Economic Determinants of Democratic Backsliding

A quantitative study of economic impacts on negative democratization in the European Union between the years 2011 and 2020.

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Abstract

This thesis investigates the economic determinants of democratic backsliding within the European Union (the EU) in the period from 2011 to 2020. Democratic backsliding is a term describing deliberate erosion of democratic norms and institutions by elected officials. The research of democratic backsliding has increasingly challenged the assumption that economic prosperity ensures democratic resilience. While previous literature has largely focused on the role of economic development in democratization, this study explores specifically the effects of macroeconomic indicators. Impacts of various economic variables reflecting economic strength, prosperity, growth, and stability were tested using mixed statistical methods.

The data were gathered for countries of the EU. This region is characterized by diverse levels of economic and democratic development, and official sources provide periodically transparent data on economic performance, inequality, institutional strength, prosperity, and stability. Utilizing a panel data of 27 EU member states over a decade-long period of time, the research employs Ordinary Least Squares (OLS) regression and Generalized Method of Moments (GMM) estimators to assess the relationship between various economic indicators and democratic backsliding. The effect of democratic backsliding is measured as a negative annual change in compound indexes reflecting democratic development. Operationalized V-Dem project compound indexes are used as sources for the measurements of backsliding. The Liberal Democracy Index and Polyarchy Index serve as source variables for backsliding, which is the main dependent variable in this study, but also serve independently as dependent variables for assessing the effect of independent variables on democratization.

Independent variables include both absolute and relative economic indicators such as GDP growth, inflation, unemployment, income inequality (Gini coefficient), government deficit, national debt, public budget deficit, and GDP per capita income adjusted for purchasing power. The independent variables are tested for their impacts in regard to their relativity. Impacts of absolute annual change and impacts of relative change compared to the EU average are compared, examining the importance of economic prosperity perception. Control variables reflecting education levels, age composition, and corruption are included to isolate the effect of economic variables.

The findings indicate that economic performance has an influence on democratic backsliding. Indicators of fiscal responsibility, namely the national debt and deficit of public finances, show significant short-term impact. Government spending then demonstrates longer-term impact, suggesting that perceived absolute financial mismanagement can undermine institutional legitimacy. Relative income measured in GDP per capita compared to the EU average also appears to play an important role. Data highlight the importance of comparative economic standing over absolute prosperity in per capita income. Lastly, the study of structural effects found that economic effects are more pronounced in postcommunist countries and countries with high inflation represented by dummy variables. The findings suggest that civic engagement, historical experience with democracy, institutional fragility, and instability of the system can have magnifying effects.

Keywords: International relations, Democratic backsliding, democratization, antipluralism, populism, quantitative study

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The Artificial Intelligence (AI) was used in the process of writing this master thesis. Various AI tools such as Gemini (Google, Alphabet) or ChatGPT (OpenAI) were used as a discussion partner during preparation phase. These two programs helped in shaping the research question and building the structure of thesis. For coding the Gemini AI was used to solve issues connected with coding of the heatmap and plot tables (Online Appendices). Lastly language programs capable of detecting grammar mistakes were counseled. Although their role as an independent AI model is disputable, their role in improving the language level and detecting mistakes must be mentioned.

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1. Introduction

Recent years in the European Union have witnessed the emergence of democratic backsliding. This is a pressing issue not only for public affairs but also for academic discourse and policy-making circles. Gradual erosion of democratic institutions, norms, and practices, which are often performed by the elites, challenges the assumption that rich, developed economies feature stable democracies (Graham & Svolik, 2020; Gidengil, 2022). Scholars have explored the complex effects of macro- and microeconomic indicators on societal structures. A well-established connection is presented in the Modernization Theory, which assumes a positive correlation between economic development and democratization (Acemoglu et al., 2009; Acemoglu & Robinson, 2006). This relationship suggests a cyclical dynamic where economic prosperity fuels income growth and enhances purchasing power. The increase in buying potential in turn exerts pressures for the liberalization of trade and other legal barriers, consequently leading to an expansion of individual rights and freedoms (Przeworski & Limongi, 1996). Policymakers are often perceived to gain public support by advocating for the reduction of trade restrictions tying the legitimacy of governing establishments to economic performance (Przeworski & Limongi, 1996; Przeworski, 2016).

Literature mainly focuses on economic indicators and their effects on democratization. The phenomenon of democratic backsliding is more recent, and the effects of the economy are still researched and discussed (Haggard & Kaufman, 2021, pp. 5–8). Democratic backsliding refers to the "*state-led debilitation or elimination of any of the political institutions that sustain an existing democracy"* (Barmeo, 2016, p. 5). This process is often driven by autocratic leaders, elected politicians, and elites with the aim to undermine liberal democratic institutions and norms (Haggard & Kaufman, 2021; Ziblatt, 2017). The backsliding is distinguished from revolutions, coups, and other regime changes by its peacefulness and absence of violence (Haggard & Kaufman, 2021). Various studies have examined the origins of democratic backsliding, citizens' preferences, and the behavior of incumbents (Jacbo, 2024). The direct impact of economic drivers in this process remains inconclusive, and research is actively being published on this topic (Haggard & Kaufman, 2016, 2021). This paper's assumption is that economic factors, represented by various indicators, precede societal development, defined by democratic backsliding. The following main research question will be researched in this paper: *How do economic indicators influence democratic backsliding?* Additionally, the paper will try

to answer the secondary research question: *How do relative economic performance indicators influence democratic backsliding compared to absolute economic indicators in the EU?*

This study investigates economic determinants of democratic backsliding within the European Union (the EU) in the time period from 2011 to 2020. The EU offers a compelling empirical setting as it consists of a diverse group of democracies at varying levels of economic development, institutional maturity, and historical experience with democracy (Kuntz & Thompson, 2009; Vachudova, 2021). The observation period begins at the end of the Global Financial Crisis, after which the emergence of populist and anti-pluralist movements began (Gratton & Lee, 2024). Times of economic uncertainty and economic hardship have been identified as a fertile ground for undemocratic voices in society (Gozgor, 2021). The subsequent period until the COVID-19 outbreak in 2020 featured stable and positive economic development, making this period suitable for research of economic factors and their impact on democratization (Jafferany et al., 2020; Gidron, Adams & Horne, 2020).

Building on existing theoretical literature, this research focuses on various measurements of economic prosperity and their effects on democratic backsliding. Macroeconomic indicators such as GDP growth, income levels (GDP per capita), inequality (Gini coefficient), inflation, or unemployment are used. These indicators are not only reflections of pure performance but also reflect the socioeconomic structure in the society (Kaldaru & Parts, 2008). Their negative change can trigger political dissatisfaction, support for populism, and institutional decay (Gozgor, 2022, pp. 240–242). Additionally, this research employs relative performance measurement compared to the EU average to examine the perception of economic prosperity (Przeworski, 2016; Jacob, 2024).

Methodologically, the study employs a quantitative panel data approach combining linear and dynamic analysis models. The framework and analysis structure follow the research of Jacob (2024). Results of linear regression with a fixed effects model are then compared to results of dynamic estimators with the ability to address endogeneity and autocorrelation (Wawro, 2002; Bowman, Lehoucq, Mahoney, 2005). The dependent variable, *backsliding,* is operationalized using the compound democracy index gathered from the respected V-Dem source (Coppedge et al., 2025; Jacob, 2024, pp. 354–355). Control variables are introduced to isolate the economic effects.

This study first provides a detailed literature review on the topic of democratic backsliding. Chapter 2 delves into existing scholarship on backsliding and various dimensions of democracy as well as voting

behavior and public suffrage and resistance. Chapter 3 outlines the theoretical framework guiding the empirical research and defining key concepts. Chapter 4 details the methodology and presents data sources, operationalization of variables, and used econometric models. Chapter 5 presents the empirical results of the analysis, followed by a short section on limitations in Chapter 6. Discussion over the findings can be found in Chapter 7. Finally, a conclusion can be found in Chapter 8 at the end of the paper. This study is accompanied by an online appendix.

2. Literature review

2.1. Democratic backsliding

Democratic backsliding refers to the "*state-led debilitation or elimination of any of the political institutions that sustain an existing democracy*" (Barmeo, 2016, p. 5); this process is usually driven by autocratic leaders (Haggard & Kaufman, 2021, p. 1). Elected politicians inducing democratic backsliding progressively undermine liberal democratic institutions and norms. This makes them distinguished from coups, revolutions, and self-coups (Bermeo, 2016, p. 14; Svolik, 2020, p. 5).

The topic of democratic backsliding has been examined from various different angles. Some scholars have studied the origins of democratic backsliding (Coppedge, 2017; Diamond, 2021; Gamboa, 2022; Haggard & Kaufman, 2021; Miller, 2021; Waldner & Lust, 2018). Others researched how citizen preferences and behavior influence system changes at the country level (Claassen, 2020; Dalton & Welzel, 2014; Welzel & Inglehart, 2008), while some focused on political elites' behavior towards democratic institutions (Albertus & Menaldo, 2018; Bartels, 2023; Cleary & Öztürk, 2022; Capoccia, 2005; Kneuer, 2021; Levitsky & Ziblatt, 2018; Mainwaring & Pérez Linan, 2013; Ziblatt, 2017). A less explored topic in academia is the topic of constraining political elites by the citizens.

2.1.1. Forms of backsliding

Populism is one of the many forms of democratic backsliding (Grzymala-Busse, 2019). In central Europe certain parties, including parties in power, explicitly emphasize ethnic differences and contribute to the polarization of the society (Vachudova, 2020, 2021). In the USA this polarization can be visible in holding extreme positions on the conservative-liberal dimension on specific topics such as economic policy or migration to invoke emotions and captivate voters (Baldassarri & Gelman, 2008; Fiorina et al., 2005; Hetherington, 2009). Several terms were adopted by the academy to characterize the level of tolerance and polarization. Anti-pluralism was adopted to capture the elites' ability to govern with respect and tolerance for minorities (Jacob, 2024). The citizen level of polarization is often demonstrated using partisanship, which reflects the degree to which citizens' identities align with ideology, such as liberals in the USA to the Democratic Party, or with social identities such as religion (Levendusky, 2009; Mason, 2018).

Many recent democracies have seen the emergence of anti-pluralist parties rejecting the principles of tolerance and restraint (Linz, 1978; Levitsky & Ziblatt, 2018; Medzihorsky and Lindberg, 2024). Politicians and parties in a functioning democracy often have to limit their power in respect to the spirit that has created the establishment and has guided the system through history. One of the cornerstones of modern Western democracy is the principle of tolerance. Recognizing the legitimacy of political opponents and treating them as equals allows fair competition despite ideological differences (Levitsky & Ziblatt, 2018).

The presence of partisanship or anti-pluralist elites, respectively, does not necessarily mean an automatic threat to democracy. In democracies where multiple parties need to cooperate in order to gain governmental power, such is the case in many European countries. Despite their relatively high gain of votes in the elections, the anti-pluralist parties and politicians can find themselves in a position of isolation. Pluralist parties adhering to the principle of tolerance and self-restraint can opt out of forming a coalition with anti-pluralist parties. This is a principle used by political elites to defend their chances of reelection by adhering to the spirit of democracy by sustaining the established system. In systems of two competing parties, such as the case of the USA or Great Britain, the populists cannot be diverted from power after a dominant win. Elites in such countries are limited to harming the prospects of anti-pluralist candidates being selected (Levitsky & Ziblatt, 2018).

Even if the anti-pluralists assume power, the democracy may still survive and be intact. Research by Medzihorsky and Lindberg (2024) proved a democratic decline of 29% in subsequent years when anti-pluralists take governmental power. In contrast, only 4% of democracies decline in subsequent years if pluralist parties control the government. Leaving 71% of democracies intact in the immediate years after anti-pluralists gain power. Additional research of the reasons behind different types of anti-pluralists is necessary to understand why certain parties undermine democracy while others do not.

2.1.2. Resistance to democratic backsliding

The constraining factors imposed on anti-pluralist governments can influence the way the anti-pluralists dismantle democracy (Jacob, 2024). Institutional and constitutional restrictions can limit the actions of any government. Such limitations can be in the form of vetoes, judiciary institutions, or majorities in parliament. Moreover, international cooperation and democracy promotion can lead to the strengthening of the democratic institutions (Meyerrose, 2020).

Another limitation can come in the form of election punishment. Democratic backsliding usually is a progressive process characterized by perseverance of electoral competition slowly tilting in favor of the incumbent. The electorate might acknowledge the situation and restrain the anti-pluralist by electing other candidates, thus hurting their power in the aftermath (Lührmann et al., 2020). In electoral democracies, the citizens affect the government in two principal ways: *electoral turnover* and *rational anticipation*. These two principles lead to policy changes of already elected politicians (Stimson et al., 1995). Preference for the same ideological affiliation highly influences the choice of electorate. In the context of a regime change, the citizens can choose between pluralist parties embracing democratic values and parties that do not. Although the election of anti-pluralists is not necessarily linked with the demand of the electorate to dismantle democracy (Wuttke et al., 2022). Modern scholarly research has focused on the reasons behind electing anti-pluralist parties by introducing survey experimental evidence. The evidence shows that citizens prioritize co-partisans over democratic politicians as leaders (Carey et al., 2022; Graham & Svolik, 2020; Gidengil et al., 2022; Svolik, 2019). Shared ideological standpoint is, according to the experimental research, strong enough to make citizens prioritize candidates who made undemocratic claims. The subjective nature of the spirit of democracy makes the issue more problematic. Voters can be unaware, apologetic or apathetic to the perceived violation of democratic spirit.

2.1.3. The purpose of democratic backsliding

As mentioned before, the key assumption is the main motivation of the elites is to retain the power (Stimson et al., 1995, p. 544). Anti-pluralist parties pursue, from a theoretical perspective, two goals. The politicians are part of the political elites and therefore aim to be reelected; the party itself then aims to gain and hold as much power as possible. Simultaneously, the political goal is to reform democratic institutions and reduce the chances of political turnover to a minimum (Vachudova, 2021, pp. 11-13). The reforms are usually addressed in the first stage of the judiciary system, media, political opposition, and/or executive constraints of the government (Bermeo, 2016, pp. 11-13).

For anti-pluralist parties in power, the policies implemented are a result of a pragmatic choice of balance between their proclaimed political goals and the (expected) turnover. Policies undermining democracy can be controversial and unpopular. In situations where policy reform is expected to bring serious negatives, the form of public support. The political elites usually refrain from further reforms to

preserve their chances of reelection. Game-theoretic approaches point out the incumbents' key aim is to secure another tenure at the office, as it allows further reforms and increases chances to achieve the ultimate goal in the longer term, which is to retain power indefinitely. (Chiopris et al., 2021; Luo & Przeworski, 2023). This claim is also supported by the research of Gamboa (2022). The author argues that political actors seek office to implement their policy preferences, and since it is the only way to legally change policies, the top priority for any candidate is to succeed in an electoral contest.

Given the presumption that anti-government movements' primal driver is power, in power the actions of dismantling democracy are sidetracked. The process of democratic backsliding can be effectively influenced by active involvement, such as demonstratively rallying and by active opposition in the established institutions. The active opposition from the citizenry creates anticipated electoral punishment. Anti-pluralists faced with active opposition should prioritize their primal goal of reelection (public support) over their secondary goal of affecting democratic institutions (democratic backsliding) (Bermeo, 2016, p. 14). The process of dismantling democracy is progressive and anticipated rather than sudden and surprising. Anti-pluralists carefully select their targets according to the expected public reaction and react to the active public resistance. The democratic backsliding happens slowly in the beginning, as anti-pluralist governments need to find one brand, norm, or value that can be affected with little to no resistance from the general public and other democratic institutions (Jacob, 2025, pp. 354-355). In summary, the anti-pluralist parties in power are confronted with two opposite goals. On one side, the party needs public support to win the democratic elections. On the other the party wants to dismantle the democratic institutions, which comes with negative public backlash. In countries where the citizens' commitment to public affairs is weak, the antipluralists face lower constraints and have more possibilities to undermine democracy. In democracies where the public actively and firmly defends its institutions, norms, and values, the government risks provoking a harsh backlash by implementing undemocratic reforms.

2.1.4. Measurements of democracy

Research of democracy and its backsliding often utilizes different approaches to measurement of the effect (Haggard & Kaufmann, 2021, pp. 1–14). Empirical studies such as Gidron, Adams & Horne (2020) or Barton & Gabriele (2024) measure democratic development by election results of parties labeled as populist, illiberal, or anti-pluralist. Other research, such as Carey et al. (2022), Graham &

Svolik (2020), or Gidengil (2022), relies on survey responses to draw their conclusions. Other research relies on a comparable index reflecting a compound value for the number of measurements (Jacob, 2024; Kulachai, Lerdomornsakul & Hormyamyen, 2023). The Varieties of Democracy (V-Dem) project is widely regarded as the most comprehensive data project on democratic development (Classen, 2020, pp. 4-5). V-Dem features a number of variations of democracy. The fundamental concept is called polyarchy and plays an essential role in evaluating any other democracy type. The following description is provided for this index: "*(...) the core value of making rulers responsive to citizens, achieved through electoral competition for the electorate's approval under circumstances when suffrage is extensive; political and civil society organizations can operate freely; elections are clean and not marred by fraud or systematic irregularities; and elections affect the composition of the chief executive of the country. In between elections, there is freedom of expression and an independent media capable of presenting alternative views on matters of political relevance."* (Teorell et al. 2025, p. 2046). Jacob (2025, pp. 354–355)

2.2. The role of citizens

The majority of the recent studies have focused on the direct effect of citizens on their government through elections. The electoral turnover has been in the spotlight of the studies. The main driver for politician behavior is widely accepted to be the chances of reelection. The overall goal of a politician is to gain and remain in power. Thus, their moves should be guided by the general public and the electorate. Gaining influence through publicly popular moves and policy changes while avoiding the negative ones. This topic is in-depth explained by Stimson et al. (1995, p. 545). The effect of the electorate on the government can be quite easily measured through the lenses of electoral turnover. But little research has been done exploring the government's conduct towards democratic institutions. Currently available research shows that the long-term public commitment to democratic values and the electorate's preference and behavior can nurture democratic development (Dalton & Welzel, 2014; Welzel & Inglehart, 2008). A recent study conducted by Claassen (2020) suggested a direct link between the democratic orientation of citizens and the institutional trajectories, including democratic backsliding.

