The impact of institutional quality, market openness, and government size on corruption across income levels

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Abstract

Government openness in managing the economy can stimulate growth, but carries the risk of policy misuse. This study analyzes panel data from 139 countries between 2012 and 2023 to examine the relationship between economic openness and corruption, as measured by the Corruption Perceptions Index (CPI). The findings reveal that key factors such as government integrity and financial freedom significantly influence CPI scores across countries with varying income levels. Nations characterized by flexible business regulations, transparent governance, strong legal protection of property rights, and stable monetary policies tend to exhibit lower levels of public sector corruption. However, the analysis also shows that financial freedom in high-income countries and investment freedom in upper-middle-income countries are negatively associated with CPI scores. This suggests that excessive liberalization—particularly in investment—without adequate regulatory oversight can increase corruption risks, likely due to limited transparency in capital flows and foreign investment practices. In contrast, when properly managed, the recognition of property rights, government integrity, and investment freedom are instrumental in reducing corruption in many middle-income countries. The study highlights the importance of strengthening government integrity, particularly in delivering public services and regulating an open economy. By ensuring effective and efficient oversight, countries can enhance their CPI scores and reduce the potential for corruption.

Keywords: *Corruption, Economic development, Government performance*

JEL Classification: D73, O01, O43, H11, K000

INTRODUCTION

The issue of corruption in various countries is a significant concern, as it can impede economic growth. In 2022, Asian countries recorded an average Corruption Perceptions Index (CPI) score of 41 out of 100, based on data from 11 countries. Similarly, nations in North and South America reported comparable CPI scores. In contrast, substantial variation exists between European countries, averaging a CPI score of 61, and the lowest-ranking African countries, averaging 32. Lower CPI scores indicate a higher likelihood of corruption, as the index ranges from 0 (highly corrupt) to 100 (very clean). A study by

Gründler & Potrafke (2019) highlights the negative correlation between economic growth and corruption, particularly in countries with weak governance and political institutions.

Corruption also significantly affects per capita income levels in developing countries. High levels of corruption can lower per capita income, establishing a negative relationship between the two (Hassaballa, 2017). This view is further supported by Moiseev et al. (2020), who assert that corruption negatively impacts the growth of per capita income, a finding echoed by Apergis et al. (2010) and Mustapha (2014). The link between per capita income and corruption is rooted in the necessity for a fair and equitable distribution of GDP across generations, ensuring the sustainable use of resources (Denisova et al., 2019; Lisin, 2020).

Economic freedom comprises two main dimensions. First, it refers to the freedom of businesses to determine how to allocate labor and capital. Second, it involves individuals' freedom within a country to work, invest, and consume goods and services based on their judgment and analysis. Additionally, economic freedom encompasses the state's role in promoting competition and protecting property rights (Gwartney & Lawson, 2003).

However, economic freedom should be subject to certain limitations to protect society from the adverse effects of economic liberalism. One such limitation is preventing corruption across all sectors, as corruption can hinder economic growth. Although academic debate continues regarding the precise impact of corruption on economic growth (Huang, 2016), the necessity of government oversight in competition policy remains clear in reducing opportunities for corruption (Pieroni & d'Agostino, 2013). Measures to combat corruption include strengthening institutions, ensuring their independence, and enhancing public transparency (Xhindi & Gjika, 2022). Corruption can also be curtailed through stricter penalties for bribery and corruption offenses and financial audits of political parties to minimize bribery risks (Oghuvbu, 2021).

In Southeast Asia, economic freedom remains within the "moderate" category, with index scores ranging from 59.9 to 79.9. According to the Heritage Foundation, the economic freedom index is based on several indicators. The first is the rule of law, which includes property rights, judicial effectiveness, and government integrity. The second indicator is government size, encompassing the tax burden, government spending, and fiscal health. Third is regulatory efficiency, including business, labor, and monetary freedom. The fourth indicator is market openness, covering trade, investment, and financial freedom.

A study conducted by Domashova & Politova (2021), analyzing 180 countries between 2012 and 2019, found that transparency and bureaucratic inefficiency influence corruption levels. Similarly, Malanski & Póvoa (2021), in their analysis of Asia-Pacific and Latin American countries from 2000 to 2017, concluded that corruption negatively affects countries with high levels of economic freedom. This research contributes a novel approach by categorizing countries based on income levels to assess the impact of economic freedom on corruption during 2013–2023. This method differs from earlier studies, which typically relied on aggregate cross-country data without disaggregating by income level.

The purpose of this study is to examine the impact of government intervention in the economy—commonly referred to as economic freedom—on levels of corruption, taking into consideration each country's per capita income. Corruption will be measured using the Corruption Perceptions Index (CPI) published by Transparency International, which ranges from 0 (highly corrupt) to 100 (corruption-free). The first stage of the research involves analyzing the characteristics of countries based on their per capita

income and geographic region. The second stage assesses the effect of economic freedom on corruption across different countries.

