The Effect of Economic Freedom on the Equity-Efficiency Tradeoff: A Causal Analysis

BY JONATHAN BARAZZUTTI, TALHA FATIR, AND PRINCE KAFEKE

The equity-efficiency tradeoff, the notion that higher economic growth can come at the expense of greater income inequality, has been widely studied and theorized about. While much of this work examines the effect of social programs on inequality and economic growth, little attention has been given to how free-market economic policy might affect the two variables. Using fixed-effects modelling on a panel dataset of 123 countries from 2000 to 2021, our paper examines how various measures of economic freedom affect both GDP per capita and inequality as measured by the Gini coefficient. We find that economic freedom has an overall positive effect on growth with no significant impact on inequality. However, there is considerable variation between the various measures of economic freedom employed and the income level of the country. Granger causality analysis suggests that economic freedom predictively causes economic growth and vice versa. We discuss the implications of our findings for economic policymaking.

Word count: 6391

I. Introduction

The equity-efficiency tradeoff, the notion that policies aimed at increasing equity (or lowering inequality) come at the cost of efficiency, has been extensively theorized and empirically tested.[1] The tradeoff is most often discussed in the context of social welfare policies, where it is thought that increasing social spending reduces the willingness of welfare recipients to work, thereby reducing growth. Less often discussed is whether the tradeoff exists with economic policy in general or whether it is an effect specific to the domain of social spending. Our paper examines whether the equity-efficiency tradeoff tends to emerge with economically free (i.e., free-market) policy in general, and whether this effect is causal.

We use the Fraser Institute's Economic Freedom Index as a measure of free-market economic policy, utilizing several measures within the index to disaggregate the effects of various policies from one another. With the Fraser Institute's measures, we examined the broader effects of economic freedom on inequality and economic growth across both low-income and high-income countries. In the analysis, a mix of fixed-effects modelling and Granger causality is employed to quantify the precise impact and to assess the direction of causality, if it exists.

Our results suggest that economic freedom is associated with higher economic growth in both low-income and high-income countries, and that this relationship is bidirectionally causal. Economic freedom in general is only associated with higher income inequality in high-income countries, although there is heterogeneity depending on the measure of economic freedom employed.

---

[1] Lars Osberg, "(PDF) The Equity/Efficiency Trade-off in Retrospect," ResearchGate, 1995, https://www.researchgate.net/publication/5062830_The_EquityEfficiency_Trade-Off_in_Retrospect.

The rest of the paper is divided into several sections. The literature review examines various studies which have previously examined this topic. The data section discusses the data employed and our research methodology in more detail. The Results section covers the main findings of our research. The discussion section examines our findings in context with other literature. Finally, the conclusion summarizes our findings and their implications.

This paper contributes to the literature by providing one of the first causal analyses of economic freedom on growth and its link to the equity-efficiency tradeoff. Whereas most papers which have previously examined economic freedom merely use correlational evidence to suggest that economic freedom is associated with a particular outcome, such as higher economic growth, we demonstrate that economic freedom precedes economic growth and vice versa, providing more robust evidence for causality. Furthermore, we extend the analysis of Heckelman (2000) by using newer and more effective Granger causality methods on an updated panel of 123 countries and with a larger number of time lags than has been used previously.[2]

II. Literature Review

A. The Equity-Efficiency Tradeoff

While originating decades prior, the notion that equity or equality, the state of individuals in a society having equal incomes, could pose a tradeoff between equity and efficiency, or the level of production in an economy, was popularized in Arthur M. Okun's 1975 book entitled *Equality and Efficiency: The Big Tradeoff*.[3] In his

[2] Jac C. Heckelman, "Economic Freedom and Economic Growth: A Short-Run Causal Investigation," *Journal of Applied Economics* 3, no. 1 (May 2000): 71–91, https://doi.org/10.1080/15140326.2000.12040546.

[3] Arthur M. Okun, *Equality and Efficiency: The Big Tradeoff* (Washington, DC: Brookings Institution Press, 1975).

book, Okun asserts that equality and efficiency present a pervasive tradeoff which exists in many areas of social policy. In his words, "we can't have our cake of market efficiency and share it equally".[4]

Since the publication of Okun's book, the equity-efficiency tradeoff has become a ubiquitous point of discussion in microeconomic textbooks and introductory microeconomics courses around the world, primarily in the context of social welfare programs. In this context, it is asserted that social welfare programs, by reducing the effort needed to achieve a given standard of living, will inevitably lead to lower productivity and, consequently, slower economic growth. Much empirical work has been dedicated to examining whether this tradeoff is actually exhibited in social programs, including Atkinson (1996)[5] and Tomassi (2013).[6]

None of the measures of economic freedom we employ directly measures the level of social spending in a given economy, although the level of social expenditure is certainly embedded in some of our measures (such as "Size of Government").

B. Research on Economic Freedom

In analyzing the literature on economic freedom, Hall & Lawson (2013) looked at 198 articles using the index as an independent variable in an empirical study.[7] They found that over two-thirds of the studies examined found economic freedom

---

[4] Okun, 2

[5] Anthony Barnes Atkinson, "The Economics of the Welfare State," *The American Economist* 40, no. 2 (October 1996): 5–15, https://doi.org/10.1177/056943459604000202.

[6] Federico Tomassi, *When Is Social Protection Productivity-Enhancing? Costs and Benefits on Economic Performances*, 2013, https://doi.org/https://doi.org/10.13140/RG.2.1.3103.4646.

[7] Joshua C. Hall and Robert A. Lawson, "Economic Freedom of the World: An Accounting of the Literature," *Contemporary Economic Policy* 32, no. 1 (March 12, 2013): 1–19, https://doi.org/10.1111/coep.12010.

to correspond to a "good" outcome. In contrast, less than 4 percent of the sample found economic freedom to correspond to a "bad" outcome. None of the studies found a negative relationship between economic freedom and economic growth, although some research suggested a positive link between economic freedom and income equality. For example, Berggren (1999) found that the more a country increased its economic freedom between 1975 and 1985, the higher the level of equality around 1985.[8] Similarly, Scully (2002) found that while there was a small tradeoff between economic growth and income inequality, economic freedom appears to promote both growth and equity.[9] Conversely, other studies in the literature review suggested that economic freedom led to less income equality, including Carter (2007)[10] and Bergh & Nilsson (2010).[11]

Lawson et al. (2024) quantitatively summarized the literature looking at economic freedom and growth, income, investment, and inequality.[12] They similarly found that economic freedom corresponded with higher economic growth. When it came to examining how economic freedom affected inequality, their quantitative analysis suggested that economic freedom tended to have a negative effect on inequality. However, there was significant heterogeneity in the results, so

---

[8] Niclas Berggren, "Economic Freedom and Equality: Friends or Foes?," Public Choice, January 1, 1999, https://ideas.repec.org/a/kap/pubcho/v100y1999i3-4p203-23.html.

[9] Gerald W. Scully, "Economic Freedom, Government Policy and the Trade-off between Equity and Economic Growth," *Public Choice* 113, no. 1–2 (October 2002): 77–96, https://doi.org/10.1023/a:1020308831424.

[10] John Carter, "An Empirical Note on Economic Freedom and Income Inequality," *Public Choice* 130 (2007): 163–77, https://doi.org/DOI: 10.1007/s11127-006-9078-0.

[11] Andreas Bergh and Therese Nilsson, "Do Liberalization and Globalization Increase Income Inequality?," *European Journal of Political Economy* 26, no. 4 (December 2010): 488–505, https://doi.org/10.1016/j.ejpoleco.2010.03.002.

[12] Robert Lawson, Vincent Miozzi, and Meg Tuszynski, "Economic Freedom and Growth, Income, Investment, and Inequality: A Quantitative Summary of the Literature," *Southern Economic Journal* 90, no. 4 (January 29, 2024): 1099–1135, https://doi.org/10.1002/soej.12680.

the authors concluded that the impact of economic freedom on inequality was probably zero.