2.2.1. Voter´s impact on the government

Important to understand is the relationship between citizens' preferences and the democratic backsliding. Ordinary citizens do not have the power to induce any major institutional changes. This is in the hands of elected officials, the political elites. Scholars recognize several pathways on how the citizens can influence the elites and eventually influence the process of democratic backsliding. A direct link besides the election is yet to be found and recognized. The main question thus is how the citizens can influence the government's behavior towards democracy. The underlying assumption is that it is possible to change the governmental position from the general public position. Jacob (2024, p. 351) argues that citizens' preferences for living in democracy over authoritarian governance constrain even anti-pluralist governments' decisions to undermine democracy. This preference has the ability to influence the political elites even without replacing them (Burstein, 2003; Kingdon, 2014; Manza & Cook, 2002; Stimson et al., 1995). Jacob (2024) argues that the key decisive factor is the citizens' commitment to democratic governance that puts constraints on the elites in power.

The active resistance in the form of a demonstration, a large-scale strike, or a rally as an immediate reaction to a reform is called *public backlash* and is perceived as a form of punishment mechanism. Large-scale events such as the one mentioned demonstrate public support on some matter and have the strength to influence the governmental position on a given topic. Therefore it is argued that democracies are more resistant in societies where citizens' engagement in public affairs is high. In democracies where the active engagement is relatively low, for instance as a result of recent historical persecution of political opposition, the effect of mass public mobilization can have serious consequences for defending the democracy. Overall, the anti-pluralist governments can expect rigorous resistance to induce institutional change in a country with strong opposition parties, protest movements, and organized civil society (Cleary & Öztürk, 2022; Dimitrova, 2018; Laebens & Lührmann, 2021; McCarthy, 2023; Bernhard et al., 2020; Greskovits, 2015).

Instances underlining the importance of active public opposition can be found both throughout history and in the contemporary world. In 2023 in Mexico, tens of thousands of demonstrators flooded the streets in protest of the Mexican President Andrés Manuel López Obrador's proposal to change the nation's electoral commission and to reduce the funding (Reuters, 2023). At the same time in Poland, demonstrations erupted after the government announced undermining the checks and balances,

including the judiciary system and media pluralism (AP News, 2023). And in France, protests were triggered by President Emanuel Macron's pension reform without having a legislative majority for the proposal (France 24, 2023). In Israel the trade unions were prompted to call for general strikes after the Prime Minister Benjamin Netanyahu announced a plan to overhaul the judicial system (Gidron, 2023). All these examples demonstrate the role of the general public in defending the democratic norms and their role in constraining governments in their actions to stretch their power and violate the values of democracy.

Large-scale mass demonstrations commonly do not make the government yield in the matter of their target. Many of the governments in the cases mentioned above implemented their proclaimed policies despite forceful public resistance. The importance of such a display of support for democratic norms (or resistance to their violation) lies in the price the government has to pay in the form of publicity. In the extreme situations, the government is affiliated with too many scandals and has faced numerous severe public displays of resistance and can face a revolution, as it happened in many post-communist countries (Kuntz & Thompson, 2009). In many countries behind the Iron Curtain, the governments became too negatively perceived and faced severe public unrest. Citizens wanted liberalization and democratization, resisting the left-wing, authoritarian systems. Although these regime transitions are relatively rare, such displays of public preference send signals to the government. Over a longer period of time, these signals build up. In a democracy with free elections and political competition, the anti-pluralists will eventually face *election turnover,* and the regime will survive with changed political elites. In countries with no democratic processes, the *public backlash* progressively increases with each unpopular policy until the point of transition (Przeworski & Limongi, 1997; Przeworski, 2000, 2019).

2.2.2 Voting behavior and preferential choice

Literature also provides extensive evidence on voting behavior affected by economic events. Gozgor (2022) used the theoretical approach of other scholars (Acemoglu, Egorov & Sonin, 2013; Berliant & Konishi, 2005) and researched the effects of economic uncertainty, measured by the World Uncertainty Index, on election results of populist parties across Europe in the period of 1980 to 2020. His research provided evidence that insecurity and negative economic shocks lead to increased preferences for left- or right-wing populist parties in Europe. Other scholars argue that the voting behavior is a complex process that is shaped by more factors. Kulachai, Lerdtomornsakul & Homyamyen (2023) provided a

comprehensive broad overview of factors influencing voters' preferences. Rational choice based on objective factors was mentioned as a driving force among party identification and social psychology. Economic factors were found to have a severe impact on the setting of the election campaign. With the introduction of rhetoric, marketing, and emotions, the influence of economic factors is not as clear as in the initial phases (Kulachai, Lerdomornsakul & Hormyamyen, 2023, pp. 12-13). Voters' selection of vital points for their candidates and policymakers is subject to political campaigns, which change over time and with social context. Other research contributes changing voting preferences to the shifting identity of political parties. Bornschier et al. (2021) argue that the traditional left and right cleavage of the political spectrum bundles issues and shapes the outcome of elections. Authors provide evidence of a new left-right cleavage that offers mirroring, centralized cosmopolitan, national, and cultural identities. Economic division of society and characterizing based on income, wealth, or inequality still persist. Other factors such as education, social cohesion, or social affiliation also seem to play an important role (Bornschier et al., 2021, pp. 2104–2112).

2.3. Targets and tools to democratic backsliding

After understanding the relationship between the general public, the democracy, and the anti-pluralists. A question arises in connection to the underlying motives behind the public involvement and commitment. Jacob (2024) tested an elite-citizen interaction hypothesis: "*As anti-pluralist rhetoric within a government rises and citizen support for democracy declines, more democratic backsliding occurs*" (p. 354). After the democratic backsliding unfolds, the governments acquire a broader array of tools to shape public opinion, lowering the chances of *public backlash* (Vachudova, 2021, p. 490). Common early targets of anti-pluralist governments are the media outlets with the ability to control the flow of information to the general public. By doing this, the governments aim to limit the amount of reports about the undemocratic policies implemented and to control the framing of the news so they are more positively accepted in the society (Kwode et al., 2024; Metin & Ramaciotti Morales, 2024). Restricted and controlled reporting leads to lower chances of electoral turnover and limits the societal backlash. Government-aligned media might misinform the general public that an undemocratic policy, constraining a power of a democratic institution, is enhancing the democracy. Or the media could shift a narrative about a certain transgression (conflict, violation of power, or boundaries) trying to elevate a feeling of relief in society as the issue is resolved and escalation is not possible (Grillo & Prato, 2023).

2.3.1. The use of media and emotions

Uncertainty and fear are emotions very often used in connection with populists or anti-pluralists. Safety or security has been found an important deciding factor for citizens when electing their representatives (Gratton & Lee, 2023; Kaldaru & Parts, 2008). Democratic backsliding targets democratic institutions, and politicians often utilize rhetoric against the liberal establishment, that is, the freedom of speech, civil rights, and the rule of law (Huq & Ginsburg, 2018; Luo and Przeworski, 2023). Anti-pluralist governments often abuse their power and exert control over the media to issue misleading information, harass opposition politicians and bureaucrats, and influence popular support (Gratton & Lee, 2023, pp. 340–341). In times of crisis, voters may prefer to choose such illiberal politicians that, by violating constitutional constraints, offer less liberty but promise higher economic security.

According to research, trust and cooperation are crucial for economic performance. "*The theoretical reasoning behind these empirical outcomes states that social capital facilitates economic exchange by reducing transaction costs and risks; as a result, fewer resources need to be wasted for formal contracts and monitoring."* (Keldaru & Parts, 2008, p. 32). Social capital is a term that describes the overall relations in the society. High social capital reflects high trust, connection, and cooperation in the society from which a high activity can be derived. Norms and values are part of the shared social capital that creates networks and facilitates cooperation within or among groups in society (OECD, 2001, p. 41; Kaldaru & Parts, pp. 32. The social capital formation can be analyzed on different levels: the micro (personal), meso (community or groups), or macro (regional, national, or international). The macro-level social capital refers to the quality of governmental institutions, which can be understood as the rule of law, absence of corruption, transparency, contract enforcement, and efficient administrative and legal systems (Olson, 1982; North, 1990). In a broader context, the capability and credibility of the system rely on social cohesion (Knack, 1999; Meier, 2002).

2.3.2. Social Capital

Social capital is also connected to human capital, which describes individual skills, knowledge, and abilities that are used to create value through interaction in society. Human capital is fundamental for creating high social capital, alongside fractionalization and economic inequality (Rupasingha, 2002). The state's investments in areas such as healthcare, education, or infrastructure positively influence the development of human capital (Romer, 1986; Lucas, 1988). Theoretical research such as Kaldaru &

Parts (2008,p. 31-32) states that redistribution and public investments are inefficient in the short term but lower inequality and increase social cohesion in the long run. The governing parties should therefore choose balanced policies to avoid steep inequality, to provide all people access to the services needed for creating, maintaining, and improving human capital, and to promote economic growth.

Empirical research on micro-level social and human capital showed a positive correlation with democratic governance (Almond and Verba, 1963; Przeworski, 2016), improved the quality of economic policies (Easterly and Levine, 1997), and increased the efficiency and honesty of public administration (Putnam, 1993; Knack, 2002). More recent research does not present such one-sided conclusions. Despite the relatively stable growth of the economy, the quality of healthcare and education since the 1990s in countries of the western world is witnessing democratic backsliding (Acemoglu, Naidu, Restrepo & Robinson, 2015; Acemoglu & Robinson, 2009). Some research based on surveys and observations goes even further to call this age the twilight of democracy (Daneen, 2019).

Comparative studies and statistical research, such as Jacob (2024) or Acemoglu, Ajzenman, Aksoy, Fiszbein & Molina (2022), reached different conclusions. Both studies focused on democracies, and both included surveys and societal data as well as economic data. Jacob (2025) studied anti-pluralism and the role of polarization in society. In his conclusion, the key factor in democratic backsliding is the firmness of society, or, in other words, the electoral turnover and public backlash (Jacob, 2025, pp. 356-367). The latter study concluded it is the exposure to democracy that is decisive in a democratic crisis. Based on the model, the groups with more direct exposure to democratic institutions showed more support for democracy (Acemoglu, Ajzenman, Aksoy, Fiszbein & Molina, 2022, p. 22). Both studies specifically mention values and active civic society over economic reasons.

The role of civic society prevails as a key factor in the topic of democratic backsliding, whereas the economic factors are overshadowed. In most instances, the economic factors such as income levels, level of public investments, unemployment, or the accessibility of public services are indirectly or directly involved in the analysis. The scholars later conclude that these variables play an important role when researching the support for democracy. The role of economics in democratic backsliding thus cannot be overlooked. Questions such as which areas of economics seem as the most influential for democratic support or whether certain economic factors can to some degree predict electoral turnover.

2.4. Research questions

The literature review provided extensive data on democracy, the process of democratic backsliding, and the role of the economy in voter behavior. The literature does not specify the exact macroeconomic indicators that are influential to the backsliding. Therefore, the following main research question arises: *How do economic indicators influence democratic backsliding?* The main research question will set out to explore what areas of the economy have relevance to democratic backsliding and will provide interpretation and explanation. The time period and geographical area will be limited to the EU between the years 2011 and 2020 following sections will present the reasons for this specific choice of data. Additional research questions will be present in the paper: *How do relative economic performance indicators influence democratic backsliding compared to absolute economic indicators in the EU?*

3. Theoretical framework

This chapter provides a theoretical framework for analyzing the democratic backsliding. The main purpose is to create a framework to analyze and understand data on backsliding and data on economic performance. This chapter draws on insights from political science and economics (Jacob, 2024; Alcemoglu, 2019, 2021; Kaldaru & Parts, 2008; Gozgor, 2021). The main focus is put on understanding the different roles of political elites, citizen behavior, socioeconomic factors, and institutions to provide understanding of the underlying complex phenomenon.

3.1. Defining Democratic Backsliding

Democratic backsliding refers to the state-led decline in the quality of democracy (Bermeo, 2016). This process can involve, but does not necessarily restrict itself to, gradual erosion of democratic institutions and norms, usually done by elected officials. The main distinction between democratic backsliding and regime changes is in its pace as well as in the tools employed. The erosion of democracy happens progressively over time and does not involve violence. The slow characteristic and absence of using physical power to attain proclaimed goals distinguish this process from coups, revolutions, and other regime changes (Svolik, 2020). The erosion of democracy can take on many forms and happens mainly in two areas: the values and the institutions (Jacob, 2024, pp. 349–355; Bermeo, 2016, pp. 5–7; Svolik, 2020). Among the most common targets of undemocratic changes are the checks and balances of the state, political opponents and dissent, and the election process.

3.2. The role of Political Elites

A significant portion of literature emphasizes the role of political elites in driving the democratic backsliding. The behavior of elected officials and public figures with anti-pluralist or populist tendencies often rejects the legitimacy of their opponents and often disregards democratic norms (Linz, 1978; Levitsky & Ziblatt, 2018). The active role of the electorate in suppressing the power of the government or elected officials is a less explored topic, but election turnover and active resistance have been identified as relatively effective tools (Jacob, 2024).

3.3. Citizen support and Government legitimacy

The role of citizens in constraining or allowing democratic backsliding is a key focus of the theoretical framework. Research such as Jacob (2024) argues for the strong role of citizens in questions of democratic backsliding. In countries with active involvement of citizens in public affairs, it is argued to be connected with tender resistance and higher expected backlash in response to unpopular moves. Support for democracy functions as a positive force reacting to democratic backsliding. Countries with high support for democracy can create a buffer against backsliding by raising the costs for would-be anti-pluralists, populists, or autocrats. Positively linked to citizens' support for democracy is the exposure to democracy (Acemoglu et al., 2021). Longer experience with democracy seems to foster a self-reinforcing environment (Acemoglu et al., 2022). Electorate punishment (or democratic backlash) generally occurs through two main mechanisms: the election turnover and public resistance.

Figure 1 provides a visualization of the theoretical relationship between citizens, their support for democracy, and democratic backsliding. The citizens constantly mutually interact with the government, which is done through constraining or enabling the actions of the other. Incumbents who decide to attack democratic values or institutions must expect resistance in the form of electoral punishment and public backlash. Strong civil society with rooted support for democracy, its values, and its institutions is expected to exhibit much more active resistance. Weak support for democracy then enables further destruction of the establishment.

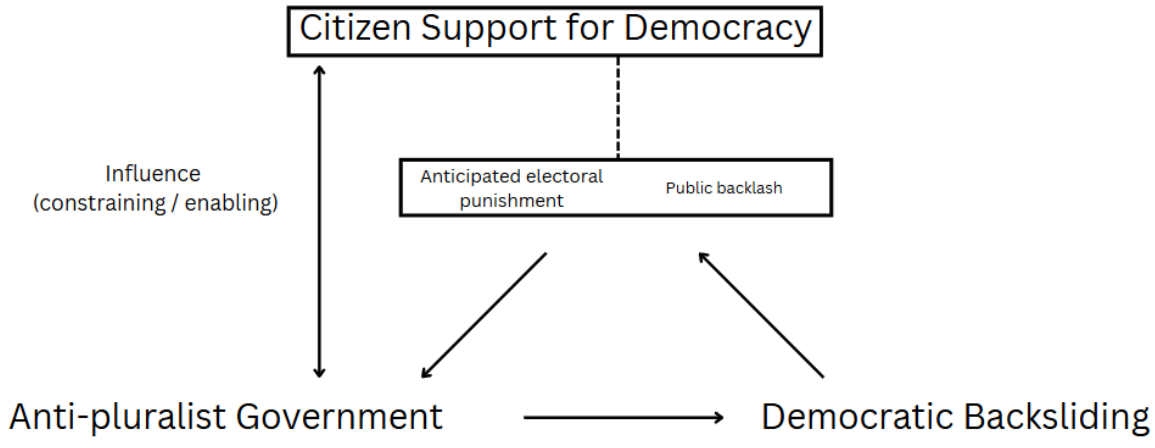

Figure 1: Citizen Support for Democracy

3.4. Socioeconomic factors

Economic situation and equality are other important factors to consider in research of democratic backsliding (Kaldaru & Parts, 2008). Academic discourse has provided evidence of a correlation between the overall economic performance (measured in GDP), income (measured in GDP per capita), and inequality to democratization and subsequently suggested their role in democratic backsliding. This theoretical approach is based on research that highlights the importance of social cohesion, trust, and cooperation in society for defending democracy. The evidence provided suggests that more equal and prosperous societies may be more resilient to democratic backsliding. The evidence is also indirectly supported by research on modernization and democratization. Extensive empirical evidence suggests a strong correlation between democratization and economic prosperity. However, some research provides contradicting data. According to some research, economic prosperity creates legitimacy for the current establishment and over time can lead to support. Modernization theory of conditional development suggests that rich undemocratic regimes can exist, survive, and even be reinforced under the condition of stable economic development. Under these conditions the prosperity leads to tolerance of lower civil liberties. Similar processes could appear in the democratic backsliding as suggested by academic papers focused on this topic (Acemoglu et al., 2009, 2022; Dalton & Welzel, 2014; Haggard & Kaufman, 2021).

