OXFORD JOURNAL
OF STUDENT
SCHOLARSHIP

Inclusive Institutions and Macroeconomic Outcomes: A Comparative Study of LGBTQ+ Legal Protections in Greece and Hungary

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ABSTRACT

This study examines how the implementation of legal protections for LGBTQ+ individuals as a form of formal institutional change are associated with macroeconomic growth. While previous research has examined the relationship between inclusive institutions and economic growth, there is little research on the specific impact of LGBTQ+ legal protections and economic growth. Using a comparative case study design, this paper analyzes Greece and Hungary between 2010 and 2025. Rainbow Europe scores, created annually by ILGA-Europe, are used as a metric for LGBTQ+ legal protections and are compared with real GDP, FDI, and unemployment rates using Pearson correlation coefficients. A robustness check is performed using a one year lag for the macroeconomic variables to account for gradual institutional change. The results provide only partial support for the hypothesis. Greece displays moderate correlation between legal inclusivity and both FDI and unemployment, while Hungary demonstrates that GDP can increase and unemployment can decrease despite legal inclusivity declining. These findings suggest that LGBTQ+ legal protections alone cannot determine short run macroeconomic performance; rather, these legal protections are one of many factors that determine institutional quality which combined with fiscal policy, historical context, and other macroeconomic indicators create long run macroeconomic growth. Although limited by its small sample size and inability to determine causality, the paper contributes to the emerging literature on institutional economics, LGBTQ+ rights, and economic development.

INTRODUCTION

Background Knowledge and Objectives

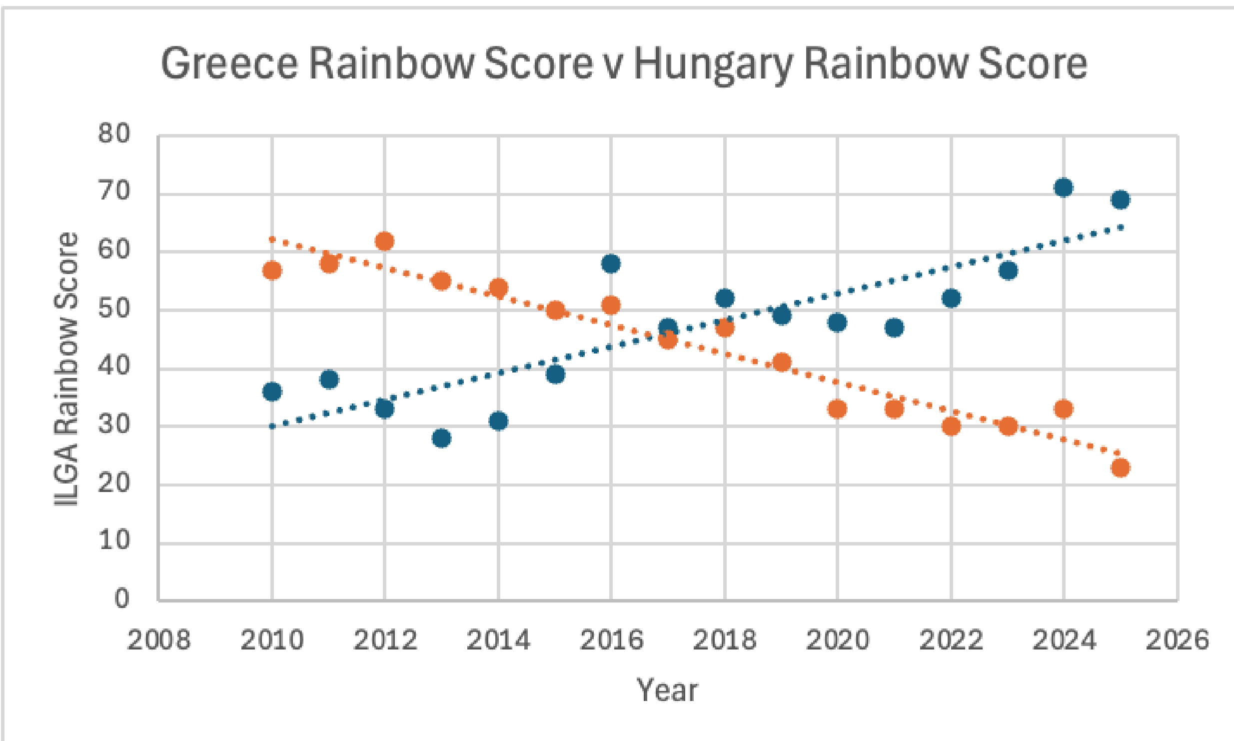
Economic development is affected not only by factors such as a lack of infrastructure or low levels of human capital but also the quality of institutions and social inclusivity (Acemoglu, Daron). For instance, an inefficient legal system or high degree of gender inequality are factors that limit the economic development of a country. The purpose of this paper is to examine the intersection of economics, public policy, and LGBTQ+ rights through the framework of institutional economics by observing the relationship between LGBTQ+ legal protections and macroeconomic growth. While there is prior research that demonstrates the benefits of reduced discrimination and inclusive institutions on economic growth, there is little existing research on the specific impacts of pro-LGBTQ+ legislation on macroeconomic growth over time. Accordingly, this study examines the following research question, "To what extent can it be argued that legal protections for LGBTQ+ individuals correlate with economic growth, measured in increased foreign direct investment, increased GDP, and decreased unemployment, in Hungary and Greece between 2015 and 2025?"