The government's role in the economy is vital in influencing the rate of economic growth. Government intervention is essential to address market failures and generate positive externalities, which can ultimately lead to an expansion of government activities and, in turn, promote economic growth (Kim et al., 2018). One of the key ways the government contributes to economic growth is by implementing fiscal policies. Appropriately designed and well-coordinated fiscal policies among government institutions significantly impact economic performance (Chugunov et al., 2021; Kim et al., 2021; Tanchev & Mose, 2023).

Beyond fiscal policy, the government's role encompasses regulatory frameworks that influence all aspects of the economy. These regulations achieve public policy objectives, such as reducing income inequality, protecting labor rights, and maintaining market stability. However, it is important to recognize that regulations can also have unintended consequences. For example, overly complex or burdensome regulations may create entry barriers for new businesses (Gibson et al., 2023). Therefore, simplifying government intervention is necessary to reduce opportunities for corruption (Mugellini et al., 2021; Xie & Zhang, 2020).

While government regulations are crucial in addressing market failures, they can also be vulnerable to misuse by corrupt officials who may manipulate them to benefit specific business interests. Regulations formulated by the executive and legislative branches are intended to correct market inefficiencies and are subject to governmental oversight. However, because their implementation relies on the discretionary decisions of government officials, there is a persistent risk of corruption and bribery (Acemoglu & Verdier, 2000).

At least two primary assumptions explain the relationship between corruption and economic growth. The first, known as the "grease the wheels" hypothesis, argues that corruption can positively influence economic growth. In this view, bribery is seen as a mechanism to bypass bureaucratic inefficiencies, thereby enhancing economic efficiency (Lui, 1985).

The enforcement of government regulations typically requires a dedicated implementation team, often composed of public officials. Although these regulations are intended to serve the public interest, they may negatively impact certain stakeholders who, in response, may resort to illicit means—such as bribery—to preserve their profitability. Such corrupt practices can undermine investment, hinder capital accumulation, and ultimately impair economic development (Handoyo et al., 2024; Song et al., 2021; Zheng & Xiao, 2020).

Government policies, like a two-sided coin, can positively and negatively affect the economy. The government plays a critical role in regulating business activity, balancing the need for both economic freedom and protection. This includes facilitating the ease of starting, operating, and, when necessary, closing a business. However, in many developing countries, the requirement to obtain multiple licenses to engage in business continues to pose a barrier (Lash & Batavia, 2013).

The Index of Economic Freedom (IEF), developed by the Heritage Foundation and *The Wall Street Journal*, uses market openness as a key dimension to assess economic freedom. Market openness includes freedom of trade, investment, the financial sector, and the ease new businesses can enter and exit markets without facing excessive regulatory or structural barriers. Government intervention in the economic system is sometimes necessary to correct market failures; however, policies that do not support market activity may hinder business operations and create distortions (Pieroni & d'Agostino, 2013).

As the creator and enforcer of regulations, the government seeks to balance the public's and entrepreneurs' interests. In assessing economic freedom, evaluating the government's role as a regulator is crucial. Regulatory freedom's subcomponents include business, labor, and monetary freedom. While simplifying regulations is essential to promote entrepreneurial activity, regulatory effectiveness must remain a top priority. A suitable approach to enhancing business freedom involves reducing excessive government intervention to stimulate economic performance (Huang, 2016).

According to the Heritage Foundation, economic freedom is defined as the autonomy of individuals in acquiring and utilizing economic goods and resources. This perspective assumes that individuals are best equipped to understand and make decisions based on their needs and preferences. In this context, the government functions as a policy-maker and a guarantor of individual choices. Simplifying regulations can reduce the potential for fraud, corruption, and inefficiencies in institutional governance, provided that their effectiveness in protecting property rights is not compromised.

Government size is typically defined by the total expenditure undertaken by the government (Nyasha & Odhiambo, 2019). An increase in government spending corresponds to an expansion of government size. From a fiscal perspective, government size can also be expressed as the ratio of tax revenue to GDP. Nevertheless, this expenditure-based measure may not always be appropriate, as different components of government spending can have varying effects on the economy (Sedrakyan & Varela-Candamio, 2019).

Government consumption and spending, which are intended to support public services and implement regulations, can produce either positive or negative outcomes. Nguyen & Bui (2022) found that government spending and corruption control efforts can negatively affect economic growth. Similarly, Nan (2022) observed that higher levels of corruption, particularly at the grassroots level, are associated with larger government expenditures.