3.5. The Role of Institutions

Strong institutions are a key component of democratic resilience. Some research even suggests that firsthand personal (positive) experience leads to higher support for democracy (Acemoglu et al., 2021, pp. 1–5). Rule of law and quality of governance lead to more effective establishment, higher trust, and have an impact on economic performance (Kaldaru & Parts, 2008; Mauro, 1995, pp. 690–695). Evidence indirectly suggests that democracies delivering positive outcomes are more likely to generate citizens' support (Acemoglu et al., 2021). Imperative is the effective institutions being able to maintain the establishment and being able to provide for their citizens.

3.6. Structural and Dynamic factors

The provided framework explained the role of the economy and its effects on the democracy. Positive development is expected to reinforce the regime, whereas negative development is expected to

undermine the regime. Strong, effective, and reliable institutions providing value to their citizens might over time create temporary tolerance of the electorate to negative development. In the context of the EU between the years of 2011 and 2020, democracy is assumed to be the initial regime. Positive development is assumed to deliver reinforcement to the regime, whereas negative development is assumed to deliver democratic backsliding (Jacob, 2024; Haggard & Kaufman, 2021).

Political elites, citizens, the economy, and institutions interplay with one another, creating a complex matrix of interactions (Jacob, 2024; Haggard & Kaufman, 2021). The underlying theory suggests that economic development is an underlying enabler of democratic development (Przeworski & Limongi, 1997; Luo & Przeworski, 2023). It is yet unclear whether the relationship is a linear positive or negative correlation, causality, determinant, or condition. Certain economic factors should predetermine the upcoming political shift. Namely, in high inflation, low economic output or unemployment is expected to deliver rapid polarization, partisanship, and discontent (Gidron, Adams & Horne, 2020, pp. 50–56). The exact effects of negative (or positive) development of economic factors should result from structural factors. The structural factors include various complex components such as human capital, social cohesion, or level of economic development (Kaldaru & Parts, 2008). Based on the complex interaction of the society, material predisposition of a country, and historical development, the structural factors have an impact on economic performance, which is measured annually. Furthermore, the structural factors have an effect on the current level of support for democracy (Jacob, 2024, pp. 356–359). The structural factors are considered to have a persistent effect on democratic values, and therefore they have to be accounted for in the dataset.

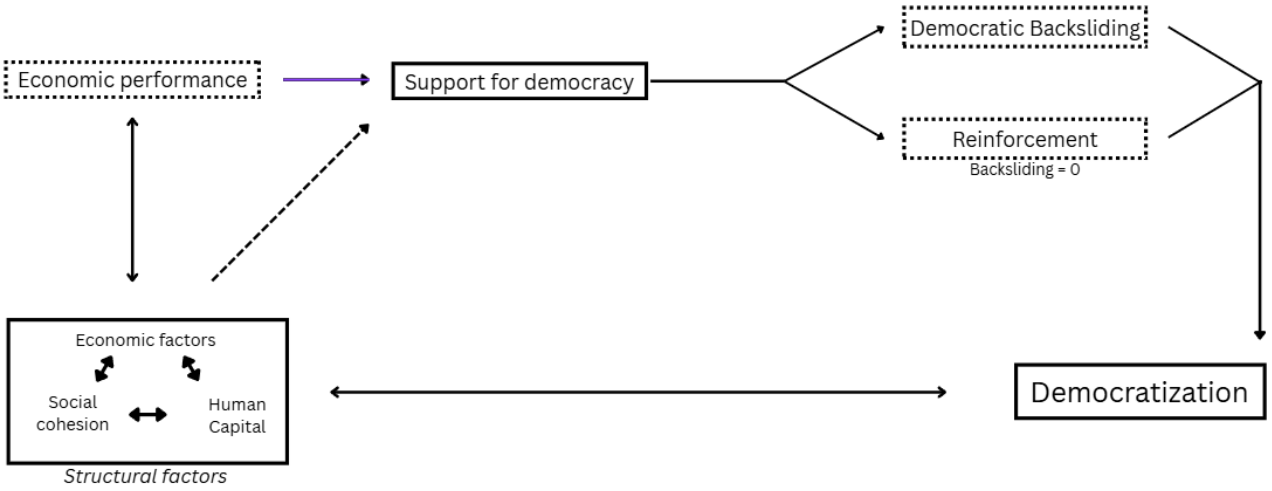

Figure 2: Economic performance and Democratic backsliding

Figure 2 provides visualization of the theoretical framework. It is assumed that democratic backsliding is a result of weak support of democracy. The analysis should not only aim to provide evidence on the relationship between the economic performance and support for democracy but also identify important areas of the economy.

3.7. Integrated theory

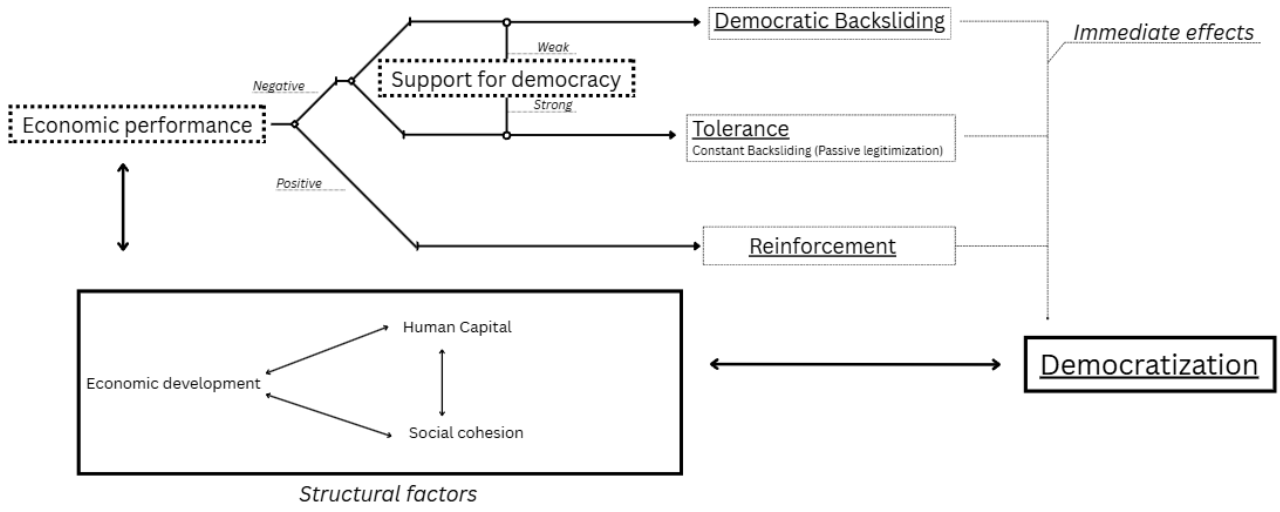

Figure 3: Integrated theory

The Figure 3 presents a visualization of the integrated theory. There are three expected results based on economic performance. Positive economic development should lead to reinforcement of democracy (Przeworski & Limongi, 1997; Luo & Przeworski, 2023). Negative economic performance should lead to two outcomes based on the support for democracy (Gidron, Adams & Horne, 2020; Jacob, 2024; Haggard & Kaufmann, 2021). If a country has a strong-rooted spirit of democracy, high active involvement of citizens, and a well-functioning society, poor economic performance could be tolerated without minimal backsliding. In countries of low resistance to dismantling of values and institutions, it is expected to see subsequent severe democratic backsliding (Bermeo, 2016; Haggard & Kaufman, 2021).

The theory is based on the assumption that the structural factors have an effect on economic performance, which in turn has an effect on structural factors (Helliwell, 1996; Maestas, Mullen & Powell, 2023). Empirical evidence also suggests that structural factors such as economic development, education, or experience with democracy have an effect on democratization (Acemoglu et al., 2021; Przeworski & Limongi, 1997; Gidron, Adams & Horne, 2020). The structural factors and level of democratization have their effects over time, whereas the economic performance and support for democracy are expected to be dynamic and fluctuate. Subsequent years of negative economic performance are expected to yield negative or neutral democratization. According to the theory, years of stable economic prosperity are expected to bring legitimacy to the establishment, reinforcing their power (Acemoglu et al., 2021). Under this framework, it is possible for undemocratic incumbents to gain power due to turnover as an aftermath of certain economic shocks and be allowed to dismantle democracy in the following years thanks to economic prosperity (Gidron, Adams & Horne, 2020; Jacob, 2024). Reinforcement can therefore be positive or negative to democracy based on incumbents. Coding of data in combination with analysis methods allows noticing backsliding reinforcement.

Positive economic and democratic development could be a cause of endogeneity. This would be detected during the analysis. The backsliding variable would not be affected due to operationalization. To explore the possible reinforcement (or tolerance to backsliding), this study analyzes not only democratic backsliding during the time period of 2011 and 2020 but also analyzes the democratization. Despite the contradicting nature of democratization and democratic backsliding, it is possible for a variable to attain positive correlation for both dependent variables. Employment of multiple statistical

analysis methods would indicate whether the result could be caused by common errors connected with linear regressions or if there is a potential relationship. A positive (or negative) strong coefficient of a variable, democratization, and backsliding at the same time could indicate possible endogeneity or non-linear correlation. In such instances the results of OLS and GMM models will be compared to provide evidence (Hainmueller, Mummolo & Xu, 2019; Wawro, 2002). Results contradicting academic discourse or attained empirical evidence on the matter might present a potential non-linear correlation hinting at possible conditions for backsliding. Empirical evidence on modernization suggests the existence of exceptional conditions that apply under constant economic prosperity (Przeworski & Limongi, 1997; Przeworski, 2016, 2019; Luo & Przeworski, 2023). Undemocratic incumbents could be tolerated as a result of positive economic development. Such exceptional situations could occur in the EU between the years 2011 and 2020. The theoretical approach employs mixed methods to diagnose and analyze such data. Resulting data would indicate a condition for maintaining power as an undemocratic incumbent.

Economic prosperity is a term that has many measurements and approaches (Jacob, 2024; Gidron, Adams & Horne, 2020; Dirksen et al., 2022). One of the aims of this study is to explore whether absolute development or relative development has an impact on democratic backsliding. This will be tested using mixed approaches. In the OLS analysis, both absolute and relative variables will be present. An additional robustness check using an alternative dependent variable will be employed to confirm the potential findings. Furthermore, the dynamic model (the GMM) will be used to provide data. It is expected to identify potential absolute and relative variables with reliable connection to the backsliding. Literature and theories suggest a strong influence of institutions, and therefore variables reflecting the role of institutions are expected to yield significant results. More questionable is the economic performance related to individual well-being. Inequality of income can be measured compared to other countries in the dataset or can be compared as an absolute annual change. Control variables will be present in all tests to isolate the economic effects of the variables.

4. Methodology

This chapter details the empirical strategy used to research the relation between the economic indicators and democratic backsliding in the European Union between the years 2011 and 2020.

4.1 Research Design

This study employs a quantitative, observational panel-data design based on annual country observations to examine the relationship between economic development and democratic backsliding (Jacob, 2024). The panel features 270 observations and a total of 20 observed variables. Creating one data panel allows cross-country and cross-time comparison while controlling for unobserved heterogeneity (Hainmueller, Mummolo & Xu, 2019; Wawro, 2002; Bollen, 1980; Bowman, Lehoucq, Mahoney, 2005).

4.2 Data Sources and Sampling

The observations were limited to include countries with membership to the European Union valid to the end of the observation period. The observation period starts in 2011 and ends in 2020. Resulting in an observation period of 10 years.

The final count of observed countries is 27. Two countries have changed their EU membership during the observation period. Croatia gained EU membership in 2013, and the United Kingdom revoked theirs in February 2020 after the national referendum in 2016. Data on Croatia are included in the dataset starting from 2011. Whereas the United Kingdom (UK) data were not collected as the country decided to leave the EU in 2016, effectively losing the membership officially in 2020. The events following the national referendum in the UK in the period called Brexit are described as very dynamic, with characteristic political and economic turmoil on a national level (Golec et al., 2017; Whyman et al., 2022; Dhingra & Sampson, 2022). The volatility together with missing EU membership supports the choice of not including this country in the dataset. Other countries with relations to the EU, such as Norway, Iceland, or Switzerland, were also not included in the dataset.

Annual data for each country were gathered and are valid for the respective year of observation. For instance, data for the observation year 2011 incorporate the entire calendar year from 01.01.2011 until

31.12.2011; the observations for the year 2015 are valid for the calendar year 2015, respectively (Copedge et al., 2025; World Bank, 2025; Eurostat, 2025).

The primary dataset aggregates 270 observations categorized by the year of observation for each of the 27 observed countries. The following indicators were observed: Liberal democracy index, Polyarchy index, outlays, debt, deficit, GDP growth, GDP per capita, inflation, unemployment, inequality, education, indicator of age structure, and corruption perception. Complete list can be found in table 1 below.

Table 1: List of Indicators

Categorization	Indicator	Description
Political indicators	Polyarchy Democracy Index (Polyarchy)	Main democratization measurement (Dahl, 1971; Coppedge et al., 2025)
(Dependent variables)	Liberal Democracy Index (Libdem)	Main source for the backsliding variable (Jacob, 2024)
Economic indicators	Government spending (*Outlays)*	Total annual expenditure of the GDP
(Independent variables)	National debt (*Debt)*	Total debt to GDP
	Public deficit (*Deficit)*	Overall annual balance to GDP
	Economic performance (*realGDP)*	Annual growth of real gross domestic product (GDP)
	Income (*GDPpercap*)	Annual equalized per capita income in purchasing power parity (ppp)
	Economic stability (*Inflation*)	Annual growth of harmonized consumer price index
	Unemployment (*Unemp)*	Total share of civilian labor force without occupation
	Inequality *(Giniwb)*	Income inequality measured by the Gini Coefficient
Socioeconomic indicators	Education (*Tertedu)*	Share of population with tertiary education
(Control variables)	Age composition (*Elderly)*	Share of population above the age of 65
	Transparency and effectiveness (*Corrup)*	Corruption Perception Index score (Eurostat, 2025)
Total number	N = 13	(Complete list of variables can be found in online appendix)

Table 1 sources: Political indicators (Coppedge et al. 2025); Economic indicators (the World Bank, 2025; Armingeon et al., 2024); Socioeconomic (Armingeon et al., 2024; Eurostat, 2025)

No missing observations occurred to the core indicators. Other indicators such as Libdem or GDPpercap comprise additional variables such as the Democratic Backsliding variable or the relative income level variable as will be explained in further parts of this section. The list of used variables alongside their abbreviations, source and unit of measurements can be found in the Online Appendix A.

4.3. Operationalization of Variables

The paper employs system of three different categories of variables. First section explains the dependent variables. Second section dissects the independent variables. And lastly the third section presents the control variables and dummy variables introduced to the tests.

4.3.1. Dependent Variables

The *democratic backsliding* is a crucial dependent variable employed in the analysis. The definition of the variable follows the framework provided by Jacob (2024, p. 355):

$$Backsliding_{it} = |D^{-}_{it} - D_{it-1}|.$$

The author uses V-Dem low values of the Liberal Democracy Index (*Libdem* = Dit) to calculate negative annual change in democratization to define democratic backsliding (*Backsliding*). Data are recoded to include only negative democratization. All positive development is coded with a [0] value. This variable is the primary dependent variable for the backsliding OLS and the only dependent variable for GMM models. Secondary dependent backsliding is employed in the backsliding OLS analysis for consistency check. The secondary backsliding variable (*Polyslide*) uses the Polyarchy index (*Polyarchy = Db)* scores to calculate negative democratic backsliding (Jacob, 2024; Teorell et al., 2019; Kam & Franzese, 2007).

Alternative dependent variables are employed for the additional democratization and the democratic backsliding. The Polyarchy democracy (*Polyarchy*) and Liberal Democracy Index (*Libdem*) variables are used in later parts of the analysis to explore the effects of macroeconomic indicators on the democratization processes (Coppedge et al., 2015; Knutsen et al., 2019).

4.3.2. Independent Variables

The study employs macroeconomic indicators in three forms to test their impact on democratic backsliding. The first form is their actual (absolute) value, which might be re-coded to better fit the data structure (Baltagi, 2015; Das, 2019). The second form is the relative value to the EU average. Third form was used for dummies. The table 2 below presents independent variables used in the analysis.