Hungary and Greece were chosen because both countries are located in Europe and had contrasting positions on LGBTQ+ inclusivity in recent years. In Hungary, they have backslid on LGBTQ+ protections in recent years, including ending legal gender recognition and limiting public representations of LGBTQ+ individuals. In contrast, Greece has shown an expansion of LGBTQ+ rights since 2015 by legalizing same-sex civil unions and marriages and allowing legal gender recognition. Their contrasting paths regarding LGBTQ+ legal inclusion provide a useful comparative framework to examine the impact of LGBTQ+ legal protections on macroeconomic performance.

Methodology and Scope

This study employs a comparative case study design to examine whether changes in LGBTQ+ legal protections are associated with macroeconomic outcomes. Greece and Hungary were selected because, although both are European Union member states subject to common supranational economic institutions and other comparable institutional frameworks, they adopted markedly different approaches to LGBTQ+ legal protections between 2010 and 2025. This divergence provides a useful natural comparison while reducing variation arising from broader regional institutions. The dependent variable is the economic growth of Hungary or Greece measured through unemployment rate, foreign direct investment, and gross domestic product (GDP). Unemployment was selected as a measure because of Becker's and Hsieh's research that discrimination affects labor market outcomes. Foreign direct investment was selected because North's institutional framework outlines that strong institutions reduce uncertainty and encourage investment. GDP was chosen as a measure of aggregate economic performance. GDP was measured using real GDP adjusted for purchasing power parities in order to reduce the influence of inflation and differences across countries in purchasing power. These metrics are common measures of economic growth and will have consistent and comparable data for the duration of the study period. For all 3 variables, the data came from the World Bank, although the data for foreign direct investment was supplemented by the International Monetary Fund and the data for unemployment was supplemented by the International Labor Organization. The independent variable is legislation affecting LGBTQ+ individuals. Rather than treating individual legislative acts as isolated events, this study measures LGBTQ+ legal protections using annual ILGA Rainbow Europe Index scores which come from ILGA-Europe, an international organization that compiles the annual Rainbow Europe Index through publicly documented legal criteria. The Rainbow Europe Index provides a standardized measure of legal inclusivity by evaluating countries across multiple dimensions, including equality and non-discrimination laws, family recognition, hate crime and hate speech protections, legal gender recognition, bodily integrity, civil society space, and asylum policies. By using a composite index rather than individual legislative changes, this study operationalizes LGBTQ+ legal protections as a continuous variable that allows for systematic comparison across countries and over time. The scores span from 0 to 100 with higher Rainbow Europe scores indicating greater legal protection and inclusivity and lower scores reflecting more restrictive legal environments. This approach enables a more rigorous examination of whether changes in legal inclusivity are associated with changes in macroeconomic indicators such as gross domestic product, foreign direct investment, and unemployment. The Rainbow Europe scores of Hungary and Greece are compared in Figure 1 below. Additionally, because institutional changes may occur gradually, a robustness check was employed using one year lagged macroeconomic indicators to evaluate whether the relationships were sensitive to the timing of the institutional reforms.

Given the limited number of annual observations and the exploratory nature of this study, Pearson's correlation coefficient was selected as an appropriate descriptive measure of association rather than attempting multivariable regression. Pearson's correlation measures the strength and direction of linear relationships between two continuous variables, making it well suited to evaluating whether changes in LGBTQ+ legal protections are associated with changes in macroeconomic indicators over time. However, because correlation does not establish causation and the study is based on a relatively small sample of annual observations, the results should be interpreted as descriptive evidence of association rather than definitive evidence of causal economic relationships.



