Economic Freedom of the World, 2024
Annual Report

James Gwartney, Robert Lawson, and Ryan Murphy

with

Matthew D. Mitchell, Kevin Grier, Robin Grier, and Daniel J. Mitchell

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Economic Freedom of the World
2024 Annual Report

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Data available to researchers The full data set, including all of the data published in this report as well as data omitted because of limited space, can be downloaded for free at <www.fraserinstitute.org/economic-freedom/dataset>. The data file available there contains the most up-to-date and accurate data for the *Economic Freedom of the World* index. Some variable names and data sources have evolved over the years since the first publication in 1996; users should consult earlier editions of *Economic Freedom of the World* for details about sources and descriptions for those years. All editions of the report are available in PDF and can be downloaded for free from <https://www.fraserinstitute.org/studies/economic-freedom>. However, users are always strongly encouraged to use the data from this most recent data file as updates and corrections, even to earlier years' data, do occur. Users doing long-term or longitudinal studies are encouraged to use the EFW Panel Dataset as it is the most consistent through time.

Technical help If you have difficulty downloading the data, please contact Matthew Mitchell via e-mail to <freetheworld@fraserinstitute.org>. If you have technical questions about the data itself, please contact Ryan Murphy <rhmurphy@smu.edu> or Robert Lawson <rlawson@smu.edu>.

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Published work using ratings from *Economic Freedom of the World* A list of published papers that have used the economic-freedom ratings from *Economic Freedom of the World* is available on line at <www.fraserinstitute.org/economic-freedom/citations>. In most cases, a brief abstract of the article is provided. If you know of other papers current or forthcoming that should be included on this page, or have further information about any of these papers or authors, please write to <freetheworld@fraserinstitute.org>.

Cataloguing Information

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EXECUTIVE SUMMARY

The index published in *Economic Freedom of the World* (EFW) measures the degree to which the policies and institutions of countries permit people to make their own economic choices. We use 45 data points—organized into five broad areas—to construct an overall index. We also use a Gender Legal Rights Adjustment to account for the extent to which women have different levels of economic freedom than men.

Area 1: Size of Government

Taken together, the five components of Area 1 measure the degree to which a country's fiscal policies limit the scope of individual economic choice. Countries with lower levels of government spending, lower marginal tax rates, less government investment, and less state ownership of assets earn the highest ratings in this area.

Area 2: Legal System and Property Rights

Protection of persons and their rightfully acquired property is a central element of both economic freedom and human freedom. Indeed, many contend it is the most important function of government. When a person and his or her rightfully acquired property are not secure, others (both private individuals and the state) may limit his or her economic choices. The eight components of Area 2 are indicators of how effectively legal systems protect people and their property. It includes measures of judicial independence, impartiality of courts, protection of property rights, military interference with the law, the integrity of the legal system, enforcement of contracts, protection of real property, and police and crime. The rating for Area 2 is adjusted based on a gender-disparity index that reflects cross-country differences in legal rights based on gender.

Area 3: Sound Money

Money is involved in nearly every transaction in an economy so unexpected changes in its value have a profound effect on peoples' ability to make their own economic

choices. If a government's monetary authority creates significant unexpected inflation, it makes money less valuable, expropriating property from savers. Conversely, if the government creates significant unexpected deflation, it makes money more valuable and expropriates property from borrowers. High and volatile inflation or deflation therefore interfere with individuals' ability to make their own economic choices. The four components of this area measure the extent to which people have access to sound money—i.e., currencies that maintain their value over time. To earn a high rating in Area 3, a country must permit its citizens to access a currency with low (and stable) rates of inflation and avoid regulations that limit the ability to use alternative currencies.

Area 4: Freedom to Trade Internationally

When governments impose taxes or regulations at the border, they limit their citizens' ability to exchange with people from other countries. The components in Area 4 measure four trade restrictions: tariffs, quotas, hidden administrative restraints, and controls on exchange rates and the movement of capital. To get a high rating in this area, a country must have low tariffs, easy clearance and efficient administration of customs, a freely convertible currency, and few controls on the movement of physical and human capital.

Area 5: Regulation

Area 5 measures the extent to which regulations that restrict entry into markets and interfere with the freedom to voluntary exchange reduce economic freedom. The four components of Area 5 account for credit market regulation, labor market regulation, business regulation, and freedom to compete.

Gender Legal Rights Adjustment

The index published in *Economic Freedom of the World* includes an adjustment for gender disparity to account for the fact that in many nations women are not legally accorded the same level of economic freedom as men. The Gender Disparity Index and its incorporation in the EFW are described in Chapter 3: Adjusting for Gender Disparity in Economic Freedom and Why It Matters, in the 2017 report (pp. 189–211).[1]

Jurisdictions

There are 165 jurisdictions in the index. The data are available annually from 2000 to 2022 and for years ending in zero or five back to 1970. This dataset makes it possible for scholars to analyze the impact of both cross-country differences in economic freedom and changes in that freedom across a time frame of several decades. Separate estimates are also provided at five-year intervals back to 1950 on the economic freedom website.[2]

Related research

Since our first publication in 1996, about 1,000 studies have used the data published in *Economic Freedom of the World* to examine the impact of economic freedom on human well-being.[3] The strong balance of the evidence suggests that those who live in jurisdictions with greater economic freedom experience higher levels of well-being as measured by factors such as greater productivity, more rapid economic growth, higher income levels, less poverty, less corruption, and fewer conflicts.

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1   <https://fraserinstitute.org/studies/economic-freedom-of-the-world-2017-annual-report>
2   A comprehensive data set is available at <www.fraserinstitute.org/economic-freedom/dataset>.
3   For a review of these studies, see the chapter, Economic Freedom in the Literature: What Is It Good (Bad) For? (Robert Lawson, *Economic Freedom of the World: 2022 Annual Report*: 187–200; <https://www. fraserinstitute.org/studies/economic-freedom-in-the-literature-what-is-it-good-bad-for>.

Economic freedom around the world in 2022

Top-rated countries

The most recent comprehensive data available are from 2022. In last year's report, Singapore edged out Hong Kong for the top spot for the first time. In this year's edition, based on updated and revised data for 2021 and new data for 2022, Hong Kong scored ahead of Singapore in both years. Despite this reversal in the *ranking,* Hong Kong's *rating* continues to fall precipitously from 9.05 in 2018 to 8.58 in 2022—nearly half a standard deviation decline in just four years.[4]

The next highest scoring nations are Switzerland, New Zealand, the United States, Denmark, Ireland, Canada, Australia, and Luxembourg.

Rankings of other major countries

Japan (11th), Germany (16th), Taiwan (19th), Korea (32nd), France (36th), Italy (51st), Mexico (65th), India (84th), Brazil (85th), China (104th), and Russia (119th).

Ten lowest-rated countries

Yemen (156th), Libya (157th), Iran (158th), Argentina (159th), Myanmar (160th), Algeria (161st), Syria (162nd), Sudan (163rd), Zimbabwe (164th), and Venezuela (165th).

Well-being is much greater in economically free jurisdictions

- Among jurisdictions in the top quartile of economic freedom, GDP per person was $52,877 in 2022, while in the least economically free places, it was $6,968 (figure 1.4).

- In most economically free places, the poorest 10% earned $7,610 a year, while in the least-free places it was $952 (figure 1.6).

- In the most economically free places, the average person can expect to live about 16 years longer than the average person in the least free places (figure 1.7).

- In the least economically free places, the infant mortality rate is about nine times higher than it is in the freest places (figure 1.8).

- In the most economically free places, one percent of the population experiences extreme poverty (living on less than US$2.15 a day), while in the least-free places, 30% of the population experiences extreme poverty (figure 1.9).

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4   According to the Human Freedom Index, which accounts for personal as well as economic freedom, Hong Kong fell from 3rd place in 2010 to 46th in 2021 (Vásquez, McMahon, Murphy, and Schneider, 2023).

- Compared with the least economically free places, those in the freest places report that they are about 40 percent more satisfied with their lives (figure 1.10).

- In the least economically free places, the share of children who work is nearly two-and-a-half times greater than in the freest places (figure 1.11).

- In the most economically free places, youth literacy is nearly universal and there is no gap between boys and girls. But in the least free places, only 78 percent of girls aged 15 to 24 are literate (figure 1.12).

- The Environmental Performance Index rates countries based on climate change performance, environmental health, and ecosystem vitality. Compared with the least economically free places, the freest places score more than 50 percent better on this measure of environmental stewardship (figure 1.13).

- Compared with those in the least economically free places, those in the freest places are significantly more tolerant of other genders, minorities, and immigrants (figure 1.14).

- Compared with the governments in the least economically free places, those in the freest places score two-and-a-half times as well on the Corruption Perceptions Index (figure 1.15).

Global economic freedom continues to decline

Figure 1.2 shows the global average economic freedom score for all jurisdictions with complete data since 2000. Between 2000 and 2019, the average economic freedom rating increased from 6.19 to 6.80. But global economic freedom has declined in each of the three years since then, erasing more than a decade of gains.

Figure 1.2: Average Economic Freedom Rating, 2000–2022

Chapters in the report

Chapter 1: Economic Freedom of the World in 2022
Robert Lawson, Ryan Murphy, and Matthew D. Mitchell

This chapter provides an overview of the report and discusses why economic freedom is important. Readers will note that in this year's report we have decided not to include detailed country tables. Users of the index report that they typically access this information via our website where they can download and sort the data however they wish. This data is found at https://www.freetheworld.com/ or by scanning the following QR code:

Chapter 2: Economic Freedom or Populist Peril: Lessons for Argentina
Kevin Grier and Robin Grier

After decades of instability and suppression of economic freedom, Argentina is now under new leadership. Employing populist and sometimes brash language, President Javier Milei is hoping to liberalize the Argentinian economy as fast as possible. Drawing on their recent research, Texas Tech professors Kevin and Robin Grier show that speedy liberalizations that root out corruption and manage to avoid the excesses of populism tend to be associated with growth in per capita personal income.

Chapter 3: Economic Freedom and Pensions
Daniel J. Mitchell

With aging populations and falling birth rates, public sector pension systems around the world will soon need to be reformed. How does pension system design affect economic freedom? And how can we incorporate pensions into the index? Economist Daniel Mitchell of the Center for Freedom and Prosperity has been studying pensions for years and in this chapter, he offers some suggestions for incorporating pension system design into the annual index.

1. Chapter One
Economic Freedom of the World in 2022

Robert Lawson, Ryan Murphy, and Matthew D. Mitchell

The index published in the *Economic Freedom of the World 2024 Annual Report* (EFW index) measures economic freedom in up to 165 jurisdictions as far back as 1970. Economic freedoms are a subset of human freedoms and concern economic activity such as working, transacting, contracting, and owning and using productive property.[1] Though it is possible to define economic freedom in absolute terms, it is more useful to think of it as a spectrum. Individuals are more economically free when they are allowed to make more of their own economic choices, with others imposing fewer and less-severe constraints on these choices. Their choices, however, must respect the rights of others.

Like human freedom more broadly, economic freedom is based on the concept of self-ownership. If individuals own themselves then they have a right to choose how to use their time, talents, and resources to shape their own lives. But if all individuals own themselves, no one has a right to the time, talents, and resources of anyone else. Threats to economic freedom may arise from the government or from individuals using fraud or force to limit the economic choices of others.

The EFW index is designed to measure the degree to which the institutions and policies of countries permit people to make their own economic choices. To achieve a high EFW rating, a country's government must do some things, but refrain from others. Governments protect economic freedom when their laws safeguard voluntary exchange and defend individuals and their property from aggressors who might use fraud or force. To this end, the legal system is a particularly important guarantor of economic freedom. In more economically free places, legal institutions protect the person and property of all individuals from the aggressive acts of others and enforce contracts in an even-handed manner. These governments also permit people to access sound money and do not expropriate property through unexpected inflation or deflation. In economically free places, governments refrain from actions like high taxation,

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1 The *Human Freedom Index* (Vásquez, McMahon, Murphy, and Schneider, 2023) co-published by the Fraser Institute and the Cato Institute measures human freedom more broadly by adding indicators of personal freedom to the EFW index's measure of economic freedom.

barriers to trade, and excessive regulations that restrict personal choice, interfere with voluntary exchange, and limit entry into markets.

The EFW index might be thought of as an effort to identify how closely the institutions and policies of a country correspond with the classical liberal ideal of a limited government, where the government protects people and property rights from aggressors but otherwise allows them to make their own economic choices.

Before discussing the structure of the index, it may be useful to say a few words about what the EFW index is *not.* First, the only outcome that the EFW index measures is economic freedom. It does not attempt to measure the standard of living, the extent of corruption, the protection of personal freedoms such as speech, or any other indicator of wellbeing. These factors are important for human flourishing. And researchers using the index have found that economic freedom does correlate with many of them. But the index is not itself a measure of these things. Nor should it be. Since the EFW index is used to see if economic freedom relates to these markers of wellbeing, it would be tautological to include them in the index itself.

Second, the EFW index should not be taken as a *net* measure of good policy. It does not weigh the costs of infringements on economic freedom against the hoped-for benefits of these infringements. A tax or a regulation may well produce some good outcome. It might address a negative environmental externality, fund a valuable public good, or correct some social injustice. But the authors of the EFW index make no effort to account for these potential benefits. Instead, they offer the index as a measure of one side of the ledger, believing that this is the first step toward such a full net accounting. They leave it to other scholars to take the next step and assess whether these infringements on economic freedom are in some sense worth it.

Finally, the EFW index should be seen as a measure of "what is" rather than as a judgement about "what ought to be." The authors, like most social scientists, do have their own opinions about economic freedom (on the margin, they would prefer to see most countries become more economically free). But that should not keep skeptics of economic freedom from using the index to study their own hypotheses. Indeed, in recent years, it has become more common for these skeptics to employ the index in their own studies and the authors welcome this development.

The Economic Freedom of the World index—an overview

The EFW index measures the degree to which a jurisdiction's institutions and policies permit people to make their own economic choices. It is an outgrowth of a series of six conferences hosted by Milton and Rose Friedman and Michael Walker from 1986 to 1994, which resulted in three books (Walker, 1988; Easton and Walker, 1992; Block, 1993) documenting the discussion and various prototype indices that culminated with the initial publication, *Economic Freedom of the World: 1975–1995 (*Gwartney, Lawson, and Block, 1996*)*. In addition to the Friedmans, several of the world's leading economists, including Douglass North, Gary Becker, Peter Bauer, William Niskanen, and Gordon Tullock, participated in the discussions leading to the EFW index. The index is published by a network of institutions spearheaded by the Fraser Institute in Canada. Members of the network and other interested parties meet annually to review the structure of the index and consider ideas for its improvement.

Most of the data in the EFW index are drawn from external sources such as the International Monetary Fund, the World Bank, or the World Economic Forum. The authors rarely use data provided directly from a source within a country. Whenever possible, components are taken from objective data sources rather than surveys. And scores are never altered based on the value judgments of the authors or others in the Economic Freedom Network. The authors strive for transparency throughout. The report provides information about the data sources, the methodology used to transform raw data into the ratings of the components and subcomponents and how these ratings are used to construct both the area and summary ratings. Methodological details can be found in the Appendix: Explanatory Notes and Data Sources of this report (pp. 69–86). The index is freely available at <www.fraserinstitute.org/economic-freedom/dataset>.

The current edition of the EFW index rates 165 jurisdictions from 1970 through 2022. Data are available in five-year increments from 1970 through 2000 and then annually from there on out.

Structure of the EFW index

Table 1.1 describes the structure of the EFW index. Five major areas comprise the index: [1] Size of Government, [2] Legal System and Property Rights, [3] Sound Money [4] Freedom to Trade Internationally, and [5] Regulation.

Table 1.1. Economic Freedom of the World Index

Area 1: Size of Government

A. Government consumption

B. Transfers and subsidies

C. Government investment

D. Top marginal tax rate

    i. Top marginal income tax rate

    ii. Top marginal income and payroll tax rates

E. State ownership of assets

Area 2: Legal System and Property Rights

A. Judicial independence

B. Impartial courts

C. Property rights

D. Military interference

E. Integrity of the legal system

F. Contracts

G. Real property

H. Police and crime

Note: Area 2 ratings are calculated with adjustments for inequalities in the legal treatment of women using a Gender Disparity Index produced by Rosemarie Fike. The adjusted Area 2 ratings is used to compute the summary rating.

Area 3: Sound Money

A. Money growth

B. Standard deviation of inflation

C. Inflation: most recent year

D. Foreign currency bank accounts

Area 4: Freedom to Trade Internationally

A. Tariffs

    i. Trade tax revenue

    ii. Mean tariff rate

    iii. Standard deviation of tariff rates

B. Regulatory trade barriers

    i. Non-tariff trade barriers

    ii. Costs of importing and exporting

C. Black-market exchange rates

D. Controls of the movement of capital and people

    i. Financial openness

    ii. Capital controls

    iii. Freedom of foreigners to visit

    iv. Protection of foreign assets

Area 5: Regulation

A. Credit market regulation

    i. Ownership of banks

    ii. Private sector credit

    iii. Interest rate controls / negative real interest rates

B. Labor market regulation

    i. Labor regulations and minimum wage

    ii. Hiring and firing regulations

    iii. Flexible wage determination

    iv. Hours regulation

    v. Costs of worker dismissal

    vi. Conscription

    vii. Foreign labor

C. Business regulation

    i. Regulatory burden

    ii. Bureaucracy costs

    iii. Impartial public administration

    iv. Tax compliance

D. Freedom to compete

    i. Market openness

    ii. Business permits

    iii. Distortion of business environment

Each of the five areas is constructed from several components, and many of these are constructed from subcomponents and underlying variables. In total, the index incorporates 45 distinct components and subcomponents.[2] Each component and subcomponent is placed on a scale from zero to 10, reflecting the distribution of the underlying data. When there are subcomponents, they are averaged to derive the component rating. The component ratings within each area are then averaged to derive ratings for each of the five areas. And the five area ratings are averaged to derive the overall EFW rating for each country.

Area 1. Size of Government measures the effect of government expenditures and tax rates on economic freedom. Taken together, the five components of Area 1 measure the degree to which a country's fiscal policies limit the scope of individual economic choice. Since almost all government spending is financed through either current taxation, future taxation, or inflation, almost all government spending necessarily expropriates money from citizens, limiting their economic choices. Countries with lower levels of government spending, lower marginal tax rates, less government investment, and less state ownership of assets earn the highest ratings in this area.

Area 2. Legal System and Property Rights measures the degree to which each jurisdiction's legal system protects economic freedom. When a person and his or her rightfully acquired property are not secure, others (both private individuals and the state) may limit his or her economic choices. The key ingredients of a legal system consistent with economic freedom are rule of law, security of property rights, an independent and unbiased judiciary, and impartial and effective enforcement of the law. The eight components of Area 2 are indicators of how effectively the protective functions of government are performed. The rating for Area 2 is adjusted based on a gender-disparity index that reflects cross-country differences in legal rights based on gender.