Table 1: Independent Variables

Category	Variable Name	Indicator / Definition	Source
Actual (Raw)	*Outlays*	Outlays	CPDS (2025)
	RealGDPgr	GDP growth	
	Inflation	Inflation	
	Debt	Debt	
	Deficit	Deficit	
	Unemp	Unemployment	
	GiniWB	Gini Coefficient	World Bank (2025)
	GDPpercap	Income	
Relative	*Avereal*	$\beta_t = \frac{(\beta t - 1 + \beta t - 2)}{2}$	GDP growth
	RelReal	$\gamma_n = Ø_{n-} \beta_n$	GDP growth
	RelUnemp	$\gamma_n = Ø_{n-} \beta_n$	Unemployment
	RelInf	$\gamma_n = Ø_{n-} \beta_n$	Inflation
	RelGDPpercap	$\gamma_n = Ø_{n-} \beta_n$	GDPpercap

β = value of the source variable; γ = value of the relative variable; Ø = Average EU value

The variables reflecting actual values were employed directly in the analysis. In the model are five relative variables. The first (*Avereal)* reflects average GDP growth over the last two periods. The other four are relative to the EU average: GDP growth (*RelReal),* unemployment (*RelUnemp),* inflation (*RelInf),* and income (*RelGDPpercap)* (Barro, 1996; Grier & Tullock, 1989).

4.3.2.1. Economic performance (GDP growth)

The variables employed should reflect on various measurements of economic prosperity, which is linked with positive democratic development (Przeworski & Limongi, 1997; Przeworski, 2000, 2019). The first measurement regards the overall economic performance and is represented by the GDP growth indicator. The indicator follows annual change in real GDP and has the ability to impact the trust in the society as well as feelings of security (Kaldaru & Parts, 2008, pp. 31-34). A positive and stable state of the economy is generally perceived as supportive of the government's legitimacy. Negative development is then linked with increased partisanship and polarization, both fueled by fear and insecurity (Gidron, Adams & Horne, 2020). Empirical evidence also suggests the importance of relative wealth or prosperity. A relative variable was introduced to follow country´s respective GDP growth compared to the EU´s average (*RelReal*). Legitimacy and the support of the government could be more founded in comparative economic performance than a simple annual change. Furthermore, a variable following the performance of the last two years is added to the model (*Avereal)*. This variable should inspect whether short-term simple indicators and the compounded mid-term indicators behave differently. In the context of European democratic backsliding lagged average of two previous periods should be sufficient. Empirical data show that governmental coalitions in Europe rarely finish their tenure and that coalition formation is a lengthy process (Conrad & Golder, 2009; Ecker & Meyer, 2015; Gidron, Adams, & Horne, 2020). The analysis should shed some light on the issue and could provide explanatory evidence.

4.3.2.2. Income level (GDP per capita)

Individual economic well-being is reflected with the income indicator (*GDPpercap),* which is considered one of the most eminent indicators for modernization and positive democratization (Przeworski, 2000, 2019; Luo & Przeworski, 2023; Kaldaru & Parts, 2008). The indicator used in this study follows the purchasing power parity data collected from the World Bank (2025). The purchasing power parity (PPP) approach was chosen to reflect on the different national currencies used in the countries of the EU. The PPP theoretically allows cross-country comparison without the requirement to adjust the income levels for exchange rates (Dornbusch, 1985). Empirical evidence supporting the effect income levels have on democratization is extensive in the academic literature (Przeworski, 2019; Kaldaru & Parts, 2008). Longer-term impacts are well researched, but the research of democratic backsliding occurs on a diametrically different scale. The definition of backsliding as provided earlier

builds on annual negative changes (Jacob, 2024). Such definition favors very sensitive determinants with immediate effects, such as, for instance, survey studies or public opinion polls (Acemoglu, 2019, 2021; Haggard & Kaufman, 2021). Research employing tools able to capture emotions, subjective feelings, and changes with perception suits the underlying conception of backsliding. Income levels do not share such flexibility. Therefore, relative GDP per capita (RelGDPpercap) was introduced with the attempt to capture the development with higher precision. The absolute value of GDP per capita reflects historical development over time and thus carries a structural factor in it. The relative value, on the other hand, reflects purely dynamic factors over the observed period.

4.3.2.3. Income inequality (Gini coefficient)

Inequality was also mentioned as an important factor for backsliding (Haggard & Kaufman, 2021; Graham & Svolik, 2020; Rupasingha, 2002). A well-functioning, equal society promotes trust and active involvement. More unequal societies feature fictionalization and partisanship and promote social clashes (Gidron, Adams & Horne, 2020). Economic equality is generally measured by the Gini coefficient, which represents the redistribution of a resource in society (Catalano, Leise & Pfaff, 2009). In the most common form, the Gini coefficient represents redistribution of individual wealth, or in other words, income inequality. This study gathers data collected from the World Bank (2025) on PPP income inequality (GiniWB).

4.3.2.4 Fiscal politics (Government spending)

Additionally, indicators reflecting on the economic behavior of the government were gathered. The first indicator follows the government spending (*outlays*) compared to the total GDP. The second reflects on the total public debt measured in GDP (*debt*). And the third variable reflects on the budget deficit the government produces (*deficit*). These variables should, in theory, reflect on the effectiveness of the government and their lavishness. High expenditures and a high pace of indebtedness can easily be exploited and make it a great target for any undemocratic politicians (Gidron, Adams & Horne, 2020). On the other hand, populists and anti-pluralists gladly employ tactics of gifts and presents to their electorate. Furthermore, common personal experience with debt can also be transferred on the state level through political rhetoric to introduce fear and undermine current incumbents (Gidron, Adams & Horne, 2020). The various tactics of undemocratic politicians were observed, researched, and presented

in previous sections. The majority employ directly or indirectly the use of public funds, making these two variables candidates for determinants of backsliding.

4.3.2.5. Economic Stability

The last two variables are the unemployment rate (u*nemp*) and the inflation rate (i*nflation*). These two variables reflect on the stability and health of the national economy. Increasing unemployment and inflation rates are linked with political turmoil, insecurity, and high election turnover due to demand for a change and stability (Haggard & Kaufman, 2021). The study employs actual rates (*unemp* and *inflation*) and the relative values compared to the EU average (*relunemp* and relative *inflation*). Testing for absolute and relative values allows for detection of possible structural differences. Low levels of inflation are considered healthy for the economy. Consistent low levels of inflation and unemployment could build trust in the establishment in power and support its legitimacy. Provided literature does not provide definite answers on whether absolute change (improvement) can cause this effect or whether the relative performance compared to other countries has more impact (Gozgor, 2022).

4.3.3 Control variables and the dummies

This section will present three control variables and four dummy variables introduced to the dataset.

Firstly, three variables were introduced to control for share of population with tertiary education (*Tertedu*), age structure of the population (*Elderly*), and corruption (*Corrup*). Which all belong to socioeconomic indicators. Their purpose is to isolate the economic effect of independent variables (Jacob, 2024).

4.3.3.1. Control Variables

Level of educational attainment is linked with higher income (Dirksen et al., 2022). A more educated population is on average also linked with a higher democratization level (Przeworski & Limongi, 1997). The variable *Tertedu* reflects the share of the population with finished tertiary education measured in percentage of the total population. The age structure also has implications for both the economy and the society (Dirksen et al., 2022). From the perspective of income, youth can expect low immediate values that increase with age. This changes in late adulthood and with the approach of retirement age, where the income levels drop. A high share of the elderly population stands not only for high expenditures connected with direct transfers due to retirement. The social system also takes a toll

as people require more social benefits and healthcare, and this share of the population does not contribute anymore to the system via taxes. Economic consequences are clear and well described (Jakovljevic, Kumagai & Ogura, 2023; Jakovljevic, 2018; Harper, 2014). The research of backsliding explains that advanced age is connected with higher susceptibility to undemocratic practices. The share of the elderly population, therefore, can have a significant impact on both democratization and democratic backsliding. The variable *Elderly* reflects the share of the total population above the age of 65 and measures this in percentage. The education and age variables data are collected from the Comparative Political Dataset (CPSD, Armingeon, Engler, Leemann & Weisstanner, 2025) dataset. The last control variable is the corruption (*Corrup*) variable. This variable uses data collected from the EU (Eurostat, 2025) data on the Corruption Perception Index (CPI). This index is the most used global index following the misuse of power in a state (Transparency International, 2025; Eurostat, 2025). High levels of corruption would indicate a weak state, low trust in the system, and low transparency of the establishment. Low corruption then leads to a more effective, transparent, and legitimate establishment with incumbents and an electorate that would more likely actively defend the system (Gidron, Adams & Horne, 2020).

4.3.3.2. Dummy Variables

In addition, four dummy variables were introduced. First, a dummy reflecting on the country's historical experience with democracy or democracy, respectively. The dummy called *Postcom* was introduced to differentiate the countries with historical experience of socialism (or communism) and state-planned economies (Libman, Obydenkova, 2021; Ivlevs, Nikolova, Popova, 2021). This dummy serves two purposes. Firstly, this dummy tests evidence provided by other research stressing the importance of long-standing experience of democracy (Jacob, 2024; Haggard & Kaufman, 2021; Svolik, 2019). Secondly, the dummy divides the results of the relatively richer and poorer parts of the sample with relative precision. The dummy has a value of [1] if a country was behind the Iron Curtain and a value of [0] otherwise. The only exception is Germany, which has received a value of [0.5] due to the former West and East Germany division.

The other three dummy variables can also be found in the table 3 below. Firstly, a dummy following an increase or decrease in relative income wealth (*RelGDPDum*). If a country improved in their annual relative income level compared to the EU average, the dummy has a value of [1]; otherwise, the value

is [0]. This dummy was introduced to test the importance of relative improvement or deterioration of relative individual economic prosperity to the rest of the EU.

Table 2: Dummy variables

Dummy variable	Name	Definition	Source
Relative wealth	*RelGdpDum*	$\delta_n = (Ø_n - \beta_n) - (Ø_{n-1} - \beta_{n-1})$ $[\delta \leq 0] = 0$ $[\delta > 0] = 1$	Income (GDPpercap)
Relative inflation	*RelInfDum*	$\delta_n = \lvert\frac{\delta n - Øn}{Øn}\rvert$ $[\delta \leq 1] = 1$ $[\delta > 1] = 0$	Inflation
2% Annual inflation	*Inf2Dum*	$\delta_n = Ø_n - \beta_n$ $[0 \leq \delta \leq 2] = 1$ $[\delta \geq 2] = 0$	Inflation

β = source value; δ = Dummy value; Ø = the EU average value

The last two variables reflect the inflation situation in a country. One dummy tests the relative comparable inflation (*RelInfDum),* while the other tests the absolute value of inflation (*Inf2Dum*). The relative dummy (*RelInfDum*) takes on value [1] if the country in yearly comparison has not deviated more than 100% from the EU average; otherwise, it takes on value [0]. Lastly, the absolute inflation dummy (*Inf2Dum*) takes on value [1] if the country has avoided deflation and inflation has not exceeded the 2% level, which is generally considered an inflationary target; otherwise, it takes on value [0]. (Shapiro, 2022; European Central Bank, 2025; Baumann et al., 2022, p. 32)

4.4. Data preparation and coding

The dataset features complete data observation. No missing observations occurred, no values had to be substituted by a proxy or alternative sources.

4.4.1 Re-Coding and Standardization

Some variables underwent recoding. Data on democratic backsliding were first calculated as an annual change of the LibDem and Polyarchy indices, respectively. Any positive results were re-coded with zero value. All data for backsliding in 2011 also have zero value, as 2011 marks the beginning of the observation period. Afterwards, the absolute value was returned, and the result was multiplied by one hundred. The final value was then positive and could reach from [0] to [100], interpreting the negative annual development of the Libdem or Polyarchy index. All other dependent variables (*Libdem, Polyarchy*) were rescaled from the value interval (0;1) to the interval (0;100). The changes were adopted according to Jacob's (2024) framework.

Independent raw values for government spending (*Outlays*), debt (*Debt*), deficit (*Deficit*), and indicators of GDP growth (*RealGDP*), inflation (*Inflation*), unemployment (*Unemp),* and Gini coefficient (*GiniWB*) remained unchanged. Data of income levels (*GDPpercap*) were rescaled by a 1:1000 ratio so that a 1-point change in the *GDPpercap* variable represents a change of equalized $1,000. Other independent variable values (*Avereal, Relreal, Relunemp, Relinf, RelGDPpercap*) remained unchanged. Control variables similarly remained in their original values.

4.5. Descriptive analysis

This section presents results of descriptive analysis for the main dependent variable (*backsliding*) and selected core economic indicators. The analysis features time-series plots that illustrate trends over the observation period from 2011 to 2020.

Table 4 below presents comprehensive results of descriptive analysis. Some variables were chosen for detailed descriptive analysis as their development over time provides important information depicting the situation during the observed period.

Table 3: Comprehensive descriptive analysis table

Variable	Min	Max	Mean	Mode	Median	St. Dev.	N
Backsliding	0.00	19.90	0.88	0.00	0.10	0.12	270
Polyslide	0.00	16.50	0.76	0.00	0.00	0.10	270
Libdem	35.80	89.70	75.65	79.50	78.90	0.67	270
Polyarchy	46.80	92.30	83.87	87.20	86.95	0.50	270
Outlays	24.52	63.28	45.46	34.80	44.89	0.43	270
Realgdpgr	-10.82	25.36	1.61	0.00	2.00	0.22	270
Inflation	-1.74	5.82	1.34	0.90	1.18	0.08	270
Debt	9.41	241.87	79.39	37.00	72.64	2.59	270
Deficit	-14.58	3.78	-2.46	-5.70	-2.10	0.19	270
Unemp	2.00	27.80	9.08	5.00	7.90	0.29	270
Giniwb	23.20	41.30	31.41	30.80	31.35	0.23	270
GDPpercap	15.75	122.11	40.91	/	36.76	1.14	270
Avereal	-7.53	14.51	1.62	/	2.14	0.19	270
Relreal	-11.81	21.70	0.00	-1.66	-0.17	0.16	270
Relunemp	-6.52	16.28	0.00	-6.06	-1.01	0.27	270
Relinf	-2.13	2.84	0.00	/	-0.04	0.05	270
RelGDPpercap	-23.81	73.12	0.00	/	-4.63	1.09	270
Tertedu	12.90	42.80	27.61	22.00	28.49	0.44	270
Elderly	11.71	23.39	18.35	/	18.67	0.14	270
Corrup	36.00	92.00	63.75	60.00	60.50	0.88	270
Postcom	0.00	1.00	0.43	0.00	0.00	0.03	270
relGDPdum	0.00	1.00	0.38	0.00	0.00	0.03	270
RelinfDum	0.00	1.00	0.44	0.00	0.00	0.03	270
Inf2Dum	0.00	1.00	0.83	1.00	1.00	0.02	270

The correlation matrix can be found in Online Appendix B.

4.5.1. Backsliding and democratization

This section presents results of the democratization and democratic backsliding variables. The main democratization variable chosen for descriptive analysis is the Polyarchy index score (Polyarchy). This compound index utilizes Dahl´s (1971) polyarchy concept and combines number of additional sources to create a compound index score of democratic development. Second variable described in this section is the Backsliding variable as defined earlier.

4.5.1.2. Democratization (*Polyarchy*)

Table 4: Descriptive analysis of the Polyarchy index

Polyarchy	Value	Country (Year)
Min	46.5	Hungary (2020)
Max	92.3	Denmark (2015)
Mean	83.87	/
Mode	87.2	N = 9 *Austria (2011, 2012, 2014, 2015);* *Spain (2013, 2014, 2019);* *Italy (2016); Germany (2020)*
Median	86.95	/
St. Dev.	8.25	
Observations	N = 270	

Table 5 presents descriptive analysis of the 270 observations of the polyarchy variable from 2011 to 2020. The values ranged from 46.5 (Hungary, 2020) to 92.3 (Denmark, 2015). The mean score across all observation is 83.87 indicating relatively high level of democratic development. The mode value was 87.2, which was observed 9 times (Austria, 2011, 2012, 2014, 2015; Spain, 2013, 2014, 2019; Italy, 2016; Germany, 2020). A median value of 86.95 suggests a modestly right-skewed distribution with the majority of the cases clustered around the higher end of the democratic quality spectrum. The standard deviation value of 8.25 reflects a relatively moderate level of variation across the sample.