This paper is limited by a variety of factors including geographic, temporal, and statistical ones. This study is limited by its examination of only 2 countries. While Greece and Hungary provide an informative comparison because of their contrasting policies on LGBTQ+ inclusion, the findings are not necessarily generalizable to other institutional or regional contexts. This study is also limited by its short run focus. According to North, institutional changes are gradual and the benefits are realized in the long run, so the cumulative effect of the institutional change may not be cognizable in the 16 year scope of this study. Furthermore, the small sample of annual observations over 16 years increases the influence of individual data points and limits the statistical power of the findings. Numerous macroeconomic variables, such as fiscal policy, EU reforms, government spending, and external economic shocks, are unable to be controlled for the time within the scope of this analysis. The methodological constraints should be considered when interpreting the results. Finally, because the objective of this study is exploratory rather than causal, the analysis seeks to identify associations between variables rather than establish direct causal relationships.

Variable	**Measurement**	**Source**
LGBTQ+ legal protections	ILGA Rainbow Europe Index	ILGA-Europe
GDP	Real GDP (PPP-adjusted)	World Bank
FDI	Net Inflows (BoP, current US$)	World Bank/IMF
Unemployment	Annual Unemployment Rate	World Bank/ILO

LITERATURE REVIEW

Inclusive Institutions

A substantial body of economic research argues that institutions are a central factor in determining long-run economic growth. In Douglass North's (1990) paper Institutions, he explains how institutions are directly related to economic development. He distinguishes formal institutions such as constitutions, laws, and property rights and informal institutions such as traditions, customs, taboos, and codes of conduct as setting the rules and incentive structure for an economy. According to North (1990), the construction and strengthening of formal institutions reduces transaction costs, and lower transaction costs subsequently encourage investment, productivity, and entrepreneurship. In terms of foreign direct investment, if investors interpret strengthened legal protections as a strengthening of institutions, the perceived institutional risk may decrease and foreign direct investment could increase. Additionally, strong institutions create predictable environments which encourage both domestic and foreign investment, innovation, and entrepreneurship. By contrast, weak institutions discourage productive activity and can hinder long-term macroeconomic growth. While North's paper does not explicitly address the strengthening of social protections for marginalized communities, his institution framework provides a strong foundation for research regarding social protections because they directly affect formal institutions.

Furthermore, according to Acemoglu, Johnson, and Robinson (2005), economic growth depends heavily on whether institutions are inclusive or extractive. Inclusive economic institutions allow and encourage participation by the majority of people in economic activities, secure private property, provide an unbiased system of law, and create equal opportunities for all individuals. In contrast, extractive institutions are structured to extract resources from the many for the elite and do not protect property rights or provide incentives for the masses to participate in economic activities.While the paper does not explicitly mention LGBTQ+ individuals, its argument regarding the necessity of social inclusion to create inclusive institutions that foster economic growth provides a strong foundation for this research.

These theories suggest that economic performance is influenced not only by market forces but also by the extent to which institutions allow individuals to participate fully in society. Policies that exclude particular groups from social, political, or economic life may therefore have consequences beyond those of rights and equality. From an institutional perspective, barriers to participation can reduce the efficiency and productivity of an economy as a whole which could lead to a decreased rate of economic growth.

Economics of Discrimination

Economic research has long examined the impact of discrimination on economic growth. Gary Becker provided one of the first theoretical frameworks for understanding how prejudice affects the labor market in 1957 through his publication of The Economics of Discrimination. Becker concluded that employers, consumers, or workers who discriminate incur costs by making decisions based on discrimination rather than on productivity and as a result, the inefficient allocation of labor leads to a lower overall economic output.

More recent studies have expanded Becker's argument by emphasizing the importance of talent allocation. Hsieh et al. (2019) documented that reducing barriers of entry for women and racial minorities to various professions enabled a significant amount of economic growth in the U.S. during the 20th century. When individuals are prevented from entering occupations that match their skills, talent is misallocated, thereby hindering productivity and innovation. On the contrary, expanding opportunities allows economies to utilize human capital more effectively.

Human capital theory further supports this perspective, as investing in education, training, and skills improve worker productivity and helps generate economic growth. However, discriminatory policies may discourage investment in human capital or prevent qualified individuals from fully utilizing their talents. As a result, these policies can create economic inefficiencies and losses that extend beyond the individuals that are discriminated against.

Together, these theories suggest that discrimination is not merely a social issue but also an economic one. By limiting participation and misallocating talent, discriminatory institutions may reduce economic performance at both the individual and national levels.