Area 3. Sound Money measures the degree to which a jurisdiction's monetary policies permit economic freedom. Money is involved in nearly every transaction in an economy so unexpected changes in its value have a profound effect on peoples' ability to make their own economic choices. If a government's monetary authority creates significant unexpected inflation, it makes money less valuable, expropriating property

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2   Sometimes we use multiple data sources for a single indicator or sub-indicator. We do this when one data source is discontinued and replaced by a different source or when there is more than one source for the same concept, and we think it prudent to average multiple sources.

from savers. Conversely, if the government creates significant unexpected deflation, it makes money more valuable and expropriates property from borrowers. High and volatile inflation or deflation therefore interfere with individuals' ability to make their own economic choices. The four components of this area measure the extent to which people have access to sound money—i.e., currencies that maintain their value over time. To earn a high rating in Area 3, a country must permit its citizens to access a currency with low (and stable) rates of inflation and avoid regulations that limit the ability to use alternative currencies.

Area 4. Freedom to Trade Internationally measures the degree to which governments interfere with exchange across national boundaries. When governments impose taxes or regulations at the border, they limit their citizens' ability to exchange with people from other countries. The components in Area 4 measure a wide variety of trade restrictions: tariffs, quotas, hidden administrative restraints, and controls on exchange rates and the movement of capital. To get a high rating in this area, a country must have low tariffs, easy clearance and efficient administration of customs, a freely convertible currency, and few controls on the movement of physical and human capital.

Area 5. Regulation measures the extent to which regulations that restrict entry into markets and interfere with the freedom to voluntary exchange reduce economic freedom. The components of Area 5 focus on regulatory restraints that limit the freedom of exchange in credit, labor, and product markets.

Key changes and challenges in the EFW index in recent years

The last few years have presented a huge challenge for the EFW index as two of our most important data sources became unavailable. The World Bank's *Doing Business* report was abruptly canceled, and likewise it appears the World Economic Forum's *Global Competitiveness Report* and the Executive Opinion Survey upon which it was based have been discontinued. These two sources had been used in whole, or in part, in about 40 percent of components or subcomponents in the EFW index. At this point in time, we are continuing to use the latest available data from these sources. While there is some hope that both sources will return in some capacity, the situation remains uncertain and the timing unknown.

    Over the last couple of years as we studied solutions to these difficulties, we turned to the Economist Intelligence Unit's (EIU) Business Environment Rankings. We had

looked at their numbers previously and generally judged them to be high quality, but their main dataset covered only about 80 countries, far short of the 165 that we require. Ultimately, we were able to contract with the EIU to get the numbers we wanted for all of our countries for the years since 2017.

For the most part, we have been able to integrate the new EIU data easily into the existing structure of the EFW index. A few of the EIU indicators do not have natural places within the existing EFW index structure, and as a result, we made a few adjustments to the component and subcomponent structure. There are still a few components and subcomponents that remain wholly reliant on the *Doing Business* or *Global Competitiveness Report* data that have not been updated. We hope to deal with these in the next year or two. Please see the 2023 report for additional details about these changes.

Construction of Area and Summary ratings

Theory provides us with some direction about elements that should be included in the five areas and the summary index, but it does not indicate what weights should be attached to the components within the areas or among the areas in the construction of the overall index. It would be convenient if these factors were independent, and a weight could be attached to each of them. In the past, we investigated several methods of weighting the various components, including principal component analysis and a survey of economists. We have also invited others to use their own weighting structure if they believe that it is preferable. Our experience indicates that the overall index is not very sensitive to alternative weighting methods.

Furthermore, there is reason to question whether the areas (and components) are independent of one another, or if instead, they work together like the wheels, motor, transmission, drive shaft, and frame of a car. Just as these interconnected parts allow an automobile to move forward, it may be that a combination of interrelated factors allows people to benefit from economic freedom. Which is more important for the mobility of an automobile: the motor, wheels, or transmission? The question cannot be easily answered because the parts work together.[3] If any of these key parts break down, the car is immobile. Institutional quality may be much the same. If any of the key parts are absent, the overall effectiveness may be undermined.

As a result of these two considerations, we organize the elements of the index in a manner that seems sensible, but we make no attempt to weight the components in any

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3　See, for example, Bolen and Sobel (2020).

special way when deriving either area or overall ratings. Of course, the component and subcomponent data are available to researchers who would like to consider alternative weighting schemes, and we encourage them to do so.

Summary Economic Freedom ratings in 2022

Figure 1.1a and 1.1b (pp. 17–18) present the summary economic freedom ratings, sorted from highest to lowest, for the 165 jurisdictions of this year's report. These ratings are for 2022, the most recent year for which reasonably comprehensive data are available. The 10 highest scoring nations are Hong Kong, Singapore, Switzerland, New Zealand, United States, Denmark, Ireland, Canada, Australia, and Luxembourg.

The rankings of some of the other major world economies are Japan (11th), Germany (16th), Taiwan (19th), Korea (32nd), France (36th), Italy (51st), Mexico (65th), India (84th), Brazil (85th), China (104th), and Russia (119th). The 10 lowest-rated countries are: Yemen, Libya, Iran, Argentina, Myanmar, Algeria, Syria, Sudan, Zimbabwe, and Venezuela.

The two largest declines in ratings between 2021 and 2022 were Ukraine (-0.94) and Moldova (-0.63), two nations that have either been invaded (Ukraine) or threatened militarily (Moldova) by Russia. The rating for Russia is also down (-0.30). It may be obvious to point out, but war is very bad for economic freedom.

In last year's report, Singapore edged out Hong Kong for the top spot for the first time. In this year's edition, based on updated and revised data for 2021 and new data for 2022, we scored Hong Kong ahead of Singapore in both years. Despite this reversal in the *ranking*, Hong Kong's *rating* continues to fall precipitously from 9.05 in 2018 to 8.58 in 2022. This is nearly half a standard deviation decline in just four years. Thus, we continue to sound the alarm bell about signs of declining economic—and other—freedoms in Hong Kong.[4]

Ratings and rankings in 2022 for the five areas of the index

Table 1.2 (pp. 19–23) presents the ratings (and rankings) for each of the five areas of the index. Several interesting patterns emerge from an analysis of these data. High-income industrial economies generally rank quite high for Legal System and Property Rights (Area 2), Sound Money (Area 3), and Freedom to Trade Internationally (Area 4).

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4   According to the *Human Freedom Index*, Hong Kong fell from 3rd place in 2010 to 46th in 2021 (Vásquez, McMahon, Murphy, and Schneider, 2023).

Figure 1.1a: Summary Economic Freedom Ratings for 2022, First and Second Quartiles

#	Country	Rating		#	Country	Rating
1	Hong Kong SAR, China	8.58		43	Peru	7.41
2	Singapore	8.55		43	Romania	7.41
3	Switzerland	8.43		45	Slovak Republic	7.39
4	New Zealand	8.39		45	United Arab Emirates	7.39
5	United States	8.09		47	Cabo Verde	7.37
6	Denmark	8.02		48	Jordan	7.33
6	Ireland	8.02		49	Dominican Republic	7.32
8	Canada	7.99		49	Jamaica	7.32
9	Australia	7.98		51	Italy	7.22
9	Luxembourg	7.98		52	Bulgaria	7.16
11	Japan	7.90		53	Montenegro	7.15
12	United Kingdom	7.88		54	Slovenia	7.14
13	Finland	7.87		55	Hungary	7.12
14	Iceland	7.84		56	Croatia	7.07
15	Malta	7.82		57	Uruguay	7.04
16	Germany	7.80		58	Saudi Arabia	7.03
17	Mauritius	7.79		59	El Salvador	7.01
18	Netherlands	7.74		59	Philippines	7.01
19	Taiwan	7.71		61	Brunei Darussalam	6.99
20	Estonia	7.67		62	Paraguay	6.98
21	Georgia	7.66		62	Seychelles	6.98
22	Czechia	7.65		64	Indonesia	6.96
23	Austria	7.62		65	Mexico	6.94
23	Panama	7.62		65	Thailand	6.94
25	Sweden	7.61		67	Honduras	6.92
26	Costa Rica	7.60		68	Kazakhstan	6.89
27	Portugal	7.59		69	Mongolia	6.86
28	Norway	7.58		70	Cambodia	6.85
29	Malaysia	7.56		70	Gambia, The	6.85
30	Spain	7.54		70	Greece	6.85
31	Cyprus	7.53		70	Poland	6.85
32	Korea, Rep.	7.52		74	Kenya	6.82
32	Latvia	7.52		75	Barbados	6.81
34	Bahrain	7.51		76	Uganda	6.75
34	Lithuania	7.51		77	North Macedonia	6.74
36	Armenia	7.49		78	Qatar	6.71
36	France	7.49		79	Serbia	6.70
38	Albania	7.48		80	Botswana	6.67
39	Chile	7.45		81	Bahamas, The	6.65
39	Guatemala	7.45		81	South Africa	6.65
41	Israel	7.44		83	Trinidad and Tobago	6.64
42	Belgium	7.42				

Figure 1.1b: Summary Economic Freedom Ratings for 2022, Third and Fourth Quartiles

Rank	Country	Rating
84	India	6.58
85	Brazil	6.56
86	Colombia	6.54
86	Nepal	6.54
88	Kyrgyz Republic	6.53
89	Moldova	6.49
90	Morocco	6.46
90	Tajikistan	6.46
92	Kuwait	6.45
92	Rwanda	6.45
94	Nicaragua	6.42
95	Oman	6.40
95	Tanzania	6.40
97	Benin	6.26
98	Bhutan	6.24
99	Djibouti	6.23
99	Namibia	6.23
99	Vietnam	6.23
102	Bosnia and Herzegovina	6.22
103	Zambia	6.17
104	China	6.14
104	Ecuador	6.14
106	Bolivia	6.11
107	Togo	6.07
108	Papua New Guinea	6.02
109	Belize	6.00
110	Fiji	5.99
110	Senegal	5.99
112	Belarus	5.98
113	Ghana	5.96
113	Lesotho	5.96
113	Nigeria	5.96
116	Madagascar	5.95
116	Somalia	5.95
118	Tunisia	5.94
119	Russian Federation	5.93
120	Mauritania	5.91
121	Burkina Faso	5.90
122	Côte d'Ivoire	5.89
123	Liberia	5.87
123	Sri Lanka	5.87

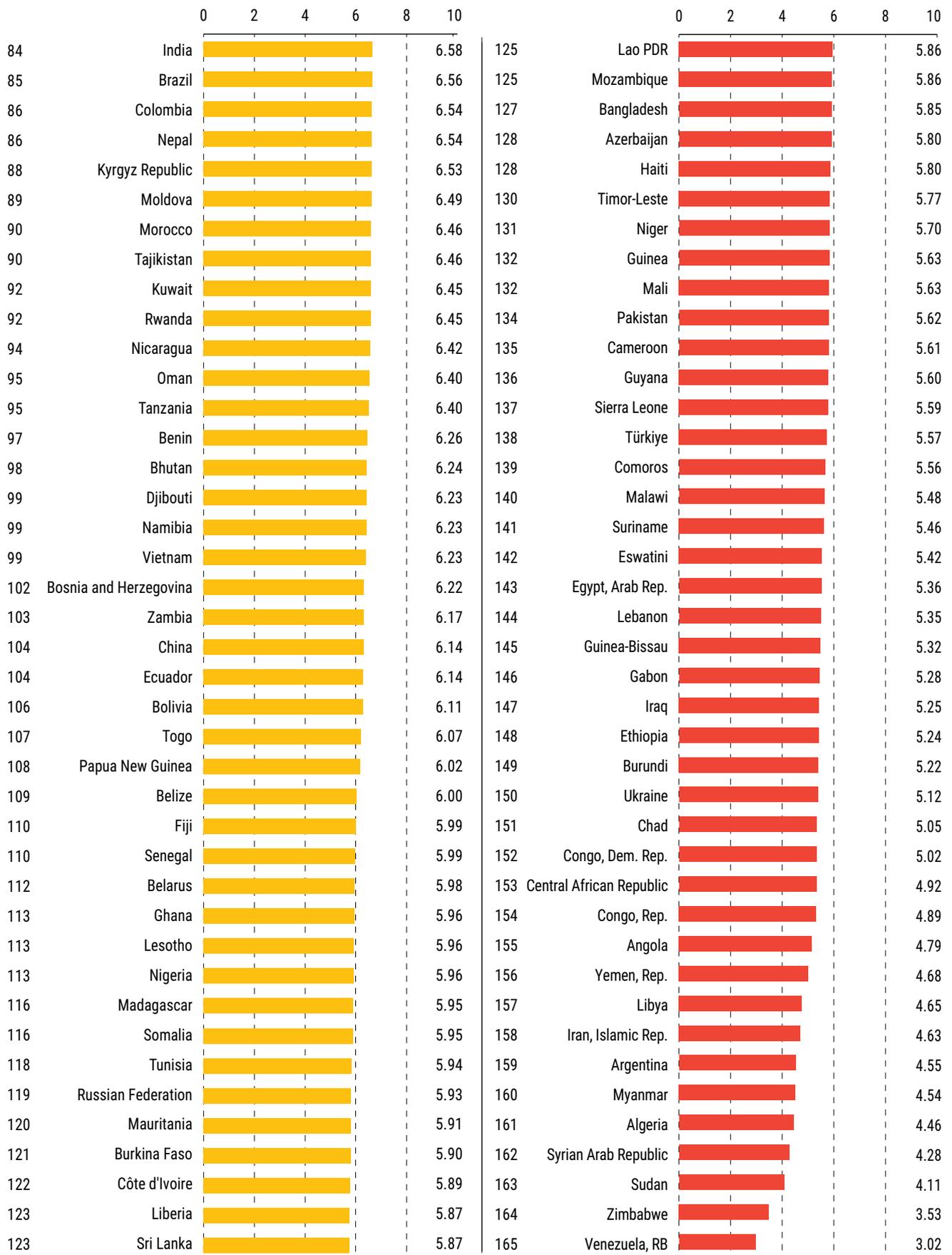| Rank	Country	Rating
125	Lao PDR	5.86
125	Mozambique	5.86
127	Bangladesh	5.85
128	Azerbaijan	5.80
128	Haiti	5.80
130	Timor-Leste	5.77
131	Niger	5.70
132	Guinea	5.63
132	Mali	5.63
134	Pakistan	5.62
135	Cameroon	5.61
136	Guyana	5.60
137	Sierra Leone	5.59
138	Türkiye	5.57
139	Comoros	5.56
140	Malawi	5.48
141	Suriname	5.46
142	Eswatini	5.42
143	Egypt, Arab Rep.	5.36
144	Lebanon	5.35
145	Guinea-Bissau	5.32
146	Gabon	5.28
147	Iraq	5.25
148	Ethiopia	5.24
149	Burundi	5.22
150	Ukraine	5.12
151	Chad	5.05
152	Congo, Dem. Rep.	5.02
153	Central African Republic	4.92
154	Congo, Rep.	4.89
155	Angola	4.79
156	Yemen, Rep.	4.68
157	Libya	4.65
158	Iran, Islamic Rep.	4.63
159	Argentina	4.55
160	Myanmar	4.54
161	Algeria	4.46
162	Syrian Arab Republic	4.28
163	Sudan	4.11
164	Zimbabwe	3.53
165	Venezuela, RB	3.02

Table 1.2: Area Economic Freedom Ratings (Rankings) for 2022

Countries	Area 1 Size of Government	Rank	Area 2 Legal System & Property Rights	Rank	Area 3 Sound Money	Rank	Area 4 Freedom to trade internationally	Rank	Area 5 Regulation	Rank
Albania	7.81	(24)	5.43	(66)	8.76	(28)	8.53	(34)	6.90	(55)
Algeria	4.45	(162)	3.82	(127)	6.37	(123)	3.14	(161)	4.51	(156)
Angola	7.50	(36)	3.17	(145)	5.00	(147)	2.97	(164)	5.30	(140)
Argentina	6.22	(111)	4.95	(85)	2.55	(162)	4.22	(155)	4.80	(148)
Armenia	8.01	(20)	5.81	(56)	8.47	(46)	8.08	(56)	7.10	(45)
Australia	6.14	(117)	8.58	(9)	8.80	(23)	8.15	(52)	8.23	(6)
Austria	5.24	(147)	8.55	(10)	8.44	(49)	8.67	(26)	7.20	(40)
Azerbaijan	4.64	(159)	4.81	(91)	6.25	(127)	7.19	(85)	6.12	(107)
Bahamas, The	8.82	(3)	5.40	(68)	6.08	(131)	5.63	(145)	7.34	(30)
Bahrain	7.37	(41)	5.18	(75)	9.03	(12)	8.35	(45)	7.64	(21)
Bangladesh	8.33	(14)	2.73	(152)	6.47	(119)	5.94	(134)	5.77	(128)
Barbados	7.32	(46)	5.80	(58)	7.88	(76)	6.74	(105)	6.28	(94)
Belarus	6.28	(107)	4.20	(120)	7.81	(80)	6.46	(117)	5.17	(143)
Belgium	4.64	(160)	7.69	(20)	8.28	(56)	8.85	(16)	7.64	(20)
Belize	6.23	(108)	3.95	(123)	6.17	(129)	6.57	(114)	7.08	(47)
Benin	7.62	(30)	4.26	(119)	6.83	(109)	6.07	(130)	6.51	(88)
Bhutan	6.41	(96)	6.80	(34)	4.01	(157)	6.84	(102)	7.14	(43)
Bolivia	5.95	(124)	3.92	(126)	9.41	(4)	6.45	(118)	4.80	(149)
Bosnia and Herzegovina	6.80	(73)	4.57	(101)	5.37	(144)	7.68	(66)	6.70	(70)
Botswana	6.41	(95)	5.83	(54)	8.07	(67)	7.24	(82)	5.80	(127)
Brazil	6.63	(81)	5.20	(74)	8.17	(60)	7.40	(75)	5.41	(137)
Brunei Darussalam	6.67	(79)	5.25	(72)	8.09	(64)	7.61	(68)	7.31	(33)
Bulgaria	7.05	(60)	5.94	(51)	7.56	(86)	8.41	(41)	6.83	(60)
Burkina Faso	7.07	(59)	3.75	(130)	5.41	(142)	6.63	(110)	6.65	(77)
Burundi	6.48	(88)	3.45	(138)	6.09	(130)	4.04	(158)	6.02	(115)
Cabo Verde	7.53	(35)	6.36	(44)	8.81	(21)	7.61	(69)	6.56	(82)
Cambodia	8.77	(6)	3.78	(128)	8.70	(32)	7.33	(79)	5.66	(130)
Cameroon	7.27	(49)	2.77	(151)	6.45	(120)	5.47	(148)	6.08	(110)
Canada	6.44	(93)	8.30	(13)	8.55	(40)	8.53	(33)	8.14	(9)
Central African Republic	6.65	(80)	2.03	(162)	6.02	(132)	5.13	(151)	4.76	(150)
Chad	7.54	(34)	2.45	(156)	5.66	(141)	5.23	(150)	4.37	(158)
Chile	7.20	(52)	6.81	(33)	8.11	(62)	8.56	(31)	6.58	(81)
China	4.74	(157)	4.79	(92)	8.25	(57)	7.08	(92)	5.82	(124)