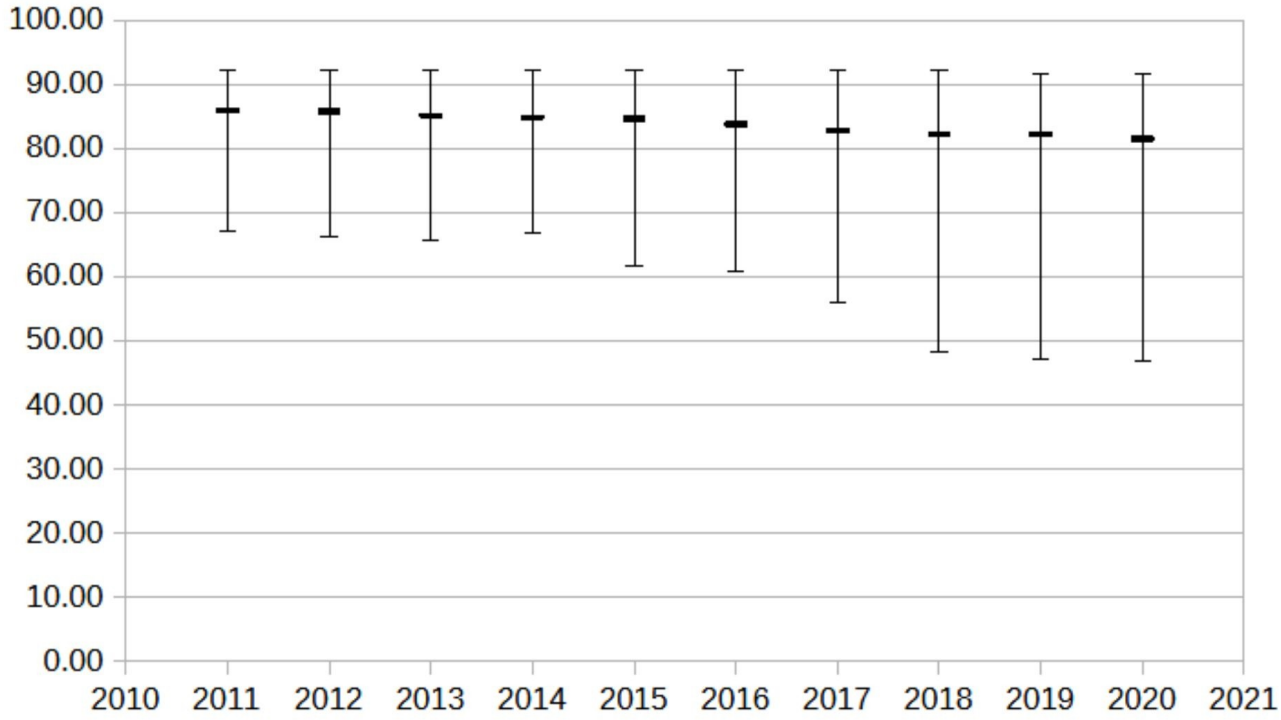

Figure 4: Polyarchy index scores

Figure 4 visualizes the *polyarchy* variable values. Each bar represents one year's average observation; minimum and maximum values are also included. The graph reveals a slow and gradual downward trend in democratization in the EU between the years 2010 and 2020; in particular, the deterioration is visible after the year 2015. While the average score keeps in the interval above 80 and below 90 level and the max value remains above 90, the minimum attained value decreased significantly from below 70 to below 50. Based on the data provided, it can be speculated that the smaller number of countries decreased significantly, while the majority of the group decreased only slightly or even remained

stable. Supportive evidence can be found in the uneven decline and increased divergence of the democratic trajectory during the observation period. Further analysis will provide more data on the issue (Parampreet, Jill, and Vikas, 2018; Baffoe-Djan and Smith, 2019).

4.5.1.2. Democratic Backsliding (*Backsliding*)

Table 6 below presents results of descriptive analysis for the *backsliding* variable. The *backsliding* score quantifies negative development in *the LibDem index,* as explained earlier. Erosion in democratic values and institutions is measured through this variable.

The minimum score is also the mode. Value 0, indicating neutral or positive democratization, was observed in 130 instances. A striking maximum score was recorded in Poland in 2016 with a value of 19.9, where the country lost almost a quarter of the LibDem score in a year-to-year comparison. The mean value recorded was 0.878, with a median value of 0.1, suggesting on average low backsliding. The standard deviation in the sample for *backsliding* has a value of 1.9, reflecting considerable high dispersion in the data and the presence of extreme values.

Table 5: Descriptive analysis of the Backsliding variable

Backsliding	Value	Country (Year)
Min	0	N = 130
Max	19.9	Poland (2016)
Mean	0.88	/
Mode	0	N = 130
Median	0.1	/
St. Dev.	1.9	
Observations	N = 270	

Figure 5 visually presents the recorded values of the sample grouped by yearly observations. Each year's data is represented with an average value, and vertical bars indicate the minimum and maximum for the given year. The average value remains relatively low throughout the entire observation period. Only the year the average value is not above 0 is the beginning of observation in 2011, and all values were recoded to value [0]. The democratic backsliding seems to develop in a wave pattern with

progressively increased volatility. The first smaller wave dates between the years 2011 and 2013; backsliding then slowed down in 2014, only to increase in 2015 and 2016, respectively. The average and maximum values followed this trend. The second wave, starting in 2015, reached its peak in 2016, when Poland recorded the maximum value for the entire observation period (19.9). The backsliding slowed down in 2017, 2018, and 2019. Average and maximum value decreased compared to the previous year. In 2020 last observation data were gathered, which showed a massive increase in maximum value compared to the previous year. The observation data for 2020 potentially suggest the upcoming of a third wave of backsliding. Large volatility of results and increasing average and maximum values suggest stable and slow deterioration among the group as a whole with sporadic individual profound degradation. Despite the low average values and minimum value of 0 present in every year of observation.

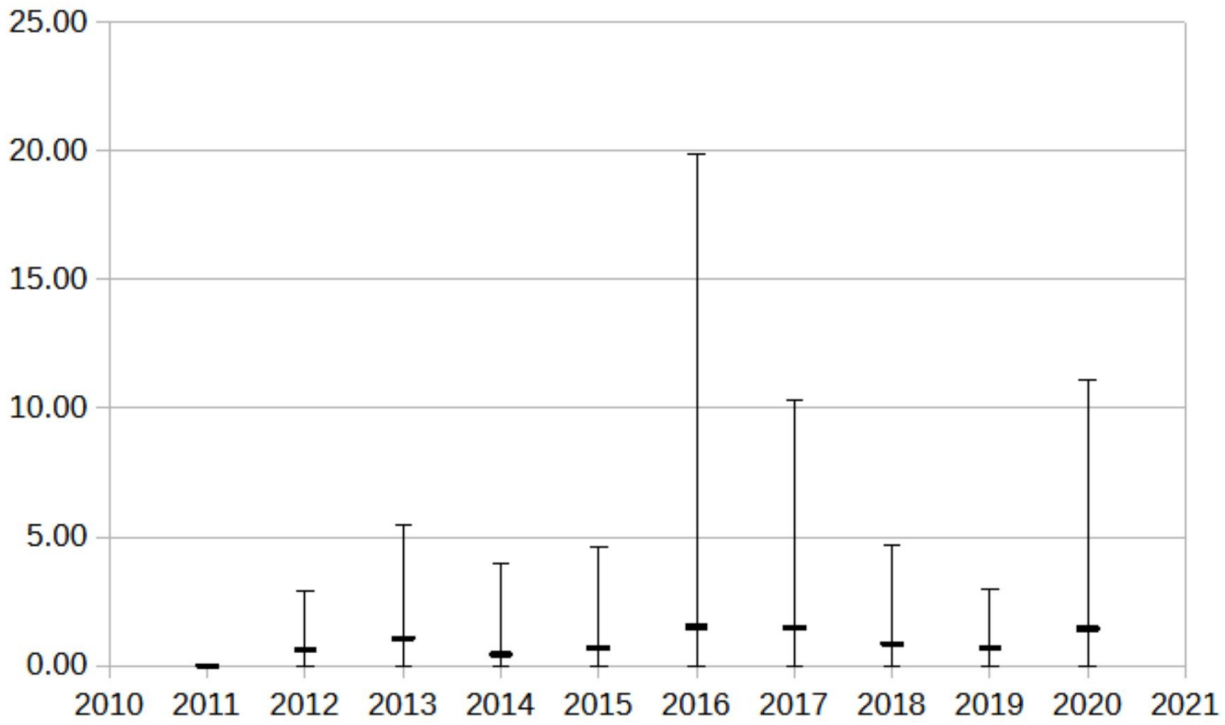

Figure 5**:** Backsliding scores

Overall, the results indicate that democratic backsliding was a widespread problem in the EU in the period 2011 to 2020. The group as a whole deteriorated, and certain countries recorded significant drops in their democratic development. The descriptive analysis provided limited evidence that some

countries remained relatively stable, whereas some experienced significant and rapid degradation. Almost a half of the observations recorded no loss in year-to-year level of democratization. Data on average, mode, and standard deviation showed that the majority of countries experiencing democratic backsliding record low values. Examples of extreme degradation, such as Poland 2016, are rare in the sample, but their impact is significant. Based on provided data, it is possible to speculate that a certain characteristic of a country makes it more susceptible to democratic backsliding (Kelderu & Parts, 2008; Jacob, 2024).

4.5.2. Economic performance

This section examines data on selected economic variables. Complete descriptive analysis can be found in the Appendix. First, *outlay* variables will be examined to provide information on government spending. The second examined variable is Real *GDP* that follows the real GDP growth. Thirdly, the income levels will be examined using data from *the GDPpercap* variable. And lastly, data on inflation experienced throughout the observation period will be presented using *inflation* variable data (Helliwell, 1994; Kaldaru & Parts, 2005, 2008).

4.5.2.1. Government Spending (Outlays)

Table 7 presents results of descriptive analysis of government spending measured as a percentage of the GDP reflected in the Outlays variable data. The data show moderate dispersion of data with a minimum value of 24.52 (Ireland, 2019) and a maximum value of 63.29 (France, 2020). The mean value for the observation period is 45.46 together with the median value of 44.89 indicates a relatively symmetrical distribution. The mode value of 34.8 was recorded in Bulgariaia (2016, 2017) and in Lithuania (2019), making it the most frequent value. A standard deviation of value 7.11 symbolizes moderate dispersion.

Table 6: Descriptive analysis of the Outlays indicator

Outlays	Value	Country (Year)
Min	24.52	Ireland (2019)
Max	63.29	France (2020)
Mean	45.46	/
Mode	34.8	N = 3
Median	44.89	/

St. Dev.	7.11
Observations	N = 270

Figure 6 visually represents the data grouped by year of observation. A minimum, maximum, and average value is presented. The values show that governments in the EU between 2011 and 2020 have not significantly deviated from the average spending. Although the standard deviation is moderately high, the minimum and maximum amounts remain relatively stable. Except for the years 2013 (Greece) and 2020 (Belgium, France), the countries have not spent more than 60% of their annual GDP. On the other end, until 2015, countries have spent at least 30% of their GDP. In 2015, Ireland became the lowest-spending country and kept this position until the end of observation. Except for the year 2020 (30.49), the country has managed to spend less than 30% of their annual GDP. The group as a whole follows a wave pattern. In the first three years (2011, 2012, and 2013), the countries increased their spending. Between the years 2014 and 2019, the countries slowly decreased. During this period, maximum values remained stable, whereas the minimum, driven by Ireland, dropped, most likely impacting the average. In 2020 the trend reversed, and both the minimum and maximum values increased. The shifts could be explained by three possible factors. Firstly, the periodicity could hint at different investment or spending priorities of incumbents currently in power (Gidron, Adams & Horne, 2020). Secondly, the countries could react to different market situations, stimulating the economy when necessary (2010–2013) or restricting spending when growing (2014–2019). Thirdly, it is possible the different values are a result of GDP growth, as it is the measurement of outlays. Further analysis will provide more information.

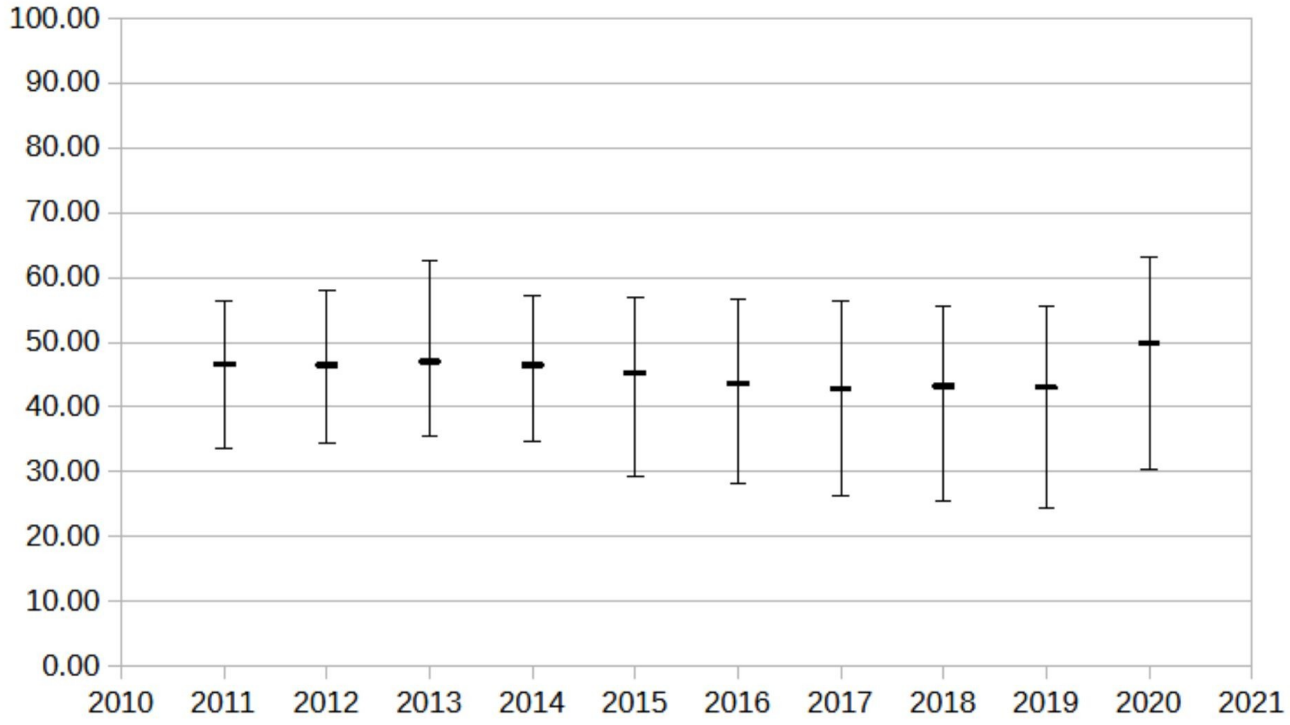

Figure 6: Outlays indicator scores

4.5.2.2. Economic performance (GDP Growth)

The simple correlation matrix shows a 55% negative correlation between the GDP growth (*real GDP*) variable and the *outlays* variable. The complete correlation matrix can also be found in the Appendix. This finding alone sheds some light on the trends described in the previous section. This finding would suggest that lower *outlay* value could be caused by increased economic output measured in real GDP growth (*Real GDP*). To depict the situation of overall economic output of the EU countries in the period between 2011 and 2020, this section presents descriptive analysis of the GDP growth variable (*real GDP*) in Table 8 and visualization in the figure 7. The values presented are measured in percentage and reflect the annual change compared to the country's previous year's performance. Values for the first observation year (2011) were not recoded and remained in their original value.

Table 7: Descriptive analysis of the Economic performance indicator

GDP growth	Value	Country (Year)
Min	-10.82	Spain (2020)
Max	25.36	Ireland (2015)

Mean	1.6	/
Mode	0	N = 2 (Malta & Croatia, 2011)
Median	1.18	/
St. Dev.	3.67	
Observations	N = 270	

The GDP growth data exhibits considerable variability, including both negative and positive values. Positive values represent an expanding (growing) economy, whereas the negative values represent economic decline. The minimum recorded value was in Spain (2020) with negative 10.82% economic performance. The data for the last observation year could be impacted by the first Covid pandemic restrictions. The highest value was recorded in Ireland with a value of 25.36 (2015). Although the range is significantly large (almost 36 points), the sample exhibits relatively high central tendency. With a mean value of 1.6, a median value of 1.18, and a standard deviation of 3.67, the sample features relatively coherent development of countries in the observation period. The mode, representing the most frequent growth, is 0%, which was recorded in 2 instances in 2011 (Malta, Croatia). Given the size of the sample, the mode represents less than 1% of observations.