Law enforcement is vital to economic freedom and includes property rights protection, judicial effectiveness, and government integrity indicators. Government integrity is measured through metrics such as the ratio of corruption cases, bribery incidents, and instances of official negligence relative to the number of public officials (Liu & Luo, 2019). Effective and efficient law enforcement reflects the government's success in maintaining the integrity of its institutions. A well-functioning judicial system should operate according to the rule of law, and the government must protect all citizens' property rights.

METHODS

This study analyzed panel data from 139 countries from 2012 to 2023. Our analysis focused on eight variables reflecting the Economic Freedom Index (EFI) components, as developed by the Heritage Foundation. These variables are grouped into four main dimensions: rule of law, government size, regulatory efficiency, and market openness.

Property Rights (PR) and Government Integrity (GI) represent the rule of law dimension. Government size is captured through Government Spending (GS). Regulatory efficiency includes Business Freedom (BF) and Monetary Freedom (MF). Finally, market openness is measured through Trade Freedom (TF), Investment Freedom (IF), and Financial Freedom (FF). The overall EFI scores range from 0 to 100, categorized as follows: 0–49.9 ("repressed"), 50–59.9 ("mostly unfree"), 60–69.9 ("moderately free"), 70–79.9 ("mostly free"), and 80–100 ("free").

We used the Corruption Perceptions Index (CPI) published by Transparency International to assess corruption levels. This index ranges from 0 (highly corrupt) to 100

(very clean) and is based on expert assessments and business surveys measuring perceived levels of public sector corruption.

The econometric model employed is structured as follows:

$$ly_{it} = \beta_0 + \sum_{j=1}^{j} \beta_j x_{jit} + \sum_{k=1}^{k} \beta_k x_{kit} + \sum_{l=1}^{l} \beta_l x_{lit} + \sum_{m=1}^{m} \beta_m x_{mit} + \varepsilon_t + \mu_i + v_{it}$$

Where:

y_{it} is the natural logarithm of the Corruption Perceptions Index (CPI) for country *i* at time *t*.
x_{jit} represents variables related to law enforcement (PR, GI).
x_{kit} denotes variables related to government size (GS).
x_{lit} includes variables reflecting regulatory efficiency (BF, MF).
x_{mit} consists of market openness indicators (TF, IF, FF).
μ_i represents unobserved individual effects for each country.
ε_t captures time effects.
v_{it} is the idiosyncratic error term.

Table 1 presents the full specifications, including variable names, symbols, measurement scales, definitions, and data sources to clarify the operationalization of the variables used in this study. These variables represent the four main pillars of economic freedom as defined by the Heritage Foundation, along with the Corruption Perceptions Index (CPI) from Transparency International, which serves as the dependent variable in the analysis. All indicators are measured on a standardized scale from 0 to 100 to ensure comparability across countries and over time.

Table 1. Variables specifications

Category	Variable	Symbol	Definition
Rule of Law	Property Rights	PR	Measures the legal framework protecting ownership rights, including acquisition and use of property.
	Government Integrity	GI	Evaluates perceptions of corruption, bribery risk, and elite capture of the state.
Government Size	Government Spending	GS	Reflects total government expenditures, including consumption and payments for public programs.
Regulatory Efficiency	Business Freedom	BF	Assesses how infrastructure and regulations affect the efficiency of business operations.
	Monetary Freedom	MF	Combines inflation control and the extent of government intervention in pricing.
Market Openness	Trade Freedom	TF	Based on trade-weighted average tariff rates and non-tariff barriers.
	Investment Freedom	IF	Evaluates regulatory restrictions on investment flows.
	Financial Freedom	FF	Assesses banking efficiency and independence from government control.
Dependent Variable	corruption perception index	CPI	Reflects perceived levels of public sector corruption.

Sources: Heritage Foundation (https://www.heritage.org/index), Transparency International (https://www.transparency.org/en/cpi/2023)

We conducted model specification tests to determine the most appropriate panel data model for estimating the effect of economic freedom—conceptualized as government intervention—on corruption. These included the Chow Test to compare pooled OLS and fixed effects, the Breusch–Pagan LM Test to assess random effects against pooled OLS, and the Hausman Test to choose between fixed and random effects. These tests helped identify the optimal estimation approach for examining the relationship between economic freedom, corruption, and per capita income across countries.

RESULTS AND DISCUSSION

Corruption and economic freedom by income level

Developing both indices across countries highlights the relationship between corruption and economic freedom. Table 2 presents the distribution of countries by income level, alongside their respective Corruption Perceptions Index (CPI) and Index of Economic Freedom (IEF) values. In 2023, the average CPI for all observed countries was 37.03, indicating a general tendency toward corruption. According to Heritage Foundation standards, the average IEF value was 56.48, placing the global economy in the "mostly unfree" category.

Income classification is based on annual per capita income: high-income countries have incomes exceeding $13,846; upper-middle-income countries range from $4,466 to $13,845; lower-middle-income countries range from $1,136 to $4,465; and low-income countries have annual incomes below $1,135. In 2023, 33 countries were classified as lower-middle-income and 22 as low-income.