Table 1.2 (continued): Area Economic Freedom Ratings (Rankings) for 2022

Countries	Area 1 Size of Government	Rank	Area 2 Legal System & Property Rights	Rank	Area 3 Sound Money	Rank	Area 4 Freedom to trade internationally	Rank	Area 5 Regulation	Rank
Colombia	7.02	(62)	4.96	(84)	6.91	(108)	7.12	(88)	6.68	(72)
Comoros	6.36	(100)	3.11	(147)	5.88	(136)	6.47	(116)	6.01	(117)
Congo, Dem. Rep.	5.98	(122)	2.59	(154)	5.95	(134)	5.61	(146)	4.94	(147)
Congo, Rep.	6.02	(121)	2.78	(150)	5.39	(143)	5.74	(143)	4.53	(155)
Costa Rica	7.58	(32)	6.67	(40)	8.81	(20)	8.25	(49)	6.71	(69)
Côte d'Ivoire	6.17	(114)	4.68	(97)	6.51	(118)	5.79	(139)	6.32	(93)
Croatia	5.90	(126)	6.17	(47)	8.18	(59)	8.45	(38)	6.63	(79)
Cyprus	6.85	(72)	6.70	(38)	7.83	(79)	8.90	(13)	7.39	(29)
Czechia	6.46	(90)	7.40	(23)	8.00	(71)	8.86	(15)	7.53	(26)
Denmark	5.34	(143)	9.10	(1)	8.78	(26)	8.94	(11)	7.94	(11)
Djibouti	5.88	(129)	3.64	(132)	9.11	(7)	5.76	(141)	6.75	(66)
Dominican Republic	8.68	(10)	5.16	(77)	8.42	(50)	8.16	(51)	6.17	(101)
Ecuador	6.56	(85)	4.56	(102)	6.53	(117)	6.84	(103)	6.20	(98)
Egypt, Arab Rep.	5.40	(141)	3.39	(141)	7.26	(98)	6.12	(128)	4.64	(154)
El Salvador	8.44	(13)	3.93	(125)	8.71	(30)	7.98	(60)	6.00	(118)
Estonia	6.60	(83)	7.98	(16)	6.91	(107)	8.95	(8)	7.93	(13)
Eswatini	5.25	(146)	3.06	(148)	7.72	(82)	5.65	(144)	5.41	(138)
Ethiopia	6.88	(69)	4.41	(110)	4.67	(156)	4.18	(156)	6.06	(113)
Fiji	5.47	(140)	4.58	(100)	6.71	(111)	6.18	(127)	7.00	(49)
Finland	5.06	(149)	8.86	(5)	8.52	(43)	8.67	(27)	8.22	(7)
France	4.97	(151)	7.49	(22)	8.78	(25)	8.94	(9)	7.29	(35)
Gabon	6.50	(87)	3.17	(144)	5.66	(140)	5.57	(147)	5.48	(135)
Gambia, The	7.28	(48)	4.74	(94)	8.08	(65)	7.28	(81)	6.88	(56)
Georgia	7.39	(40)	6.27	(46)	7.97	(73)	8.80	(17)	7.86	(16)
Germany	5.78	(135)	8.15	(14)	8.60	(38)	8.73	(22)	7.75	(17)
Ghana	8.56	(11)	5.16	(76)	3.22	(160)	6.67	(108)	6.16	(104)
Greece	4.98	(150)	6.04	(50)	8.07	(68)	8.49	(36)	6.66	(75)
Guatemala	9.06	(1)	4.34	(114)	8.81	(22)	8.37	(44)	6.69	(71)
Guinea	7.25	(50)	3.37	(142)	6.63	(114)	5.93	(135)	4.96	(146)
Guinea-Bissau	7.10	(55)	2.37	(158)	5.82	(137)	6.32	(124)	4.98	(145)
Guyana	3.87	(164)	4.79	(93)	6.30	(124)	6.40	(120)	6.63	(78)
Haiti	8.73	(8)	1.94	(164)	4.90	(150)	7.56	(70)	5.85	(123)
Honduras	8.84	(2)	3.95	(124)	8.33	(54)	7.06	(93)	6.44	(90)

Table 1.2 (continued): Area Economic Freedom Ratings (Rankings) for 2022

Countries	Area 1 Size of Government	Rank	Area 2 Legal System & Property Rights	Rank	Area 3 Sound Money	Rank	Area 4 Freedom to trade internationally	Rank	Area 5 Regulation	Rank
Hong Kong SAR, China	7.34	(45)	7.49	(21)	9.53	(3)	9.66	(1)	8.86	(1)
Hungary	6.23	(109)	6.38	(43)	7.61	(84)	8.70	(25)	6.66	(74)
Iceland	6.03	(120)	8.77	(6)	8.66	(35)	8.41	(42)	7.32	(32)
India	7.73	(25)	5.29	(71)	7.51	(87)	6.18	(126)	6.17	(102)
Indonesia	8.51	(12)	4.53	(103)	8.92	(17)	7.04	(94)	5.81	(125)
Iran, Islamic Rep.	6.99	(64)	3.26	(143)	5.95	(135)	2.48	(165)	4.47	(157)
Iraq	4.95	(152)	2.28	(160)	7.26	(100)	5.92	(136)	5.86	(121)
Ireland	6.33	(101)	7.88	(17)	8.63	(37)	8.98	(5)	8.29	(5)
Israel	5.96	(123)	6.27	(45)	9.03	(13)	8.71	(24)	7.24	(37)
Italy	5.30	(145)	6.60	(41)	8.44	(48)	8.97	(6)	6.79	(62)
Jamaica	7.98	(22)	5.72	(60)	8.04	(69)	7.19	(83)	7.65	(19)
Japan	5.85	(130)	7.70	(19)	9.55	(1)	8.50	(35)	7.93	(14)
Jordan	7.47	(38)	4.33	(115)	9.36	(5)	7.94	(61)	7.54	(24)
Kazakhstan	7.68	(28)	5.51	(64)	7.45	(91)	7.01	(95)	6.79	(61)
Kenya	7.08	(58)	4.83	(88)	8.94	(16)	6.40	(119)	6.87	(57)
Korea, Rep.	6.30	(104)	6.94	(31)	9.07	(10)	8.00	(58)	7.27	(36)
Kuwait	5.90	(127)	5.13	(80)	7.74	(81)	7.35	(77)	6.12	(106)
Kyrgyz Republic	7.09	(57)	4.47	(107)	7.07	(103)	7.38	(76)	6.65	(76)
Lao PDR	6.94	(67)	4.40	(111)	4.70	(153)	7.40	(73)	5.85	(122)
Latvia	6.46	(89)	7.16	(28)	7.26	(99)	8.78	(18)	7.93	(12)
Lebanon	8.78	(5)	3.53	(136)	4.99	(148)	4.16	(157)	5.28	(141)
Lesotho	5.56	(138)	4.68	(98)	7.37	(93)	6.58	(112)	5.62	(132)
Liberia	5.90	(128)	3.74	(131)	8.56	(39)	5.82	(138)	5.34	(139)
Libya	3.62	(165)	2.50	(155)	7.03	(104)	5.76	(140)	4.32	(159)
Lithuania	7.13	(53)	7.39	(24)	6.93	(106)	8.76	(19)	7.33	(31)
Luxembourg	5.39	(142)	8.64	(8)	8.70	(33)	8.97	(7)	8.19	(8)
Madagascar	7.21	(51)	2.66	(153)	7.35	(94)	6.87	(100)	5.65	(131)
Malawi	6.45	(91)	4.66	(99)	5.18	(146)	4.77	(153)	6.34	(92)
Malaysia	7.35	(44)	5.70	(61)	9.32	(6)	7.89	(63)	7.54	(25)
Mali	6.68	(78)	3.40	(140)	5.81	(138)	6.38	(122)	5.87	(120)
Malta	6.61	(82)	6.77	(35)	8.79	(24)	9.02	(4)	7.90	(15)
Mauritania	6.42	(94)	3.14	(146)	7.18	(101)	6.79	(104)	6.03	(114)
Mauritius	7.98	(21)	7.00	(30)	8.25	(58)	8.76	(20)	6.96	(52)

Table 1.2 (continued): Area Economic Freedom Ratings (Rankings) for 2022

Countries	Area 1 Size of Government	Rank	Area 2 Legal System & Property Rights	Rank	Area 3 Sound Money	Rank	Area 4 Freedom to trade internationally	Rank	Area 5 Regulation	Rank
Mexico	8.28	(16)	4.32	(116)	7.47	(89)	8.10	(55)	6.53	(84)
Moldova	7.70	(27)	5.84	(53)	5.24	(145)	7.62	(67)	6.07	(112)
Mongolia	6.59	(84)	6.05	(49)	7.51	(88)	7.29	(80)	6.85	(58)
Montenegro	6.69	(77)	5.68	(62)	7.96	(74)	8.29	(47)	7.12	(44)
Morocco	6.95	(66)	5.31	(70)	6.41	(121)	7.09	(90)	6.52	(86)
Mozambique	7.09	(56)	4.42	(109)	5.96	(133)	6.54	(115)	5.28	(142)
Myanmar	6.75	(75)	3.02	(149)	4.77	(151)	3.48	(160)	4.67	(153)
Namibia	7.36	(42)	5.68	(63)	6.24	(128)	6.34	(123)	5.54	(134)
Nepal	7.55	(33)	4.92	(86)	7.27	(97)	6.00	(132)	6.98	(50)
Netherlands	4.92	(154)	8.66	(7)	8.34	(53)	9.15	(3)	7.61	(23)
New Zealand	6.39	(97)	9.00	(2)	8.83	(19)	8.94	(10)	8.78	(2)
Nicaragua	6.30	(105)	3.43	(139)	8.55	(41)	7.90	(62)	5.93	(119)
Niger	6.39	(98)	3.57	(134)	6.70	(113)	5.75	(142)	6.07	(111)
Nigeria	8.78	(4)	3.51	(137)	7.46	(90)	3.49	(159)	6.55	(83)
North Macedonia	6.85	(71)	4.73	(95)	6.77	(110)	7.72	(65)	7.62	(22)
Norway	5.49	(139)	8.98	(3)	7.86	(78)	8.28	(48)	7.29	(34)
Oman	4.82	(156)	5.36	(69)	8.08	(66)	7.47	(72)	6.25	(96)
Pakistan	8.04	(18)	3.63	(133)	4.72	(152)	5.97	(133)	5.72	(129)
Panama	7.67	(29)	5.81	(57)	9.08	(8)	8.87	(14)	6.68	(73)
Papua New Guinea	5.72	(136)	4.45	(108)	6.29	(125)	7.34	(78)	6.27	(95)
Paraguay	8.09	(17)	4.35	(113)	8.45	(47)	7.40	(74)	6.62	(80)
Peru	7.71	(26)	5.14	(79)	8.52	(44)	8.48	(37)	7.21	(39)
Philippines	7.83	(23)	4.51	(105)	9.04	(11)	7.14	(87)	6.51	(87)
Poland	5.92	(125)	6.45	(42)	6.62	(115)	8.44	(40)	6.84	(59)
Portugal	6.20	(112)	7.38	(25)	8.50	(45)	8.92	(12)	6.97	(51)
Qatar	5.82	(132)	5.43	(67)	7.67	(83)	8.39	(43)	6.22	(97)
Romania	6.99	(63)	6.76	(37)	7.88	(77)	8.54	(32)	6.90	(54)
Russian Federation	6.05	(118)	4.71	(96)	7.31	(95)	6.10	(129)	5.46	(136)
Rwanda	4.94	(153)	5.92	(52)	7.12	(102)	7.52	(71)	6.75	(67)
Saudi Arabia	6.38	(99)	6.70	(39)	8.65	(36)	6.95	(98)	6.48	(89)
Senegal	7.03	(61)	4.15	(121)	5.80	(139)	6.85	(101)	6.09	(108)
Serbia	6.23	(110)	5.45	(65)	6.70	(112)	8.06	(57)	7.06	(48)
Seychelles	4.20	(163)	6.14	(48)	8.99	(14)	8.35	(46)	7.21	(38)

Table 1.2 (continued): Area Economic Freedom Ratings (Rankings) for 2022

Countries	Area 1 Size of Government	Rank	Area 2 Legal System & Property Rights	Rank	Area 3 Sound Money	Rank	Area 4 Freedom to trade internationally	Rank	Area 5 Regulation	Rank
Sierra Leone	7.40	(39)	4.49	(106)	4.68	(154)	6.63	(111)	4.75	(151)
Singapore	7.32	(47)	8.40	(11)	8.71	(31)	9.56	(2)	8.73	(3)
Slovak Republic	6.53	(86)	6.76	(36)	7.97	(72)	8.60	(29)	7.09	(46)
Slovenia	5.14	(148)	6.94	(32)	8.40	(52)	8.45	(39)	6.78	(64)
Somalia	8.70	(9)	1.63	(165)	8.76	(27)	6.39	(121)	4.27	(160)
South Africa	6.17	(115)	5.78	(59)	7.60	(85)	6.96	(97)	6.73	(68)
Spain	6.05	(119)	7.35	(27)	8.42	(51)	8.67	(28)	7.19	(41)
Sri Lanka	8.75	(7)	4.87	(87)	2.57	(161)	7.00	(96)	6.16	(103)
Sudan	8.04	(19)	2.03	(163)	1.25	(163)	5.24	(149)	3.99	(162)
Suriname	6.69	(76)	4.28	(117)	3.70	(158)	6.63	(109)	6.01	(116)
Sweden	4.87	(155)	8.33	(12)	8.70	(34)	8.71	(23)	7.45	(28)
Switzerland	7.60	(31)	8.92	(4)	9.55	(2)	8.11	(54)	7.98	(10)
Syrian Arab Republic	6.31	(103)	2.26	(161)	6.57	(116)	3.13	(162)	3.15	(163)
Taiwan	7.47	(37)	7.35	(26)	8.00	(70)	8.20	(50)	7.53	(27)
Tajikistan	5.78	(133)	4.07	(122)	9.08	(9)	7.19	(84)	6.18	(100)
Tanzania	6.16	(116)	5.11	(81)	7.95	(75)	5.86	(137)	6.94	(53)
Thailand	6.87	(70)	5.22	(73)	8.98	(15)	7.08	(91)	6.52	(85)
Timor-Leste	4.65	(158)	3.77	(129)	6.41	(122)	7.86	(64)	6.14	(105)
Togo	6.92	(68)	4.83	(89)	6.29	(126)	6.21	(125)	6.08	(109)
Trinidad and Tobago	6.78	(74)	5.08	(82)	8.11	(63)	6.90	(99)	6.34	(91)
Tunisia	5.30	(144)	4.51	(104)	7.38	(92)	6.68	(107)	5.81	(126)
Türkiye	6.98	(65)	4.81	(90)	3.30	(159)	7.17	(86)	5.61	(133)
Uganda	7.12	(54)	4.27	(118)	8.89	(18)	6.70	(106)	6.78	(63)
Ukraine	5.83	(131)	4.37	(112)	4.68	(155)	6.05	(131)	4.67	(152)
United Arab Emirates	5.78	(134)	7.06	(29)	8.33	(55)	8.57	(30)	7.18	(42)
United Kingdom	6.18	(113)	8.01	(15)	8.71	(29)	8.75	(21)	7.75	(18)
United States	7.35	(43)	7.78	(18)	8.53	(42)	8.11	(53)	8.66	(4)
Uruguay	6.45	(92)	5.83	(55)	8.16	(61)	7.99	(59)	6.78	(65)
Venezuela, RB	4.50	(161)	2.29	(159)	0.74	(165)	5.03	(152)	2.54	(165)
Vietnam	6.28	(106)	5.15	(78)	6.98	(105)	6.57	(113)	6.20	(99)
Yemen, Rep.	8.31	(15)	2.40	(157)	4.98	(149)	4.61	(154)	3.11	(164)
Zambia	6.32	(102)	4.99	(83)	7.29	(96)	7.12	(89)	5.11	(144)
Zimbabwe	5.63	(137)	3.54	(135)	1.25	(163)	3.03	(163)	4.20	(161)

Their ratings are lower, however, for Size of Government (Area 1) and Regulation (Area 5). This is particularly true for the high-income countries of Western Europe.

On the other hand, many developing nations have a small fiscal size of government but rate low in other areas, and as a result, have a low overall rating. The lesson from this is clear: a small fiscal size of government is insufficient to ensure prosperity. The other areas of economic freedom—the rule of law and property rights, sound money, trade openness, and limited regulations—are also required.

As the area ratings show, weakness in the rule of law and property rights is particularly pronounced in Sub-Saharan Africa, among Islamic nations, and for some nations that were formerly part of the Soviet bloc, though several countries in the latter group have made impressive strides toward improvement. Many nations in Latin America and Southeast Asia also score poorly for rule of law and property rights. The nations that rank poorly in this category also tend to score poorly in the trade and regulation areas, even though several have reasonably sized governments and sound money.

THE EFW PANEL DATASET

Over the years, the EFW index has become more comprehensive and the available data more complete. As a result, the number and composition of the components and subcomponents for many countries vary across time. This makes it difficult to directly compare index values from earlier periods with those of later periods. To assist researchers who are interested in a consistent time-series for a particular country and/or longitudinal data for a panel of countries, we have developed the EFW Panel Dataset.

The EFW Panel Dataset is a chain-linked version of the index. It uses the most recent year as the base year, and changes in a country's scores backward in time are based only on changes in components that were present in adjoining years. See the 2022 report for additional details on this process. It should be noted that the EFW Panel Dataset contains area and summary ratings only for those years in which the country received a regular EFW index rating. Because some data for earlier years may have been updated or corrected, researchers are always encouraged to use the data from the most recent annual report to ensure the most reliable figures.