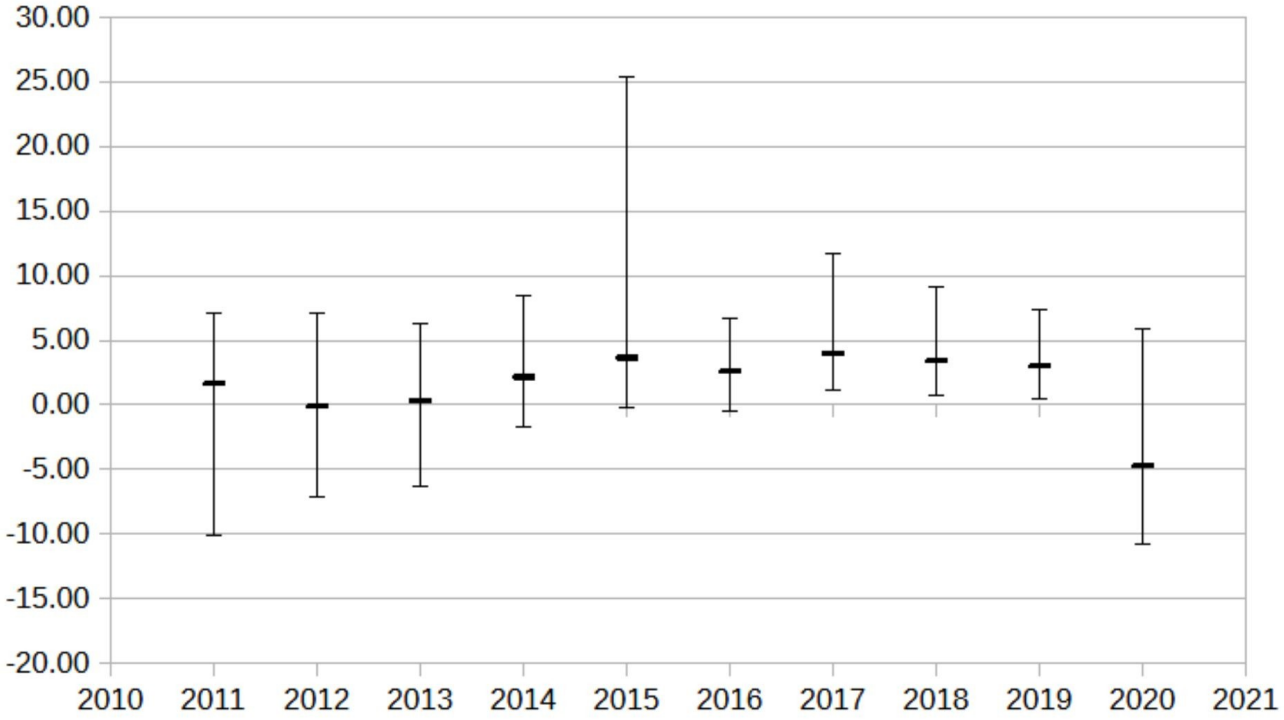

Figure 7: GDP growth indicator scores

Figure 7 presents a visualization of the results. The average GDP growth develops in a wave pattern where the beginning of the observation in 2011 represents a peak of the first half-wave. The following year, 2012, represents the bottom of the wave, with average growth of 0. The following years featured constantly increased economic growth until the year 2015, when the average growth in the EU reached 4.5%. The average will remain in the interval between 2.5% and 5% value until the year 2020, when the EU countries experience on average a 5% drop in economic development. Except for the years 2012 and 2020, the EU countries on average increased in economic performance. Generally this decade featured stable development of countries in the EU with some exceptions. Between the years 2011 and 2014, the sample featured relatively low variance of results with minimum and maximum values being not far apart from the average. In 2015 Ireland witnessed a record boom in the economy, which persisted in the following years. The year 2015 recorded the highest difference between the minimum and maximum value. Following years returned to conjunction of economic growth with decreasing variance. The average value since 2015 has been primarily influenced by the development of maximum value as the minimum value remained relatively stable, very close to 0%. Last year was an exception from the development, marking significantly different results.

4.5.2.3. Income (*GDP per capita)*

The empirical data highlighting the importance of income levels and providing empirical evidence of their impact on democratization can be found across the general academic discourse. This study employs available data on GDP per capita (*GDPpercap*) expressed in power purchase parity (ppp). The data were recoded, and each point represents a value of 1000 in constant international dollars. Table 9 presents the values for the complete dataset, and Figure 8 provides a visualization of the data with average, minimum, and maximum values for each year.

Table 8: Descriptive analysis of the Income indicator

GDP per cap	Value	Country (Year)
Min	15.75	Bulgaria (2011)
Max	122.11	Luxembourg (2020)
Mean	40.9	/
Mode	/	/
Median	36.76	/
St. Dev.	18.66	
Observations	N = 270	

The income level data exhibits considerable variability. The minimum recorded value was 15.75 (Bulgaria, 2011), while the maximum is 122.11 (Luxembourg, 2020), making the range of the data 106.36, which further indicates substantial variability. The central tendency of the data was assessed using the mean and median values. The mean value was calculated at 40.9 (thousands of constant international dollars), whereas the median was 36.76; the mode value is not present as individual countries recorded unique values. A standard deviation of 18.66 provides more evidence of very dispersed data.

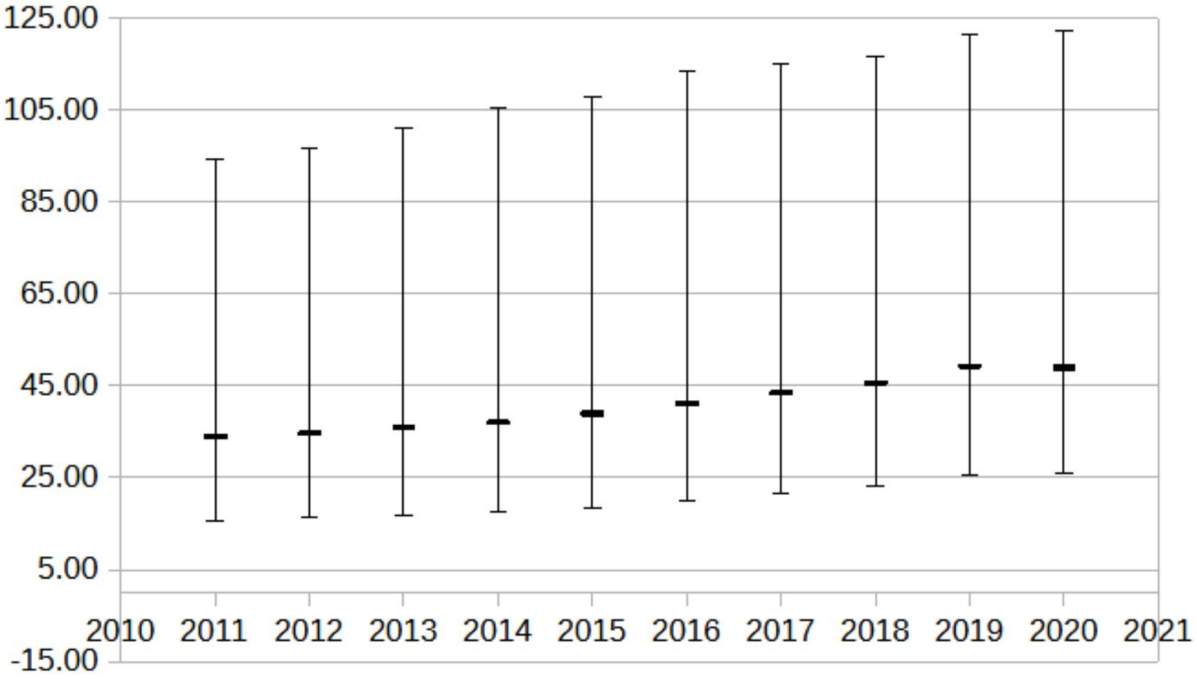

Figure 8: Scores of the GDP per capita

4.5.2.3. Economic Stability (*Inflation*)

Lastly, the inflation in the EU between the years 2011 and 2020 will be described using the *inflation* variable data. The data are measured in percentage, and they reflect annual change in the Consumer Price Index, where a higher value indicates a more rapid increase in the general price level.

Table 9: Descriptive analysis of the economic stability indicator

Inflation	Value	Country (Year)
Min	-1.74	Greece (2015)
Max	5.82	Romania (2011)
Mean	1.34	/
Mode	0.9	N = 3
Median	1.18	/
St. Dev.	1.39	
Observations	N = 270	

Both positive and negative values were observed. The minimum inflation was recorded in Greece with negative inflation, also called deflation, of -1.74 (2015), and the highest in Romania with annual inflation of 5.82% (2011).

The centrality of the data was assessed using the mean and median. The mean inflation in the EU for the time period in 2011 and 2020 was 1.34% annually. The standard deviation of 1.39 reflects moderate dispersion of data. The most frequent value was 0.9, which was recorded three times.

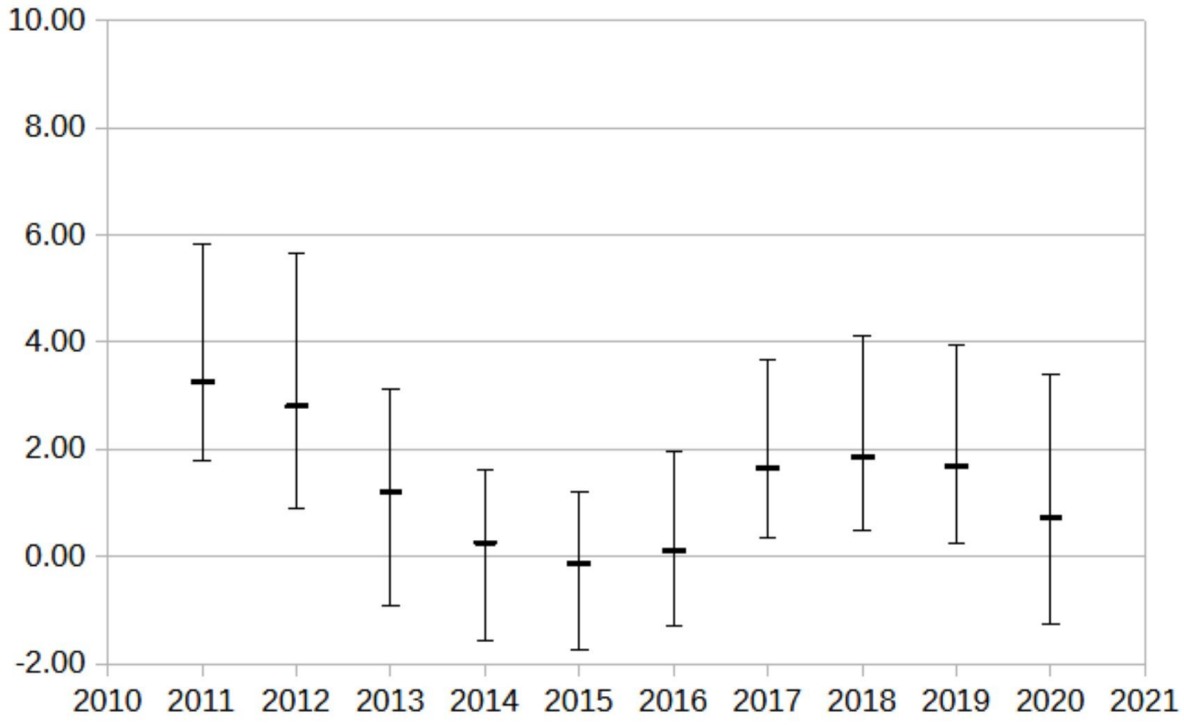

Figure 9: Scores of the inflation variable

Figure 9 presents the data using average, minimum, and maximum values for each year. The inflation in the EU between the years 2010 and 2020 developed in three stages. The initial years from 2011 until 2015 were marked by a degrading pace of inflation. This initial period also featured higher levels of inflation than the rest of the observation period. Between the years 2014 and 2016, the average inflation rate was around the 0% mark, and the dispersion was relatively centered. Some countries experienced mild inflation while others experienced mild deflation (negative inflation) ranging from -2% to 2%. In 2017 the average inflation rose to just below the 2% mark, which is generally considered to be a goal of the central banks. The dispersion of data is wider than in the previous years. Deflation was not

observed, but the maximum values deviated further away from the average than the minimum. The last year of observation exhibits a degrading pace of inflation with a maximum value lower than previous years. Negative values were also observed.

Inflation as such is considered fundamental to the economy (Jaravel, 2021). From the data, it is visible that relatively high levels above 4% (double the proclaimed goal) are recorded as well as negative inflation. High levels are connected with displeasure of citizens, while negative values are considered harmful to the economy and investments (Jaravel, 2021; Gidron, Adams & Horn, 2020).

4.6. Data analysis techniques

The study employs various statistical techniques to analyze gathered data on democratic backsliding, democratization, and data on economic performance, as well as data for control variables. The analysis is divided into several phases using a combination of statistical techniques designed to address the complexity of the researched topic. Firstly, a correlation analysis using the Ordinary Least Squares (OLS) method. Secondly, the Generalized Method of Moments (GMM) tool is employed. (Jacob, 2024; Wawro, 2002; Grier & Tullock, 1989).

4.6.1. Ordinary least squares (OLS)

First, the correlation analysis is used to explore the linear correlation between the independent variables, as explained in earlier sections, and the dependent variable, backsliding. This initial step provides evidence for possible variables with impact on democratic backsliding. The nature of the correlation is analyzed through the lens of the theoretical framework. Possible determinants are highlighted using asterisks according to their statistical significance level (Jacob, 2024).

The results yielded from the OLS analysis provide only limited information about the possible relationship between variables, even if significant correlation is found. The model established the strength of common linear development, which could hint at a possible connection rather than at random variation of data. Additional analysis using more advanced tools will be required to provide more data, which would provide supportive data possibly confirming initial findings. (Braunmoeller & Sartori, 2004; Imai & Ratkovic, 2013; Kam & Franzese, 2007).

The first part of the analysis features an OLS model using *backsliding* as the main dependent variable and *a polyslide* variable for a robustness check. The purpose of the first part is to identify variables with linear correlation. The second part of the analysis uses the *Libdem* and *Polyslide* variables as the dependent variables to provide more information about the impact of economic indicators on democratization.

4.6.2. Generalized Method of Moments (GMM)

The data sample uses a panel data structure, which combines cross-sectional observations of countries with time-series observations over multiple years. To account for errors, uncertainty, and coincidence, which the OLS cannot provide adequate data this study employs the Generalized Method of Moments (GMM) estimator (Jacob, 2024). The GMM model is well suited for additional analysis due to its ability to address several econometric challenges that are common to appear in panel data settings. Specifically, the model can address potential endogeneity between the independent variables and the dependent variable. Endogeneity is a term that describes two mutually affecting variables through an observed time period. There are four common causes for endogeneity: omitted variable, simultaneity, measurement error, and selection of treatment into the sample. In the context of democratization research, the simultaneity and measurement error would be the most expected causes. Simultaneity is defined as a feedback loop between the predictor (independent variable) and the outcome (dependent variable). For instance, in research on alcohol consumption and job satisfaction, there is a possible loop that alcohol consumption affects and is affected by job status. In the context of democratic backsliding, a possible loop could be found between *inequality* and backsliding. It is possible to find data that would suggest that high inequality precedes backsliding, which then fuels further inequality. Employing various statistical methods as well as providing comparable evidence with other research, the simultaneity can be addressed and limited. Secondly, the measurement error can occur during systematic error in either the predictor variable or outcome variable. For instance, when researching the firm reputation and stock price of the same firm. This cause is limited by utilizing several different sources of data. The data sources for dependent and independent variables in the models applied in analysis are also different, thus further minimizing the chances of measurement error (Hill, Johnson, Greco, Walter, O´Boyle, 2021).

Heteroskedasticity describes data that is not uniformly scattered around the plot line. Descriptive analysis showed significant variance in economic data. Reliance on OLS analysis could lead to unreliable results. One possible solution is the employment of one or more dummy variables, which would offset the considerable variance in data. Previous chapters explained the four dummy variables that were included in the analysis to offset the variance in economic data. The second possible solution is to employ advanced statistical methods to provide results including the heteroskedasticity. Autocorrelation, then, is a term describing a carryover characteristic of a variable in time. Variables can have positive or negative autocorrelation based on their nature. "*Social inertia can inflate the correlation of observed measures across time. The social forces creating trends such as failing marriage rates or rising gross domestic product often carry over from one period into the next."* (Losh & Bruce, 2022, p. 66).

The GMM model has two main purposes. Firstly, it provides data on the relationship between the variables and the democratic backsliding, which is important for the main research question. Secondly, the model tests the reliability of the dynamic factors of the variables. This is crucial for the secondary research question. The GMM analysis tested absolute and relative variables separately. Control variables were present in both models. Resulting coefficients should demonstrate clean data on their impact on the *backsliding* variable.

5. Analysis

This section provides results of the empirical analysis. Building on the theoretical framework and following the outline provided in the methodology section. Firstly, the results of OLS regression analysis on *backsliding* are presented. The second part provides results of linear correlation between the dependent variables and democratization measured by the *Libdem* variable. The third and last section provides results of two GMM models. One model tested the effects of absolute dependent variables and control variables on backsliding. The other model researched the impact of relative dependent variables and control variables on the backsliding. The following section, 6, will present a discussion over the results from the analysis.

5.1 Linear regression analysis

The linear regression analysis employs the Ordinary Least Squares (OLS) method to establish a linear correlation between the independent variables and dependent variable (Das, 2019). Table 11 below presents results of the OLS regression model with *backsliding* as the dependent variable. This model employs the four dummy variables presented in the earlier sections. An additional robustness test was added to check for the validity of results. The *Polyslide* model acts as a robustness check for the *Backsliding* model and features the Polyslide variable as the dependent variable. Results of the robustness test for the democratic backsliding can be found in Table 12. The OLS tables present results in two columns. The first column, T-1, presents results using a lag of one year. The second column, T-2, presents results lagged by two years. Multiple lags were adopted as the effects are expected to be moderately delayed (Jacob, 2024, p. 358). Values in columns represent coefficient values, asterisks present the level of statistical significance of the result, and the standard error can be found in the brackets.

The tests include dummy variables and control variables, which were selected to reflect a combination of socioeconomic factors and structural factors (Kaldaru & Parts, 2008). The *Postcom* dummy specifically tests the impact of historical experience and lower overall economic development while dividing the dataset into two major groups (Ivlevs, Nikolova, Popova, 2021). Relative wealth dummy, represented by *RelGDPdum,* checks for relative improvements or deterioration in relative income

levels compared to the EU average. Additionally, the relative inflation dummy, the *RelinfDum,* and the attained inflation goal *Inf2Dum* dummy, are present in the OLS tests.