Table 2. Corruption and economic freedom by income per capita group, 2023

Income Per Capita Group	Number of Countries	CPI	IEF
World Average	139	37.03	56.48
High Income	52	62.00	68.89
Upper-Middle Income	32	35.17	59.93
Lower-Middle Income	33	32.98	54.04
Low Income	22	27.50	44.03

Source: CPI index from Transparency International, IEF from Heritage Foundation

The Corruption Perceptions Index and the Index of Economic Freedom are scored on a scale from 0 to 100, where higher values represent lower levels of corruption and greater economic freedom. As shown in Table 2, high-income countries generally report higher IEF values (68.89), indicating greater economic freedom. These countries also have relatively high CPI values (62), signifying lower levels of corruption.

Conversely, 55 countries classified as low- or lower-middle-income in 2023 had CPI scores below 36, pointing to high levels of perceived corruption, as reported by Transparency International. Even among upper-middle-income countries, the IEF average was 59.93, which still falls within the "mostly unfree" category, reflecting continued limitations on economic freedom and a relatively elevated level of corruption.

Corruption and economic freedom by type of democracy

Economic freedom is often associated with countries that follow democratic systems of governance. In such contexts, reducing inequality will likely enhance economic freedom (Adediyan & Omo-Ikirodah, 2023; Krieger & Meierrieks, 2016). This

reflects a political structure aligned with capitalism or cooperative democracy, in which powerful economic elites collaborate with politicians and bureaucrats for mutual benefit. According to the Economist Intelligence Unit, countries with democracy index scores between 8 and 10 are classified as "full democracies." Table 3 presents corruption and economic freedom scores across different democracy classifications.

Table 3. Corruption and economic freedom by democracy group, 2023

Democracy Group	Number of Countries	CPI	IEF
World	141	43.63	59.75
Full Democracy	22	73.36	73.43
Flawed Democracy	43	47.83	63.28
Hybrid Regimes	32	34.21	56.29
Authoritarian Regimes	44	32.64	53.68

Source: CPI from Transparency International; IEF from the Heritage Foundation; democracy classification from The Economist Intelligence Unit.

Countries with robust democratic institutions tend to exhibit higher levels of economic freedom, as evidenced by the high IEF score (73.43) among full democracies. These countries also show lower levels of perceived corruption, with an average CPI of 73.36. In contrast, hybrid regimes—countries transitioning between authoritarianism and democracy—exhibit lower economic freedom (IEF score of 56.29) and higher perceived corruption (CPI score of 34.21).

The role of income inequality in perceived corruption

Income inequality also plays a significant role in shaping economic freedom, and this relationship is influenced by a country's political system and level of democracy. Nations with low economic freedom often face pronounced challenges in income distribution (Krieger & Meierrieks, 2016). Income inequality can weaken environmental governance, making institutions more susceptible to corruption. Moreover, lower levels of corruption are globally associated with reduced income inequality, regardless of the type of corruption involved (Acheampong et al., 2024; Keneck-Massil et al., 2021).

Corruption exacerbates income inequality through various mechanisms, including economic instability, regressive tax systems, misallocation of social programs, unequal access to education, and barriers to investment for low-income people. Corruption has been linked to rising income inequality even in developed countries like the United States. Research also shows that there is both a short- and long-term causal relationship between corruption and income inequality (Apergis et al., 2010).

Figure 1 illustrates the relationship between income inequality and perceived corruption, supporting the argument that higher levels of corruption are often associated with increased income inequality. The Gini coefficient, which ranges from 0 (perfect equality) to 1 (maximum inequality), measures income distribution. At the same time, the Corruption Perceptions Index (CPI) reflects the perceived level of corruption, with higher values indicating lower corruption.