Figure 1.2 presents the global average for all nations with complete data since 2000 using the EFW Panel Dataset. Overall, the index shows that economic freedom has increased since 2000, but the last few years have been rocky. Thanks, no doubt,

Figure 1.2: Average Economic Freedom Rating, 2000–2022
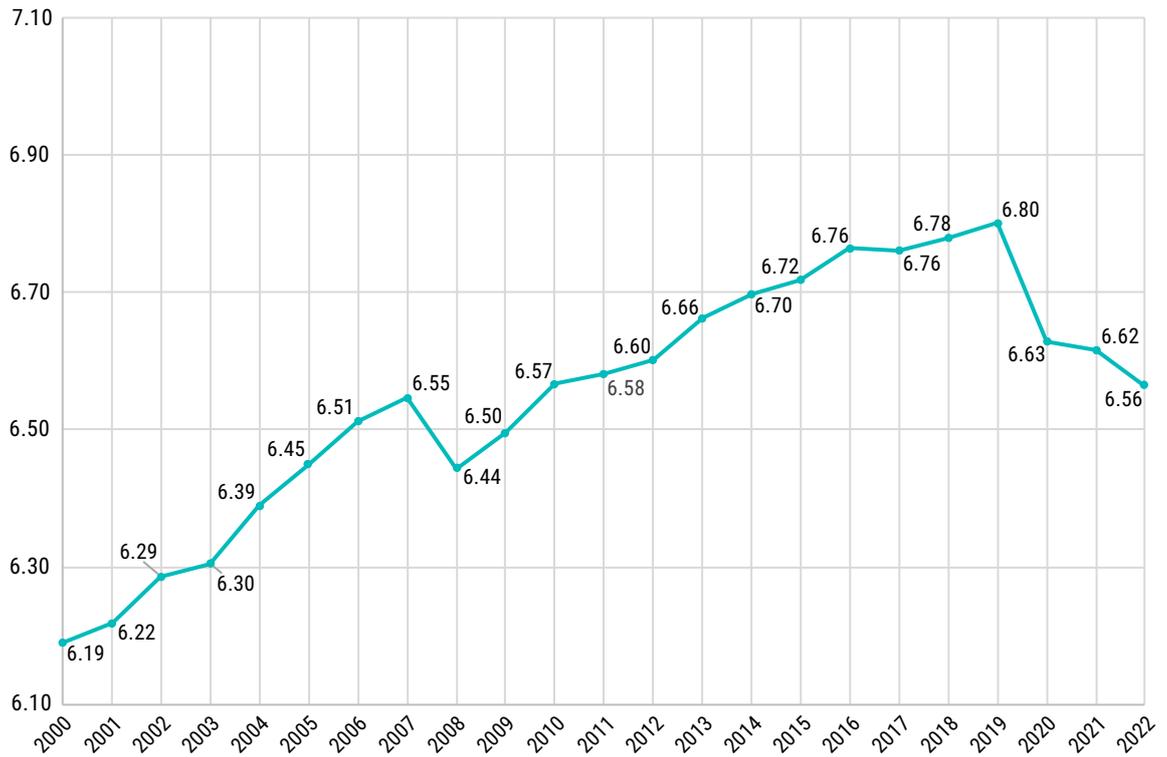
to the coronavirus pandemic, the world average has fallen to 6.56 from 6.80 since 2019—a 0.24-point decline. This erases over a decade's worth of improvement in the global average and is about twice as large as the global decline witnessed during the financial crisis.

We take no position on the efficacy of the various public-health policies designed to deal with the coronavirus pandemic; they very well may have saved millions of lives, or they may have been completely ineffectual. That is a question for epidemiologists and health economists to work out. Our concern is economic freedom, and on that margin, there is no question that government policies responding to the coronavirus pandemic have reduced economic freedom.

ECONOMIC FREEDOM AND HUMAN WELLBEING

As is customary, this chapter concludes with some simple graphs illustrating relationships between economic freedom and various other indicators of human wellbeing (Figures 1.3–1.15). The graphs use the average of the EFW panel dataset from 2000 to 2022, breaking the data into four quartiles ordered from least to most free.

Because persistence is important and the impact of economic freedom will be felt over a lengthy period, it is better to use the average rating over a long period rather than the current rating to observe the impact of economic freedom on performance.

The graphs begin with the data on the relationship between economic freedom and the level of GDP per capita and then go on to examine the correlation with other economic and social outcomes. We are not necessarily arguing that there is a direct *causal* relation between economic freedom and the variables considered below.[5] For instance, many of the relationships illustrated in the graphs below likely reflect the impact of economic freedom as it works through increasing per capita income. These graphics nonetheless provide some insights into the contrast between market-oriented economies and those dominated by government regulation and planning. At the very least, these graphs suggest fruitful areas for future research.

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5   For recent reviews of the literature see Lawson (2022), Lawson, Miozzi, and Tuszynski (2024), and Berggren (2024).

Figure 1.3: Economic Freedom and Income Per Capita (All Countries)
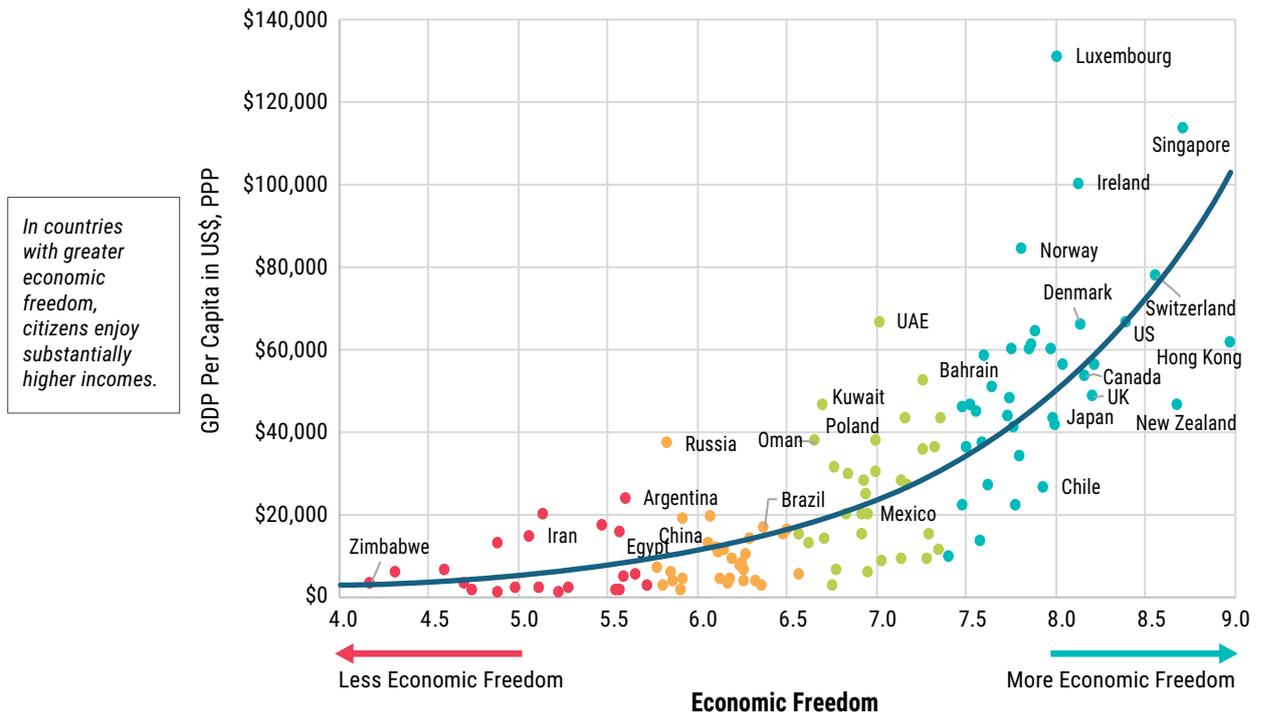
In countries with greater economic freedom, citizens enjoy substantially higher incomes.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database.

Figure 1.4: Economic Freedom and Income Per Capita (Averaged over Quartile)
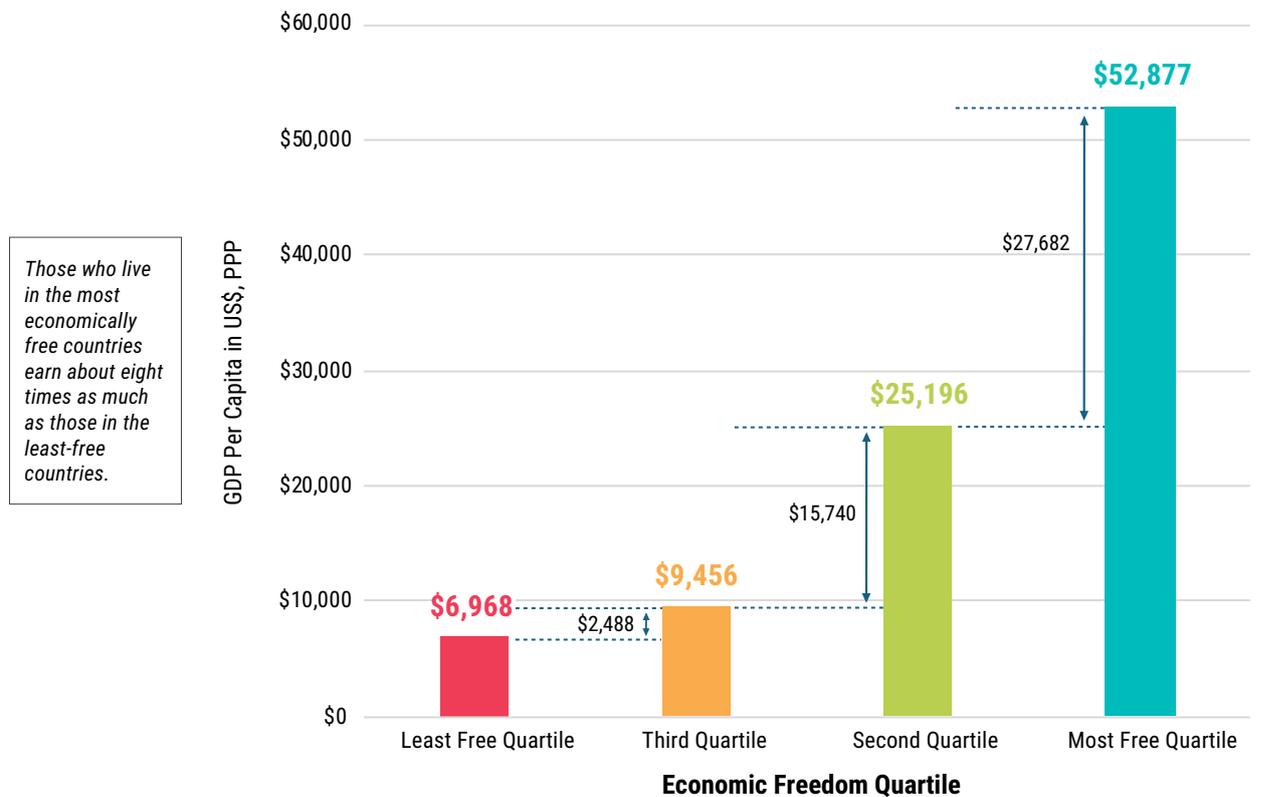
Those who live in the most economically free countries earn about eight times as much as those in the least-free countries.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database.

Figure 1.5: Economic Freedom and Income Share of Lowest 10%
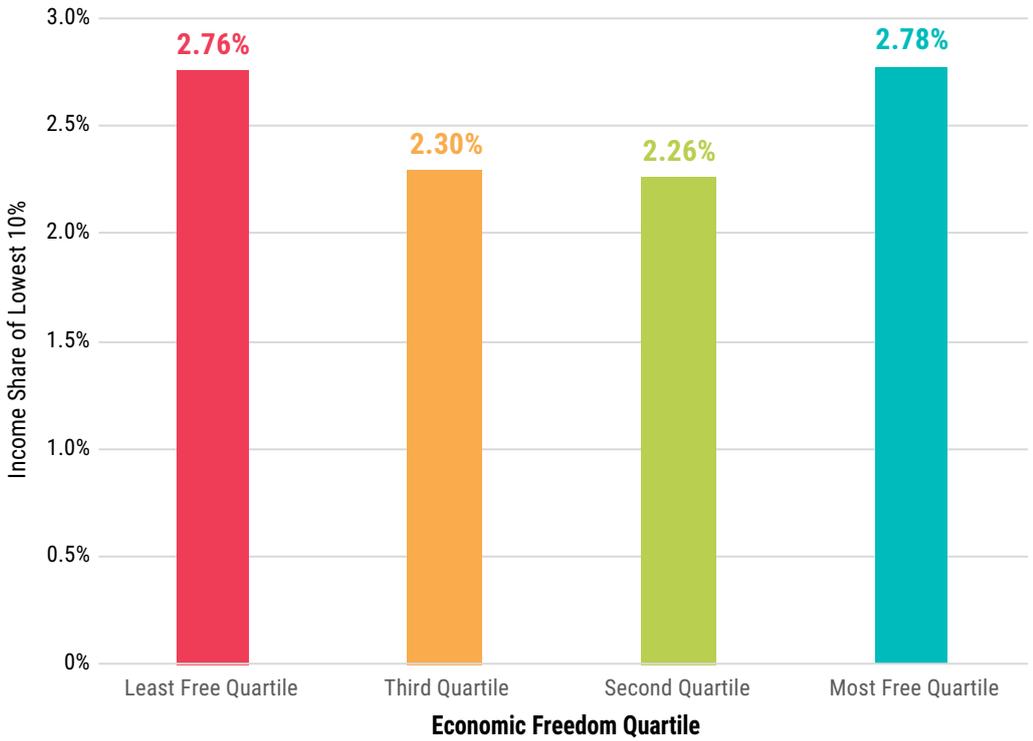
The share of income earned by the poorest 10% of the population is unrelated to economic freedom.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database.

Figure 1.6: Economic Freedom and Income Threshold of Poorest 10%
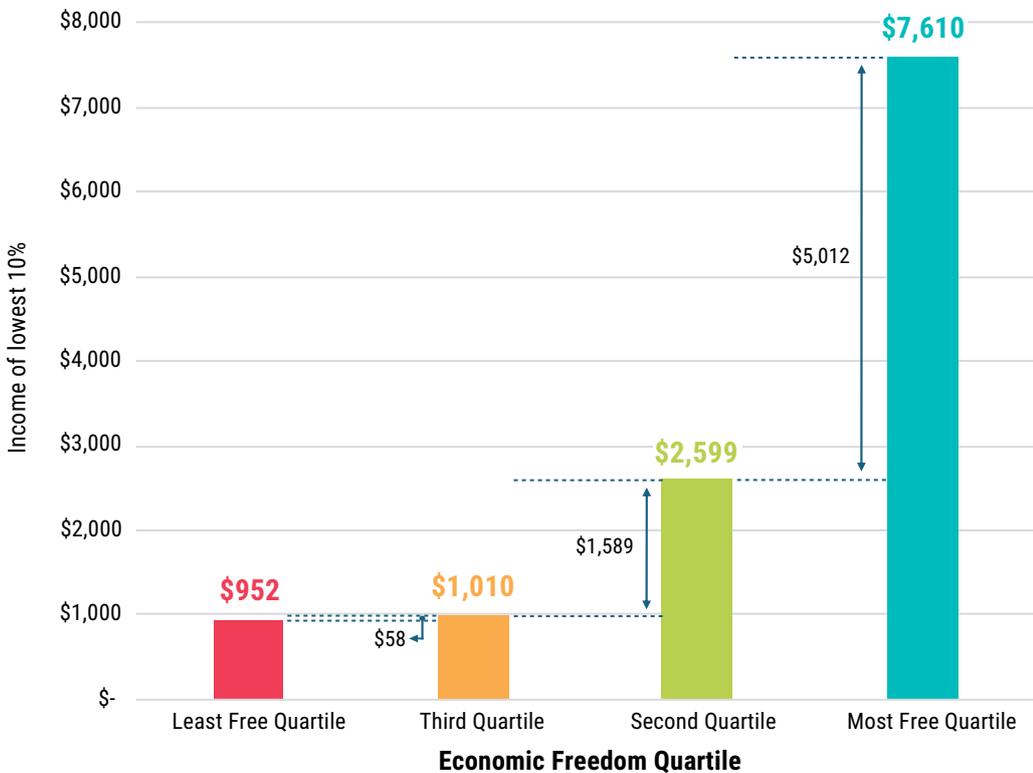
While the share of income earned by the poorest 10% is unrelated to economic freedom, the level of income earned by the poorest 10% of the population is much higher in countries with greater economic freedom.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database, processed by Our World in Data, 2023.

Figure 1.7: Economic Freedom and Life Expectancy
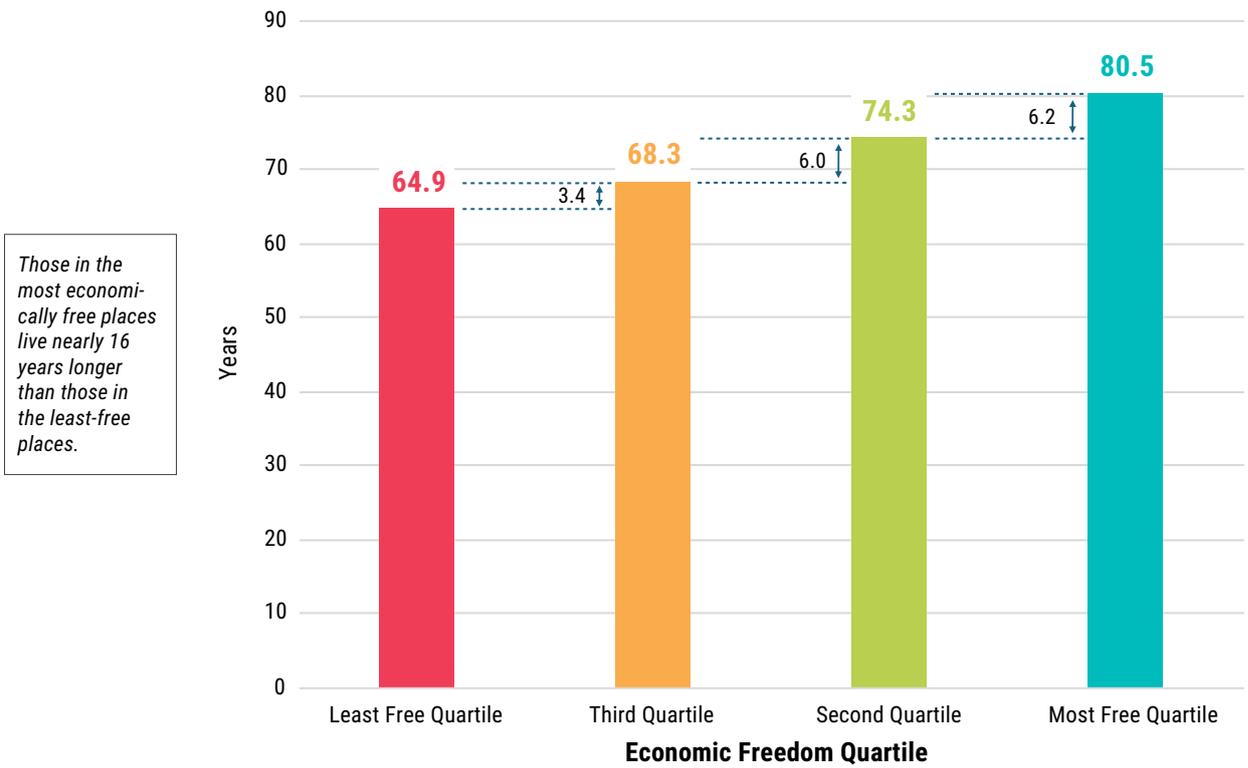
Those in the most economically free places live nearly 16 years longer than those in the least-free places.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database.