LGBTQ+ Inclusion and Economic Outcomes

A growing body of research examines the economic implications of LGBTQ inclusion. International organizations and policy research groups increasingly argue that inclusive legal and social environments contribute to stronger economic performance through several mechanisms.

Research published by the OECD finds that countries with greater LGBTQ acceptance often experience higher levels of well-being, labor market participation, and social cohesion. In June 2024, the OECD released a paper based on a set of microdata from the US to analyze the benefits of LGBTQ+ inclusion on macroeconomic growth. It found that discrimination can create barriers to employment, reduce educational attainment, and negatively affect mental health, all of which may diminish workforce productivity. It found that reducing those barriers and increasing LGBTQ+ inclusion had a positive impact on macroeconomic growth and improved labor market outcomes.

Similarly, the World Bank has documented the economic costs associated with discrimination against sexual and gender minorities. Exclusion may reduce workforce participation, limit educational opportunities, and increase health-related costs. These effects can lower productivity and create broader economic inefficiencies. The World Bank therefore views inclusion as both a human rights issue and a development concern.

Research from the Williams Institute has focused extensively on labor market outcomes for LGBTQ individuals. Studies indicate that discrimination can contribute to wage disparities, reduced employment opportunities, and lower rates of economic participation. Conversely, inclusive legal protections may help create environments in which individuals can contribute more fully to the economy.

Business-oriented research also supports this relationship. Reports from Open for Business suggest that countries perceived as welcoming to LGBTQ individuals may benefit from enhanced competitiveness, stronger entrepreneurship, greater ability to attract skilled workers, and improved foreign investment prospects. In an increasingly globalized economy, firms often consider social and legal environments when making investment and location decisions.

Although these studies identify important mechanisms linking LGBTQ inclusion and economic outcomes, most focus on broad cross-national relationships or theoretical pathways. Relatively few studies examine how changes in LGBTQ legal protections within specific countries relate to macroeconomic indicators over time. This leaves important questions about causality and national variation unresolved.

Gaps in the Literature

While there is a wealth of research on issues such as institutional quality, discrimination, and LGBTQ inclusion, there are numerous gaps remaining in the literature. For instance, while research on institutional quality often evaluates broad measures such as rule of law, political stability, or property rights rather than focusing specifically on LGBTQ-oriented legal protections, the studies tend to highlight the importance of inclusive institutions without providing insight into how LGBTQ+ inclusion fits within the overall framework of institutions.

Another common limitation is that the majority of the literature on LGBTQ inclusion focuses on social outcomes, workplace experiences, and theoretical economic outcomes; therefore, while many studies frequently document instances of discrimination, mental health consequences, and labor market disparities, very few studies directly examine macroeconomic indicators such as gross domestic product (GDP), unemployment, and foreign direct investment (FDI).

Next, many quantitative studies rely on the use of large datasets comparing dozens of countries at one point in time. They provide important information regarding general trends; however, they lack sufficient detail regarding the historical, political, and economic context in which changes in policy occurred within particular countries.

The objective of this study is to address these gaps by examining two comparable European Union member states, Greece and Hungary, that recently diverged in policy regarding LGBTQ legal protections between 2015 and 2025. Greece generally increased its level of legal recognition and protections during this period, while Hungary has enacted several restrictive policies that erode LGBTQ+ rights. By comparing economic indicators alongside changes in legal protections, this research explores whether differing approaches to LGBTQ inclusion are associated with measurable differences in economic outcomes. In doing so, the study contributes to both the literature on inclusive institutions and the emerging scholarship on the economic consequences of LGBTQ rights.

RESULTS

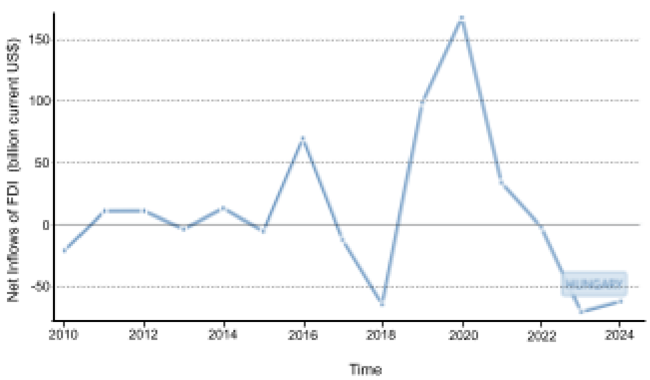
	Hungary's Correlation	**Greece's Correlation**
Rainbow Score v GDP	-0.96	0.25
Rainbow Score v FDI	-0.06	0.64
Rainbow Score v Unemployment	0.8	-0.72