While there are a significant number of studies looking at how economic freedom affects other variables, virtually zero studies attempt to engage in a causal analysis of the effects. The only exception to this is Heckelman (2000), who utilizes Granger causality to examine whether the underlying component indexes of the Heritage Foundation's economic freedom measure are linked to short-run economic growth, using a three time lags approach.[13] After employing OLS regression on the variables and finding a significant relationship, Heckelman examines whether economic freedom tends to precede economic growth or vice versa — utilizing up to three time lags. The results suggest that economic freedom tends to precede growth but that growth does not precede economic freedom, suggesting a one-way causal relationship between economic freedom and economic development.

The overall evidence from the literature suggests that there is likely no net equity-efficiency tradeoff in the context of policies promoting economic freedom. However, the inequality effect is inconsistent across studies. The relative absence of causal analysis in the economic freedom literature, with the only study doing so being conducted in 2000, points to a gap which our research aims to fill. We extend previous work by looking at both economic growth and inequality across a larger set of countries using updated data and methods.

III. Data and Methodology

Our primary data for the analysis comes from two sources. First, we use economic freedom data from the Fraser Institute's Economic Freedom of the World: 2023

[13] Heckelman, "Economic Freedom and Economic Growth."

Annual Report.[14] The Economic Freedom Index evaluates economic freedom across five key areas: Size of Government, Legal System and Property Rights, Sound Money, Freedom to Trade Internationally, and Regulation. These areas encompass 25 components, many of which are further divided into subcomponents, totaling 45 distinct elements. Each component and subcomponent is scored on a scale from 0 to 10, reflecting the distribution of the underlying data. The ratings across all five areas are averaged to generate a summary score for each country. The annual report includes a dataset containing the institute's estimates of economic freedom over time, which we incorporate into our analysis.

Our analysis uses ten of the components and subcomponents in the Fraser Institute's Economic Freedom Index. The key measures we use, each looking at a distinct aspect of a country's economic environment, are clearly defined below:

(i) **Summary Rating:** Signified in our model as *Overall*, this category examines overall economic freedom in the economy.

(ii) **Government Consumption (Area 1a):** Signified in our model under the same name, this category measures government consumption spending as a percentage of total consumption.

(iii) **Size of Government (Area 1):** Signified in our model as *Government Size*, this category more broadly assesses the extent to which government expenditures and tax policies influence economic freedom.

(iv) **Property Rights (Area 2c):** Signified in our model under the same name, this category utilizes data from three different

[14] James Gwartney, Robert Lawson, and Ryan Murphy, "Economic Freedom of the World: 2023 Annual Report," Fraser Institute, 2023, https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2023.pdf.

sources. The three sources measure the degree to which property rights are well defined and well protected by law, and the ratings are averaged between the three sources to calculate the final measure.

(v) **Legal System and Property Rights (Area 2):** Signified in our model as *Legal System Prop Rights*, this area evaluates the effectiveness of a country's judicial system in protecting property rights, ensuring judicial independence, and enforcing contracts.

(vi) **Freedom to Trade Internationally (Area 4):** Signified in our model as *Intl Freedom Trade*, this category measures the extent to which trade barriers, such as tariffs, quotas, and restrictions of capital movement, limit economic freedom.

(vii) **Labor Market Regulation (Area 5b):** Signified in our model as *Labor Regulations*, this measure takes an average of several sub-indices measuring the degree to which a country's labor markets are regulated.

(viii) **Business Regulation (Area 5c):** Signified in our model as *Business Regulations*, this measure takes an average of several sub-indices measuring the level of business regulation in a country.

(ix) **Freedom to Compete (Area 5d):** Signified in the model under the same name, this measure takes an average of several sub-indices measuring the degree to which individuals within a country are free to compete with one another in markets.

(x) **Regulation:** Signified in our model as *Regulation Overall*, this area evaluates regulatory restrictions in credit, labor, and product markets, with higher economic freedom scores associated with fewer regulatory burdens.

The data on our outcome measures comes from the Gapminder Foundation, an organization which compiles global socioeconomic data spanning from 1800 onward.[15] We use their data on GDP per capita, price and inflation adjusted in PPP-adjusted 2021 dollars to measure economic growth or efficiency across countries, and their data on the Gini coefficient to measure inequality or inequity across countries.

Due to data limitations, our model only includes countries with data available from 2000 to 2021, which means that our analysis is restricted to 123 countries. To ensure a fully balanced panel dataset for analysis, we excluded countries that lacked complete data for all examined variables. Table 1 presents the summary statistics for the variables employed in our main analysis.

Our first analysis will consist of univariate fixed-effects models looking at GDP per capita and the Gini coefficient. Fixed-effects modeling is commonly employed in panel data analysis to control for unit-invariant trends that would confound our analysis if a simple OLS analysis were used. The parameters are estimated by time-demeaning the variables and then performing a linear regression. In practice, time-demeaning is done by subtracting each country's average value for a variable from its yearly observations. Through this, we remove the influence of any time-invariant country characteristics that may otherwise bias the parameters. The models for our first analysis are as follows:

[15] "Download the Data," Gapminder Foundation, accessed September 2, 2025, https://www.gapminder.org/data/.

$$(1) \qquad GDP_{it} = \beta_0 + \beta_1 EconomicFreedom_{it} + \alpha_i + u_{it}, for\ t = 1, \dots, T$$

$$(2) \qquad Gini_{it} = \beta_0 + \beta_1 EconomicFreedom_{it} + \alpha_i + u_{it}, for\ t = 1, \dots, T$$

Where GDP_{it} and $Gini_{it}$ are the dependent variables observed for individual *i* at time *t*, being GDP per capita and the Gini coefficient respectively, and $EconomicFreedom_{it}$ is a placeholder for one of the ten measures of economic freedom laid out previously. The parameter α_i represents the unobserved individual time-invariant effect, and the parameter u_{it} is the error term. All fixed-effects analyses will be performed utilizing spreadsheets compiled via Microsoft Excel and analyzed through Stata using the *xtreg, fe* command.

A. Sensitivity Analysis

Following this, a sensitivity analysis will introduce institutional controls to account for variations in governance quality that could affect the results. The role that institutions can play in promoting or hindering economic growth has been well-established in the economics literature for decades (for example, see Acemoglu et al. (2001)).[16] Our institutional controls are drawn from the Global State of Democracy Index, which are also included in the Gapminder dataset. By incorporating these factors, we aim to control for low-income institutional quality that may otherwise confound the analysis.

The institutional controls are defined as follows:[17]

---

[16] Daron Acemoglu, Simon Johnson, and James A Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review* 91, no. 5 (December 1, 2001): 1369–1401, https://doi.org/10.1257/aer.91.5.1369.

[17] Claudiu Tufis and Alexander Hudson, "Global-State-of-Democracy-Indices-Codebook- ...," Institute for Democracy and Electoral Assistance, 2022, https://www.idea.int/gsod-indices/sites/default/files/inline-files/global-state-of-democracy-indices-codebook-v6.pdf.

(i) **Representative Government:** Measures the competitiveness and inclusiveness of elections, considering clean elections, free political parties, elected government, and suffrage. In our analysis, this variable will be signified as *RepresentativeGov*.

(ii) **Fundamental Rights:** Captures access to justice, civil liberties, and social equality, ensuring fair representation and accountability. In our analysis, this variable will be signified as *FundamentalRights*.

(iii) **Checks on Government:** Assesses judicial and legislative oversight, media independence, and mechanisms that prevent executive overreach beyond elections. In our analysis, this variable will be signified as *ChecksonGov*.

(iv) **Impartial Administration:** Evaluates the fair and consistent implementation of public policies, emphasizing bureaucratic integrity and the rule of law. In our analysis, this variable will be signified as *ImpartialAdmin*.

By integrating these institutional controls, we enhance the robustness of our analysis, ensuring that variations in governance do not distort our findings.