Figure 1.8: Economic Freedom and Infant Mortality
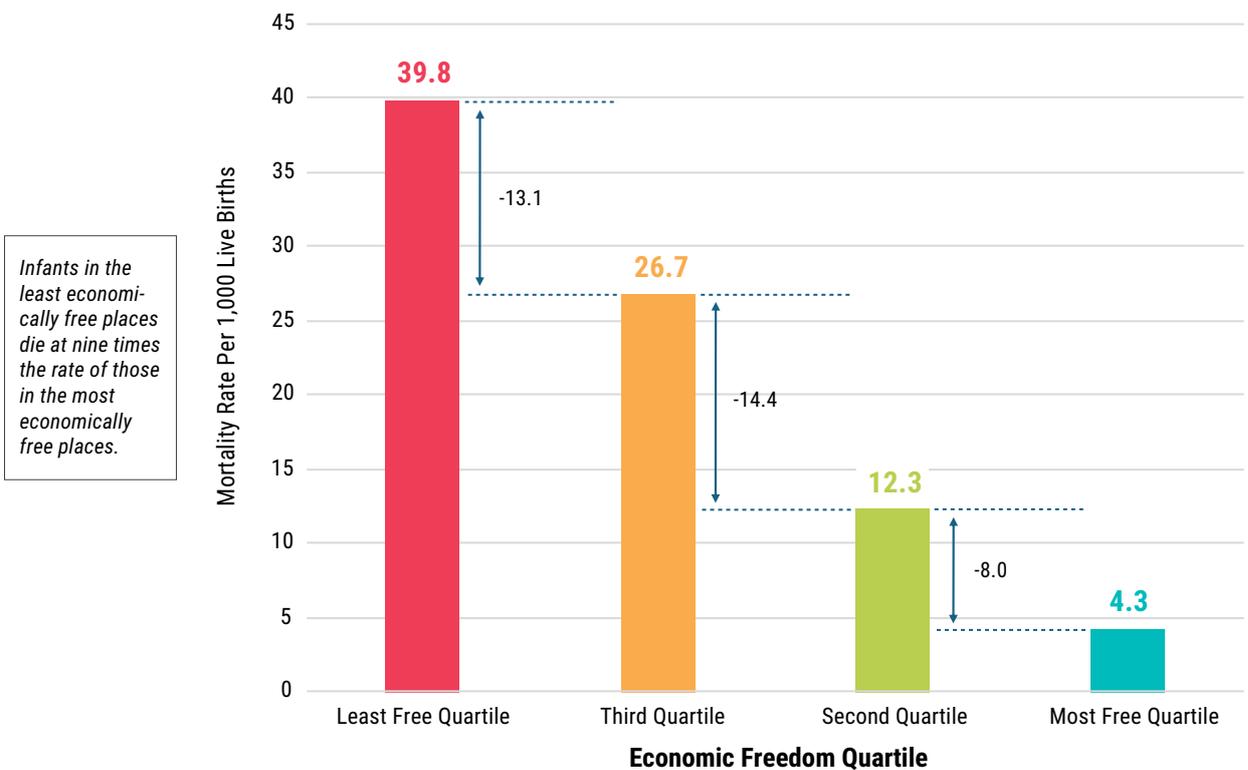
Infants in the least economically free places die at nine times the rate of those in the most economically free places.

Source: *Economic Freedom of the World: 2024 Annual Report* and World Development Indicators online database.

Figure 1.9: Economic Freedom and Poverty (<$2.15/Day)

Compared with the most economically free places, extreme poverty is about 30 times as common in the least free places.
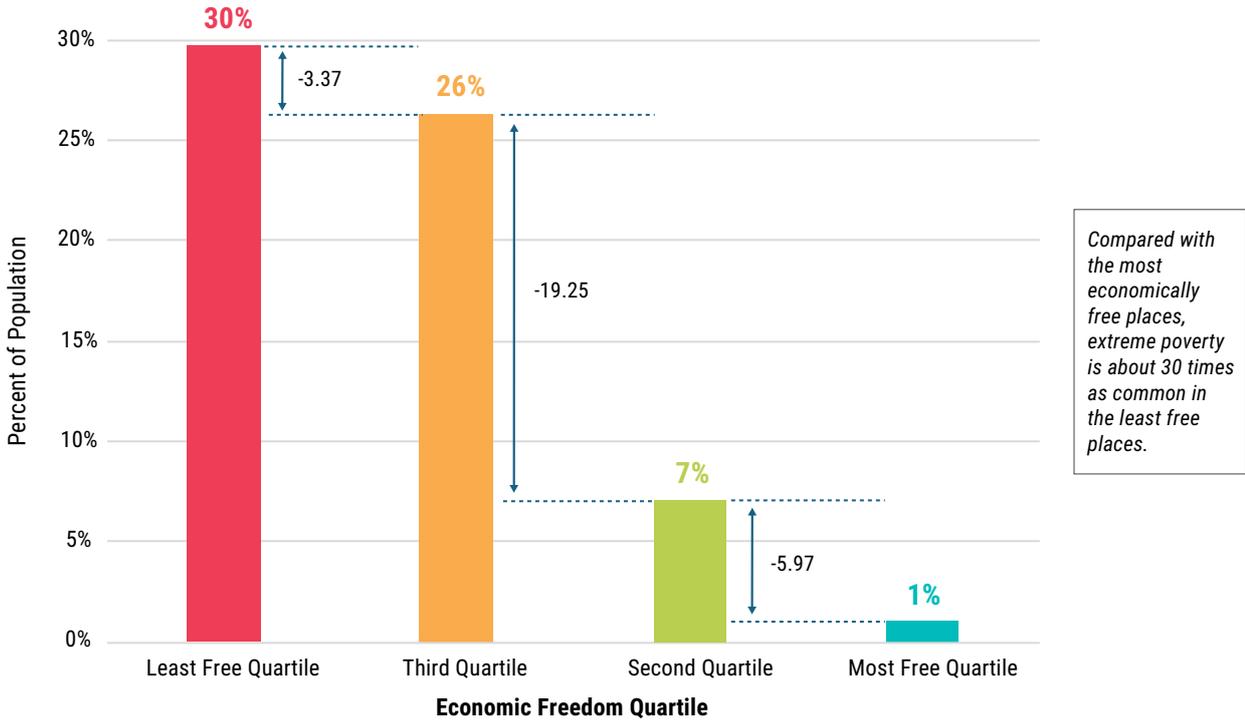
Source: *Economic Freedom of the World: 2024 Annual Report* and 2023 Social Progress Index.

Figure 1.10: Economic Freedom and Life Satisfaction

Those who live in the most economically free places report that they are more satisfied with their lives than those who live in the least free places.
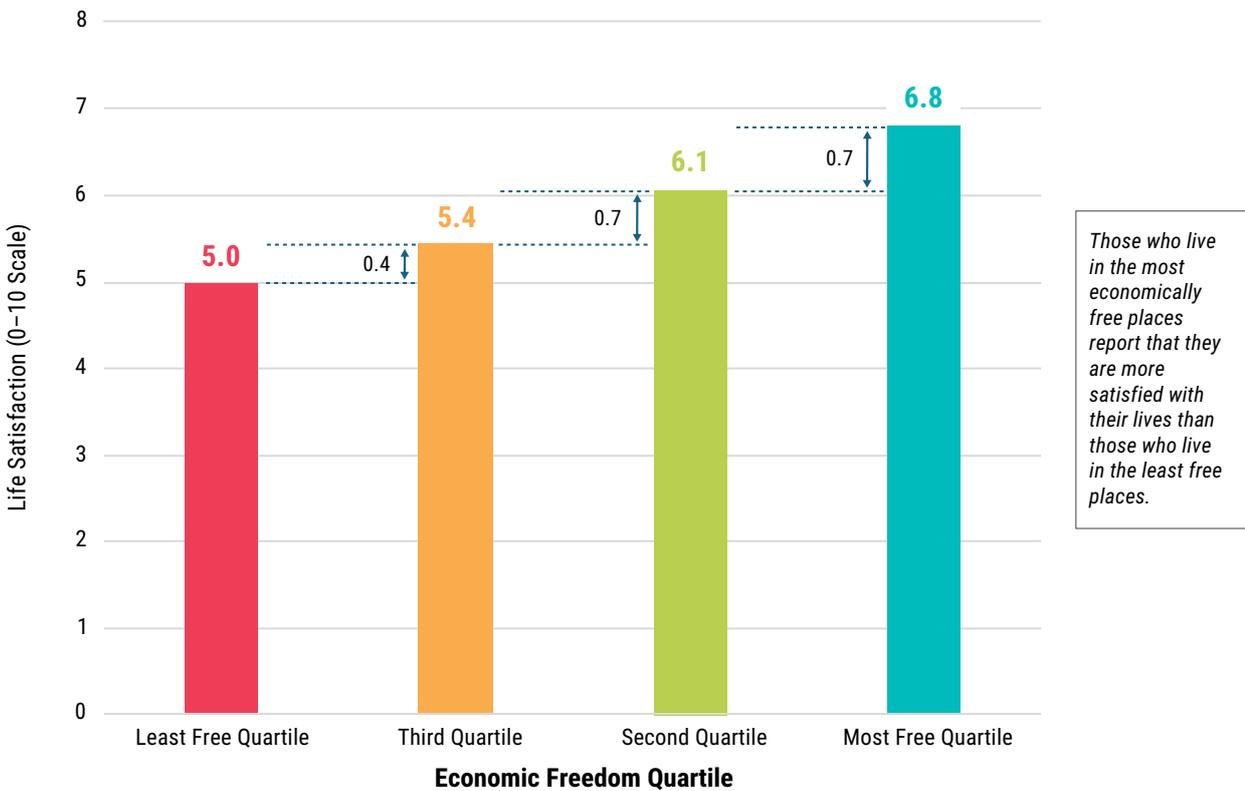
Source: *Economic Freedom of the World: 2023 Annual Report* and World Happiness Report 2023.

Figure 1.11: Economic Freedom and Percent of Children Working

In the least economically free places, the share of children who work is nearly two-and-a-half times greater than it is in the most-free places.
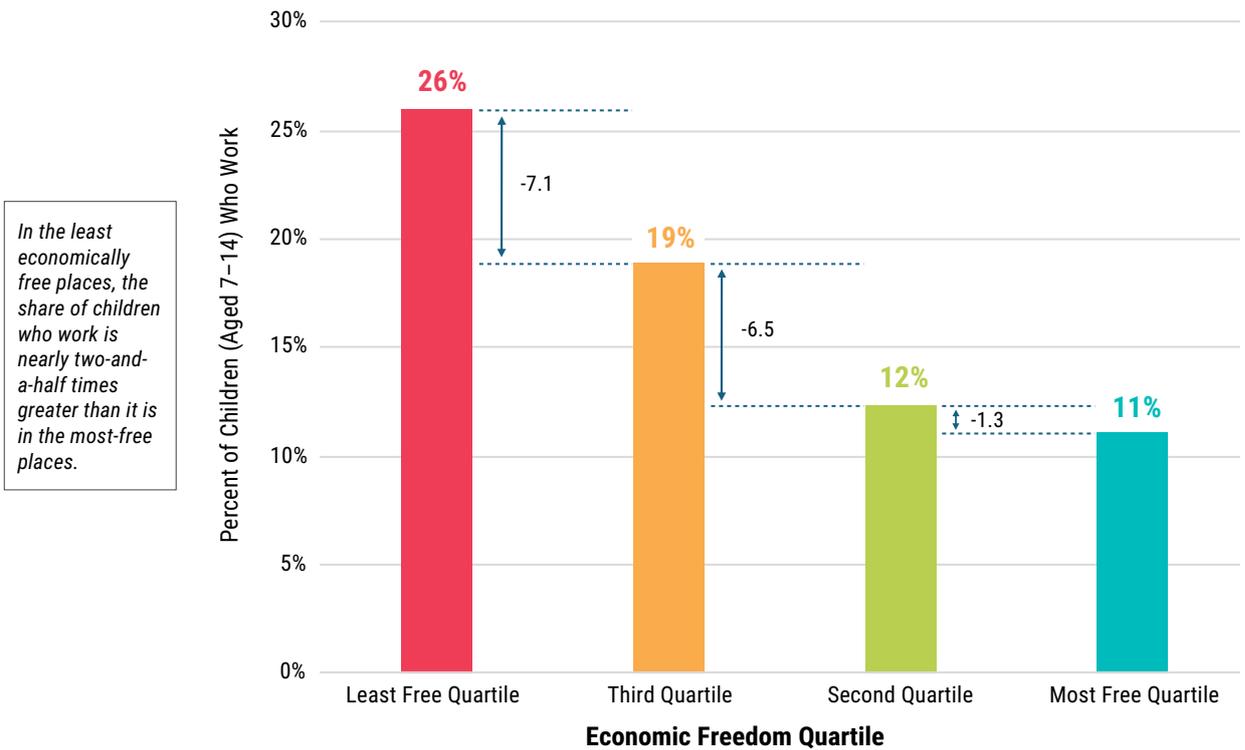
Source: *Economic Freedom of the World: 2024 Annual Report* and World Bank, 2024.

Figure 1.12: Economic Freedom and Literacy Rate Among 15−24 Year Olds

In the most economically free places, youth literacy is nearly universal and there is no gap between boys and girls.
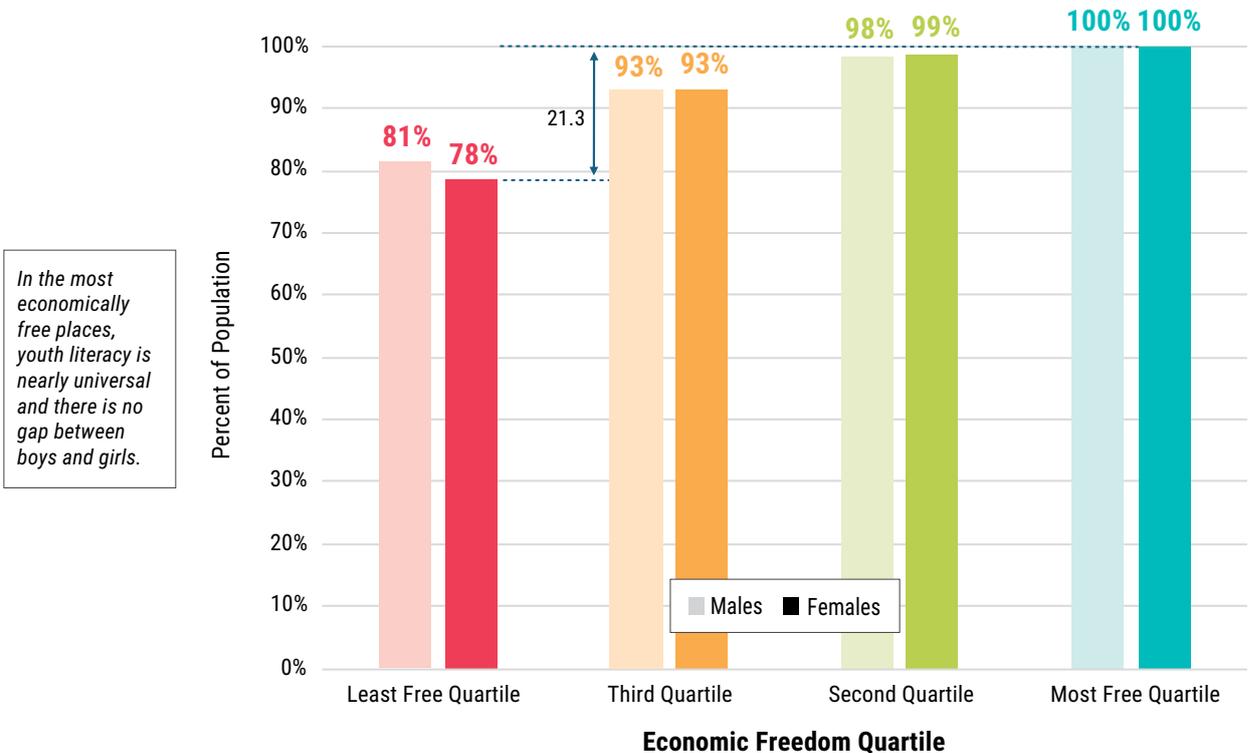
Source: *Economic Freedom of the World: 2024 Annual Report* and World Bank, processed by Our World in Data, 2023.

Figure 1.13: Economic Freedom and Environmental Performance

Economic freedom is positively related to environmental stewardship as measured by the Environmental Performance Index which rates countries according to climate change performance, environmental health, and ecosystem vitality.
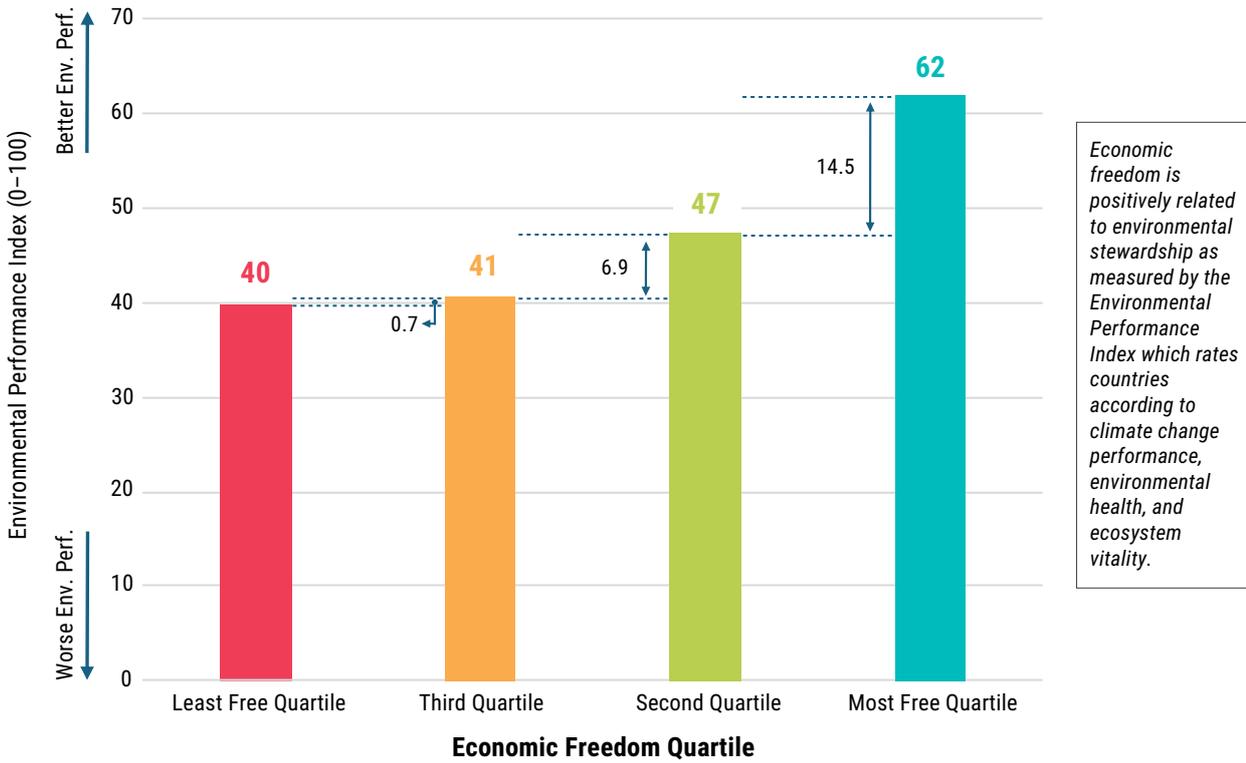
Source: *Economic Freedom of the World: 2024 Annual Report* and Block et al., 2024.