This presents the Pearson correlation coefficients between annual Rainbow Europe scores and each macroeconomic indicator for Greece and Hungary. Pearson's correlation coefficient was selected because it measures the strength and direction of the linear relationship between two continuous variables. Although it cannot establish causation, it provides a useful descriptive measure of association between annual Rainbow Europe scores and macroeconomic indicators. Values closer to +1 or −1 indicate stronger linear relationships, whereas coefficients near zero indicate little observable association. The data these calculations are based on can be found in Appendix A. Based on the institutional economics literature reviewed above, positive associations were expected between Rainbow Europe scores and GDP and FDI, while a negative association was expected between Rainbow Europe scores and unemployment. However, these hypotheses are not fully supported here.

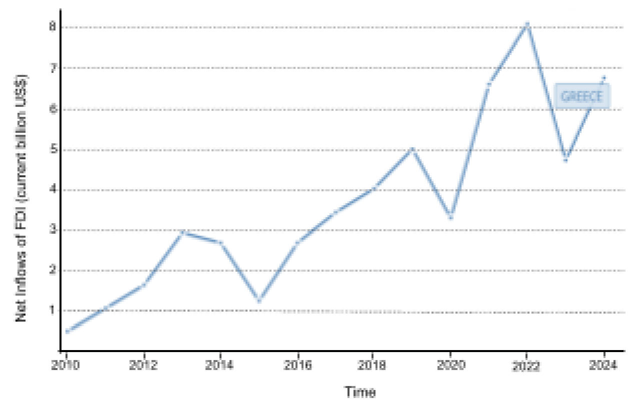
GDP

GDP provides the weakest empirical support for the proposed hypothesis. Hungary has a very strong negative correlation (r = -0.96). Greece, on the other hand, displays a very weak positive correlation (r = 0.25). These findings suggest that GDP may be relatively unresponsive to short-run changes in LGBTQ+ legal protections and instead more strongly reflect broader macroeconomic forces. One possible explanation is that institutional reforms require substantial time before producing measurable economic effects, as outlined by North's (1990) argument that institutional change is a gradual process.

FDI



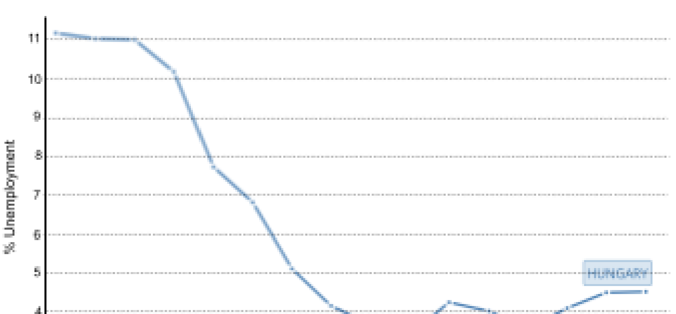
Hungary's net FDI inflows
Figure 2



Greece's net FDI inflows
Figure 3

The relationship between LGBTQ+ legal protections and foreign direct investment is more consistent with the theoretical framework. For Hungary, there is a very weak negative correlation (r = -0.06) between FDI and Hungary's Rainbow score. This correlation provides little evidence of an association. Greece exhibits a moderate positive correlation (r = 0.64) between Rainbow Europe scores and FDI. Hungary demonstrates virtually no observable relationship, which likely reflects the high volatility of annual FDI inflows relative to the comparatively gradual decline in Hungary's Rainbow Europe score. These contrasting findings suggest that legal inclusivity may be associated with investment under certain institutional conditions but does not appear sufficient to explain FDI patterns across both countries. This finding may also reflect the gradual nature of institutional change.

Unemployment



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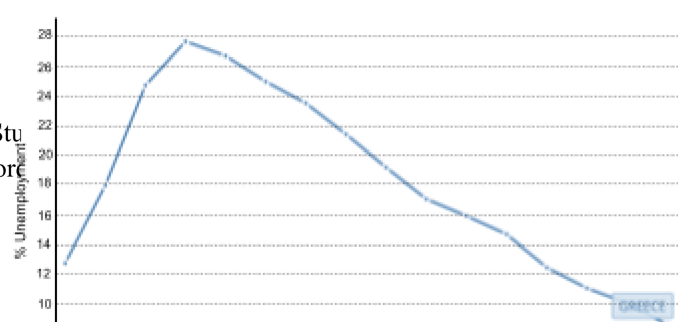

Among the three macroeconomic indicators examined, unemployment exhibits the strongest association with Rainbow Europe scores. Hungary had a moderate positive correlation (r = 0.8). This does not support the hypothesis. For Greece, there is a moderate negative correlation (r = -0.72). This aligns with the theoretical framework outlined in Hsieh's (2019) paper on the economics of discrimination. The moderate negative correlation is consistent with the theoretical expectation that greater legal inclusion may coincide with improved labor market outcomes. However, causality cannot be established because unemployment is influenced by numerous macroeconomic factors.