Results of the first table show a significant correlation between *the Debt* and *Inf2Dum* variables at a 0.05 confidence interval in the T-1 lag model. A positive coefficient of *debt* correlation to the *backsliding* with a value of 0.015 would indicate a linear correlation where an increase of *debt* by 100% of total GDP would be followed by democratic backsliding between 1 and 2 points. The descriptive analysis in previous parts presented data on *debt.* Countries in the EU had national debt ranging from 9.41 to 241.87 percent of their GDP. Considerable range with a mode value of 37, a median value of 72.64, and a mean value of 79.39 percentage suggests a significant right-leaning skew of data. Although the standard error is relatively large, the characteristics of national debt compared to the GDP do not suggest a major impact of this variable (Barro, 1996). Descriptive analysis of *the deficit* variable further supports the claim, as national deficits on average declined across the EU between the years 2011 and 2020. Taking into consideration the characteristic of national debt, the coefficient suggests a relatively weak but reliable impact. The coefficient yields very similar results with increased lag in the T-2 model. The coefficient increased by 6% and kept its statistical significance. The persistence of this variable suggests a longer and compound effect of this variable potentially leading to possible public backlash through election turnover in case of severely increased indebtedness of the country in a short period of time (Acemoglu et al., 2021; Gidron, Adams & Horne, 2021).

Two dummy variables have also been identified as reliably correlating with the *backsliding* variable. The *Inf2Dum* reflecting on absolute inflation experienced in a country has resulted in a negative coefficient of 1.205 with a 95% confidence interval. Interpretation of the result would indicate that failure to keep the inflation goal results in a drop in democratic development by more than a point on average. Although this interpretation would be misleading given the mixed characteristics of the dummy variable. Descriptive analysis has presented data that indicate the partial structural nature of this variable (Barro, 1996). The inflation values are divided throughout the observation period into two relatively equal parts from the average value of 1.34%. The majority of the dataset has recorded values in the proximity of the average value, potentially hinting that the establishments failing the inflation goal are held responsible through backsliding (Kulachai et al., 2023, p. 10). On the other hand, as the

visualization in earlier parts showed, the average values developed in a wave pattern throughout the observation period. The minimum and maximum values followed the trend, suggesting underlying dynamic factors (Barro, 1996). The model with increased lag provides further evidence for the dynamic argument of this variable. The correlation has lost all significance in the T-2 model. Suggesting that deflation or inflation of more than 2% significantly has a significant and negative impact on democratization in the subsequent year.

Lastly, the *Postcom* dummy variable has resulted in reliable results with considerable variation. The structural factor has resulted in a positive coefficient of 0.894 in a 90% confidence interval in the T-1 model. A significant standard error of 0.517 suggests that the impact of communism is significantly different for each country. Effects of *postcom* dummy change with increased lag. The impact grew by 37%, while the variation increased only slightly by 11%, from 0.517 to 0.574. More importantly, the reliability of this variable increased from a 0.9 confidence interval to a 0.95 confidence interval. The results indicate a persistent effect of this dummy variable (Libman, Obydenkova, 2021; Ivlevs, Nikolova, Popova, 2021). Results of the T-2 model could also be impacted by a lower number of observations (N=216). Nevertheless, the results indicate that post-communist countries have significantly higher susceptibility to democratic backsliding than the rest of the EU. The effects are less pronounced in the annual comparison, and they seem to increase in their impact and reliability with time, which could be caused by lower reliability of other factors (Wawro, 2002).

Table 10: Backsliding OLS regression table

Backsliding	*Backsliding*	
	T-1	T-2
Intercept	6.142 (3.161)	1.506 (3.870)
Outlays	-0.045 (0.041)	-0.027 (0.046)
Realgdpgr	0.005 (0.200)	0.312 (0.243)
Inflation	-0.004 (0.168)	0.027 (0.184)
Debt	0.015** (0.005)	0.016** (0.006)
Deficit	0.013 (0.077)	0.037 (0.087)
Unemp	-0.189 (0.145)	-0.007 (0.202)
Giniwb	-0.018 (0.053)	0.010 (0.060)
Gdppercap	0.017 (0.013)	0.022 (0.015)
Avereal	-0.141 (0.102)	-0.194 (0.108)
Relreal	0.054 (0.193)	-0.207 (0.240)
Relunemp	0.147 (0.151)	-0.015 (0.205)
Relinf	-0.173 (0.218)	-0.336 (0.244)
RelGDPpercap	-0.026 (0.017)	-0.032* (0.020)
Tertedu	-0.037 (0.033)	-0.045 (0.036)
Elderly	-0.120 (0.091)	-0.164 (0.099)
Corrup	0.024 (0.021)	0.036 (0.023)
Postcom	0.894* (0.517)	1.221** (0.574)
RelgdpDum	-0.068 (0.315)	-0.298 (0.368)
RelintDum	0.036 (0.270)	-0.001 (0.310)
Inf2Dum	-1.205** (0.498)	-0.527 (0.537)
Observations	N = 243	N = 216

A robustness check was done using an alternative dependent variable. The *Polyslide* variable shows a simple correlation of 89% to the *Backsliding* variable. Results of the OLS regressions can be found in Table 11. The same tests and variables were tested using *Polyslide* as a dependent variable. The *Polyslide* regression table presents itself with several differences to the *Backsliding* regression table.

The *debt variable's* reliability persists over the two lags in this model. Relative wealth has not been found significant in the T-2 model. And the *Postcom* variable reached a higher level of significance in the T-1 model. The Inf2Dum variable has also been found statistically significant in the T-1 model with limited significance in the T-2 model.

The robustness check has provided evidence in support of the *Debt*, *Postcom*, and *Inf2Dum* variables' significance in the research of democratic backsliding. Contrary to the first model, the robustness tests have not provided supportive evidence for the importance of *the RelGDPpercap* variable on democratic backsliding. The model also identified a new variable (*Unemp*) as potentially significant, which was not identified in the first model. The *Unemp* variable has a negative correlation of 0.166 with a standard deviation of 0.126 to the *Polyslide* variable in the T-1 model. Such a finding hints at a possible relationship between the two variables. The suggested relationship would indicate that a decrease in unemployment is connected with a higher pace of democratic backsliding. The result could be contradictory to the theoretical framework and to the reviewed literature if more supportive evidence is provided. The reliability of this finding is limited by the p-value below the 0.1 level and failed robustness check, as this correlation was not found with *backsliding* as the dependent variable. Despite the failed robustness checks, the *Unemp* and *RelGDPpercap* variables are still suspected as possible non-linear determinants for backsliding. Additional analysis might be required to understand the possible relationship between the *Unemp, RelGDPpercap,* and democratic backsliding.

The linear regression including structural variables has provided evidence identifying public indebtedness and an inflation level of 2% as significant for democratic backsliding in the EU between the years 2011 and 2020. Countries encumbered with a communist past seem to be more prone to backsliding than the rest of the EU (Libman, Obydenkova, 2021; Ivlevs, Nikolova, Popova, 2021). Furthermore, relative income levels and unemployment are suspected to be possible determinants with nonlinear correlation. The next section will provide analysis of the impact of independent variables on democratization.

5.2.1. Democratization and democratic backsliding

Table 9 presents results of OLS regression analysis performed with *Libdem* as the dependent variable. This index reflects liberalization, constraints on the government, and freedom of democratic minorities (Teorell et al., 2019; Coppedge et al., 2015). The index also acts as a source for the *backsliding* variable

(Jacob, 2024, p. 355). Similarly to the previous section, the robustness check has been done using an alternative dependent variable (Hainmueller, Mummolo & Xu, 2018). The *Polyarchy* variable is a source variable for the *Polyslide* variable used in the previous section and therefore acts as an additional check for the correlations found in the first round of tests. Table 10 presents the results of the *Polyslide* and *Polyarchy* variables. Statistically significant results with a P-value below the 0.1 level are highlighted in the tables.

Striking observation is the number of statistically significant coefficients of the *LibDem* variable compared to the *backsliding* variable. The *backsliding* has indicated four potential determinant candidates, and the *LibDem* variable has identified twelve variables that have significant linear correlation to the dependent variable. The results could be the results of potential endogeneity, as this study does not focus on modernization; the variables will not be tested in depth. Indebtedness is the only variable that has delivered reliable correlation for both used dependent variables. This finding is more difficult to interpret as the coefficient is positive for both *Backsliding* and *Libdem,* suggesting a contradicting relationship. The impact seems significantly higher for the democratization than for the democratic backsliding, and this provides crucial evidence for possible interpretation. Low levels of indebtedness seem to increase the trust of the regime and might improve the legitimacy of the establishment. Additional research would be required to understand the details of this finding. Governmental spending represented by the *outlays* variable resulted in a reliable negative coefficient, similarly to the *deficit* variable. Contradicting the previous finding where indebtedness has a positive effect on the democratization. A possible explanation could be that decreasing the national deficit and lowering governmental spending could still be accompanied by an increase of national debt. This relationship does not apply indefinitely and can only be applied to highly indebted countries with inefficient governments. Incumbents tackling deficits and cutting government spending can fail against the massive debt the predecessors created. Instances of such countries could possibly be Greece, France, Italy, or Belgium, with relatively high debt-to-GDP ratios constantly above 100% throughout the observation period.

Table 11: Democratization and Backsliding Regression comparison

Variable	*Backsliding*		*Libdem*	
	T-1	T-2	T-1	T-2
		Absolute variables		
Intercept	6.142 (3.161)	1.506 (3.870)	16.307 (10.956)	9.324 (13.542)
Outlays	-0.045 (0.041)	-0.027 (0.046)	**-0.610*** (0.141)**	**-0.553*** (0.162)**
RealGDPgr	0.005 (0.200)	0.312 (0.243)	-0.420 (0.694)	-0.482 (0.850)
Inflation	-0.004 (0.168)	0.027 (0.184)	**1.368** (0.581)**	**1.550** (0.645)**
Debt	**0.015** (0.005)**	**0.016** (0.006)**	**0.057*** (0.019)**	**0.050** (0.021)**
Deficit	0.013 (0.077)	0.037 (0.087)	**-0.613** (0.267)**	**-0.613** (0.304)**
Unemp	-0.189 (0.145)	-0.007 (0.202)	**2.419*** (0.501)**	**2.638*** (0.706)**
Giniwb	-0.018 (0.053)	0.010 (0.060)	**-0.722*** (0.184)**	**-0.705*** (0.209)**
Gdppercap	0.017 (0.013)	0.022 (0.015)	**0.171*** (0.044)**	**0.167*** (0.052)**
		Relative variables		
Avereal	-0.141 (0.102)	-0.194 (0.108)	**0.815** (0.352)**	**1.005*** (0.379)**
Relreal	0.054 (0.193)	-0.207 (0.240)	-0.461 (0.670)	-0.328 (0.839)
Relunemp	0.147 (0.151)	-0.015 (0.205)	**-1.611*** (0.524)**	**-1.834** (0.716)**
Relinf	-0.173 (0.218)	-0.336 (0.244)	**-1.779** (0.754)**	**-1.476* (0.855)**
RelGDPpercap	-0.026 (0.017)	**-0.032* (0.020)**	-0.064 (0.059)	-0.052 (0.069)
		Control variables		
Tertedu	-0.037 (0.033)	-0.045 (0.036)	0.148 (0.115)	**0.215* (0.128)**

Elderly	-0.120 (0.091)	-0.164 (0.099)	**1.264*** (0.315)**	**1.421*** (0.348)**
Corrup	0.024 (0.021)	0.036 (0.023)	**0.663*** (0.072)**	**0.607*** (0.081)**
		Dummy variables		
Postcom	**0.894* (0.517)**	**1.221** (0.574)**	2.073 (1.793)	1.110 (2.007)
RelgdpDum	-0.068 (0.315)	-0.298 (0.368)	0.359 (1.092)	0.321 (1.287)
RelintDum	0.036 (0.270)	-0.001 (0.310)	-0.494 (0.936)	-0.478 (1.085)
Inf2Dum	**-1.205** (0.498)**	**-0.527 (0.537)**	1.404 (1.727)	2.253 (1.880)
Observations	N = 243	N = 216	N=243	N = 216

Relative variables demonstrated very reliable correlations, exceptions being the relative GDP growth (*Relreal*) and relative income levels. Growth of gross domestic product does not seem to have an effect on democratization in the EU countries in this period, with both absolute and relative variables being outside the statistical significance level. Similarly, the relative income levels were not found reliably correlated to the *LibDem* variable. The democratization analysis provides data in line with the current academic discourse by finding the absolute income level, measured by GDP per capita, reliably positively correlated to following democratization (Przeworski & Limongi, 1997; Przeworski, 2019). This relationship was found in both lags.

Inflationary goals or experience of communism have not reliably preceded democratization processes in the EU between the years 2011 and 2020. The impact of these two variables seems to be limited to democratic backsliding. This evidence can be contradictory to current academic research (Libman, Obydenkova, 2021). The effects on democratization could be affected by the relatively short time span and the choice of data (Wawro, 2002). This study is not focusing on democratization, and therefore these results through the modernization theory lenses will not be investigated further.

The robustness check can be found in Online Appendix C presenting results for both *LibDem* and *Polyarchy* variables. Statistically significant results are highlighted. Variables found to have an impact on democratic backsliding have highlighted variable names; values highlighted are significant for the

respective dependent variable. A comparison between the *Polyslide* and *Polyarchy* regression tables can be found in the Online appendix C. The robustness check provides supportive data for the majority of correlations found in the previous table. Namely, the government spending, public indebtedness, national deficit, and income levels exhibit very reliable correlations. Inequality in society measured by the Gini coefficient and unemployment (absolute and relative) also seems to have a reliable effect on democratization. Share of the elderly population and the level of perceived corruption seem to impact democratization processes. The robustness check also provided data showing no reliable linear correlation between the *Postcom* and *Inf2Dum* dummy variables. Their impact seems to be limited only to democratic backsliding.

This section has investigated the impact of the independent variables on the democratization measured by compound indexes. Identical independent variables to the democratic backsliding analysis were used in the democratization analysis as well, and their complete list can be found in either of the tables in this section. The analysis has provided evidence of reliable linear correlation of government spending, public debt, inflation, unemployment, inequality, and income levels to the democratization. Furthermore, the relative unemployment compared to the rest of the EU and relative inflation in the T-1 model were found significant. The share of the elderly population and corruption in the state also seem to influence the democratic development based on the EU data from the years 2011 and 2020. For the research of democratic backsliding, the findings of public indebtedness can be important as they provide necessary background data for the *debt variable,* which was found statistically significant in backsliding OLS analysis. The other two variables that were found significant were the dummy variables reflecting development of the last century (*Postcom*) and the absolute inflation levels (*Inf2Dum), which* did not result in a reliable linear relationship with the democratization. Data suggest their impact might be limited only to the democratic backsliding.

5.2. Absolute and relative economic performance

First part of the analysis provided empirical data on different variables and their impact on democratic backsliding. The second part of the analysis will explore the effects of absolute and relative performance. A generalized method of moments (GMM) is employed to provide data on the behavior of dynamic factors on democratic backsliding measured by the *backsliding* variable. Two models are employed as explained in the methodology section. The T-2 model includes instruments lagged by one

and two years (Jacob, 2024). The T-3 model includes instruments lagged by one, two, and three years to check for longer impact of the independent variables. The first table (Table 13) presents results of GMM analysis including absolute variables and the control variables. The second table (Table 14) provides results testing relative and control variables. Dummy variables were not included for their structural nature.

Table 13: Backsliding and absolute variables regression

Variable	Backsliding	
	T-2	T-3
$Backslide_{-1}$	0.038	-1.574*
	(0.266)	(0.731)
$Backslide_{-2}$	-0.191*	0.127
	(0.089)	(0.256)
$Backslide_{-3}$		-0.129
		(0.118)
Outlays	-0.151	-0.249**
	(0.158)	(0.119)
RealGDPgr	0.074	0.064
	(0.064)	(0.065)
Inflation	-0.373	0.530
	(0.262)	(0.553)
Debt	0.082**	0.092
	(0.039)	(0.065)
Deficit	-0.305*	-0.142
	(0.182)	(0.248)
Unemp	-0.191	0.164
	(0.222)	(0.411)
Giniwb	0.202	0.040
	(0.226)	(0.224)
Gdppercap	-0.023	-0.078
	(0.203)	(0.153)
Avereal	-0.098	-0.068

	(0.139)	(0.256)
Tertedu	0.125	0.151
	(0.250)	(0.401)
Elderly	-2.239	-1.160
	(2.915)	(4.883)
Corrup	0.019	-0.182
	(0.074)	(0.130)
Observations (N)	189	162
Hansen test (p value)	0.995	0.934
Arellano – Bond test (p value)	0.227 (0.929)	0.952 (0.163)
Wald test (P value)	0.001	0.001

According to the results of the GMM model focusing on year-to-year performance of one country, the *debt* and *deficit* variables resulted in a reliable coefficient in the T-2 model. An increase in public debt seems to be followed by a deterioration of democracy, according to the model. Democratic backsliding in the EU between the years 2011 and 2022 was also impacted by the governments' deficits. The *deficit* variable resulted in a negative coefficient significant in a 0.9 confidence interval. The relationship between the state of public finances and the pace of democratic erosion seems to be connected. Increasing public debt and the deepening of the national budget deficit were two reliable indicators of incoming democratic backsliding in the EU in the observed period. Indebtedness demonstrated much higher reliability of the correlation at the 0.01 level, although the impact was relatively low. Results suggest a 1% increase in public debt was followed by a decline in democracy of 0.05 to 0.12 points measured by the Liberal Democracy Index. The deficit of the national budget had a higher impact but a wider variety of results and lower reliability. With a standard error higher than 50% of the coefficient's value and a significance of 0.1 level suggests certain sensitivity of the public to the topic, which could be influenced by subjective reporting (Gratton & Lee, 2023; Haggard & Kaufman, 2021).