Figure 1.14: Economic Freedom and Tolerance

Compared with those in the least economically free societies, those in the freest societies are significantly more tolerant of other genders, minorities, and immigrants
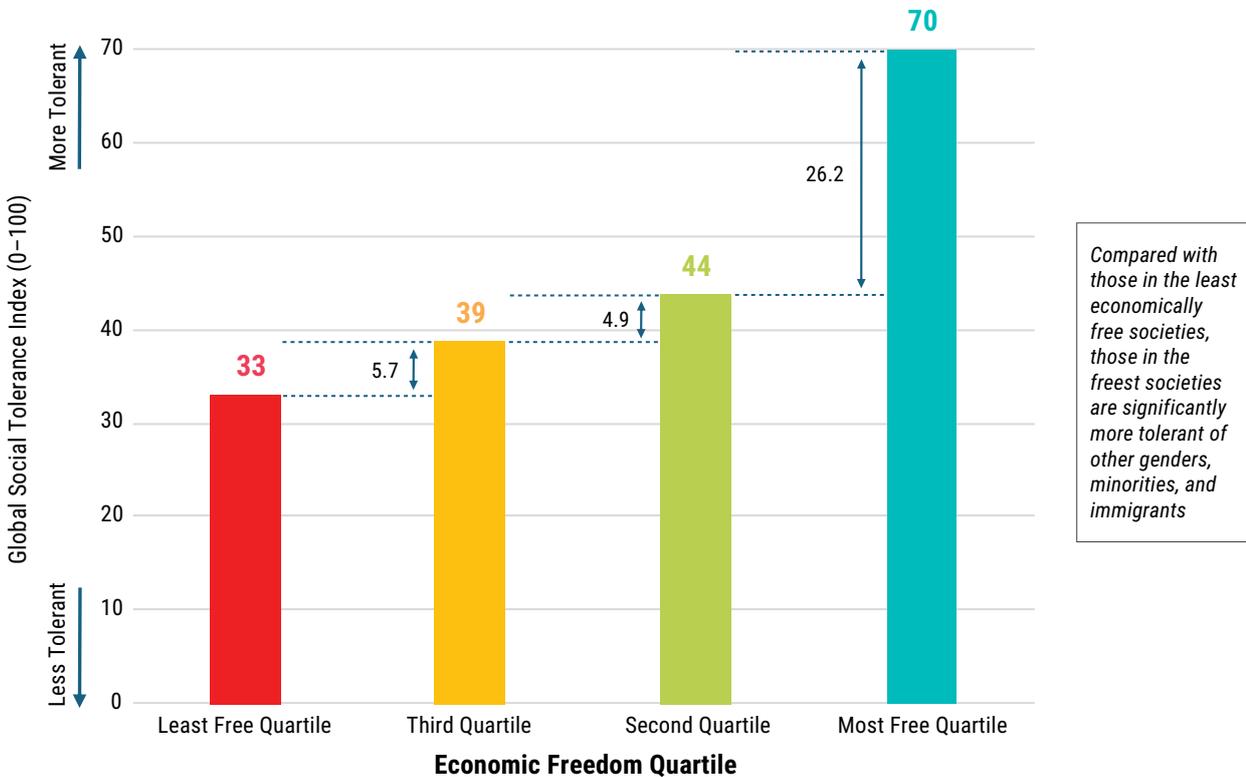
Source: *Economic Freedom of the World: 2024 Annual Report* and Zanakis, Newburry, and Taras, 2016.

Figure 1.15: Economic Freedom and Non-Corruption

Compared with the governments in the least economically free places, those in the freest places score two and a half times as well on the Corruption Perceptions Index.

Source: *Economic Freedom of the World: 2024 Annual Report* and Corruption Perception Index, 2018.
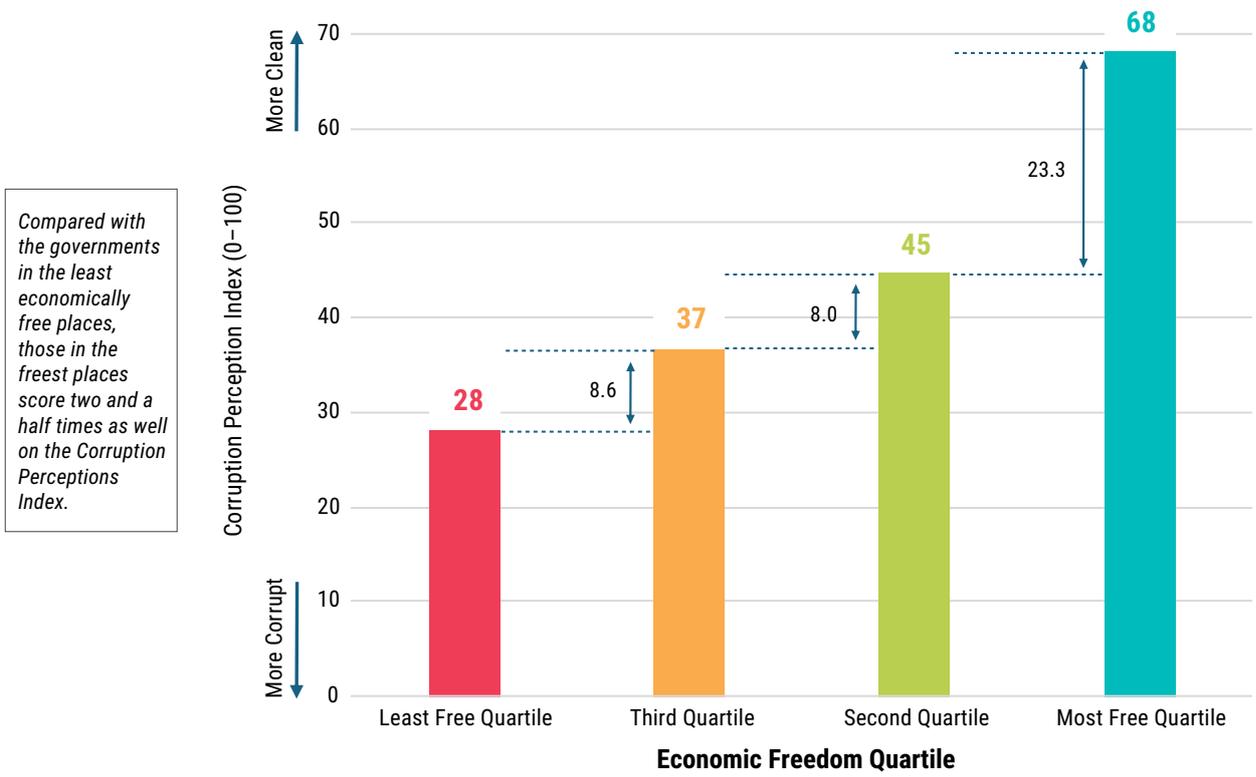
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2. Chapter Two
Economic Freedom or Populist Peril: Lessons for Argentina

Kevin Grier and Robin Grier

1. Current Events in Argentina

Argentina has long been characterized by colorful, populist leaders,[1] but few have entered the national political stage with the flamboyance of Javier Milei.[2] Previously a university lecturer and radio host, Milei established an "ultra-conservative libertarian party" called Freedom Advances in 2021 and was elected a deputy in the lower house of the legislature.[3] He is a self-described anarcho-capitalist libertarian and ran for president promising to slash Argentina's high inflation, in part by getting rid of the Central Bank and replacing the peso with the US dollar. His language is fiercely anti-establishment ("For me the state is an enemy, as are the politicians who live off it")[4] and he has real antipathy towards traditional Argentine politics, arguing "Let it all blow up, let the economy blow up, and take this entire garbage political caste down with it" (Bergengruen, 2024). Not only did Milei win the Argentine Presidency at the end of 2023, but he also views his mission as a blueprint for other developing countries wishing to become wealthy.[5]

When you get beyond his colorful language and sometimes crass imagery, three things become clear: He wants to be a reformer, he is at least a little bit of a pop-

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1 Take Carlos Menem, for example, who was President of Argentina from 1989 until 1999: "When an Italian motorcycle company gave him a $100,000 red Ferrari, Menem at first rejected advice to give it back, famously declaring, 'The Ferrari is mine, mine, mine!' (It was later sold at public auction.) Menem also relished his reputation as a Southern Cone Valentino. He kicked his first wife, Zulema Yoma, out of the presidential palace and later married Cecilia Bolocco, a Chilean TV celebrity and former Miss Universe who was 35 years his junior. He publicly flirted with actresses and belly dancers, performed the tango on television, and mused aloud about forming a nearly all-female Cabinet" (Otis, 2021).

2 Bergengruen (2024) writes "But none of his counterparts is quite like Milei, with his volcanic temper, mad scientist's bearing—he claims not to comb his wild mop of hair because the "invisible hand of the market" does it for him—and messianic streak."

3 This was NPR's assessment (Kahn, 2023). It is not clear that Milei would describe himself as conservative. He ran for a parliamentary seat in a populist manner as well. He promised voters that he would raffle off his salary to voters who deserved to get their money back from a corrupt and tainted political system. He was true to his word and as of February 2023, he had already raffled more than seven million pesos. Sedano (2022) and Ámbito Financiero (2023).

4 Buenos Aires Times (2023).

5 In Bergengruen (2024), Milei argues that "Argentina will become a model for how to transform a country into a prosperous nation. I have no doubt." The author pointed out that "others do."

ulist, and he appears to be in a big hurry![6] Since taking office on December 10, 2023, Milei has rapidly implemented a series of significant reforms aimed at transforming Argentina's economy and reducing the role of the state. One of his first major actions was devaluing the Argentine peso by more than 50% to narrow the gap between the official and market exchange rates (Reuters, 2023). This move was part of his broader strategy to combat the country's severe inflation and economic instability.

Milei also declared a state of emergency in the national energy sector, leading to a reduction in energy subsidies and a review of tariffs for electric power and natural gas services. He issued an emergency decree on December 20, 2023, which included over 350 deregulation measures across various sectors such as healthcare, housing, and land ownership (Reuters, 2023). This decree facilitated the privatization of state-owned enterprises and aimed to cut down government spending drastically.

In terms of labor reforms, Milei introduced changes to extend the job probation period, reduce severance compensation, and allow dismissals for striking workers (Heath, 2023). However, these reforms faced legal challenges and were eventually suspended by the courts (Hall, 2023). Nonetheless, Milei's administration announced plans to dismiss 70,000 government employees as part of his austerity drive (Genoux, 2023).[7]

In this chapter, we review the literatures on the economic effects of both policy reform and populism and formulate some unsolicited policy advice. Specifically, we believe the evidence warrants encouraging Milei to strongly pursue liberal reforms, back away from populist tendencies, and not to be afraid of doing things quickly. Let us start by discussing the efficacy of economic policy reforms.

2. The "Washington Consensus" works!

Liberalization reforms, like lowering inflation, reducing deficits, reducing the state's manipulation of exchange rates, and opening up to trade are often referred to as a package called the "Washington Consensus." There is a very popular view, held by

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6   Milei told supporters that the country was in a "critical situation" and that "half measures" were not sufficient. He went on to state that: "The model of decadence has come to an end. There's no going back," he told the crowd. "We have monumental problems ahead. Inflation, lack of work, and poverty" Kahn (2023).

7   Milei's use of unilateral decrees shows his desire to get things done quickly and a disdain for the traditional legislative processes. This rapid pace of reform has sparked significant controversy and opposition, both within the government and among the public. Grier and Grier (2021) find that sustained liberalizations are the types of reform that matter for income. Using decrees to pass an agenda usually means the reforms lack broad-based support, which is helpful for them to be sustainable.

some famous economists, that this package is a failure. For example, in a 2006 article with over 2000 citations, Dani Rodrik wrote, "It is fair to say that nobody really believes in the Washington Consensus anymore. The debate now is not over whether the Washington Consensus is dead or alive, but over what will replace it." The reader may or may not be surprised to learn that this article did not present any actual evidence against the effectiveness of traditional economic policy reform's ability to raise incomes.

And, as it turns out, there is actually quite a bit of evidence that Washington Consensus-style policy reform does consistently raise national incomes! For example, Billmeier and Nannicini (2013) examine the effects of economic liberalization on real GDP per capita in 30 cases of economic liberalization that occurred between 1963 and 1994. Billmeier and Nannicini use an updated version of an index created by Sachs and Warner (1995) which defines an economy as closed if any of the following five conditions are true: "average tariff rates of 40% of more, nontariff barriers covering 40% or more of trade, a socialist economic system, a black market exchange rate that is depreciated by 20% or more relative to the official exchange rate, on average, during the 1970s or 1980s, and a state monopoly on major exports."[8] From this, we can see that liberalization, defined here as a country going from having one or more of the five conditions to none of the five, is focused on removing trade barriers. Billmeier and Nannicini's results are mixed. They report that liberalizations before 1990 "had a generally positive effect (on real GDP per capita)," but later cases (which amount to about one third of their sample) "had no significant impact" (2013). However, Billmeier and Nannicini do not provide any sort of overall or average effect of liberalizations for their entire sample.[9]

Your intrepid authors (Grier and Grier 2021) provide an overall average effect of reforms on real per-capita GDP. They use the index published in the Fraser Institute's Economic Freedom of the World (EFW) and code a reform when that index jumps by at least one standard deviation over a five-year period. The EFW is measuring a lot more than just trade. It includes five main categories: size of government, legal system and property rights, sound money, freedom to trade internationally, and regulation. Thus, this measure of reform is more broad-based than the trade-centric measure used by Billmeier and Nannicini. Grier and Grier find 49 cases of these

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8   The quote is from Wacziarg and Welch (2008), who extend Sachs and Warner's analysis.
9   For an excellent review of the literature on trade reform and growth, see Irwin (2024).

generalized reforms occurring between 1975 and 2000, 12 of which overlap with Billmeier and Nannicini's cases.[10]

Grier and Grier find that, on average, reform leaves a country around 10% richer after five years and 16% richer after 10 years. One simple way to see the effect of the reform is to average the 49 cases together over a 20-year window of 10 years before and 10 years after reform and calculate the evolution of their average GDP level.

Figure 2.1 below shows that the average real per-capita income in the treated units rises gradually from about $8,500 to $9,000 before the treatment; after the treatment, income rises sharply, increasing to $13,000 after 10 years.[11]

Figure 2.1: Average Real Per-Capita Income Before and After Liberalization
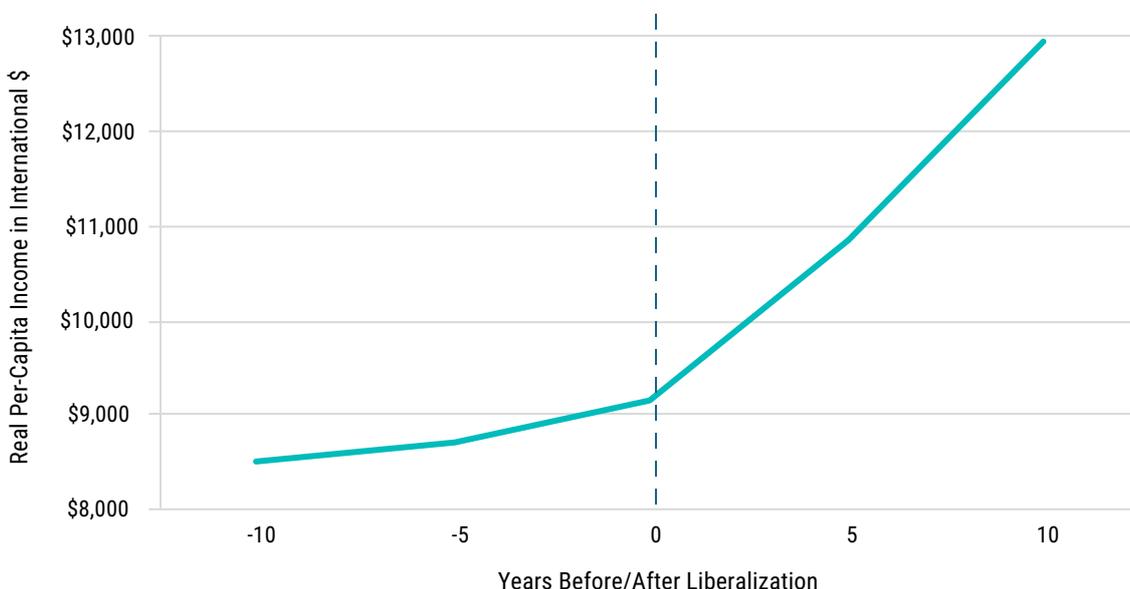
Source: Grier and Grier, 2021.

One question often asked of us (frequently stated as a fact or accusation) is whether this increased average real income simply accrued to the rich. Callais and Young (2023) address this question using the Grier and Grier methodology (they study the same 49 cases as we do) but apply it to each decile in the income distribution in the treated countries instead of just the average. The decile income data come from Lahoti, Jaya-dev, and Reddy (2016). They find that jumps in economic freedom lead to significant income gains in all 10 deciles! Interestingly, the effects appear to be the largest at the

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10   Specifically, Uganda, Ghana, Chile, Zambia, Costa Rica, Mexico, Egypt, Mali, Philippines, Niger, Guinea Bissau, and Indonesia.

11   Marco Marrazzo and Alessio Terzi (2017) use a different reform index and fewer cases (22) but find a significant six percent increase in GDP after 10 years using synthetic control.

bottom and the top of the distribution (the increases for the sixth, seventh, and eighth deciles are a bit smaller than the others). This finding shows that reform does not just benefit the rich.