The models are as follows:

(3) $GDP_{it} = \beta_0 + \beta_1 EconomicFreedom_{it} + \beta_2 RepresentativeGov_{it} + \beta_3 FundamentalRights_{it} + \beta_4 ChecksonGov_{it} + \beta_5 ImpartialAdmin_{it} + \alpha_i + u_{it}, for\ t = 1, \dots, T$

(4) $$Gini_{it} = \beta_0 + \beta_1 EconomicFreedom_{it} + \beta_2 RepresentativeGov_{it} + \beta_3 FundamentalRights_{it} + \beta_4 ChecksonGov_{it} + \beta_5 ImpartialAdmin_{it} + \alpha_i + u_{it}, for\ t = 1, \dots, T$$

Where $RepresentativeGov_{it}$, $FundamentalRights_{it}$, $ChecksonGov_{it}$, and $ImpartialAdmin_{it}$ are the respective institutional control variables laid out previously, for individual i at time t. Additionally, we used information from the Fraser Institute's economic freedom report to examine the income level of each country, specifically looking at whether there is heterogeneity in the results depending on whether the country was in the high-income or upper-middle income bracket as of 2021, or in the lower-middle or low-income bracket. For simplicity, we refer to countries in either the high- or upper-middle-income brackets under the umbrella of "high income" countries, and we refer to countries in either the lower middle- or low-income brackets under the umbrella of "low-income" countries. Due to the control effectively functioning as a dummy variable that would be omitted from the fixed-effects model, we ran separate regressions using only the sample of high-income countries and only the sample of low-income countries.

B. Granger Causality Analysis

A time series is said to "Granger-cause" another time series if past values of the first time series can predict present values of the second time series independently of past values of the second time series.[18] This is often referred to as "predictive causality". To assess the predictive causality of the relationship between economic freedom and growth, we specifically employed a JKS non-causality test to see if economic freedom precedes growth, growth precedes economic freedom, both

[18] Heckelman, "Economic Freedom and Economic Growth."

precede the other, or neither precedes the other. We utilized this test because it is the primary and most recent method to estimate the parameters for Granger causality analysis in Stata. Furthermore, the JKS non-causality test has significantly better size and power performance compared to other existing Granger causality tests.[19]

The large sample size our dataset provides allows us to utilize up to five time lags, two more than those used by Heckelman (2000),[20] to analyze the short-run causality between economic freedom and growth. Using the Stata command *xtgrangert* and drawing from Xiao et al. (2023), the analysis will consist of linear dynamic panel-data models, which can be written as follows:

$$(5) \quad GDP_{i,t} = \phi_{0,i} + \sum_{p=1}^{P} \phi_{p,i} GDP_{i,t-p} + \sum_{p=1}^{P} \beta_{1,p,i} EconomicFreedom_{i,t-p} + \varepsilon_{i,t}, for\ i = 1, \dots, N\ and\ t = 1, \dots, T$$

$$(6) \quad EconomicFreedom_{i,t} = \phi_{0,i} + \sum_{p=1}^{P} \phi_{p,i} EconomicFreedom_{i,t-p} + \sum_{p=1}^{P} \beta_{1,p,i} GDP_{i,t-p} + \varepsilon_{i,t}, for\ i = 1, \dots, N\ and\ t = 1, \dots, T$$

Where the parameters $\phi_{0,i}$ denote the individual-specific effects, $\varepsilon_{i,t}$ are the errors, $\phi_{p,i}$ denote the heterogenous autoregressive coefficients, $p = 1, \dots, P$, and $\beta_{1,p,i}$ are the heterogeneous feedback coefficients, or Granger-causality parameters for each respective model. This was done for all relationships, irrespective of robustness, and among the sample of all countries, irrespective of income level. Due to constraints in Stata's *xtgrangert* package, we were unable to extend the Granger causality analysis to income inequality. This means that our causal analysis

[19] Jiaqi Xiao et al., "Improved Tests for Granger Noncausality in Panel Data," *The Stata Journal: Promoting Communications on Statistics and Stata* 23, no. 1 (March 2023): 230–42, https://doi.org/10.1177/1536867x231162034.

[20] Heckelman, "Economic Freedom and Economic Growth."

can only tell us about the relationship between economic freedom and growth, not economic freedom and inequality. Future work could replicate these analyses using software better equipped to handle panel Granger causality with our measures.

IV. Results

After cleaning and properly organizing the data, the uncontrolled fixed-effects models were run on Stata. Tables 2-5 show the results for the uncontrolled fixed-effects model on economic growth and income inequality. The overall results suggest that economic freedom has a positive effect on output and no impact on income inequality. However, there is considerable heterogeneity in the results when breaking down the various components of economic freedom analyzed.

For this analysis, we will be largely ignoring the actual regression coefficients for the fixed-effects analysis. This is because the index values are ordinal as opposed to cardinal values, meaning that they do not correspond to any precise policy changes that are enacted, but are instead an aggregation of various measures weighted relative to other countries. As such, it does not make sense to look at the size of the coefficients in either an absolute sense or relative to the coefficients in other models (i.e., the "practical significance" of the results). Instead, the focus will be primarily on looking at the *statistical* significance of the various relationships and the sign of the relationships.

Looking into the results in more detail, the coefficients relating economic freedom to GDP appear to be positive or non-significant at the 5% level (Tables 2-3), with the exception of government consumption. On the other hand, greater overall economic freedom, smaller government size, greater property rights, lower labor regulations, lower business regulations, higher freedom to compete, and lower regulation overall are significantly associated with higher output per capita. All other components were unrelated to economic output in our results.

While the overall result for the Gini coefficient is not significant, there were several statistically significant results when looking at more specific components of economic freedom (Tables 4-5). Components of economic freedom that significantly predicted higher inequality were the legal system and property rights, government consumption and international freedom to trade. Conversely, components of economic freedom that significantly predicted lower inequality included overall regulation, followed by the freedom to compete, a variable capturing market openness, business permits, price controls, and state influence. All other components were unrelated to inequality.

A. Sensitivity Analysis

After the first wave of fixed-effects modelling was run, we then moved on to the sensitivity analysis, including the institutional controls as laid out in the data and methodology section. Looking at the sensitivity analysis for GDP overall (Tables 6-7), there were no significant changes in the results compared to the absence of the institutional controls. Although all results had changes in their regression coefficients relating economic freedom to output, the coefficients retained their significance or absence of significance at the 5 percent level, and also retained their sign. Once again, higher overall economic freedom, smaller government size, stronger property rights, lower labor and business regulations, greater freedom to compete, and overall regulation were all related to higher GDP per capita. On the other hand, lower government consumption was once again associated with lower GDP per capita. “Legal System and Property Rights” as well as freedom to trade internationally were still unrelated to GDP per capita.

After splitting the sample into high-income and low-income countries and then running the sensitivity analysis, we found significant differences in countries depending on their level of economic development (Tables 8-11). The key

difference is that in low-income countries, economic freedom has a weaker impact on economic growth. This can be shown by examining the regression coefficients in Tables 8 and 9, which focus on low-income countries and comparing them to the regression coefficients in Tables 10 and 11, which focus on high-income countries. Among low-income countries, none of the regression coefficients exceeded 1,000, whereas nearly all of the regression coefficients among high-income countries did.

Secondly, while economic freedom generally promotes growth, some key factors, such as government size, labor regulations, and business regulations, appear to be less relevant for low-income countries, as shown by a lack of statistically significant relationships. Freedom to trade internationally continued to be insignificantly related to GDP per capita, as in the overall pooled analysis. Still, overall economic freedom, stronger property rights, higher freedom to compete, lower overall regulation, and even stronger "Legal System and Property Rights" (which was non-significant in the overall analysis) were all associated with higher per-capita income among low-income countries. Unlike in the analysis pooling all countries together, in the analysis of low-income countries, no measure of economic freedom employed in our study was associated with lower per-capita GDP.