The reliability of the results drops with increased lag. In the T-3 model, both *the debt* and *deficit variables lose* their statistical significance. A new variable is found significant in the longer model. The

outlays variable is found negatively correlated and significant at the 0.05 level. The *outlays* follow government spending, and this variable is closely related *to debt* and *deficit* variables. The negative coefficient suggests that lower government spending is usually followed by a drop in democratic values. The coefficient suggests that a drop of 1% compared to the GDP is followed on average by a drop in democratization measured by the Liberal Democracy Index of 0.25 points.

Furthermore, the first model analyzing the effect of structural factors provides crucial evidence for the dynamics of democratic backsliding. In the T-2, an instrument lagged by two years was found significant with a negative coefficient. In the T-3 model, a shorter lag instrument (t-1) was found significant. Both instruments were significant at the 0.05 level. The results of the shorter T-2 model would indicate a possible convergence tendency. The coefficient with a negative value less than one would imply that the initial experience of democratic backsliding is often followed by a positive democratization move. The results from the longer T-3 model suggest oscillatory behavior. The results would indicate that experience of democratic backsliding is immediately met with stronger opposing force. Due to the coding of the dependent variable, the interpretation needs to be amended. Coding does not allow values of *backsliding* less than zero (Jacob, 2024). The results of the GMM analysis would be valid only for situations where the backsliding occurred and was met with resistance, which reversed the negative democratization.

The models testing absolute variables passed necessary validity and autocorrelation tests (Jacob, 2024). The results of the model indicate that initial backsliding was usually responded to with smaller democratization waves, reducing the effects of democratic backsliding. In this phase, increasing national deficits and public debts seem to be reliable indicators of upcoming democratic backsliding. Data indicate that once the democratic backsliding starts, it exhibits oscillatory behavior. Possible explanation could be progressively increasing polarization of society (Gidron, Adams & Horne, 2020). Descriptive analysis provided data that states that the overall level of democratic development dropped in the EU over the observed period. The results of the GMM analysis could be influenced by this drop, indicating downwards democratic development with decreasing stability of the democratic system.

The second table (Table 14) presents results of the GMM analysis with relative and control variables as the independent variables. The analysis presents evidence that relative income levels are a significant determinant of democratic backsliding according to the T-2 model at a 0.01 confidence interval. This

finding might be significant as the *RelGDPpercap* variable was also a suspected determinant in the linear regression analysis part. Synthesis of the results of both analyses will be provided in the following section. Additionally, the share of elderly and the share of educated population seem to have a significant impact on democratic backsliding. These findings might be connected to the missing absolute variables in the second model. The *Tertedu* and *Elderly* variables both have connection to socioeconomic reality of individuals. There is a possible connection between the two variables and the care for democracy, reflected in the results of the first GMM model exploring effects of absolute independent variables. The longer T-3 model provides only one significant result at the 0.05 level. According to this model, the first lagged instrument has a reliable positive coefficient of 0.023, suggesting that democratic backsliding might be persistent, but its strength wears off with time.

Table 12: Backsliding and relative variables regression

Relative GMM	Backsliding	
	T-2	T-3
$Backslide_{-1}$	0.026	-1.912**
	(0.161)	(0.842)
$Backslide_{-2}$	-0.103	0.161
	(0.067)	(0.248)
$Backslide_{-3}$		-0.233**
		(0.101)
Relreal	0.024	-0.034
	(0.069)	(0.072)
Relunemp	-0.189	-0.347
	(0.186)	(0.227)
Relinf	-0.315	-0.481
	(0.219)	(0.326)
RelGDPpercap	-0.091**	-0.069
	(0.045)	(0.060)
Tertedu	0.130*	0.171
	(0.079)	(0.155)
Elderly	-1.048*	0.565
	(0.566)	(0.987)
Corrup	-0.088	-0.175
	(0.101)	(0.144)
Observations (N)	189	162
Hansen test (p value)	0.995	0.934
Arellano – Bond test (p value)	0.227 (0.929)	0.952 (0.163)
Wald test (P value)	0.001	0.001

The models provided important information on the source of economic prosperity. Absolute variables providing year-to-year data on economic performance and relative values providing data relative to the rest of the EU were analyzed. The two GMM models highlighted variables with reliable impact on democratic backsliding. Public debt, measured by the *Debt* variable, and government deficit, measured by the *Deficit* variable, established a reliable connection to expectant democratic backsliding, measured by the *Backsliding* variable. This connection loses its reliability with increased lags. With longer lags, the variable *outlays*, measuring government spending to the total GDP, becomes a reliable indicator. Governments behaving lavishly with funds seem to be facing democratic backsliding, according to the data. The evidence provided by the absolute variables seems to reward low government spending, lowering public debt, and lowering national deficit.

The second model has highlighted relative income, measured by the *RelGDPpercap* variable measuring per capita GDP compared to the EU average, as a reliable indicator of upcoming backsliding. The negative coefficient suggests that decreases in relative income levels are connected with decreases in democratic levels. Furthermore, the second model highlighted the control variables *Tertedu* and *Elderly* as significant in the lower confidence interval (0.1 level). This finding could have been a result of a proxy correlation to absolute variables due to the socioeconomic characteristics of both control variables. However, the positive coefficient of *the Tertedu* variable suggests a possible elite-imposed erosion of democracy, as an increase in population with tertiary education seems to have a negative effect on democracy (Gidron, Adams & Horne, 2019; Grillo & Pratto, 2023). The share of the elderly population seems to have a negative effect on backsliding. The introduction of longer lags has resulted in a loss of reliability in all highlighted variables, suggesting their immediate impact.

The two GMM models also established a reliable correlation of lagged instruments (previous backsliding) to the dependent variable (*backsliding*). The first table testing absolute variables has established a negative converging effect of backsliding (t-2) in the T-2 model and a negative oscillatory effect of backsliding (t-1) in the T-3 model. The second model, focusing on relative variables, has identified backsliding (t-1) with an oscillatory effect and backsliding (t-3) with a converging effect on the T-3 model. These findings suggest persistent characteristics of democratic backsliding. The results would require further research to provide explanation. Suggested effects from the GMM model employing absolute variables do not match with suggested effects from the variable using the GMM

model. A possible cause can be that the coefficients are influenced by the correlations of the other variables included in the model. Another possible explanation could be "proxy" correlation, indicating the effects of alternative causes not included in the model.

6. Limitations

While this study offers valuable insights into the study of democratic backsliding, the limitations of the study must be mentioned.

The study relies on measurements gathered from various sources. The level of democratization and subsequent value of democratic backsliding was gathered from V-Dem. Macroeconomic indicators from Eurostat, CPDS, or the World Bank. Although all sources are reputable and widely respected, they are still inherently subject to limitations in terms of data quality, coverage, and measurement error (Jacob, 2024). For instance, the operationalization of democratic backsliding is based on annual changes in the composite liberal democracy index. The index may be robust and transparent in its measurement, but it may not fully capture the subtle and complex dynamic nature of democracy. Especially the democratic values are subjected to constant changes. Using alternative sources for democratic backsliding might provide a robustness check but also provides the risk that the variable focuses on different aspects of democracy, which could affect the final interpretation. The Polyarchy index, for instance, reached 89% correlation to the Liberal Democracy Index yet highlighted slightly different indicators as significant for both backsliding (*Polyslide*) and for democratization (*Polyarchy*) than the *LibDem* variable.

The analysis further employs macroeconomic indicators, which may limit important sub-national effects. Factors such as regional inequality, local societal differences, or the effect of cross-border cooperation might be overlooked in the nationwide data. The trajectory of democratization might be impacted by the geographical and political intra-country division. This regional data might also be accompanied by additional survey and individual-level data, which could provide deeper insights into the attitudes and behavior of citizens in relation to democratic norms (Jacob, 2024; Acemoglu et al., 2021).

Furthermore, the data were analyzed by using linear correlation (OLS) and a dynamic estimator model (GMM). While combining statistical approaches increases the reliability of results, it cannot fully eliminate concerns of reverse causality, endogeneity, or variable bias. Although the analysis provided data on the specific relationship between some economic factors and democratic backsliding. The relationship could run in the opposite direction. The results provide data on the relationship, strength, and reliability of the connection, but the interpretation could be influenced by the causal inference.

The study is also restricted by its dataset, which includes exclusively the EU member states with membership valid to the end of observation. The time frame is restricted to a ten-year period (2011–2020) and excludes potentially important events before and after the observation period. For instance, the Global Financial Crisis or the Covid-19 outbreak, which had a global, broad, and persistent impact (Jafferany et al., 2020; Gozgor, 2021). The limitations to include only EU member states increased institutional comparability but limited the ability to create generalized findings applicable to other regions with different political, economic, or institutional contexts.

7. Discussion – Measurements of prosperity and wealth

The empirical analysis has researched the impact of various macroeconomic indicators on democratic backsliding in the EU throughout the observation period 2011 to 2020. The first part featured OLS analysis. The resulting linear correlation indicated that lavish government spending and increasing public indebtedness were followed by subsequent democratic backsliding. Indicating that the general public cares about the state of public finances. Significant increases in public debt and deficit in one year are connected with drops in democracy in subsequent years. The focus changes with a longer lag. In the two-year lag model, outlays present themselves as a reliable determinant. The result could hint at the longevity of certain topics in the media (Haggard & Kaufman, 2021, pp. 39–41). Governments generally publish their budgets for the calendar year in fall preceding year. This allows for immediate comparison to the results of the previous year. The public might be reacting to negative results, which would be published at the end of the calendar year; this would reflect in the subsequent year's behavior. The government might be found irresponsible with their spending or ineffective in tackling a certain ongoing issue. The outlays would then be visible in a two-year comparison due to the natural lag of the results. Government spending is usually put into context, and budgets are usually assessed in relation to previous governmental performance. Reporting and evaluation are typically done using media channels and outlets (Haggard & Kaufman, 2021, pp. 56–58). The outlays were identified subsequently by the GMM model as a reliable indicator with a negative coefficient.

This interpretation holds a number of potential issues. Firstly, results of linear regression are susceptible to endogeneity and autocorrelation (Wawro, 2002). The causality might be different, and results usually require additional context to provide reasonable interpretation (Stimson et al., 1995). Democratic backsliding was explained as an ongoing process of dismantling democratic institutions and values. The main ways the general public can tackle the process were identified to be through election turnover and public backlash (Stimson et al., 1995; Jacob, 2024). The public backlash is usually an immediate reaction to a step, decision, or policy adopted by the government (Cleary & Öztürk, 2022). It might slow the pace of backsliding, but it has little to no chance of stopping the process entirely until the incumbents hold the power (Jacob, 2024, p. 353). The found relationship between lowering public debt and national deficit and subsequent democratic backsliding could be connected with the behavior of elected officials. The periodical elections create a window of

opportunity for incumbents to enforce their vision. It is possible that the responsible fiscal approach gives the establishment legitimacy to dismantle democracy. The general public might tolerate subsequent erosion of values and institutions if the government is acting responsibly with the finances (Kulachai et al., 2023; Haggard & Kaufman, 2020). Furthermore, the data from the longer dynamic model (T-3) yielded a negative and reliable relationship between outlays and democratic backsliding. There is a possibility that the results demonstrate two effects. Firstly, the behavior of undemocratic incumbents that cut public spending. Secondly, the result might suggest upcoming election turnover based on increased government spending (Gidron, Adams & Hoove, 2021, pp. 70–73). The coding of data does not allow positive backsliding, and more research on democratic transitions and election behavior would be required to confirm the relationship. Furthermore, the value of the coefficient suggests convergence, and other reliable variables (previous backsliding) suggest divergence with negative correlation. These results would indicate that democratic backsliding is highly unpopular in the EU, and active resistance can be expected (Jacob, 2024). The outlays seem to have less impact than previous backsliding, suggesting that the lowering of government spending creates tolerance for undemocratic incumbents.

Individual prosperity was also identified as an important factor in the research of democratic backsliding. The absolute annual change resulted in no correlation, which aligns with the research of Jacob (2024, pp. 363–365). The relative income compared to the EU average yielded a reliable and negative coefficient to the *backsliding* variable. Linear correlation suggested a longer effect of this variable in the T-2 model, and the dynamic model identified the variable as significant in the shorter T-2 model. Indicating that democratic backsliding occurs in countries where the individual income levels do not grow as fast as in the surrounding countries. Furthermore, the linear regression has provided evidence that post-communist states in the EU are more susceptible to the effects of backsliding than their counterparts (Vachudova, 2021; Haggard & Kaufman, 2021, pp. 21–29). Lastly, the inflation goals were identified as a reliable indicator in the first lag. The effect does not hold in longer lags, suggesting immediate impacts of this variable. Higher levels of inflation seem to be followed by erosion of democracy, which would indicate that people tolerate dismantling of public institutions and values. This could be explained by the preferential choice of the electorate (Jacob, 2024; Gozgor, 2022). In the face of uncertainty and economic instability, people seem to choose their individual well-being over the state of public institutions. The topic of stability and certainty is also

connected to the historical experience with democracy. Post-communist states have changed their regime affiliation in recent history, which led to economic prosperity. Fear of losing the recently gained prosperity and experience of limited human rights might create a higher level of tolerance for democratic backsliding than in other countries (Haggard & Kaufman, 2021).

Further research might implement different measurements of democracy to capture different effects of macroeconomic indicators on society. The linear analysis used an alternative dependent variable with 89% correlation to the *backsliding* variable. Results have yielded significantly different results. Other research chooses different dependent variables completely (Gozgor, 2022; Acemoglu et al., 2013; Berliant & Kinoshi, 2005). Which raises the question of how comparable each study on democratic backsliding might be. This study limited this issue by adopting a dependent variable for backsliding from the research of Jacob (2024). The original study found no reliable correlation between GDP per capita and backsliding. This study confirmed the findings but provided evidence that relative income levels measured by GDP per capita compared to other countries might have a significant impact. The interpretation of these results would have to be adjusted for differences in other research.

8. Conclusion

This study has researched *how economic indicators influence democratic backsliding. The main research question was accompanied by a secondary research question: How do relative economic performance indicators influence democratic backsliding compared to absolute economic indicators in the EU?*

This study examined the relationship between economic indicators and democratic backsliding in the European Union between the years 2011 and 2020. The analysis combined theoretical insights and empirical methods to identify economic indicators with significant correlation to backsliding indicators. Findings of this study can help to understand the economic foundations of democratic resilience and vulnerability.

The empirical analysis was based on a panel dataset and multiple regression models using the OLS and GMM approaches. The analysis provided a number of key findings. Firstly, the government spending, public debt, and budget deficit exhibit strong linear and dynamic influence on democratic backsliding. Democratic stability and legitimacy of establishment seem to be connected to their fiscal politics (Gidron, Adams & Horne, pp. 40–43). In some cases sustained improvement of public finances might lead to tolerance of anti-pluralist actors to pursue illiberal reforms (Haggard & Kaufman, 2021, pp. 15–21).

Secondly, the drop in relative individual wealth seems to have a connection to democratic backsliding. The GDP per capita compared to the EU average was found an important dimension of public perception and electoral behavior. Countries performing worse relative to the others displayed increased susceptibility to democratic erosion. This evidence suggests that democratic legitimacy is influenced not only by absolute economic output but also by relative economic standing within a regional, supranational, or other context.

Thirdly, the stability and effectiveness of the regime were found significant for democratic backsliding. Linear regression found countries with post-communist pasts more susceptible to democratic erosion. Historical experience with democracy seems to be an important stabilizing factor in society, as was noticeable with the results of the *elderly* variable in the dynamic model. Linear regression also showed

the importance of low levels of inflation measured by the *Inf2Dum* variable. Inflation up to 2% was found to be a stabilizing factor for social development.

Lastly, increased polarization and weaker social cohesion seem to be perceived negatively in society and can lead to severe public backlash. Dynamic (GMM) models provided evidence of the unpopularity of democratic backsliding, which could have been conditionally tolerated.

The results of this study also point to the centrality of citizen engagement and democratic norms in mitigating the risks of backsliding. Economic hardship or prosperity alone cannot fully account for the variation in democratic trajectories in the EU during the observed time period. The data, literature, and empirical evidence suggest that complex interplay between material conditions, institutional strength, civic commitment to democratic values, and perceived feelings of safety and security determines the direction and pace of democratic change. Countries with robust civil societies, high levels of education, and lower corruption demonstrate more resilience in the face of economic stressors.

Overall, this project contributed to the growing body of literature that emphasizes the complexity of democratic backsliding and the importance of economic factors in the research of democratic development. While the economic factors were not found to be the sole or deterministic drivers of democratic regression, they were identified as crucial providers for political agency and societal norms. Future research may expand this framework by exploring the role of international economic integration, the role of modern media, and long-term generational shifts in democratic attitudes.

In conclusion, the findings provide evidence that defending democracy in contemporary Europe requires not only strong institutions and legal frameworks but also inclusive and effective economic policies. Economic prosperity, stable development, social trust, and civic participation seem to be the central parts for democratic support.

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