THE PARADOX OF ECONOMIC FREEDOM AND INCOME INEQUALITY: Investigating the Effect of Economic Freedom on Income Inequality at the Country-Level

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Outline of Presentation

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Why Study Economic Freedom & Income Inequality?

- Rising income inequality is a major economic & political issue globally.
- Economic freedom is linked to growth, but does it reduce or increase inequality?
- Mixed empirical results $\rightarrow$ need for a rigorous study

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Economic Freedom

Economic freedom is associated with market-oriented institutions and policies, which are believed to incentivize private investment and lead to an efficient allocation of resources, economic growth and ultimately, long-run economic development. (Dawson 1998; Gwartney & Lawson 2003).

The five main pillars:

- size of government
- Legal System & Property Rights
- sound money
- freedom to trade internationally
- Regulation of Business, Labor, and Credit

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Introduction

Income Inequality

It is the gap between the rich and the poor i.e. the differences in the distribution of economic assets (wealth) and income within or between population or individuals.

Global Facts About Income Inequality

- The richest 10% of the world's population own more than 76% of total global wealth.
  (Credit Suisse Global Wealth Report, 2022)

- Over the past 30 years, income inequality has increased in both developing and advanced economies.
  (OECD, 2021)

- Globally, one in five people live in a highly unequal society. *(world Bank)*
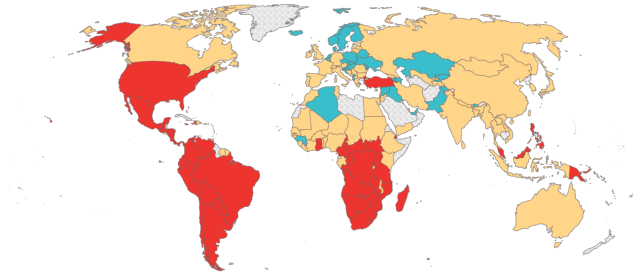
Legend:

■ High inequality (Gini > 40)

■ Moderate inequality (Gini 30–40)

■ Low inequality (Gini < 30)

Source: World Bank, 2024.

Related Works

- Berggren (1999): Economic freedom fosters competition, innovation, and entrepreneurship, which reduces barriers to entry and increases opportunities for lower-income individuals.
- Scully (2002): Higher economic freedom means higher economic growth hence income convergence.
- Carter (2006): Found a Non-linear relationship U-shaped economic freedom & Income Inequality.

- **Market Efficiency & Job Creation:** Classical economic theory suggests that reducing government intervention allows markets to allocate resources efficiently, fostering competition, innovation, and entrepreneurship (Friedman, 1962).

- **More Economic Opportunities:** Economic liberalization removes entry barriers and enhances labor mobility, helping lower-income individuals participate in the economy (Berggren, 1999).

- **Unequal Gains from Liberalization:** While economic freedom enhances overall growth, the benefits may disproportionately favor capital owners and skilled workers, leading to a widening wage gap (Piketty, 2015).

- **Weaker Redistribution:** A reduction in government intervention, taxation, and social welfare policies can exacerbate disparities, as wealth concentrates among high-income groups (Stiglitz, 2016)

Hypothesis Statement

- H1: Economic freedom has a nonlinear (U-shaped) relationship with income inequality.
  At low levels of economic freedom, increasing it reduces inequality At high levels of economic freedom, further increases exacerbate income disparity

- H2: The effect of economic freedom on income inequality depends on institutional quality. Strong legal institutions mitigate the inequality-worsening effects of market liberalization.

Model Specification

The baseline regression equation is specified as follows:

$$Gini_{it} = \alpha + \beta_1 efi_{it} + \beta_2 efi_{it}^2 + \sum \beta_k X_{kit} + \mu_i + \lambda_t + \epsilon_{it} \quad (1)$$

Where:

- $Gini_{it}$: Income inequality (Gini Index) for country i at time t.
- efi_{it}: Economic Freedom Index for country i at time t.
- efi_{it}^2: Squared term to test for nonlinearity (U-shaped relationship).
- X_{kit}: Control variables.
- μ_i: Country-specific fixed effects.
- λ_t: Time fixed effects (captures global time trends and shocks).
- ϵ_{it}: Error term.

Econometric Technique

The model adopts a Two-way Fixed Effect, controls for both unobserved country-level heterogeneity (μ_i) and time-specific shocks (λ_t).

The Two-way fixed effects isolate the impact of changes in economic freedom within countries over time, providing a more causal interpretation of the relationship.

The Research uses a panel dataset covering 58 randomly selected developed and developing countries from 2010 to 2020, using the following variables:

Dependent Variable:

- Gini Index (gini_index1)

Independent Variables:

- Economic Freedom Index (efi_index)
- EFI² (efi_index_sq)

Control Variables:

- Log GDP per capita (lngddp)
- Unemployment rate (unemprate)
- Corruption (corruption)
- Educational attainment (edu_attain)
- Population growth (pop_growth)

The data used in this research is secondary data.