Interestingly, none of the significance or signs of the regression coefficients changed when comparing the overall pooled sample to the sample only including high-income countries. This means that for high-income countries, higher overall economic freedom, smaller government size, stronger property rights, lower labor and business regulations, greater freedom to compete, and lower regulation overall were all significantly associated with greater per-capita GDP. In contrast, lower government consumption was significantly associated with lower per-capita GDP. The other components were unrelated to GDP per capita.

Examining the sensitivity analysis for inequality among all countries (Tables 12–13), most relationships remained unchanged from the uncontrolled model. Lower government consumption, smaller government size, stronger "Legal System and

Property Rights", and higher freedom to trade internationally were all associated with greater inequality. Greater freedom to compete and lower overall regulation were associated with lower inequality. Finally, lower labor and business regulations were unrelated to inequality. The only relationship that changed between the uncontrolled and the controlled analysis was the effect of stronger property rights, which now shows a statistically significant negative relationship with inequality.

However, differences emerge once again when comparing high-income and low-income countries (Tables 14–17). For low-income countries, greater economic freedom was more consistently related to lower inequality than in the pooled analysis, although overall economic freedom was unrelated to inequality. Specifically, among low-income countries, lower labor regulations, greater freedom to compete and lower regulation overall were significantly associated with lower inequality, while smaller government size and stronger "Legal System and Property Rights" were significantly associated with higher inequality. All other components were unrelated to inequality among low-income. Several of these constituted changes in relationships from the pooled country sample to the low-income sample. Still, all changes were either a positive relationship losing its significance or a non-significant relationship becoming negative.

On the other hand, looking specifically at high-income countries, overall economic freedom was positively related to inequality, and many of the components of economic freedom went from negative to null or even turned positive relative to the pooled sample. Components related to higher inequality among high-income countries included lower government consumption, smaller government size, stronger "Legal System and Property Rights", greater freedom to trade internationally, and lower labor regulations. The only measure of economic freedom used in our study that was related to lower inequality among high-income countries was greater freedom to compete. Finally, other components were unrelated to inequality among high-income countries.

B. Granger Causality Analysis

Turning to our Granger causality analysis on GDP, the results varied significantly depending on the number of time lags employed in the study, as shown in Tables 18 and 19. While we will not detail the specifics of every relationship, in general, the evidence of predictive causality where economic freedom caused economic growth or economic growth caused economic freedom becomes stronger with more time lags introduced into the model. With one or two time lags, many of the Granger causality models found no evidence of predictive causality. In contrast, for every measure of economic freedom in our analysis, with four or five time lags, there was evidence of bidirectional predictive causality. The only exception to this was the test for economic growth Granger-causing stronger property rights, where we were unable to calculate a test statistic due to software limitations. This means that across all measures of economic freedom where we were able to calculate a test statistic, economic freedom predictively caused economic growth, and economic growth predictively caused economic freedom in the medium run.

Caution in interpreting these results is needed. As previously demonstrated, in our fixed-effects model, there were several measures of economic freedom which were unrelated to GDP per capita but nonetheless displayed bidirectional predictive causality in our Granger causality models. These measures include "Legal System and Property Rights" as well as freedom to trade internationally. Granger causality merely suggests that lagged values of an independent variable can predict values of a dependent variable independently of lagged values of a dependent variable. This does not imply a short or long-term net relationship between the independent variable and the dependent variable. It is theoretically possible for two variables not to have a net positive or negative relationship with one another, and yet still display Granger causality, which is what is observed in the case of the two aforementioned measures of economic freedom.

Nonetheless, in the cases where our fixed-effects modelling showed a positive or negative relationship between a measure of economic freedom and GDP per capita, the fact that the relationship is also predictively causal strongly suggests that the relationships are bidirectionally causal in reality. This is because both a correlation between the measures of economic freedom and per-capita GDP has been established, which is robust to various institutional controls, and is further supported by the fact that changes in economic freedom precede changes in per-capita GDP and vice versa.

V. Discussion

Our results are consistent with much of the literature examining economic freedom on economic growth and income inequality. Consistent with Hall & Lawson (2013) and Lawson et al. (2024), our study found that economic freedom is associated with higher economic growth, with no apparent effect on income inequality. This indicates that the equity-efficiency tradeoff popularized by Arthur Okun does not apply to free-market policy in general.[21]

However, our Granger causality analysis yielded slightly different results than those of Heckelman (2000), the only study to have done Granger causality previously.[22] While Heckelman (2000) found that economic freedom Granger-causes economic growth but not vice versa, our results suggest a bidirectional Granger-causal relationship between economic freedom and economic growth, where freedom causes growth and growth causes freedom. Notably, however, economic freedom does not appear to Granger-cause growth in the immediate short-term, nor does economic growth appear to Granger-cause economic freedom

[21] Okun, "Equality and Efficiency."

[22] Heckelman, "Economic Freedom and Economic Growth."

in general. Instead, many of the coefficients only become significant when looking at models that employ three or more time lags. This suggests that the bidirectional causal relationship does not appear immediately in all cases, but that it takes several years for a change in economic freedom to affect economic growth and vice versa.

Tables 20 and 21 summarize our findings on whether policies promoting economic freedom involve an equity-efficiency tradeoff, with Table 20 pooling the countries and Table 21 disaggregating the countries by income group.

Positive relationships between the freedom measure and the outcome (either "GDP" for GDP per capita or "Gini" for Gini coefficient) are signified by a "+", negative relationships are signified by a "-", and an absence of a significant relationship is signified by a "N". Cells are colored according to whether the relationship is seen as a "good" or "bad" outcome of increased economic freedom. Thus, economic freedom positively relating to GDP is marked by a green cell, while economic freedom negatively relating to GDP is marked by a red cell. The opposite is the case for the Gini coefficient relationships, where economic freedom positively relating to inequality is marked by a red cell, while economic freedom negatively relating to inequality is marked by a green cell. Blue cells mark an absence of a relationship, suggesting that higher economic freedom under that measure is "neutral" towards that outcome.

We identified a tradeoff (signified by a "Yes" or "No" in the "Trade" columns) when a freedom measure had a statistically significant relationship with both economic growth and income inequality in the same direction. If the relationships did not meet this criterion, we classified the freedom measure as not exhibiting a tradeoff. Overall relationships were assessed according to whether they were significant and what sign they had in our robustness checks.

Most freedom measures did not exhibit tradeoffs, either across all countries analyzed or when divided into high-income and low-income countries. However, there were a few exceptions. Overall economic freedom showed a tradeoff in high-

income countries but not in low-income ones. Government size also exhibited a tradeoff among high-income countries but not among low-income ones. In contrast, the legal system and property rights displayed a tradeoff only in low-income countries, while labor regulations showed a tradeoff only in high-income countries. All other measures of economic freedom did not exhibit any tradeoffs.

This implies that overall, economic freedom, when it is associated with growth in low-income countries, displays little to no tradeoffs in terms of inequality. In fact, in many cases, a measure of economic freedom was found to both increase growth and decrease income inequality in low-income countries. However, in high-income countries, overall economic freedom appears to have more of a tradeoff, meaning that policymakers have to be more careful about implementing free-market policy.

For example, economists have long recognized the benefits of free trade, which enables countries to leverage their comparative advantages and gain from one another's strengths. This argument is corroborated in our research, which shows a positive relationship between an increase in the ability of a country to trade internationally and economic output per capita. However, despite many gains from trade, there has also been a significant body of literature which shows that globalization has led to an increase in inequality within high-income countries (for an overview, see Rodrik (2021)).[23] The effect of globalization on rising inequality in many industrialized countries has been so significant that it has led to changes in attitudes and voting patterns among many. For example, Autor et al. (2020) found that in the United States, commuting zones and districts that were impacted by increased import competition saw an increasing market share for the Fox News channel, stronger ideological polarization in campaign contributions, and an

[23] Dani Rodrik, *A Primer on Trade and Inequality*, November 2021, https://doi.org/10.3386/w29507.

increased likelihood of electing a Republican to Congress.[24] Our research corroborates the notion that while free trade can increase economic growth, it can also lead to greater inequality which can harm certain communities. This isn't to suggest that the pursuit of free trade shouldn't be done, but it does mean that policymakers in high-income countries need to be mindful of tradeoffs that persist in trade policy.