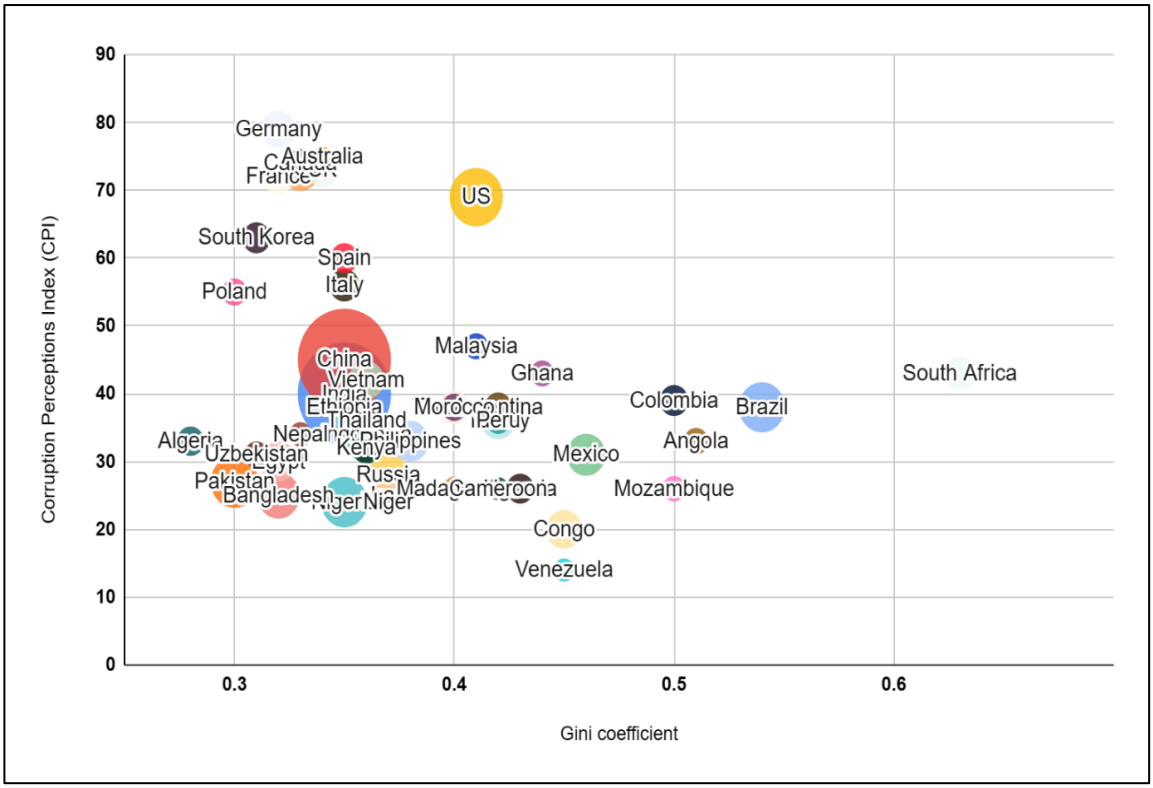

Figure 1. Income Inequality vs. Corruption Perceptions Index (2022)
Note: Circle sizes represent population.
Source: CPI Index from Transparency International; Gini Coefficient from Oxford Martin School.

The United States, with a population of approximately 333 million, has a Gini coefficient of 0.41 and a CPI score above 70. This suggests a relatively moderate level of income inequality accompanied by effective governance in curbing corruption. In contrast, Malaysia also has a Gini coefficient of 0.41 but a lower CPI value of 47, indicating that similar levels of inequality can be associated with higher perceptions of corruption depending on governance and institutional factors.

Countries such as Mexico, Colombia, Brazil, and South Africa exhibit higher Gini coefficients—closer to 0.5 or above—indicating significant income inequality. At the same time, these countries have CPI scores below 40, highlighting persistent issues with public sector corruption. This pattern supports that higher inequality coincides with greater corruption, especially in nations with weaker institutional controls.

Regional and income-based variations in economic freedom pillars

Economic freedom can be categorized into four pillars: rule of law, government size, regulatory efficiency, and market openness (Vojnovic, 2023). As shown in Table 3, high-income countries score the highest on the rule of law pillar, with index values ranging from 67 to 80—highlighting a stark contrast with middle- and low-income countries. This disparity underscores the strong positive relationship between effective law enforcement and national income levels. For example, enforcing social security legislation has a measurable impact on employee earnings (Wu, 2024).

Table 3. Average economic freedom pillar scores by region and income level, 2023

		Region						Income			
Pillars	**Category**	**Asia**	**Africa**	**Europe**	**North America**	**South America**	**Oceania**	**High**	**Upper Middle**	**Lower Middle**	**Low**
Overall Score		59.35	52.13	69.45	60.53	55.30	64.88	68.89	59.93	54.04	44.03
Rule of law	Property Rights	51.07	38.42	82.27	54.11	43.78	66.98	80.46	48.01	41.24	30.92
	Judicial Effectiveness	38.78	32.42	75.25	55.17	49.85	73.76	74.15	43.56	37.42	26.02
	Government Integrity	42.56	30.08	67.56	45.03	40.88	60.04	67.51	39.43	32.63	26.56
Governm ent size	Tax Burden	86.72	77.04	71.20	79.84	75.87	74.24	73.69	82.70	78.60	69.86
	Government Spending	72.69	79.44	37.48	71.65	69.75	58.12	46.82	72.01	73.99	70.54
	Fiscal Health	57.55	51.37	63.39	41.47	36.05	61.14	53.40	53.75	58.01	51.47
Regulatory efficiency	Business Freedom	63.63	44.30	76.60	65.75	63.27	63.72	76.35	63.52	52.35	39.03
	Labor Freedom	55.49	52.24	61.54	56.93	55.48	60.48	61.91	56.67	53.10	47.68
	Monetary Freedom	71.31	69.95	78.95	71.24	64.25	77.66	78.96	72.86	69.65	57.54
Market openness	Trade Freedom	73.13	61.29	78.73	67.52	66.06	77.24	77.37	70.91	65.47	53.48
	Investment Freedom	51.51	49.07	75.68	64.06	52.51	51	72.04	61.76	45.17	37.33
	Financial Freedom	49.23	40.22	64.86	53.13	45.83	54	64.07	53.82	41.16	27.86
Corruption Perceptions Index (CPI)		41.39	32.26	61.05	40.16	39.08	56.00	62.00	35.17	32.98	27.50