Robustness Check

As a robustness check, Pearson correlation coefficients were recalculated using one-year lagged GDP, FDI, and unemployment data to account for the possibility that institutional reforms influence economic outcomes gradually. The lagged analysis produced patterns broadly consistent with the primary results. While several coefficients changed modestly in magnitude, no substantive differences in the overall conclusions were observed. These findings suggest that the associations reported in this study are not highly sensitive to a one-year delay between changes in LGBTQ+ legal protections and macroeconomic outcomes. The complete lagged correlation results are in Appendix B.

Summary of Results

Throughout the variables, Hungary presents the strongest challenge to the theoretical framework. Despite substantial declines in LGBTQ+ legal protections, GDP continued to increase while unemployment declined. These findings suggest that broader macroeconomic conditions—including fiscal policy, labor market dynamics, and European Union economic integration—may exert a substantially greater influence on short-run economic performance than changes in LGBTQ+ legal protections alone. Taken together, the results provide mixed evidence for the hypothesis. Greece displays moderate correlation for 2 variables, unemployment and foreign direct investment, no consistently strong pattern emerged over all 3 variables. Therefore, the observed relationships between Rainbow Europe scores and macroeconomic growth are only partially consistent with the institutional framework. While Greece generally exhibits correlations consistent with institutional theory, Hungary demonstrates that short-run macroeconomic performance can diverge substantially from changes in legal inclusivity, suggesting that broader economic and political factors exert a stronger influence on national economic outcomes. Additionally, because the analysis includes only annual observations over approximately one decade, the calculated Pearson correlation coefficients should be interpreted cautiously. Small sample sizes increase the influence of individual observations and reduce confidence in the stability of estimated relationships. Consequently, these coefficients should be viewed as descriptive rather than definitive evidence of economic relationships. These findings suggest that legal inclusivity may have a closer association with investment climate and labor outcomes than aggregate output, although additional research using larger datasets analyzed over longer periods of time are necessary to fully evaluate these relationships.

DISCUSSION

Interpretation of Findings

This study was only partially consistent with the hypothesis that stronger LGBTQ+ legal protections are associated with improved macroeconomic performance. Greece exhibited moderate relationships between LGBTQ+ legal inclusivity and both unemployment and foreign direct investment, findings which were broadly consistent with the theoretical framework regarding institutions. However, Hungary demonstrated that GDP growth and declining unemployment can occur despite declining LGBTQ+ legal protections. The robustness analysis suggests that the observed relationships remain broadly consistent after accounting for modest implementation lags. Nevertheless, longer time horizons may be required to capture the cumulative economic effects of institutional change, as suggested by North's institutional framework. The short run focus of this study instead of a long run focus may account for the mixed findings exhibited. These findings suggest that LGBTQ+ legal protections alone do not determine short-run macroeconomic outcomes, but rather are one component influencing institutional quality that may influence macroeconomic performance alongside numerous other political, social, and economic factors. Consequently, the relationship between legal inclusivity and economic performance appears to be more complex than the majority of the existing literature suggests, with institutional reforms interacting with a variety of domestic and international economic influences to then affect macroeconomic growth.

Importance of Associational Evidence

While the analysis undertaken in this study does not establish a causal relationship between LGBTQ+ legal protections and macroeconomic performance, identifying associations is important for institutional economics and policy creation. Correlational analyses can reveal empirical patterns that warrant further investigation and may be linked to the quality of an institution. Within institutional economics, legal protections are one factor that affects the overall quality of an institution, not simply an isolated policy change. In the context of this study, identifying associations between LGBTQ+ legal protections and macroeconomic growth reveals how legal inclusivity, alongside other social, political, and economic factors, affect the overall quality of institutions and consequently, their impact on economic growth. These findings, while unable to establish causality due to the size of the dataset and the methods employed, therefore contribute to hypothesis generation and help inform future research employing larger datasets and causal methodologies.