A significant limitation of our paper, which exists with any analysis of the Economic Freedom Index, is the inherent subjectivity of the index as a measure. Any attempt to operationalize a range of policies into a numerical measure will necessitate decisions on what to include or exclude, and how the index numbers should be aggregated. In the case of the Fraser Institute's Economic Freedom Index, there are five key areas divided into several components and subcomponents, with the key areas averaged out to get an individual country's overall index score. However, it is not clear why the five areas should be weighted the same in the final index score. A case could be made that they should be weighted differently, and this can also be done with the components that make up each area, and the subcomponents that make up each component. Inevitably, when looking at any aggregate measure of something as broad as "economic freedom", this problem will be encountered. While we do not believe that this has any significant implications for our analysis, it is nonetheless crucial to note.

VI. Conclusion

This paper examines the relationship between economic freedom and the equity-efficiency tradeoff, utilizing a more recent panel dataset of 123 countries over the period of 2000 to 2021 and a novel Granger causality method, which has not been

[24] David Autor et al., "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure," *American Economic Review* 110, no. 10 (October 1, 2020): 3139–83, https://doi.org/10.1257/aer.20170011.

previously used to analyze the effects of economic freedom. The findings suggest that overall, economic freedom and economic growth are positively related to one another. Still, economic freedom and inequality are unrelated to one another — a finding that remains robust even after accounting for differences in political institutions across countries. The Granger causality analysis we employed suggests that there is bidirectional causality between economic freedom and economic growth. This suggests a feedback process in which institutional liberalization and economic development positively reinforce one another over time.

Our findings also indicate that there is no broad equity-efficiency tradeoff in the context of free-market policy. This finding challenges the conventional view that the equity-efficiency tradeoff is an inherent feature of economic policymaking, instead suggesting that the tradeoff depends on a country's level of economic development and the specific policy changes being employed. In wealthy countries, the equity-efficiency tradeoff holds much more robustly, as shown by the overall relationship between economic freedom, per-capita GDP, and inequality. However, this relationship does not hold for low-income countries. This indicates that low-income countries are generally better off adopting more free-market economic policies compared to high-income countries. Conversely, high-income countries face a more complex situation with regard to economic policy, where a difficult balance between achieving income equality and economic efficiency must be struck in more situations.

Overall, our research indicates that economic freedom, when appropriately considered, remains one of the most robust institutional foundations for promoting economic growth across countries, particularly in the developing world where tradeoffs between equity and efficiency are less pronounced.

REFERENCES

Acemoglu, Daron, Simon Johnson, and James A Robinson. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91, no. 5 (December 1, 2001): 1369–1401. https://doi.org/10.1257/aer.91.5.1369.

Atkinson, Anthony Barnes. "The Economics of the Welfare State." *The American Economist* 40, no. 2 (October 1996): 5–15. https://doi.org/10.1177/056943459604000202.

Autor, David, David Dorn, Gordon Hanson, and Kaveh Majlesi. "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure." *American Economic Review* 110, no. 10 (October 1, 2020): 3139–83. https://doi.org/10.1257/aer.20170011.

Berggren, Niclas. "Economic Freedom and Equality: Friends or Foes?" Public Choice, January 1, 1999. https://ideas.repec.org/a/kap/pubcho/v100y1999i3-4p203-23.html.

Bergh, Andreas, and Therese Nilsson. "Do Liberalization and Globalization Increase Income Inequality?" *European Journal of Political Economy* 26, no. 4 (December 2010): 488–505. https://doi.org/10.1016/j.ejpoleco.2010.03.002.

Carter, John. "An Empirical Note on Economic Freedom and Income Inequality." *Public Choice* 130 (2007): 163–77. https://doi.org/DOI: 10.1007/s11127-006-9078-0.

"Download the Data." Gapminder Foundation. Accessed September 2, 2025. https://www.gapminder.org/data/.

Gwartney, James, Robert Lawson, and Ryan Murphy. "Economic Freedom of the World: 2023 Annual Report." Fraser Institute, 2023. https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2023.pdf.

Hall, Joshua C., and Robert A. Lawson. “Economic Freedom of the World: An Accounting of the Literature.” *Contemporary Economic Policy* 32, no. 1 (March 12, 2013): 1–19. https://doi.org/10.1111/coep.12010.

Heckelman, Jac C. “Economic Freedom and Economic Growth: A Short-Run Causal Investigation.” *Journal of Applied Economics* 3, no. 1 (May 2000): 71–91. https://doi.org/10.1080/15140326.2000.12040546.

“History of Free the World.” Fraser Institute, May 2, 2024. https://efotw.org/economic-freedom/history-of-free-the-world.

Lawson, Robert, Vincent Miozzi, and Meg Tuszynski. “Economic Freedom and Growth, Income, Investment, and Inequality: A Quantitative Summary of the Literature.” *Southern Economic Journal* 90, no. 4 (January 29, 2024): 1099–1135. https://doi.org/10.1002/soej.12680.

Okun, Arthur M. *Equality and Efficiency: The Big Tradeoff*. Washington, DC: Brookings Institution Press, 1975.

Osberg, Lars. “(PDF) The Equity/Efficiency Trade-off in Retrospect.” ResearchGate, 1995. https://www.researchgate.net/publication/5062830_The_EquityEfficiency_Trade-Off_in_Retrospect.

Rodrik, Dani. *A Primer on Trade and Inequality*, November 2021. https://doi.org/10.3386/w29507.

Scully, Gerald W. “Economic Freedom, Government Policy and the Trade-off between Equity and Economic Growth.” *Public Choice* 113, no. 1–2 (October 2002): 77–96. https://doi.org/10.1023/a:1020308831424.

Tomassi, Federico. *When is social protection productivity-enhancing? Costs and benefits on economic performances*, 2013. https://doi.org/10.13140/RG.2.1.3103.4646.

Tufis, Claudiu, and Alexander Hudson. “Global-State-of-Democracy-Indices-Codebook- ...” Institute for Democracy and Electoral Assistance, 2022.

https://www.idea.int/gsod-indices/sites/default/files/inline-files/global-state-of-democracy-indices-codebook-v6.pdf.

Xiao, Jiaqi, Yiannis Karavias, Artūras Juodis, Vasilis Sarafidis, and Jan Ditzen. "Improved Tests for Granger Noncausality in Panel Data." *The Stata Journal: Promoting Communications on Statistics and Stata* 23, no. 1 (March 2023): 230–42. https://doi.org/10.1177/1536867x231162034.