Source: IEF Heritage Foundation

European countries enjoy the highest average economic freedom score at 69.45 compared to other regions. This aligns with the idea that economic freedom positively influences income per capita and growth rate. Previous research has confirmed that improvements in economic freedom can directly enhance per capita income (Erdal & Yenipazarli, 2013).

Government size—measured by government expenditures, public employment, and regulatory reach—is a major determinant of economic freedom (Goh & Aznan, 2023; Sohail et al., 2022). This dimension captures the scale and scope of state intervention in the economy. Taxes, as a central intervention tool, are a major indicator. A higher tax burden on the economic freedom index reflects increased fiscal demands and a higher capacity among individuals and businesses to comply—indirectly pointing to the health of the broader economic environment.

In Europe, high-income countries score particularly well across multiple pillars-property rights, monetary freedom, and trade freedom—with property rights averaging 78.8, the highest of any continent. Legal certainty in these nations reinforces business and trade freedom, contributing significantly to their overall economic freedom scores. Of 37 European countries, 25 (or 67%) are classified as high-income, further solidifying Europe's position as the region with the highest economic freedom.

Notably, the pattern of economic freedom differs between low- and middle-income countries and high-income countries. While government size remains a key pillar for low-

and middle-income countries, high-income countries emphasize the rule of law, regulatory efficiency, and market openness. This shift reflects a transition from basic state intervention to institutional maturity—where legal certainty and property rights become central to economic confidence and investment.

Asia, comprising 39 countries—most of which fall into the middle-income category—ranks second in average CPI (41.39) in 2023, reflecting moderate perceived corruption. The region's average economic freedom score is 59.35, categorized as "mostly unfree." However, 17 Asian countries have IEF values above 60, falling into the "moderately free" category, and six countries boast CPI scores above 63, indicating low perceived corruption. In many Asian nations, government size is significant in supporting economic freedom, encompassing public sector employment, regulation, spending, and broader state participation in economic activity (Bernholz, 1986).

Estimated effects of economic freedom on corruption across income groups

The fixed effect model was selected based on the outcomes of three model specification tests: the Chow test, the Breusch–Pagan test, and the Hausman test. This model was deemed the most appropriate, as it effectively controls unobserved heterogeneity across countries, aligning well with the research objectives. The analysis covers the period from 2012 to 2023 and is disaggregated by national income levels (Table 4).

Table 4. Fixed effects regression results: Economic freedom and CPI by Income level (2012–2023)

Variable	High Income	Low Income	Lower Middle Income	Upper Middle Income
Property Rights	0.00075*	0.0005064	0.0011837*	0.0005704
	(2.60)	(0.66)	(2.26)	(1.23)
Government Integrity	0.0020*	0.0016713	0.0049502*	0.0056193*
	(4.82)	(1.22)	(4.66)	(6.36)
Government Spending	0.00025	0.0003845	0.0026953*	-0.0009536
	(0.90)	(0.26)	(4.48)	(-1.42)
Business Freedom	0.0019*	-0.0002211	0.0011082	0.0004707
	(4.14)	(-0.17)	(1.64)	(0.63)
Monetary Freedom	0.0018*	0.0000878	0.0001526	0.0019115*
	(2.54)	(0.07)	(0.26)	(2.21)
Trade Freedom	0.0014*	-0.0000004	0.0018017*	0.0038792*
	(1.88)	(-0.00)	(2.37)	(3.77)
Investment Freedom	0.00051	0.001206	0.0006181	-0.0008905
	(0.98)	(1.06)	(0.78)	(-1.03)
Financial Freedom	-0.0030*	0.0075113*	0.0052971*	0.0028966*
	(-4.37)	(2.43)	(3.68)	(2.83)
_cons	3.643876*	2.908363*	2.583803*	2.870955*
	(30.34)	(20.79)	(26.87)	(20.29)
R-squared Overall	0.60	0.2364	0.3078	0.546
Number of Groups	52	22	33	32

Dependent variable: log of Corruption Perceptions Index (CPI)
Significance level: $p < 0.05$; t-values in parentheses

As shown in Table 4, the R^2 value for high-income countries is 0.60, indicating that

economic freedom variables can explain 60% of the variation in the Corruption Perceptions Index (CPI). Similarly, the upper-middle-income group has an R^2 of 0.546, and the lower-middle-income group shows a moderate explanatory power with an R^2 of 0.3078. In contrast, the model performs weakest for low-income countries, with an R^2 of only 0.2364, suggesting that economic freedom alone is less predictive of corruption levels in this group. These results suggest a stronger relationship between economic freedom and corruption in middle- and high-income countries.