Comparative Discussion

Greece's weak correlation between Rainbow Europe Score and GDP suggests that broader macroeconomic reforms had a greater impact on economic growth than changes to legal protections for LGBTQ+ individuals. One example of this is found within the reforms after the 2009 debt crisis in which their GDP had an "unprecedented 25 percent contraction" (United States Department of State). As part of the recovery process and in the years following, the Grecian government implemented many economic and structural reforms such as digitalization, lower taxes, and measures to improve the investment climate. They also introduced an international bailout program between 2015 and 2018 which likely heavily contributed to economic recovery (United States Department of State). Consequently, it is difficult to separate the economic impacts of the increased legal protections for LGBTQ+ individuals from those stemming from the broader structural and fiscal reforms undertaken in the same period.

Furthermore, the state of the global economy within the chosen time period could also have had a greater impact on economic growth than LGBTQ+ legal protections. In 2009, countries within North America and Europe experienced a financial crisis, referred to as the Great Recession. The economic growth observed between 2015 and 2024 could be attributed to recovering economies rather than the impact of legislation impacting LGBTQ+ individuals. Clearly, the financial crisis and subsequent reforms improved the overall macroeconomic climate of countries within Europe, separate of any LGBTQ-oriented reforms.

Within Hungary, an intervening variable is the priorities and debt levels of the Hungarian Government. A report by the United States Department of State notes that the Government of Hungary increased spending to support the economy in 2020. Because of the governmental priority of the economy and their spending to support it, the government also increased its debt levels in order to be able to spend an increased amount on the economy. The 2020 budget deficit reached around 9% of the GDP of Hungary, causing public debt to reach over 80% of GDP (United States Department of State). Hungary's expansionary fiscal policy likely supported GDP growth and decreasing unemployment, despite rising debt levels. Although Hungary's debt level has increased in recent years, it is important to note that the overall investment grade, according to the United States Government, still rests above the minimum level for investment, suggesting that investors continue to view the economy as relatively stable.

A final intervening variable is the implementation of the European Semester by the European Union. This institutional change affects both Hungary and Greece. The European Semester was used for "preventive surveillance of member states' economic and fiscal policies" and to "ensure sound and sustainable public finances, prevent excessive macroeconomic imbalances, support structural reforms and strengthen investment activities" (Dolls). This policy was introduced in 2010 so it would have had clear effects by the beginning of the chosen time period in 2015. Because both countries were simultaneously subject to broader European economic governance, their macroeconomic performance cannot be solely attributed to domestic LGBTQ+ reforms. This common institutional framework may help explain why both countries experienced economic growth despite their diverging paths regarding LGBTQ+ inclusion and equality.

Relation to Literature

The findings are broadly consistent with North's research on institutions. North argues that institutions change gradually and influence long-run economic performance by reducing transaction costs and uncertainty. The fact that the changes to formal institutions through LGBTQ+ legal protections in Hungary and Greece did not display significant correlation with economic growth therefore does not necessarily contradict North's theory because they were examined in the short-run. Rather, it suggests that changes to one component of formal institutions may require substantially longer periods than those analyzed in the paper before producing measurable macroeconomic effects.

Furthermore, this research qualifies Acemoglu's research on inclusive institutions. LGBTQ+ inclusivity showed evidence of moderate correlation with economic growth in Greece specifically in regards to foreign direct investment and unemployment. However, Hungary demonstrated that changes to LGBTQ+ protections alone were insufficient to explain macroeconomic performance.These findings suggest that LGBTQ+ legal protections are only one dimension of institutional inclusivity, not a comprehensive measure of the quality of an inclusive institution. The findings further emphasize how institutions are a complex interplay of systems and individuals and the overall quality cannot be reduced to the changes to a single variable, legal protections.

Greece's moderate negative correlation between Rainbow Europe scores and unemployment is consistent with Becker's labor maker discrimination theory and Hsieh's et al. talent allocation theory, which both predict that reducing discriminatory barriers within the labor market may lead to increased economic efficiency. However, unemployment also decreased in Hungary as barriers for LGBTQ+ individuals were reinforced with discriminatory legislation, suggesting that other macroeconomic forces had a greater impact on unemployment than the implementation of anti-LGBTQ+ legislation during the study period.

Collectively, these findings neither confirm nor reject the institutional economics literature reviewed above. Instead, they suggest that the relationship between LGBTQ+ legal protections and macroeconomic performance is more nuanced than existing theoretical models alone would predict. Legal inclusivity appears to function as one component of broader institutional quality, but its measurable economic effects are likely affected by fiscal policy, historical context, European Union institutions, and the gradual nature of institutional change. Clearly, the environment in which the institutional quality changed in and the time frame in which the changes are examined are essential to explaining the mixed findings of this study.