VII. Tables and Figures

Table 1: Summary Statistics

Variable	**Mean**	**SD**	**Max**	**Min**
Overall	6.79	1.09	8.92	2.47
Government Consumption	5.73	2.24	10	0
Government Size	6.72	1.16	9.35	3.25
Property rights	5.87	2.19	9.80	0.43
Legal System Prop Rights	5.75	1.76	9.34	2.01
Intl Freedom Trade	7.25	1.40	9.70	1.05
Labor Regulations	6.19	1.34	9.61	2.23
Business Regulations	5.27	1.56	9.23	0.52
Freedom to Compete	6.35	1.85	9.99	0.43
Regulation Overall	6.48	1.21	9.33	2.03
GDP per Capita (Intl Dollars in PPP$2021)	24361.97	23816.66	137947.3	162.9855
Gini Coefficient	39.39	8.23	66.1	24.4

Table 2: Fixed-Effects Regression Results: The Effect of Economic Freedom on GDP Per Capita

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	2970.76***	-900.54***	415.73**	1529.19***	69.58
	(291.09)	(112.87)	(175.46)	(295.61)	(408.78)
Constant	4362.83***	29753.53***	21771.29***	15574.34***	24176.64***
	(1982.57)	(654.58)	(1187.44)	(1742.56)	(2354.28)
Observations	2,706	2,706	2,706	2,706	2,706
R-Squared	0.4687	0.3437	0.0792	0.6250	0.6719

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on per-capita GDP; (2) shows the effect of government consumption on per-capita GDP; (3) shows the effect of size of government on per-capita GDP; (4) shows the effect of property rights on per-capita GDP; (5) shows the effect of legal system and property rights on per-capita GDP

Table 3: Fixed-Effects Regression Results: The Effect of Economic Freedom on GDP per Capita (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	-312.62*	1832.32***	988.60***	954.52***	2682.61***
	(178.34)	(176.70)	(144.40)	(89.25)	(203.45)
Constant	26841.73***	13145.56***	19325.57***	18478.02***	7098.12***
	(1294.89)	(1105.76)	(771.98)	(576.71)	(1328.32)
Observations	2,706	2,706	2,706	2,706	2,706
R-Squared	0.4075	0.1382	0.4885	0.3505	0.4689

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on per-capita GDP; (7) shows the effect of labor market regulation on per-capita GDP; (8) shows the effect of business regulation on per-capita GDP; (9) shows the effect of freedom to compete on per-capita GDP; (10) shows the effect of regulation on per-capita GDP

Table 4: Fixed-Effects Regression Results: The Effect of Economic Freedom on Inequality

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	0.04	0.18***	0.45***	-0.16	0.59***
	(0.13)	(0.05)	(0.07)	(0.13)	(0.17)
Constant	39.37***	38.64***	36.61***	40.57***	36.26***
	(0.86)	(0.28)	(0.50)	(0.74)	(0.99)
Observations	2,684	2,684	2,684	2,684	2,684
R-Squared	0.0787	0.1061	0.0911	0.1536	0.1893

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on inequality; (2) shows the effect of government consumption on inequality; (3) shows the effect of size of government on inequality; (4) shows the effect of property rights on inequality; (5) shows the effect of legal system and property rights on inequality

Table 5: Fixed-Effects Regression Results: The Effect of Economic Freedom on Inequality (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	0.18**	0.12	-0.07	-0.30***	-0.47***
	(0.08)	(0.08)	(0.06)	(0.04)	(0.09)
Constant	38.31***	38.91***	40.02***	41.55***	42.70***
	(0.55)	(0.49)	(0.33)	(0.25)	(0.58)
Observations	2,684	2,684	2,684	2,684	2,684
R-Squared	0.0712	0.0284	0.0921	0.0792	0.0780

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on inequality; (7) shows the effect of labor market regulation on inequality; (8) shows the effect of business regulation on inequality; (9) shows the effect of freedom to compete on inequality; (10) shows the effect of regulation on inequality

Table 6: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	2974.41***	-882.87***	541.71***	1263.85***	-399.45
	(300.34)	(112.80)	(176.07)	(294.20)	(433.19)
RepresentativeGov	8169.78***	8903.69***	10744.16***	9844.98***	10713.78***
	(1692.78)	(1700.58)	(1707.64)	(1709.32)	(1725.31)
FundamentalRights	-1713.21	3764.52	-48.96	90.76	1289.12
	(4350.86)	(4390.08)	(4428.51)	(4414.59)	(4452.67)
ChecksonGov	-21382.1***	-23175.52***	-24095.49***	-22353.51***	-23784.68***
	(3030.28)	(3043.85)	(3077.99)	(3083.49)	(3083.74)
ImpartialAdmin	5925.37**	7844.47***	9828.52***	8600.06***	10124.47***
	(2700.88)	(2703.36)	(2720.83)	(2727.70)	(2763.84)
Constant	10564.39***	32005.47***	24135.65***	20360.56***	28886.57***
	(2621.01)	(2124.38)	(2272.69)	(2585.94)	(2795.10)
Observations	2,633	2,633	2,633	2,633	2,633
R-Squared	0.3723	0.3810	0.0580	0.5686	0.0296

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on per-capita GDP; (2) shows the effect of government consumption on per-capita GDP; (3) shows the effect of size of government on per-capita GDP; (4) shows the effect of property rights on per-capita GDP; (5) shows the effect of legal system and property rights on per-capita GDP

Table 7: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	-214.06	1633.42***	1004.87***	864.29***	2556.66***
	(181.68)	(177.42)	(151.61)	(91.14)	(213.56)
RepresentativeGov	10534.27***	8736.55***	10056.35***	7196.31***	5701.57***
	(1708.79)	(1691.54)	(1695.42)	(1714.67)	(1709.59)
FundamentalRights	1105.20	100.71	-701.85	2366.41	-2067.10
	(4431.58)	(4355.08)	(4395.23)	(4352.94)	(4312.84)
ChecksonGov	-23453.58***	-20134.11***	-22752.51***	-20211.13***	-17505.99***
	(3083.38)	(3053.28)	(3056.51)	(3047.93)	(3039.29)
ImpartialAdmin	9794.31***	8209.06***	8003.40***	6088.21**	5354.27**
	(2726.07)	(2685.6)	(2714.17)	(2704.98)	(2675.68)
Constant	28333.15***	17167.39***	23417.62***	22458.34***	13830.04***
	(2291.32)	(2294.05)	(2114.26)	(2079.61)	(2288.02)
Observations	2,633	2,633	2,633	2,633	2,633
R-Squared	0.1159	0.2216	0.3215	0.2870	0.3632

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on per-capita GDP; (7) shows the effect of labor market regulation on per-capita GDP; (8) shows the effect of business regulation on per-capita GDP; (9) shows the effect of freedom to compete on per-capita GDP; (10) shows the effect of regulation on per-capita GDP

Table 8: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita Among Low-Income Countries With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	706.85***	-134.00***	-4.31	649.69***	460.25***
	(94.82)	(34.00)	(46.91)	(125.37)	(127.77)
RepresentativeGov	1771.58***	2116.60***	2310.08***	1685.28***	1867.99***
	(454.89)	(461.97)	(464.07)	(472.10)	(476.22)
FundamentalRights	4434.97***	6519.38***	6078.74***	5215.99***	5270.92***
	(1332.85)	(1349.64)	(1364.55)	(1346.06)	(1364.64)
ChecksonGov	-5065.40***	-5705.34***	-5562.96***	-3920.76***	-4889.41***
	(921.43)	(940.56)	(949.18)	(986.36)	(959.87)
ImpartialAdmin	3710.12***	3878.08***	4030.81***	3527.16***	3669.84***
	(722.91)	(739.1)	(746.50)	(739.79)	(746.05)
Constant	-1458.13**	2782.08***	1830.47***	-802.42	245.34
	(638.13)	(535.54)	(548.89)	(689.81)	(643.25)
Observations	900	900	900	900	900
R-Squared	0.1326	0.1179	0.0945	0.1942	0.1385

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on per-capita GDP; (2) shows the effect of government consumption on per-capita GDP; (3) shows the effect of size of government on per-capita GDP; (4) shows the effect of property rights on per-capita GDP; (5) shows the effect of legal system and property rights on per-capita GDP

Table 9: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita Among Low-Income Countries With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	38.22	-62.33	25.14	307.04***	704.32***
	(59.79)	(69.27)	(52.27)	(21.41)	(63.12)
RepresentativeGov	2306.77***	2375.16***	2307.17***	1099.39**	1034.71**
	(463.43)	(468.47)	(463.52)	(424.57)	(447.84)
FundamentalRights	5960.30***	5912.76***	5991.59***	5693.89***	5535.76***
	(1366.50)	(1366.82)	(1365.37)	(1218.4)	(1268.50)
ChecksonGov	-5618.24***	-5671.11***	-5544.14***	-4227.98***	-4210.13***
	(951.63)	(955.06)	(949.42)	(856.52)	(894.31)
ImpartialAdmin	4030.23***	4100.27***	4005.72***	2690.64***	3088.61***
	(744.57)	(747.81)	(747.18)	(675.09)	(700.86)
Constant	1657.51***	2249.65***	1739.56***	746.71*	-1660.66***
	(532.25)	(687.44)	(498.47)	(436.40)	(544.82)
Observations	900	900	900	900	900
R-Squared	0.1010	0.0933	0.0914	0.1439	0.0948

