efforts in the direction of more fiscal freedom and stronger rule of law are beneficial for output growth in Ukraine. Moreover, it is likely that both output effects become only stronger in the economic environment marked by the realities of Russian aggression and post-war recovery. Although improvements in the rule of law are potentially easier to be implemented in comparison to fiscal freedom measures, any previous efforts aimed at better functioning of the judicial system and property rights protection can hardly be named successful. In such a context, it is of interest to establish causal links between the rule of law and its determinants. It is not ruled out that the level of individual components of economic freedom depends on the level of income, with a two-way causality to be accounted for.

Among other directions for the future studies, it is worth of research efforts to explain the mechanisms of country-specific relationships between the components of economic freedom and output by analysis of the causality at the disaggregated level. For example, it is possible to hypothesize that fiscal freedom affects output mainly through consumption channels, while the rule of law is more important for investment activities, including foreign direct investments. Also, sources of such a counterintuitive result as the direct relationship between the long-term interest rate abroad and output are worth attention.

## 4. Conclusions

These empirical estimates of the country-specific output effects of fiscal freedom and the rule of law for several CEE countries and Ukraine demonstrate that both factors produce quite heterogeneous outcomes across countries. Such findings allow for better understanding of fiscal policy and institutional developments in the post-socialist countries. Most of the estimates are not sensitive to changes in the specification of exchange rate, in nominal or real terms.

These main results can be summarized as follows. First, it is found that fiscal health is beneficial to economic growth in Poland, Romania and Ukraine, with a negative effect in Czechia and neutrality in Hungary. Second, it is established that the impact of government spending is pro-growth only in Romania and Hungary (to less extent). On the other hand, Czechia as well as Ukraine (in specification with the nominal exchange rate) can be better off with a more expansionary fiscal stance. For Ukraine, a pro-growth combination of fiscal health and more of government spending means that it is expedient to improve tax collection and use higher revenues for financing of productive government spending (at this point, infrastructure and defense sector could be priorities). Third, better property rights contribute to output only in Ukraine; for example, if its score increases to the level of Poland, it adds above 5 % to output (a positive effect is even larger by a half if the level of Czechia is achieved). On the other hand, the CEE countries could be viewed as an example of 'excessive' property rights. Obviously, the search of explanations for such results is among strong motivations for future studies. Probably, it is due to much more stringent administrative regulations within the field of property rights than it is optimal for an attained level of income per capita. Fourth, a positive growth effect of judicial effectiveness is found for 4 out of 5 countries, except Czechia. As for Ukraine, it is about another 5 % of extra output if the level of Poland is achieved.

Among other results, it is confirmed that depreciation of nominal (real) exchange rate is contractionary in all four CEE countries and Ukraine. It means that any efforts to keep a competitive 'weak' currency under a floating exchange rate regime are counterproductive. The exchange rate depreciation by 10 % brings about a decrease in output by 5.5 % in Ukraine, with the magnitude of negative effect for CEE countries ranging from 1.4 % in Poland to 3.1 % in Hungary. Under low interest rates, exchange rate depreciation has become less contractionary in Czechia and Romania, with the contractionary effect being strengthened in Poland (no changes in the estimates for Ukraine). Money supply is expansionary in all countries, with the same favorable effect of a higher U.S. interest rate. While the former argues in favor of monetization of the net trade surplus (or at least a reduction in the trade deficit), the latter is an argument against speculative capital inflows which used to be one of the consequences of a low U.S. interest rate. Output effects of the world crude oil prices, COVID-19 pandemic and the ZLB environment are country-specific.

This study could be of interest for all those who are engaged in to analysis of economic policy in general and institutional reforms in the field of rule of law in particular. For decision-makers, it seems to be important that the output effects of fiscal freedom and the rule of law are country-specific. It implies that any policy suggestions based on international experience should be considered with caution. As for researchers, it is a challenge for future studies to explain the mechanisms of country-specific relationships between the components of economic freedom and output, as well as such a counterintuitive result as the direct relationship between the long-term interest rate abroad and output.

## Conflict of interest

The authors declare that they have no conflict of interest in relation to this study, including financial, personal, authorship or other, which could affect the study and its results presented in this article.

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Manuscript has no associated data.

## Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies when preparing the current research.