3. Anti-corruption reform works!

Beyond the Washington Consensus, another type of reform worth considering is reducing corruption. Corruption is not a component of the Fraser Institute's EFW index. [12] Pavlik, Grier, and Grier (2023) use a methodology similar to that of Grier and Grier (2021) to study the effects of jumps in the control of corruption on real GDP per capita. They find only 27 cases of such reform in a sample of 120 countries over 30 years, but the reforms have been, on average, successful in raising incomes.[13] Specifically, they find that countries that reformed corruption have incomes slightly over 20% higher 10 years after the reforms than what would be predicted by their counterfactuals.[14] As in Grier and Grier (2021), Pavlik, Grier, and Grier (2023) calculate average income levels before and after the reforms. As **figure 2.2** shows below, the average real per-capita income in the 10 years before reform starts at around $7,500. It rises slowly in the pre-treatment period, reaching an average of about $9,000. After the reform, income rises much more quickly, to an average of almost $14,000 ten years post-treatment.

In sum, recent work has shown that broad-based economic liberalization reliably raises national incomes and that the gains are broadly shared throughout the income distribution of the reforming country. Further, reducing corruption can significantly raise incomes. Milei made fighting corruption a key pillar of his campaign, but he has not yet proposed or enacted any concrete reforms on this issue.[15] We thus urge President Milei to focus his energy on policies that will raise economic freedom and reduce corruption.

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12 Corruption is not a component of the index for two reasons. First, corruption and economic freedom are conceptually distinct concepts. Corruption is typically defined as the use of power or public resources for private gain. Economic freedom is the ability to make economic decisions free of limitations imposed by others. Second, many hypothesize that corruption might be an outcome of economic freedom, and we would not be able to study that if, by construction, corruption was included as a component of economic freedom.

13 One might wonder if there is double counting between jumps in EFW and jumps in the control of corruption, but Pavlik, Grier, and Grier report only two of their 27 cases also experienced a jump in EFW.

14 Pavlik and Callais (forthcoming) examine the effect of these same reform cases on income distribution and find that the benefits are concentrated in the middle class.

15 He has made some moves that make voters question his commitment to fighting corruption, see the Associated Press (2024).

Figure 2.2: Average Per-Capita Income Before and After Corruption Reform
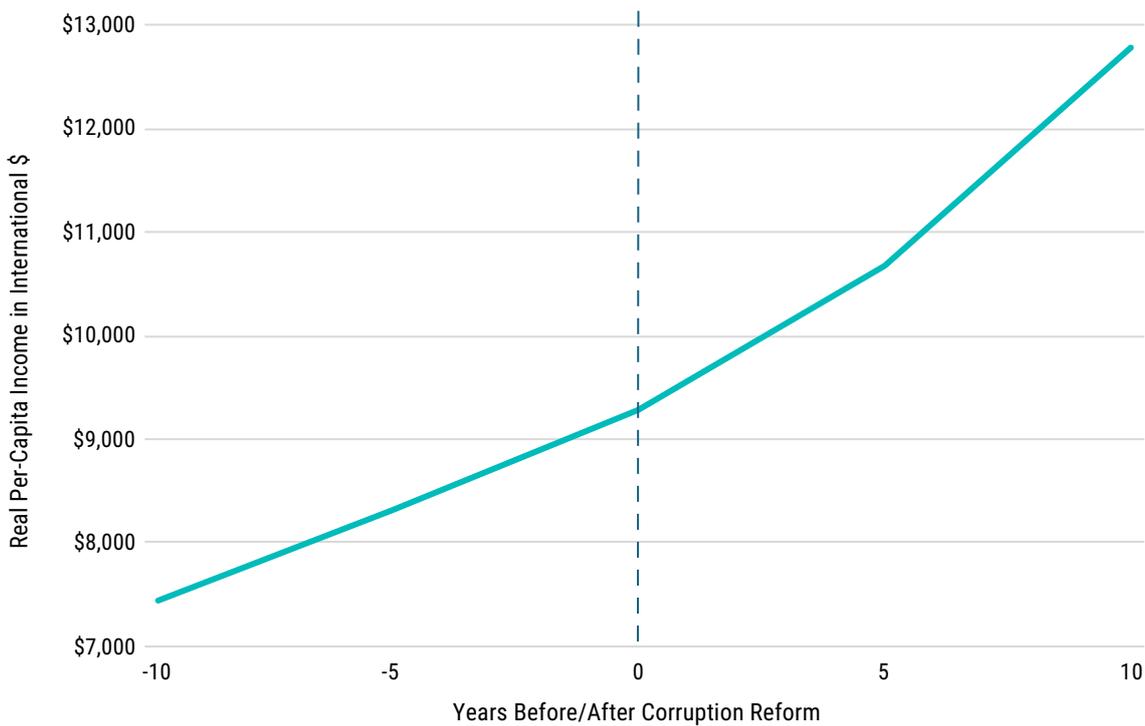
Source: Pavlik, Grier, and Grier, 2023.

4. **Does the speed of reform matter?**

When it comes to reform, one hotly debated issue is the pace at which the reforms should occur. Generally speaking, the conventional wisdom is that reforms should be gradual, that "shock therapy" is bad for the economy. Joseph Stiglitz, for example, argued that reform in the 1990s was done way too quickly and that countries often sequenced reforms in non-optimal ways.[16]

However, not all academics agree. Lawson and Lawson (2020) examine the 77 countries that had liberalized the most since 1970. They measure the comprehensiveness of reform as well as the speed and find that countries which liberalized faster grew faster on average than slow reformers. An emphasis on sequencing and the gradual introduction of reform also ignores the crucial role of politics. Economist Sebastian Edwards (2003), an early advocate of proper sequencing, recounts the following story about meeting Vaclav Klaus in 1991:

> When I met him in Prague, he said: "Oh, you are the 'sequencing' professor…"
> and then he added, "you got it all wrong. There is not such a thing as

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16   See Edwards (2003).

an optimal sequence. We should do as much as we can, as fast as we can." When I asked him what were the bases of his recommendation, he simply said, "politics, politics. . ."[17]

Take the case of Georgia (the country). Lawson, Grier, and Absher (2019) show that incredibly rapid reforms can largely work. They study the Rose Revolution in Georgia where former Soviet autocratic leader, Eduard Shevardnadze was peacefully deposed at the end of 2003 and newly elected president Mikheil Saakashvili and his economic minister and right-hand man, Kakha Bendukidze sought to liberalize the country.

The case of Georgia is especially relevant for Milei and Argentina, as many of the reforms are similar to those proposed by Milei, and the pace was unprecedently rapid. Lawson, Grier, and Absher (2019) describe the Georgian reform process as follows:

> Major tax reforms included both reducing the levels and number of taxes. The income tax was initially set at a flat 12 percent but was later combined with the payroll tax at a 20 percent flat rate. Privatization of vast amounts of state-owned assets was achieved mainly through open and transparent highest-bidder auctions with very little apparent favoritism. The new labour code was only a few pages long and offered few guarantees to workers; unions, though perfectly legal, were given no special legal status—this of course was a major departure from the old Soviet system. Interestingly, Georgia abolished anti-monopoly laws while simultaneously opening to external trade as most goods can be imported tariff free. The so-called 'de-bureaucratization' efforts resulted in 95 percent reductions in executive branch staffing and the elimination of 6 entire ministries and 18 agencies. To combat corruption at the local level, Saakashvili's government shocked the nation by firing the nation's entire police force, some 30,000 officers.

This passage makes clear the similarities between the Georgia reforms and Milei's plans for Argentina. While Georgia and Argentina clearly have different economic, political, and cultural histories, the results of Georgian reform should be encouraging for Argentina. Lawson, Grier, and Absher plot real per-capita income in Georgia and synthetic Georgia both before and after reform. Income is almost identical between

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17 Edwards (2003: 254) writes that "Stiglitz is critical of Klaus's 'rapid and simultaneous' reform strategy, but his criticism fails to address the political economy concerns that at the time worried Klaus and other pioneer reformers in Central and Eastern Europe."

the two before liberalization. After reform, Georgia consistently and significantly out-paces its synthetic counterpart. **Figure 2.3** below shows that Georgian reforms have raised real per-capita GDP by almost a third after a decade, compared to what we might expect from its synthetic counterfactual.[18]

Figure 2.3: Trends in Real Per-Capita GDP—Georgia and Synthetic Georgia
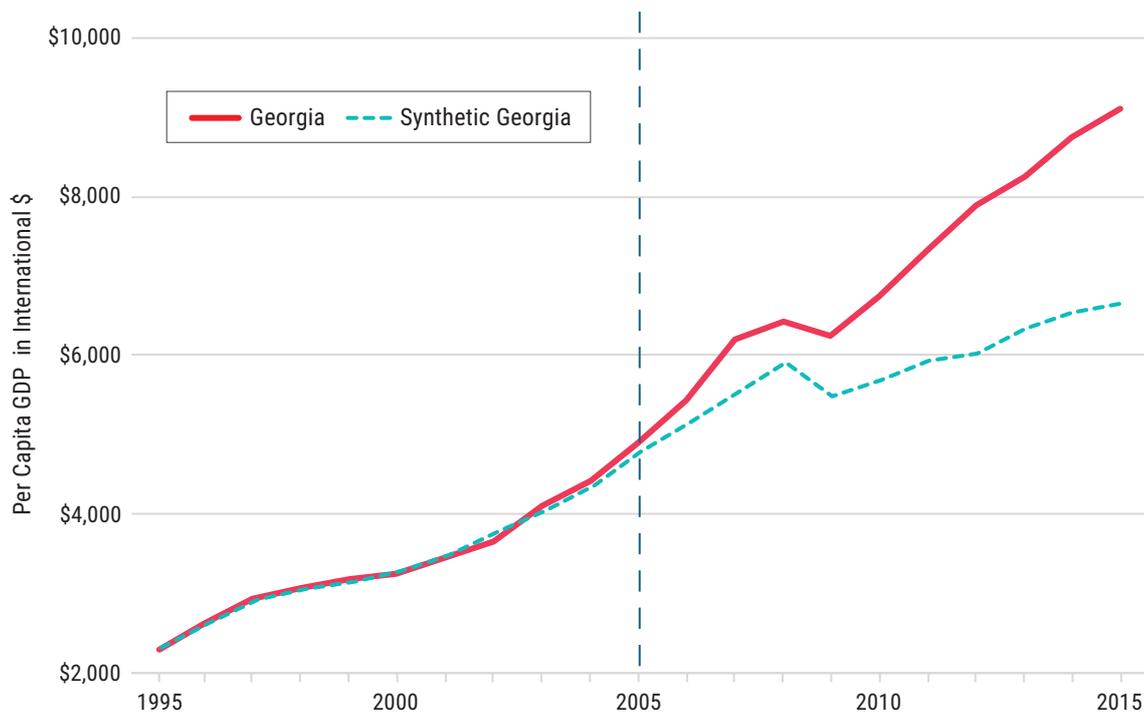
Note: The solid line is the time series for Georgia. The dashed lines is the series for its synthetic counterpart. The years to the left of the vertical line are the pre-treatment years which are used in determining the synthetic control. The vertical line is the year 2004, the first year of the Rose Revolution treatment that we are studying. The gap between the solid and dashed lines to the right of the vertical line is our estimated causal effect of the Rose Revolution reforms.

Source: Source: Lawson, Grier, and Absher, 2019.

When it comes to the effects of the speed of reforms, more generality can be found in Kantorowicz and Spruk (2024). They study 24 transition economies and classify them by the speed and durability of their reforms. They then estimate the average effect of different reform types on national incomes. For our purposes, the relevant comparison is between what they find for rapid (big bang) reform countries vs. gradual reform countries. They find that big-bang reforms significantly raise national income while gradual reforms do not.[19]

These results, combined with the results that Lawson, Grier, and Absher show for Georgia, are encouraging for the Argentine case.

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18   See the appendix for more details on how synthetic control is implemented.
19   See panels A and D of their figure 6 on page 2347.

5. **The dark side of populism**

So far, we are finding evidence that supports comprehensive policy and corruption reforms, even when implemented at a rapid pace. But let us now consider the darker side of the Milei phenomenon: his populist appeal.

Populism is a highly contested term that can mean different things in different fields. Here we follow what many political scientists use as a definition: a candidate with a political ideology that makes a sharp distinction between "the people" and "the elite." Note that populism does not align with any particular political ideology: there are populists on the left and the right. The former is characterized as being moral and good, while the latter is typically depicted as corrupt and self-serving. Populists typically depict "the elite" as comprising the political, economic, cultural, and media establishments, accusing them of prioritizing their own interests, as well as those of other groups like large corporations, foreign countries, or immigrants, over the interests of "the people."[20] Not surprisingly, populist movements are frequently led by charismatic figures who present themselves as the true voice of "the people."

Müller (2017) argues that anti-pluralism is central to understanding populism; populists exclude others on two levels: within party politics, they present themselves as the only legitimate representatives, and within society, they exclude those who do not conform to their symbolic construction of "the real people."

Milei exemplifies many of these characteristics. Both as a candidate and as president, he has taken aim at the political establishment, referring to the state as an enemy and politicians as parasitic. For instance, in referring to the Argentine state, he claimed "For me the state is an enemy, as are the politicians who live off it." He went on to demonize other politicians: "Micky Mouse is the aspiration of every Argentine politician because he is a disgusting rodent whom everybody loves."[21]

Like many successful populists, Milei is also extremely charismatic and combative.[22] He claims to speak directly to the frustrations of ordinary Argentinians about issues like inflation, poverty, and insecurity and has promised voters radical

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20   See Celico and Rode (2023) for a good discussion of populism and economic freedom.
21   All the Milei quotes in this section are from Buenos Aires Times (2023).
22   When asked who he would choose as his Economics Minister, Milei replied: "Somebody as orthodox and as fond of the chainsaw as me."

change. These promises, given Argentina's severe economic problems, including hyperinflation and rising poverty, have resonated strongly with voters.[23]

Absher, Grier, and Grier (2020) study the economic effects of durable left populism in Latin America. They find these types of regimes create a significant income penalty for the affected countries, with no corresponding trade-off of better health outcomes or less inequality. Left populism is bad! More specifically, figure 2.4 plots the average real per-capita income before and after left-populist presidents took power in four Latin American countries (Hugo Chavez in Venezuela, Evo Morales in Bolivia, Rafael Correa in Ecuador, and Daniel Ortega in Nicaragua), demonstrating that there is a sharp change after treatment. In the 18 years before those presidents took power, average income tracked the synthetic counterfactual closely. In the eight years after they were sworn in, average real per-capita income consistently and significantly underperformed the synthetic. On average, these left populist leaders (Ortega, Chavez, Morales, Correa) left their countries over 20% poorer than they otherwise would have been.

Figure 2.4: Trends in Income—Left Populists and Synthetic Income
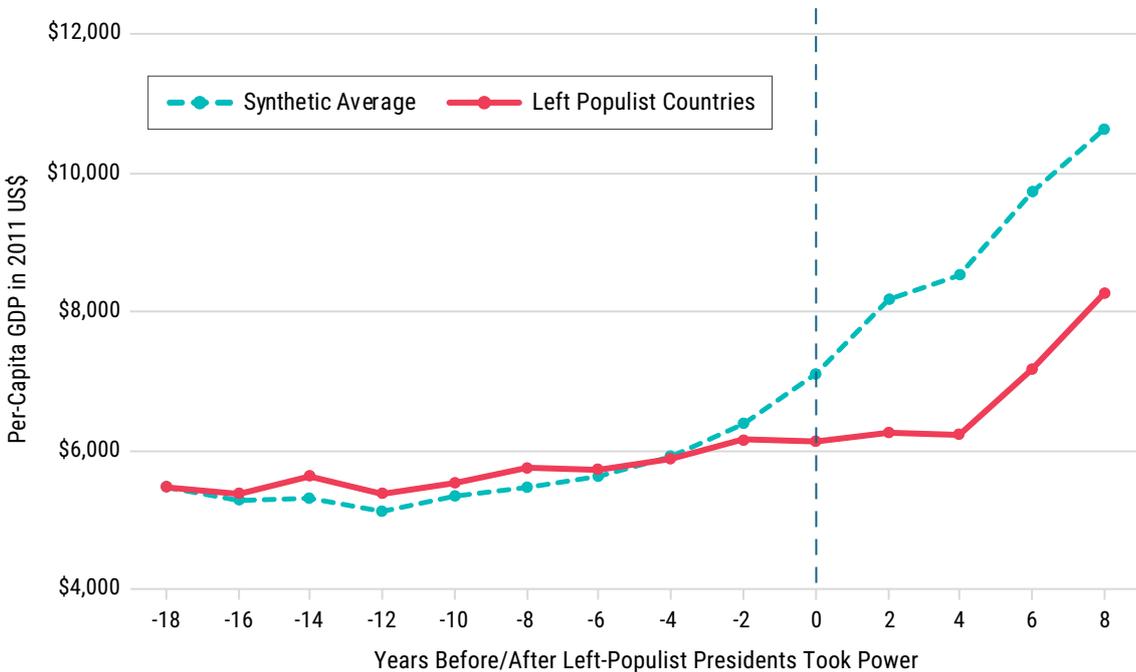
Source: Absher, Grier, and Grier, 2020.

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23   Inflation has been a persistent problem in post-WWII Argentina. From January 2022 until Milei took the presidency at the end of 2023, inflation rose from a little over five percent per month to more than 25% per month (Lo Bianco, 2024).

One might want to argue that Milei is not a left-populist, but rather a right-populist. Well, Funke, Schularick, and Trebesch (2023) show in a global sample that (1) on average, populist regimes of any type carry around a 15% income penalty and (2) this goes explicitly for right-populists as well.

6. **Conclusion**

The novelty of Milei's presidency lies in the fusion of libertarian economics with a populist style, a combination that has not been widely seen in the region. His approach, which combines rapid economic liberalization with an intense distrust of the state, could yield significant short-term gains. While popular opinion often praises gradual reform, the Georgian example demonstrates that sometimes rapid liberalization works well.

However, as we discuss above, populism—whether from the left or the right—is often harmful to growth. If Milei wants to bring lasting benefits to the Argentine economy, it is crucial that he tempers his populist rhetoric and focuses on building broad-based support for his reforms. This includes implementing anti-corruption measures and ensuring that his policies are not just top-down decrees but are supported by a stable political base. Sustainable reform, underpinned by strong institutions, is more likely to result in enduring economic benefits and prevent the economic crises that typically undermine other populist regimes.

In sum, Milei's challenge is to exploit the transformative potential of his libertarian agenda while also avoiding the destructive tendencies often associated with populism. His presidency, in a sense, represents an experiment in whether radical liberalization can be effectively implemented and sustained by increasing general political support for the program.

Appendix: Behind the pretty pictures

In our work, and indeed all the work cited in this chapter, the intent is to uncover a causal effect of the policies under study. In order to do that, we must go beyond correlations and consider explicitly what would have happened in a country or countries in the absence of the policy being studied. This "what would have happened" is called the counterfactual, and the research described in this chapter explicitly sets out counterfactual scenarios to measure the effect of the policy. The outcome, minus the counterfactual outcome, gives the causal effect of the policy. Ideally, we would like to

observe the same country at the same time with and without the policy being studied, but this is obviously impossible.[24] The challenge then is to impute a counterfactual outcome in a convincing way.