Alternative Viewpoints

An alternative explanation to the observed relationship between LGBTQ+ legal inclusion and economic growth is reverse causality. Modernization theory, developed by Ronald Inglehart and Christian Welzel, argued that economic development promotes shifts in cultural values, such as greater tolerance, self-expression, and support for minority rights. Under this framework, countries experiencing sustained economic growth may be more likely to develop more inclusive social policies. Consequently, the positive association between LGBTQ+ inclusion and certain macroeconomic indicators may be attributed to economic growth generating legal reform and not legal reform generating economic growth.

A second limitation was the time delay between the implementation of legislation and its impacts on the economy. North outlines that institutional change is a gradual process whose effects are fully realized in the long run. Therefore, it is possible that the approximate 15 year span of data was not sufficient to fully comprehend the effect of LGBTQ+ legal protections on economic growth. Although moderate correlations were observed for some macroeconomic indicators, these relationships may underestimate the total effects of LGBTQ+ legal protections on productivity, innovation, and human capital. Further research using datasets that cover larger periods of time and a wider span of countries are necessary to distinguish between the short run macroeconomic fluctuations and long run economic effects of institutional development.

Significance of Mixed Findings

The mixed findings reported in this study are valuable because they challenge overly simplistic assumptions about the relationship between legal protections and economic growth according to the institutional economics framework. The null findings challenge purported relationships and allow for a more nuanced discussion surrounding institutional economics. In this case, the results for Greece and Hungary suggest that broader macroeconomic conditions, government policy, and historical circumstances exert greater influence on short-run outcomes than legal protections for LGBTQ+ individuals alone. These findings do not weaken existing institutional theories; rather, they suggest that changes to institutional quality are context-dependent and their effects may be fully realized over longer time periods, as dictated within North's theories. Because the null findings of this study show an absence of short-run correlations, they help inform future research examining what specific conditions allow inclusive institutions to have the greatest influence on economic performance.

Implications

Whereas previous studies have generally examined broad cross-country relationships between LGBTQ+ inclusion and economic performance, this study demonstrates that the association between legal protections for LGBTQ+ individuals and macroeconomic indicators varies substantially across individual countries. These findings highlight the importance of considering historical context, institutional complexity, and the gradual nature of economic change when evaluating the economic consequences of legal inclusion. Evidently, institutional quality cannot be diminished to a single legal reform. The findings suggest that LGBTQ+ legal protections are unlikely to drive short-run macroeconomic performance by themselves, but they may function as one component of broader institutional quality that influences labor market participation, investment, and long run economic development alongside other political, social, and economic factors.

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APPENDIX A

Year	Greece Rainbow Europe Score	Hungary Rainbow Europe Score	Greece rGDP (billions $)	Hungary rGDP (billions $)	Greece Unemployment	Hungary Unemployment	Greece FDI (billions USD)	Hungary FDI (billions USD)
2010	36	57	417.79	278.02	12.7	11.2	0.53	-20.95
2011	38	58	376.52	283.35	18.0	11.0	1.09	10.56
2012	33	62	345.16	279.55	24.7	11.0	1.66	10.67
2013	28	55	337.32	285.23	27.7	10.2	2.95	-3.73
2014	31	54	339.99	297.60	26.7	7.7	2.70	12.88
2015	39	50	339.21	308.49	25.0	6.8	1.27	-5.47
2016	58	51	339.10	316.01	23.5	5.1	2.70	69.45
2017	47	45	344.10	329.04	21.4	4.2	3.44	-12.37
2018	52	47	351.20	347.49	19.2	3.7	4.03	-64.65
2019	49	41	359.20	365.13	17.0	3.4	5.00	98.27
2020	48	33	326.17	349.29	15.9	4.2	3.30	167.4
2021	47	33	354.40	374.52	14.7	4.0	6.59	33.47
2022	52	30	373.97	390.07	12.4	3.6	8.06	-1.92
2023	57	30	381.96	386.88	11.0	4.1	4.72	-70.78
2024	71	33	389.92	389.05	10.0	4.5	6.74	-62.19
2025	69	23	N/A	N/A	8.5	4.5	N/A	N/A

APPENDIX B

Variable	Original r Value	One Year Lag r Value
Greece: GDP v Rainbow Europe Score	0.25	0.43
Hungary: GDP v Rainbow Europe Score	-0.96	-0.96
Greece: FDI v Rainbow Europe Score	0.64	0.64
Hungary: FDI v Rainbow Europe Score	-0.06	0.16
Greece: Unemployment v Rainbow Europe Score	-0.72	-0.80
Hungary: Unemployment v Rainbow Europe Score	0.8	0.76