High income (52 countries)

In high-income countries, economic freedom factors significantly impact Corruption Perceptions Index (CPI) values. Government integrity emerged as the most influential among the analyzed economic freedom indicators, with a coefficient of 0.0020, statistically significant at the 1% level. This finding is consistent across income groups, as countries with low and middle-income levels also demonstrate the critical role of government integrity in improving CPI scores and reducing the likelihood of corruption.

Government integrity reflects the professionalism of public officials in executing their duties with honesty, transparency, accountability, and adherence to laws and regulations. High levels of integrity within governmental institutions are associated with a commitment to fairness and a rejection of corrupt practices, nepotism, and abuse of power (Pieroni & d'Agostino, 2013). Furthermore, local-level government integrity systems are essential for preventing and minimizing corruption (Hoekstra et al., 2023).

Another significant determinant in high-income countries is the recognition of property rights, with a 0.00075 coefficient indicating a meaningful positive effect on CPI values. This supports the findings of Depren & Yangın (2021), who argue that property rights—including intellectual property, land ownership, and the quality of land administration—are instrumental in reducing corruption. Clear and enforceable property rights create legal certainty and institutional stability, reducing opportunities for illicit practices.

Business and trade freedom also statistically significantly impact CPI values in high-income contexts. These indicators fall under the regulatory efficiency and market openness pillars, respectively, and reflect the ability of firms to operate without excessive regulatory burdens. A high level of business freedom facilitates efficient market access, reduces bureaucratic delays, and increases transparency in economic transactions. Hariyani et al. (2016) and Hatak et al. (2015) noted that business freedom supports sound institutional governance, transparency, accountability, and the rule of law—all contributing to lowering corruption.

Moreover, there is a notable correlation between business freedom and trade freedom, suggesting that openness in trade complements domestic business environments and further enhances CPI scores.

The impact of economic freedom on corruption is particularly evident in countries such as Canada, Denmark, Finland, Luxembourg, the Netherlands, Norway, Singapore, Sweden, and Switzerland. Robust governance systems, strong legal frameworks, and high levels of transparency characterize these nations. In 2023, all nine ranked among the top 12 countries globally regarding CPI, illustrating how economic freedom effectively limits corruption when paired with strong institutional integrity.

Upper middle income (32 countries)

Increased CPI values—indicating reduced corruption—in upper-middle-income countries are closely linked to higher trade and business freedom levels. As presented in

Table 4, trade freedom shows a positive and statistically significant coefficient, suggesting that trade policy and openness improvements contribute to a more favorable business environment. This environment protects private property and facilitates participation in global trade. Such improvements lower the likelihood of corruption and create conditions conducive to attracting Foreign Direct Investment (FDI) (Lestari et al., 2022).

Like high-income countries, upper-middle-income countries benefit from strong governance frameworks, as evidenced by the impact of government integrity on corruption levels. The analysis reveals a government integrity coefficient of 0.0056, which is both positive and significant, confirming that countries with higher institutional integrity experience lower levels of corruption. Government integrity positively influences multiple dimensions of economic freedom, including monetary, trade, and financial freedom, thereby reinforcing the resilience and transparency of these sectors. A high level of integrity within public institutions ensures effective implementation of policies and minimizes interference from corrupt practices.

Several upper-middle-income countries demonstrate a positive correlation between economic openness and CPI performance. These include Botswana, Namibia, Georgia, Suriname, Mauritius, Malaysia, Jordan, Belarus, Jamaica, and Argentina. In these countries, indicators such as Government Integrity, Monetary Freedom, Trade Freedom, and Financial Freedom are positively associated with higher CPI scores ranging from 39 to 98. These results highlight how economic openness, supported by institutional integrity, can improve governance outcomes.

In contrast, some Southeast Asian countries within this income group, such as Indonesia and Thailand, ranked 115 and 108, respectively, on the 2023 CPI. Despite their economic progress, the relatively lower CPI rankings suggest institutional challenges—particularly in governance and regulatory quality—impede efforts to combat corruption effectively.

Lower middle income (33 countries)

The economic freedom characteristics of lower-middle-income countries show notable similarities to those of high-income countries, with all economic freedom indicators positively influencing Corruption Perceptions Index (CPI) scores. Government integrity remains critical in reducing corruption and enhancing CPI performance. Several countries in this group—such as Lesotho, Tunisia, Senegal, Algeria, and India—achieve CPI rankings comparable to those of upper-middle-income nations.