## References

- Hussain, M., Haque, M. (2016). Impact of Economic Freedom on the Growth Rate: A Panel Data Analysis. *Economics*, 4 (2), 5. <https://doi.org/10.3390/economics4020005>
- Cebula, R. J. (2011). Economic Growth, Ten Forms of Economic Freedom, and Political Stability: An Empirical Study Using Panel Data, 2003–2007. *The Journal of Private Enterprise*, 26 (2), 61–81.
- Cebula, R. J., Mixon, F. G. (2012). The Impact of Fiscal and Other Economic Freedoms on Economic Growth: An Empirical Analysis. *International Advances in Economic Research*, 18 (2), 139–149. <https://doi.org/10.1007/s11294-012-9348-1>
- Lorizio, M., Gurrieri, A. R. (2014). Efficiency of Justice and Economic Systems. *Procedia Economics and Finance*, 17, 104–112. [https://doi.org/10.1016/s2212-5671\(14\)00884-3](https://doi.org/10.1016/s2212-5671(14)00884-3)
- Al-Katout, F., Bakir, A. (2019). The Impact of Economic Freedom on Economic Growth. *International Journal of Business and Economics Research*, 8 (6), 469–477. <https://doi.org/10.11648/jijber.20190806.27>
- Özyilmaz, A. (2022). The role of economic freedoms in economic growth. *Journal of Management and Economics Design*, 20 (3), 59–74.
- Rapsikevicius, J., Bruneckienė, J., Lukauskas, M., Mikalonis, S. (2021). The Impact of Economic Freedom on Economic and Environmental Performance: Evidence from European Countries. *Sustainability*, 13 (4), 2380. <https://doi.org/10.3390/su13042380>
- Ahmed, S., Mushtaq, M., Fahlevi, M., Aljuaid, M., Saniuk, S. (2023). Decomposed and composed effects of economic freedom on economic growth in south Asia. *Heliyon*, 9 (2), e13478. <https://doi.org/10.1016/j.heliyon.2023.e13478>
- Gorlach, V. I., le Roux, P. (2015). The Impact of Economic Freedom on Economic Growth in the SADC: An Individual Component Analysis. *Studies in Economics and Econometrics*, 39 (2), 41–63. <https://doi.org/10.1080/10800379.2015.12097280>
- Bernardelli, M., Próchniak, M., Witkowski, B. (2021). Time stability of the impact of institutions on economic growth and real convergence of the EU countries: implications from the hidden Markov models analysis. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16 (2), 285–323. <https://doi.org/10.24136/eq.2021.011>
- Bayar, Y. (2016). Impact of openness and economic freedom on economic growth in the transition economies of the European Union. *South-Eastern Europe Journal of Economics*, 1, 7–19.
- Emini, E. (2021). The impact of economic freedom on growth prospects of Southeast European countries. *Economic Vision*, 8 (15/16), 51–59.
- Reichel, R. (2022). Economic growth, economic freedom and the elasticity of substitution. *Studies in Economics and International Finance*, 2 (2), 195–203.
- Thuy, D. T. B.; Nguyen, A. T., Hens, L. (Eds.) (2022). Impacts of Economic Freedom on Economic Growth in Developing Countries. *Global Changes and Sustainable Development in Asian Emerging Market Economies*. Vol. 1. Cham: Springer Nature Switzerland AG, 35–44. [https://doi.org/10.1007/978-3-030-81435-9\\_3](https://doi.org/10.1007/978-3-030-81435-9_3)
- Carlsson, P., Lundström, S. (2002). Economic freedom and growth: Decomposing the effects. *Public Choice*, 112 (3–4), 335–344. <https://doi.org/10.1023/a:1019968525415>
- Miller, T., Kim, A. B., Roberts, J. M., Tyrrell, P. (2022). 2022 Index of Economic Freedom. Washington: The Heritage Foundation.
- Berggren, N. (2003). The Benefits of Economic Freedom: A Survey. *The Independent Review*, VIII (2), 193–211.
- Chemin, M. (2007). The Impact of the Judiciary on Economic Activity: Evidence from India. CIRPEE Cahier de recherche/Working Paper, 07-24. CIRPEE. Montreal: University of Quebec at Montreal.
- Ramos-Maqueda, M., Chen, D. (2021). The Role of Justice in Development: The Data Revolution. Policy Research Working Paper Series, 9720. Washington: The World Bank. <https://doi.org/10.1596/1813-9450-9720>