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on per-capita GDP; (7) shows the effect of labor market regulation on per-capita GDP; (8) shows the effect of business regulation on per-capita GDP; (9) shows the effect of freedom to compete on per-capita GDP; (10) shows the effect of regulation on per-capita GDP

Table 10: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita Among High-Income Countries With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	4524.73***	-1489.75***	1301.41***	1826.07***	-466.32
	(481.20)	(187.97)	(340.05)	(411.70)	(752.93)
RepresentativeGov	15995.93***	16185.54***	19269.06***	18066.31***	18616.4***
	(3419.49)	(3447.03)	(3488.44)	(3479.89)	(3499.96)
FundamentalRights	-5761.29	-1991.86	-7287.52	-6730.39	-6177.21
	(7193.14)	(7269.01)	(7352.93)	(7339.43)	(7406.29)
ChecksonGov	-34954.4***	-36377.29***	-40275.39***	-39822.56***	-39094.47***
	(4951.76)	(4980.53)	(5043.82)	(5031.46)	(5074.92)
ImpartialAdmin	3480.27	8815*	12790.56**	11955.13**	14639.16***
	(5148.85)	(5106.04)	(5146.52)	(5149.36)	(5292.40)
Constant	16403.84***	51375.75***	37400.6***	34097.93***	46700.6***
	(4930.33)	(4038.49)	(4418.37)	(4640.92)	(5299.69)
Observations	1,733	1,733	1,733	1,733	1,733
R-Squared	0.0586	0.0586	0.0605	0.2314	0.0431

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on per-capita GDP; (2) shows the effect of government consumption on per-capita GDP; (3) shows the effect of size of government on per-capita GDP; (4) shows the effect of property rights on per-capita GDP; (5) shows the effect of legal system and property rights on per-capita GDP

Table 11: Sensitivity Analysis: The Effect of Economic Freedom on GDP per Capita Among High-Income Countries With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	-539.15*	2484.09***	1526.12***	1855.41***	4046.86***
	(286.25)	(255.80)	(230.15)	(185.25)	(345.86)
RepresentativeGov	18438.08***	15332.36***	17278.91***	12287.38***	11513.67***
	(3495.62)	(3419.02)	(3458.46)	(3454.17)	(3415.46)
FundamentalRights	-6442.75	-13278.03*	-6901.69	822.50	-12800.59*
	(7375.24)	(7213.86)	(7286.65)	(7205.83)	(7114.41)
ChecksonGov	-39215.38***	-33632.34***	-37912.11***	-32070.82***	-27907.13***
	(5055.18)	(4956.38)	(4998.68)	(4966.27)	(4959.54)
ImpartialAdmin	14306.36***	11277.69**	10673.24**	7255.94	4681.33
	(5159.67)	(5026.74)	(5116.84)	(5054.67)	(5021.52)
Constant	48470.81***	33451.55***	37774.36***	29910.11***	23711.4***
	(4520.64)	(4074.03)	(4097.69)	(4168.50)	(4254.33)
Observations	1,733	1,733	1,733	1,733	1,733
R-Squared	0.0284	0.0016	0.0382	0.0998	0.0549

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on per-capita GDP; (7) shows the effect of labor market regulation on per-capita GDP; (8) shows the effect of business regulation on per-capita GDP; (9) shows the effect of freedom to compete on per-capita GDP; (10) shows the effect of regulation on per-capita GDP

Table 12: Sensitivity Analysis: The Effect of Economic Freedom on Inequality With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	0.15	0.20***	0.53***	-0.27**	0.55***
	(0.13)	(0.05)	(0.08)	(0.12)	(0.18)
RepresentativeGov	0.01	0.47	0.37	0.27	-0.16
	(0.75)	(0.74)	(0.73)	(0.74)	(0.74)
FundamentalRights	-5.25***	-5.58***	-5.68***	-4.76**	-6.12***
	(1.86)	(1.86)	(1.85)	(1.87)	(1.88)
ChecksonGov	-0.75	-1.04	-1.44	-1.21	-0.55
	(1.33)	(1.33)	(1.32)	(1.34)	(1.33)
ImpartialAdmin	-1.77	-1.05	-1.31	-1.18	-2.39**
	(1.17)	(1.15)	(1.14)	(1.16)	(1.18)
Constant	43.08***	42.68***	40.79***	45.20***	41.82***
	(1.27)	(1.09)	(1.13)	(1.18)	(1.24)
Observations	2,611	2,611	2,611	2,611	2,611
R-Squared	0.1930	0.2101	0.2283	0.2066	0.0907

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on inequality; (2) shows the effect of government consumption on inequality; (3) shows the effect of size of government on inequality; (4) shows the effect of property rights on inequality; (5) shows the effect of legal system and property rights on inequality

Table 13: Sensitivity Analysis: The Effect of Economic Freedom on Inequality With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	0.26***	0.09	-0.04	-0.30***	-0.45***
	(0.08)	(0.08)	(0.07)	(0.04)	(0.09)
RepresentativeGov	0.06	0.05	0.14	1.24*	0.93
	(0.74)	(0.74)	(0.74)	(0.75)	(0.75)
FundamentalRights	-5.50***	-5.13***	-5.02***	-5.60***	-4.53**
	(1.86)	(1.86)	(1.86)	(1.84)	(1.86)
ChecksonGov	-1.04	-0.72	-0.91	-2.02	-1.90
	(1.33)	(1.34)	(1.33)	(1.33)	(1.34)
ImpartialAdmin	-1.74	-1.64	-1.48	-0.26	-0.73
	(1.15)	(1.15)	(1.16)	(1.15)	(1.16)
Constant	42.51***	43.37***	44.04***	45.47***	46.19***
	(1.13)	(1.16)	(1.08)	(1.06)	(1.15)
Observations	2,611	2,611	2,611	2,611	2,611
R-Squared	0.1849	0.1861	0.1945	0.2089	0.1945

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on inequality; (7) shows the effect of labor market regulation on inequality; (8) shows the effect of business regulation on inequality; (9) shows the effect of freedom to compete on inequality; (10) shows the effect of regulation on inequality

Table 14: Sensitivity Analysis: The Effect of Economic Freedom on Inequality Among Low-Income Countries With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	0.19	-0.13	0.51***	-0.63*	0.83***
	(0.25)	(0.09)	(0.12)	(0.32)	(0.32)
RepresentativeGov	2.45**	2.42**	2.86**	3.21***	1.80
	(1.18)	(1.17)	(1.15)	(1.20)	(1.20)
FundamentalRights	-8.19**	-7.31**	-9.31***	-6.93**	-9.17***
	(3.46)	(3.42)	(3.39)	(3.43)	(3.44)
ChecksonGov	-7.01***	-7.28***	-7.56***	-8.73***	-5.93**
	(2.39)	(2.38)	(2.36)	(2.51)	(2.42)
ImpartialAdmin	4.73**	4.67**	5.38***	5.31***	4.16**
	(1.88)	(1.87)	(1.86)	(1.89)	(1.88)
Constant	45.56***	47.39***	43.56***	48.96***	43.65***
	(1.66)	(1.36)	(1.37)	(1.76)	(1.62)
Observations	900	900	900	900	900
R-Squared	0.0005	0.0010	0.0000	0.0382	0.0240