Variable Name (in dataset)	Description	Source
gini_index1	Gini Index (Income Inequality)	World Bank, WDI
efi_index	Composite Economic Freedom Index	Fraser Institute, Economic Freedom of the World
lngddp	Log of GDP per capita (constant USD)	World Bank, WDI
unemprate	Unemployment rate (percent of labor force)	World Bank, WDI
sgovt	Size of Government Index	Fraser Institute,
smoney	Size of Money Index	Fraser Institute,
lpright	Legal System & Property Right Index	Fraser Institute,
freetrade	Freedom to Trade International Index	Fraser Institute,
corruption	Control of corruption index (scale -2.5 to 2.5)	World Bank, WGI
pop_growth	Annual population growth rate (percent)	World Bank, WDI
edu_attainment1	Educational Attainment (bachelor's or higher, percent of adult population)	World Bank, WDI

Regression Analysis

Table 1: Regression Results: Income Inequality and Economic Freedom

	(1) Pooled OLS	(2) Fixed Effects	(3) Non-Linearity	(4) Components of EFI that Affect Inequality
Economic Freedom Index (EFI)	8.804*	-3.076**	-13.96**	
	(3.755)	(1.020)	(4.404)	
Economic Freedom Index Squared	-0.536		0.980**	
	(0.310)		(0.356)	
lngddp	0.983*	-0.205	-0.737	-0.613
	(0.498)	(3.768)	(3.497)	(3.706)
Unemployment Rate	0.511***	0.0734	0.0734	0.100
	(0.0871)	(0.139)	(0.136)	(0.133)
Corruption Index	-3.994***	1.029	0.709	2.627
	(0.630)	(1.856)	(1.730)	(1.976)
Educational Attainment	-0.0834**	-0.0387	-0.0523	-0.0282
	(0.0298)	(0.0353)	(0.0265)	(0.0251)
Population Growth Rate	2.703***	0.411	0.396	0.0301
	(0.437)	(0.297)	(0.357)	(0.391)
Size of Government				-0.575
				(0.419)
Legal System and Property Rights				-3.958**
				(1.285)
Sound Money				-0.670*
				(0.257)
Freedom to Trade Internationally				0.835
				(0.585)
Business Regulation				0.688
				(0.745)
Constant	-10.38	60.31	92.85**	63.51*
	(13.01)	(30.94)	(32.61)	(29.83)
Observations	548	548	548	545
R-squared	0.308	0.136	0.149	0.230
F.E.	No	Yes	Yes	Yes

Standard errors in parentheses

Standard errors in parenthesis. Significance: * p¡0.05, ** p¡0.01, *** p¡0.001
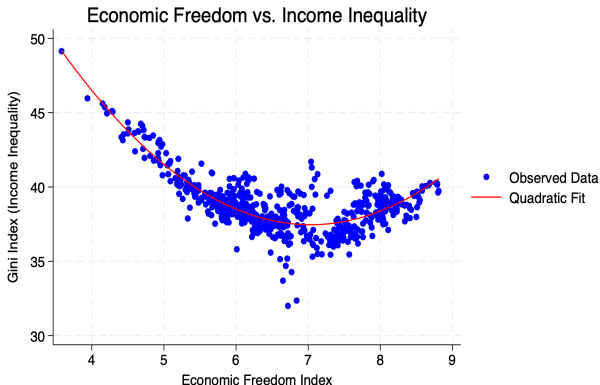
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Economic Freedom vs. Income Inequality

Note: The plot illustrates a U-shaped relationship between economic freedom and income inequality, confirming the quadratic relationship observed in the regression analysis.

U-Shaped Relationship

Initial increases in economic freedom reduce inequality—driven by institutional reforms like property rights and sound money. However, at extreme levels, freedom may exacerbate inequality if market concentration outpaces institutional safeguards.

Legal System & Property Rights

- Countries with stronger rule of law experience **lower income inequality**.

- Well-enforced property rights help level the playing field.

- Institutional strength supports inclusive participation.

Sound Money (Monetary Stability)

- **Price stability** preserves purchasing power.

- Inflation hurts the poor disproportionately.

- Central bank credibility aids *equitable growth*.

*Note: Effects are conditional on institutional quality.

Model Selection

To carefully choose between Random Effect (RE) and Fixed Effect (FE) for my panel data estimation, It is neccessary to run the **Hausman Test**. P-value < 0.001, hence FE is preferred.

Heteroskedasticity

The Modified **Wald test** was conducted.
The test revealed significant heteroskedasticity ($p < 0.05$), indicating non-constant variance of errors across countries.

- Promote judicial efficiency and reduce corruption to protect vulnerable groups from exploitation.

- Target inflation control policies that protect real incomes, especially for lower-income households.

- Avoid unchecked liberalization that benefits capital owners disproportionately.

■ **Non-Linear Relationship (U-Shape)**
- Confirmed by findings of **Carter (2006)**: Economic freedom initially reduces inequality, but further increases widen it due to capital accumulation.

■ **Legal Institutions and Equity**
- **Scully (2002)** and **Berggren (1999)** argue that strong legal frameworks foster inclusive growth and reduce inequality through secure rights.

■ **Role of Monetary Stability**
- **Stiglitz (2016)** and IMF studies support that inflation disproportionately harms the poor, reinforcing the value of sound money policy in promoting equity.

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Thank You.

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