20. Boudreaux, C. J. (2017). Institutional quality and innovation: some cross-country evidence. *Journal of Entrepreneurship and Public Policy*, 6 (1), 26–40. <https://doi.org/10.1108/jep-04-2016-0015>
21. Barro, R. J. (1989). The Ricardian Approach to Budget Deficits. *Journal of Economic Perspectives*, 3 (2), 37–54. <https://doi.org/10.1257/jep.3.2.37>
22. Naape, B. (2021). The Interplay Between Economic Freedom and Tax Revenue Performance: Panel Evidence from SADC. *Journal of Economics, Business, & Accountancy Ventura*, 24 (2), 195–204. <https://doi.org/10.14414/jebavv24i2.2757>
23. Dawson, J. W. (2003). Causality in the freedom-growth relationship. *European Journal of Political Economy*, 19 (3), 479–495. [https://doi.org/10.1016/s0176-2680\(03\)00009-0](https://doi.org/10.1016/s0176-2680(03)00009-0)
24. Deseau, A., Levai, A., Schmiegelow, M. (2019). Access to Justice and Economic Development: Evidence from an International Panel Dataset. LIDAM Discussion Papers, 2019009. Louvain: Université Catholique de Louvain.
25. Nguyen, T. A. N., Luong, T. T. H. (2021). Fiscal Policy, Institutional Quality, and Public Debt: Evidence from Transition Countries. *Sustainability*, 13 (19), 10706. <https://doi.org/10.3390/su131910706>
26. Feld, L. P., Voigt, S. (2003). Economic Growth and Judicial Independence: Cross Country Evidence Using a New Set of Indicators. CESifo Working Paper, 906. Munich: Münchner Gesellschaft zur Förderung der Wirtschaftswissenschaft. <https://doi.org/10.2139/ssrn.395403>
27. Laeven, L., Majnoni, G. (2005). Does judicial efficiency lower the cost of credit? *Journal of Banking & Finance*, 29 (7), 1791–1812. <https://doi.org/10.1016/j.jbankfin.2004.06.036>
28. Şaşmaz, M. Ü., Sağdıç, E. N. (2020). The effect of government effectiveness and rule of law on economic growth: The case of European Union transition economies. *İşletme Fakültesi Dergisi*, 21 (1), 203–217. <https://doi.org/10.24889/ifede.729490>
29. Derbel, H., Abdelkafi, R., Chkir, A. (2011). The Effects of Economic Freedom Components on Economic Growth: An Analysis with A Threshold Model. *Journal of Politics and Law*, 4 (2), 49–60. <https://doi.org/10.5539/jplv4n2p49>
30. Rode, M., Coll, S. (2011). Economic freedom and growth. Which policies matter the most? *Constitutional Political Economy*, 23 (2), 95–133. <https://doi.org/10.1007/s10602-011-9116-x>
31. Alexandrakis, C., Livanis, G. (2013). Economic Freedom and Economic Performance in Latin America: A Panel Data Analysis. *Review of Development Economics*, 17 (1), 34–48. <https://doi.org/10.1111/rode.12013>
32. Akin, C. S., Aytun, C., Aktakas, B. G. (2014). The impact of economic freedom upon economic growth: An application on different income groups. *Asian Economic and Financial Review*, 4 (8), 1024–1039. Available at: <https://archive.aessweb.com/index.php/5002/article/view/1233>
33. Kovačević, S., Borović, Z. (2014). Economic Freedom and Economic Performance in Former Socialist Countries – Panel Approach. *Proceedings of the Faculty of Economics in East Sarajevo*, 9, 19–26. <https://doi.org/10.7251/zrefis1409019k>
34. Ivanović, V., Stanišić, N. (2017). Monetary freedom and economic growth in New European Union Member States. *Economic Research-Ekonomska Istraživanja*, 30 (1), 453–463. <https://doi.org/10.1080/1331677x.2017.1305803>
35. Kapás, J., Czeglédi, P. (2017). Institutions and policies of economic freedom: different effects on income and growth. *Economia Politica*, 34 (2), 259–282. <https://doi.org/10.1007/s40888-017-0063-5>
36. Xhepa, S. (2017). Economic freedom and growth: exploring statistical significance of the relationship in the Balkan economies. *Economicus*, 16, 5–19.
37. Recuero, L. H., González, R. P. (2019). Economic growth, institutional quality and financial development in middle-income countries. *Documentos de Trabajo*, 1937. Madrid: Banco de España. <https://doi.org/10.2139/ssrn.3489866>
38. Kapopoulos, P., Rizos, A. (2021). Judicial Efficiency and Economic Growth: Evidence based on EU data. MPRA Paper, 107861. Munich: University Library of Munich.
39. D'Agostino, E., De Benedetto, M. A., Sobbrío, G. (2022). Does the economic freedom hinder the underground economy? Evidence from a cross-country analysis. *Economia Politica*, 40 (1), 319–341. <https://doi.org/10.1007/s40888-022-00288-2>