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on inequality; (2) shows the effect of government consumption on inequality; (3) shows the effect of size of government on inequality; (4) shows the effect of property rights on inequality; (5) shows the effect of legal system and property rights on inequality

Table 15: Sensitivity Analysis: The Effect of Economic Freedom on Inequality Among Low-Income Countries With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	0.02	-0.37**	-0.11	-0.13**	-0.71***
	(0.15)	(0.17)	(0.13)	(0.06)	(0.17)
RepresentativeGov	2.60**	2.98**	2.63**	3.10***	3.89***
	(1.17)	(1.18)	(1.17)	(1.19)	(1.19)
FundamentalRights	-7.79**	-8.65**	-7.41**	-7.59**	-7.21**
	(3.44)	(3.43)	(3.43)	(3.40)	(3.38)
ChecksonGov	-7.17***	-7.77***	-7.25***	-7.70***	-8.52***
	(2.39)	(2.40)	(2.39)	(2.39)	(2.38)
ImpartialAdmin	4.82***	5.20***	4.95***	5.37***	5.77***
	(1.87)	(1.88)	(1.88)	(1.89)	(1.87)
Constant	46.38***	49.08***	46.75***	46.89***	49.95***
	(1.34)	(1.73)	(1.25)	(1.22)	(1.45)
Observations	900	900	900	900	900
R-Squared	0.0005	0.0002	0.0009	0.0028	0.0016

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on inequality; (7) shows the effect of labor market regulation on inequality; (8) shows the effect of business regulation on inequality; (9) shows the effect of freedom to compete on inequality; (10) shows the effect of regulation on inequality

Table 16: Sensitivity Analysis: The Effect of Economic Freedom on Inequality Among High-Income Countries With Institutional Controls

Variables	(1) Overall	(2) Government Consumption	(3) Government Size	(4) Property Rights	(5) Legal System Prop Rights
EconomicFreedom	0.36**	0.42***	0.56***	-0.04	1.01***
	(0.15)	(0.06)	(0.10)	(0.13)	(0.23)
RepresentativeGov	-2.50**	-1.63	-1.96*	-2.30**	-2.44**
	(1.08)	(1.07)	(1.07)	(1.08)	(1.07)
FundamentalRights	1.83	0.49	1.51	1.75	0.95
	(2.27)	(2.24)	(2.25)	(2.27)	(2.26)
ChecksonGov	4.43***	3.23**	3.60**	4.12***	3.56**
	(1.58)	(1.55)	(1.56)	(1.57)	(1.57)
ImpartialAdmin	-8.44***	-6.17***	-8.07***	-7.58***	-9.19***
	(1.62)	(1.57)	(1.57)	(1.59)	(1.61)
Constant	38.19***	38.52***	37.31***	40.68***	35.83***
	(1.55)	(1.24)	(1.35)	(1.43)	(1.61)
Observations	1,711	1,711	1,711	1,711	1,711
R-Squared	0.1005	0.2044	0.2140	0.1293	0.0435

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (1) shows the effect of overall economic freedom on inequality; (2) shows the effect of government consumption on inequality; (3) shows the effect of size of government on inequality; (4) shows the effect of property rights on inequality; (5) shows the effect of legal system and property rights on inequality

Table 17: Sensitivity Analysis: The Effect of Economic Freedom on Inequality Among High-Income Countries With Institutional Controls (Cont.)

Variables	(6) Intl Freedom Trade	(7) Labor Regulations	(8) Business Regulations	(9) Freedom to Compete	(10) Regulation Overall
EconomicFreedom	0.52***	0.29***	0.05	-0.60***	-0.17
	(0.09)	(0.08)	(0.07)	(0.06)	(0.11)
RepresentativeGov	-2.23**	-2.58**	-2.35**	-0.36	-2.04*
	(1.07)	(1.08)	(1.08)	(1.06)	(1.09)
FundamentalRights	1.55	1.11	1.74	-0.83	1.96
	(2.24)	(2.27)	(2.27)	(2.21)	(2.27)
ChecksonGov	4.08***	4.55***	4.14***	1.97	3.68**
	(1.56)	(1.57)	(1.57)	(1.54)	(1.60)
ImpartialAdmin	-8.03***	-7.83***	-7.73***	-5.52***	-7.26***
	(1.57)	(1.58)	(1.59)	(1.55)	(1.60)
Constant	36.69***	39.06***	40.21***	45.22***	41.33***
	(1.37)	(1.29)	(1.28)	(1.28)	(1.37)
Observations	1,711	1,711	1,711	1,711	1,711
R-Squared	0.0568	0.0947	0.1194	0.1804	0.1299

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. (6) shows the effect of freedom to trade internationally on inequality; (7) shows the effect of labor market regulation on inequality; (8) shows the effect of business regulation on inequality; (9) shows the effect of freedom to compete on inequality; (10) shows the effect of regulation on inequality

Table 18: Granger Test Results for Economic Freedom Causing Economic Growth

	H0: Economic freedom does not cause economic growth				
	1 lag (n=2,583)	2 lags (n=2,460)	3 lags (n=2,337)	4 lags (n=2,214)	5 lags (n=2,091)
Freedom Measure	Wald Stat	Wald Stat	Wald Stat	Wald Stat	Wald Stat
Overall	1.82	5.93*	13.07***	28.74***	62.47***
Government Consumption	5.46**	5.458*	46.34***	166.71***	111.51***
Government Size	4.85**	2.44	7.67*	42.80***	67.58***
Property Rights	0.74	45.44***	242.73***	518.47***	301.14***
Labor Regulations	3.72*	11.80***	13.76***	31.79***	63.22***
Business Regulations	51.98***	46.81***	12.14***	179.12***	357.42***
Freedom to Compete	0.13	9.32***	14.27***	81.35***	43.89***
Regulation Overall	12.71***	0.09	17.936***	45.25***	101.08***

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 19: Granger Test Results for Economic Growth Causing Economic Freedom

	H0: Economic growth does not cause economic freedom				
	1 lag (n=2,583)	2 lags (n=2,460)	3 lags (n=2,337)	4 lags (n=2,214)	5 lags (n=2,091)
Freedom Measure	Wald Stat	Wald Stat	Wald Stat	Wald Stat	Wald Stat
Overall	3.88**	16.95***	89.02***	683.72***	70.40***
Government Consumption	3.27*	8.92**	11.87***	223.69***	253.01***
Government Size	3.37*	7.83**	6.28*	28.24***	133.29***
Property Rights	-	-	-	-	-
Labor Regulations	5.14**	20.18***	54.95***	111.55***	136.83***
Business Regulations	412.75***	291.34***	336.53***	532.81***	402.65***
Freedom to Compete	54.07***	68.25***	158.59***	372.37***	83.77***
Regulation Overall	20.77***	52.13***	103.33***	251.36***	90.39***

Notes: Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 20: Summary of Main Findings Overall

	Overall		
Variable	**GDP**	**Gini**	**Tradeoff**
Overall	+	N	No
Government Consumption	-	+	No
Government Size	+	+	Yes
Property Rights	+	-	No
Legal System Prop Rights	N	+	No
Intl Freedom Trade	N	+	No
Labor Regulations	+	N	No
Business Regulations	+	N	No
Freedom to Compete	+	-	No
Regulation Overall	+	-	No

Table 21: Summary of Main Findings by Income Group

	Low-Income			High-Income		
Variable	**GDP**	**Gini**	**Tradeoff**	**GDP**	**Gini**	**Tradeoff**
Overall	+	N	No	+	+	Yes
Government Consumption	-	N	No	-	+	No
Government Size	N	+	No	+	+	Yes
Property Rights	+	N	No	+	N	No
Legal System Prop Rights	+	+	Yes	N	+	No
Intl Freedom Trade	N	N	No	N	+	No
Labor Regulations	N	-	No	+	+	Yes
Business Regulations	N	N	No	+	N	No
Freedom to Compete	+	-	No	+	-	No
Regulation Overall	+	-	No	+	N	No