The most influential variables in this income group are financial freedom and government integrity. Financial freedom, in particular, has the highest coefficient value at 0.0053, indicating a strong positive effect on reducing corruption. This suggests that effective government oversight of the financial sector—including credit, savings, investment, and regulatory frameworks—is crucial in minimizing corruption risks. When governments implement transparent financial regulations and supervise institutions efficiently, they help prevent illicit activities and foster trust in financial systems.

Low income (22 countries)

In contrast, low-income countries exhibit distinct characteristics that differentiate them from middle- and high-income groups. While government integrity—in areas such as judiciary, finance, business, and trade—could theoretically improve CPI values, the relationship is statistically insignificant. This reflects ongoing institutional weaknesses and the limited capacity of these governments to enforce integrity and foster a secure

environment for businesses and society. High-perceived corruption continues to undermine governance systems in these countries.

The negative coefficient for financial freedom in low-income countries further highlights the challenges faced without effective regulatory oversight. Under these conditions, financial operations—including credit issuance, loan approvals, investments, and general banking activities—become highly vulnerable to corruption. Without sufficient monitoring mechanisms, increased financial freedom may exacerbate corruption. For example, unchecked autonomy in financial institutions can lead to bribery, credit access manipulation, and other illicit behavior. Therefore, in low-income contexts, excessive financial liberalization without corresponding institutional controls may have unintended and adverse consequences for governance.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study confirms that government integrity is the most influential factor in reducing corruption, as reflected in higher CPI scores across countries. Other important dimensions of economic freedom—such as business freedom, property rights, monetary freedom, and government spending—play significant roles in certain contexts. Countries that uphold transparent governance enforce property rights, maintain stable economic policies, and ensure effective public spending tend to have lower levels of perceived corruption.

The findings show that corruption limits economic freedom by restricting fair and open participation in economic activities, often through bribery, nepotism, and other illicit practices. In contrast, higher levels of government integrity lead to improved institutional performance and a more conducive environment for economic activity.

A clear positive relationship exists between trade freedom and reduced corruption in all income groups—except low-income countries—emphasizing the importance of market openness in promoting accountability. Furthermore, regulatory efficiency, especially regarding business freedom, reduces corruption, particularly in middle- and high-income countries.

The study also highlights that the relative influence of economic freedom indicators varies across income levels. In high-income countries, business freedom is more prominent, while in low- and middle-income countries, government integrity, property rights, and government spending have a greater impact on reducing corruption.

Recommendations

Based on the findings of this study, several strategic recommendations can be proposed to reduce corruption and improve economic freedom across different income groups. First and foremost, strengthening government integrity must remain a central focus. Integrity in public institutions—reflected through transparency, accountability, adherence to the rule of law, and ethical conduct—plays a critical role in shaping public trust and reducing opportunities for corruption. Governments should invest in institutional reforms that promote professionalism among public officials, effective enforcement of anti-corruption laws, and independent oversight mechanisms.

Countries should enhance business freedom by streamlining regulatory frameworks and minimizing unnecessary bureaucratic barriers. A business environment that supports efficiency and reduces discretionary decision-making can significantly limit the space for corrupt practices. Ensuring that businesses can operate without undue interference not

only improves economic performance but also reinforces transparency and predictability in the market.

The protection of property rights is equally essential. Legal certainty in asset ownership—whether in land, physical assets, or intellectual property—creates a foundation for economic freedom and deters corruption related to resource misallocation. Therefore, strengthening legal frameworks and improving enforcement mechanisms for property rights are crucial for building trust in economic governance.

Moreover, monetary and fiscal discipline must be maintained to ensure macroeconomic stability. Governments should adopt prudent spending policies and implement monetary regulations that reduce inflation volatility and prevent the misuse of public resources. Sound fiscal management discourages corrupt behavior by closing gaps where misuse of funds or favoritism may otherwise occur.

Additionally, this study highlights the importance of trade openness in reducing corruption, particularly in middle- and high-income countries. Expanding access to international markets fosters competitiveness, reduces protectionist practices, and promotes regulatory harmonization, all of which contribute to lowering the risk of corruption. However, the benefits of trade liberalization must be accompanied by strong domestic institutions to ensure its effectiveness.

Finally, policy approaches should be tailored to each income group's economic and institutional context. While high-income countries may benefit most from reforms that focus on enhancing regulatory efficiency and business freedom, low- and middle-income countries should prioritize building institutional integrity, reinforcing the rule of law, and improving the management of public spending. A one-size-fits-all approach is unlikely to be effective; instead, nuanced and context-sensitive strategies are needed to address each country's specific challenges in combating corruption and advancing economic freedom.

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