40. Bajrami, R., Gashi, A., Ukshini, K., Rexha, D. (2022). Impact of the government size on economic growth in the Western Balkan countries. *Journal of Governance and Regulation*, 11 (1), 55–63. <https://doi.org/10.22495/jgrv11i1art6>
41. D'Apice, V., Fiordelisi, F., Puopoloet, G. W. (2020). Judicial Efficiency and Lending Quality. CSEF Working Papers, 588. Naples: University of Naples.
42. Esposito, G., Lanau, S., Pompeet, S. (2014). Judicial System Reform in Italy – A Key to Growth. IMF Working Paper, WP/14/32. Washington: International Monetary Fund. <https://doi.org/10.5089/9781475573022.001>
43. Blikhar, M., Golynska, M., Shandra, B., Matvienko, O., Svyshcho, V. (2021). Rule of Law as Factor of Investments in Ukraine. *International Journal of Economics and Business Administration*, IX (1), 199–210. <https://doi.org/10.35808/ijeba/667>
44. Ramoni-Perazzi, J., Romero, H. (2022). Exchange rate volatility, corruption, and economic growth. *Heliyon*, 8 (12), e12328. <https://doi.org/10.1016/j.heliyon.2022.e12328>
45. Vega-Gordillo, M., Alvarez-Arce, J. A. (2003). Economic growth and freedom: A causality study. *Cato Journal*, 23 (2), 199–215.
46. Farr, W. K., Lord, R. A., Wolfenbarger, L. J. (1998). Economic Freedom, Political Freedom and Economic Well-Being: A Causality Analysis. *Cato Journal*, 18 (2), 247–262.
47. Gouider, A., Nouira, R., Saafi, S. (2022). Re-Exploring the Nexus Between Economic Freedom and Growth: Is There a Threshold Effect? *Journal of Economic Development*, 47 (3), 147–167.
48. Bergh, A., Bjørnskov, C. (2021). Does economic freedom boost growth for everyone? *Kyklos*, 74 (2), 170–186. <https://doi.org/10.1111/kykl.12262>
49. IMF. International Financial Statistics database. Available at: <https://data.imf.org>
50. IMF. Primary Commodity Prices database. Available at: <https://www.imf.org/en/Research/commodity-prices>
51. Afonso, A., Jalles, J. T. (2012). Revisiting Fiscal Sustainability: Panel Cointegration and Structural Breaks in OECD Countries. ECB Working Paper Series, 1465. Frankfurt: European Central Bank. <https://doi.org/10.2139/ssrn.2128484>
52. Hsing, Y. (2016). Is Real Depreciation Expansionary? The Case of the Slovak Republic. *Applied Econometrics and International Development*, 16 (2), 55–62.
53. Hsing, Y. (2016). Is real depreciation expansionary? The case of the Czech Republic. *Theoretical and Applied Economics*, XXIII (3), 93–100.
54. Bahmani-Oskooee, M., Kutun, A. M. (2008). Are devaluations contractionary in emerging economies of Eastern Europe? *Economic Change and Restructuring*, 41 (1), 61–74. <https://doi.org/10.1007/s10644-008-9041-9>
55. Hatmanu, M., Cautisanu, C., Ifrim, M. (2020). The Impact of Interest Rate, Exchange Rate and European Business Climate on Economic Growth in Romania: An ARDL Approach with Structural Breaks. *Sustainability*, 12 (7), 2798. <https://doi.org/10.3390/su12072798>
56. Haug, A., Jędrzejowicz, T., Sznajderska, A. (2013). Combining monetary and fiscal policy in an SVAR for a small open economy. NBP Working Papers, 168. Warsaw: National Bank of Poland. <https://doi.org/10.2139/ssrn.2369254>
57. Hsing, Y. (2019). Does the Mundell-Fleming Model Apply to Poland? *Theoretical and Applied Economics*, XXVI (4 (621)), 265–272.
58. Simionescu, M., Balcerzak, A., Bilan, Y., Kotásková, A. (2018). The impact of money on output in Czech Republic and Romania. *Journal of Business Economics and Management*, 19 (1), 20–41. <https://doi.org/10.3846/jbem.2018.1480>
59. Škare, M., Benazić, M., Tomić, D. (2016). On the neutrality of money in CEE (EU member) states: A panel cointegration analysis. *Acta Oeconomica*, 66 (3), 393–418. <https://doi.org/10.1556/032.2016.66.3.2>
60. Shevchuk, V. (2022). Price and output effects of long-term exchange rate changes: Central and Eastern European countries in 2002–2019. *Entrepreneurial Business and Economics Review*, 10 (3), 37–50. <https://doi.org/10.15678/eber.2022.100303>
61. di Giovanni, J., Shambaugh, J. C. (2008). The impact of foreign interest rates on the economy: The role of the exchange rate regime. *Journal of International Economics*, 74 (2), 341–361. <https://doi.org/10.1016/j.jinteco.2007.09.002>

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