One way this is done in the papers discussed here is via matching. This method tries to find a counterfactual outcome based on a country or small group of countries that are as similar as possible to the treated country (i.e., the country getting the policy we are studying). For example, Grier and Grier (2021) use covariates like the investment rate, lagged EFW index scores, the Polity2 score (a measure of democracy), a human capital index, the share of government consumption in GDP, the ratio of exports to GDP, and the inflation rate, to identify a country that is as similar as possible to each liberalizing country on these dimensions.[25] The effect of liberalization for each unit (called the treatment) is simply the difference in a particular outcome between the treated country and its match counterfactual. However, since we cannot match on unobservables, we and the other matching papers discussed here follow An and Winship (2017) and take the difference of the outcome variable and compute the treatment effect as the difference between the differences. This nets out any time invariant unobserved difference between the treated and its matched control.

The other method used in the literature we review is synthetic control (Abadie and Gardeazabal, 2003). Here the researcher picks a set of potential control units and a set of covariates to match on. The algorithm then chooses a weighted average of the control units that mimic the behavior of the outcome variable in the pre-treatment period AND matches the treated unit on the values of the chosen covariates. Covariates that are more important in determining the outcome get more weight in the matching process. Once the weights are determined using the pre-treatment data, the treatment period counterfactual is given by the sum of the weights times the treatment period outcome in the control units.

As an example, Lawson, Grier, and Absher (2019) study the effect of the Rose Revolution reforms on the economy of Georgia. They choose Albania, Algeria, Angola, Armenia Azerbaijan, Belarus, Bosnia, Bulgaria, Croatia, Czech Republic, Egypt, Estonia, Hungary, Israel, Jordan, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Morocco, Pakistan, Philippines, Poland, Romania, Russia,

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24   Sometimes we can get close, as in the case of North and South Korea!
25   Using a single country as the counterfactual is called "nearest neighbor" matching. There are other methods that use more than one unit as the counterfactual. Grier and Grier (2021) discuss the available options.

Samoa, Serbia, Slovakia, Slovenia, Sri Lanka, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, and Uzbekistan as the potential control units.

For covariates to match on, they use % Urban, Investment, Life Expectancy, Military Spending, Inflation, and Exports/GDP (along with two lags of the outcome variable, real per-capita GDP). The estimated synthetic control for Georgia's GDP consists of 23% Armenia, 21% Bosnia, 54% Moldova, and 2% Tajikistan. As is clear from the figure presented in the main text, the estimated synthetic control for Georgia tracks actual Georgia very closely in the pretreatment period, but the two diverge sharply after the Rose Revolution with Georgia significantly outperforming its synthetic counterfactual. In general terms, the longer the pretreatment period and the better the pretreatment fit, the more confidence we can have that the synthetic control model is accurately estimating the causal effect of the treatment being studied.

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Daniel J. Mitchell

Because of aging populations and falling birth rates, public pensions are an increasingly important policy issue. Most governments have some type of tax-and-transfer system, with payments to the elderly being financed by levies on workers. Such systems are mathematically feasible when there are lots of young people and relatively few retirees. But increasing lifespans and falling birthrates have changed that equation. As a result, many nations will soon face significant fiscal imbalances. Simply stated, current rates will not generate nearly enough revenue in the future to finance promised benefits.

Countries that figure out the best way of navigating this challenge will enjoy better economic outcomes compared to nations that either make bad policy choices or "kick the can down the road" and allow problems to fester.

This chapter will analyze Social Security/pension-related systems, consider the costs and benefits of various policy options, and conclude by investigating the challenges of incorporating pension systems into the index published in the *Economic Freedom of the World*.

Why Pension Policy Is Important

Most governments have pay-as-you-go (PAYG) pension systems, which means that benefits paid each year are financed by taxes collected each year. Moreover, they generally impose payroll taxes (social insurance taxes) created expressly for the purpose of financing pensions (along with programs such as healthcare and unemployment insurance).

Such systems were created at a time when it was assumed that there would be ever-growing cohorts of young people to enter the workforce and support each new group of retirees.

At the risk of understatement, that population profile no longer exists. At least not in any developed nation except Israel. And when looking at pensions, demography is destiny. In 1960, for instance, there were 5.1 US workers for every Social Security

recipient. By 1990, there were only 3.4 workers per beneficiary. Today, there are only 2.7 workers paying into the system for every recipient (SSA-OCA, 2024).

The situation is even worse in other nations. One way to see this is to look at the old-age dependency ratio. It is the number of people aged 65-and-older relative to the number of people aged 15 to 64. Japan's old-age dependency ratio is nearly twice as large as that of the United States. And Italy is about halfway between Japan and the United States (Our World in Data, 2024).

The future outlook is even worse. According to the United Nations, the world's old-age dependency ratio will nearly triple over the next 75 years. Within 50 years, the world average will be roughly equal to Italy today (UN DESA-PD, 2024).

Figure 3.1: World's Age-Dependency Ratio Will Nearly Triple Over Next 75 Years
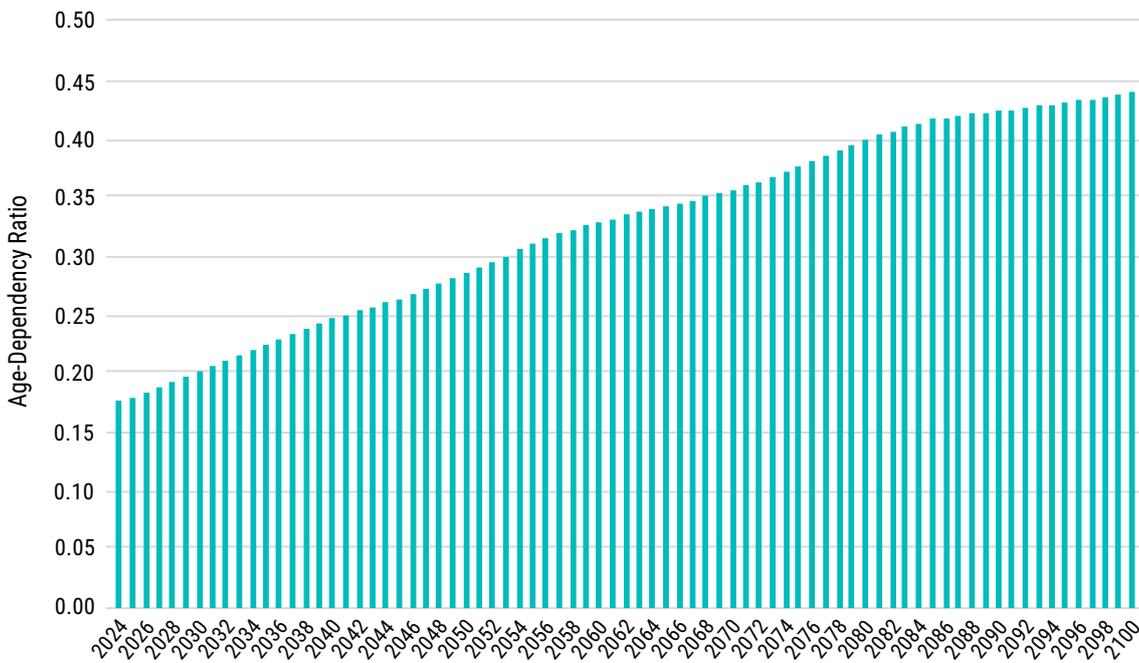
Source: UN DESA-PD, 2024.

Some countries will have unthinkable population shifts. The old-age dependency ratio will skyrocket in China, jumping from 23 today to more than 106 by the year 2100. Japan will go from 0.55 to 0.80, Canada will go from 0.33 to 0.59, and the United States will go from 0.31 to more than 0.54.

Looking at regions, Europe faces an enormous challenge. The old-age dependency ratio is already worrisome today, with one old person for every three working-age people. By 2045, there will only be two workers for every person over age 65. And the numbers will continue to worsen for the rest of the century.

Figure 3.2: Europe's Age-Dependency Ratio Will Double Over Next 75 Years
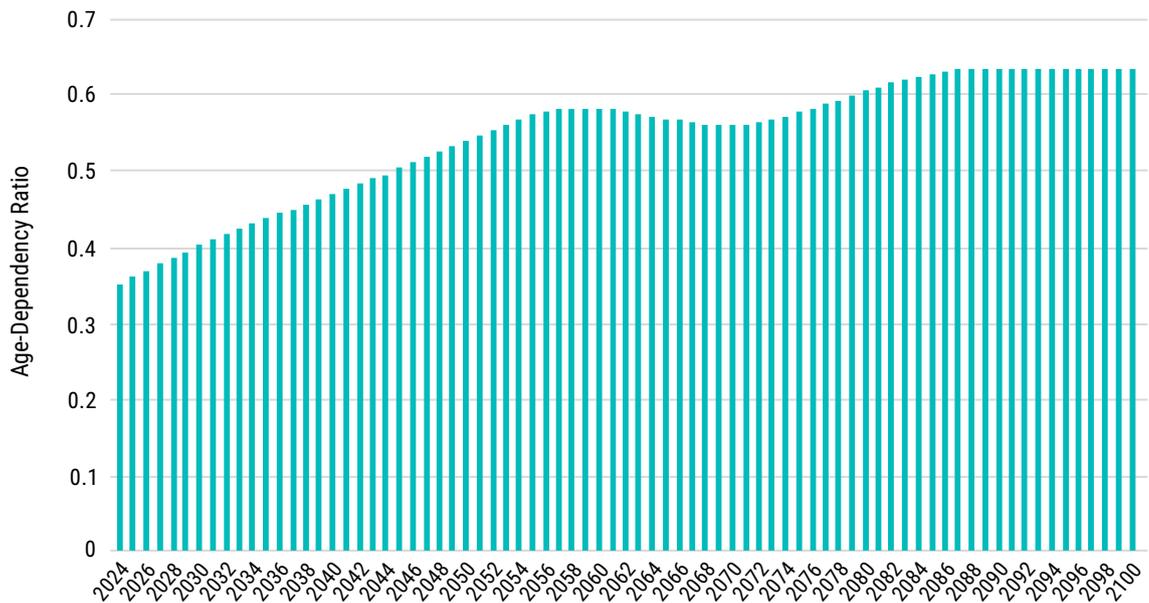
Source: UN DESA-PD, 2024.

This is not merely an issue of demographic change. That is merely the action-forcing event. What really matters is that changing population dynamics have enormous fiscal implications. For nations with tax-and-transfer systems, the combination of more old people and fewer workers means that spending burdens will increase at the same time that tax bases are shrinking. This unavoidably will lead to some combination of the following.

- Large debt increases—Even though most governments already have large debt burdens, politicians will be tempted to borrow massive amounts of money to provide benefits to a key voting bloc.

- Large tax increases—Tax burdens are at or near record highs in most nations, but there will be a lot of pressure on politicians to increase various taxes in hopes of propping up pension systems.

- Reckless monetary policy—Governments that cannot finance spending with taxes or borrowing may be tempted to lean on their central banks to monetize new debt as a financing mechanism.

- Large benefit cuts—To the extent that financial markets are unwilling to lend governments more money and to the extent that governments already have imposed maximum-possible tax burdens (Trabandt and Uhlig, 2010), significant benefits cuts will be likely.

- Systemic reform—As will be discussed in this chapter, politicians have the option of shifting to retirement systems based on private savings. This will solve long-run fiscal and demographic problems but probably have a significant "transition cost."[1]

In many cases, policy makers in various governments will rely on a combination of the aforementioned options.

Funded Retirement Systems

The alternative to a "pay-as-you-go" pension system is a "funded" system. Under this approach, workers are required to put money into retirement accounts instead of being forced to pay taxes to fund current government benefits. The money in private accounts is then invested, with all earnings automatically reinvested. Over a working lifetime, thanks to the power of compound interest (what Einstein allegedly called the "most powerful force in the universe" [Mikkelson, 2006]), workers accumulate substantial nest eggs. Those funds then can be used to provide income during retirement.

Unlike pay-as-you-go systems, funded systems are immune to demographic change. Retirement income for the elderly is not dependent on whether there are lots of young workers. All that matters is whether funded systems are well designed so that private saving today translates into sufficient retirement income tomorrow.

There are many nations that already have systems that require workers to invest money for retirement. Some of these systems are designed to provide the bulk of retirement income. Examples include Australia, Iceland, Denmark, Netherlands, Chile, and Switzerland. Other funded systems are designed to augment government pay-as-you-go programs. Examples include Sweden, Israel, Estonia, and South Korea.[2]

Should There Be a Mandatory System of any Kind: The Freedom-Prudence Tradeoff

If the goal is to maximize the economic freedom of individuals, then there should not be any mandatory retirement system, whether based on private savings or govern-

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1   If lawmakers allow younger workers to divert their payroll taxes to personal retirement accounts, they will need to find another way of financing benefits to current retirees (as well as older workers who would not have enough time to fully benefit from a reformed system).

2   See Mitchell and O'Quinn (forthcoming).

ment entitlements. Individuals would have the freedom to decide how long to work, how much money to save, and what to do with their savings.

This used to be the norm. The first mandatory pay-as-you-go system was created in Germany in 1889 (SSA, n.d.). Other developed nations followed, including Canada in 1927 and the United States in 1935 (Guest, 2006). Before those developments, almost all people were responsible for their own retirement. This meant they voluntarily saved money during their working years or relied on support from their children. Or they never retired.

This sounds appealing to people who dislike government coercion, but it may not be politically sustainable. The majority of voters and policy makers may assume that workers are too short-sighted to set aside enough money. If this assumption is widespread, the relevant choice may be whether to have a mandatory pay-as-you-go system or a mandatory funded system.

If those are the only two options, a mandatory funded system has enormous advantages over government-run, pay-as-you-go systems. Workers would benefit from compound interest, they would be protected from demographic decay, and they would rely on their own real assets instead of having to depend on promises from politicians.

Level of Mandated Savings

If policymakers decide to have mandatory personal accounts as part of a funded system, the next decision is the level of required savings. And that requires answers to several questions.

- Is the goal to make sure retirees don't live in poverty?

- Or is the goal to replace a percentage of pre-retirement income?

- What are the assumed rates of return for private accounts?

- How long will people be employed before they retire?

Depending on how these questions are answered, the required savings rate might be as low as five percent. Especially if the goal is merely to avoid poverty and people do not retire until age 70.

As a general rule, though, retirement experts believe workers should save at least 10 percent of their income.

Defined Contribution vs Defined Benefit

Another design issue is whether to have "defined contribution" accounts or "defined benefit" accounts, sometimes referred to as DC or DB plans. With a DB plan, a fund administrator commits to provide a specific income stream upon retirement. With a DC system, workers build a nest egg and then decide how to access their funds after retiring. Here's a comparative table put together by a financial services company.[3]

Table 3.1: Defined Benefit vs. Defined Contribution Systems

	Defined Benefit	Defined Contribution
Contributions	The employee's contributions are set, while the employer must fund the amount necessary to meet future obligations.	Both the employees and the employer contribute an established amount
Future Value is Based on	A pre-established formula (usually based on length of employment and highest earning years)	The investment value of the employer and employee contributions
Changes in Salary Affect	The entire pay out value (as it is usually based on your top earning years)	Only the amount of future contributions
Investment Risk	Resides with the employer	Resides with the employee
Amount paid out when changing jobs is equal to	An actuarial present value of the amount that would have been received in the future based on a pre-established formula.	The total of your contributions and the employers vested contributions
Duration of Pension Income	Indefinite	Until the value of the invested contributions are eroded
Risk for you	The employer not being able to meet its future pension obligations	Not being able to receive enough future income from the invested amount

Source: Astrolabe Financial Media, 2014.

To elaborate, here is how the U.S. Department of Labor defines the two approaches.

- "A defined benefit plan promises a specified monthly benefit at retirement. The plan may state this promised benefit as an exact dollar amount, such as $100 per month at retirement. Or, more commonly, it may calculate a benefit through a plan formula that considers such factors as salary and service." (U.S. Department of Labor, n.d.)

- "A defined contribution plan… does not promise a specific amount of benefits at retire-ment…. the employee or the employer (or both) contribute to the employee's individual account…, sometimes at a set rate, such as 5 percent of earnings annually. These

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3   http://astrolabefinancial.ca/new-blog/2014/4/24/understanding-your-pension-defined-contribution-the-new-norm

contributions generally are invested on the employee's behalf. The employee will ultimately receive the balance in their account... The value of the account will fluctuate due to the changes in the value of the investments." (U.S. Department of Labor, n.d.)

The main advantage of a DB plan is certainty. Workers know exactly how much income they will receive when they retire. Assuming, of course, that the plan has sufficient funds, which has been a big problem for some US-based DB pension funds.

The main advantage of a DC plan is that there is more control and lower administrative costs. Moreover, a DC plan gives retirees the possibility of leaving part of their nest egg to their children or other heirs.

Almost all countries with funded pension systems have DC plans. Moreover, one of the nations with a DB plan, the Netherlands, is shifting to a DC plan.

Who Invests, and for Whom?

If there is a system of personal retirement accounts, there are three broad options for investment governance.

- Let individuals determine how their retirement savings are invested.

- Require professional management of how retirement funds are invested.

- Put the government in charge of investing retirement funds.

As a practical matter, the first two options often blur together. Most pension systems have professional fund managers, but workers often have considerable ability to steer funds to certain types of investments.

The third option is government-run investment, which is the approach used in Singapore as well as pension funds for government bureaucrats in many jurisdictions. The relevant concern is whether politicians can resist the temptation to dictate how monies are invested. Workers will enjoy the best outcomes if fund managers are guided by a fiduciary responsibility to maximize returns. But if politicians are directly or indirectly interfering with investment choices, retirees will ultimately have less income. Moreover, a system with government-dictated investment further restricts the freedom of individuals. They will be forced to save, and they will not even get to directly or indirectly control how their money is invested.

As a practical matter, governments can indirectly control how private pension plans invest funds. They can require private pension funds to buy government bonds.

They can prohibit them from investing overseas. They can impose "ESG" requirements that force funds to make sub-par investments for political reasons (Globerman, 2024).

One final observation is that there usually are no investments with pay-as-you-go systems. Benefits paid each year are financed by taxes collected each year. However, there are a few governments that have sovereign wealth funds that invest money in private markets for the purpose of accumulating assets that can be used to pay future retirement benefits. Examples of countries with partial funding of government systems include Canada, Ireland, Finland, Japan, South Korea, Luxembourg, Portugal, Switzerland, Norway, and Italy.

How Do Workers Access their Savings Upon Retirement?

With a DB system, workers automatically get a specific amount of money. With DC systems, however, policy makers must decide what happens with nest eggs upon retirement. There are several options.

- No rules, which is the most laissez-faire approach, though it does lead to the worry that people will spend their retirement savings too quickly.

- Mandatory annuitization, which means new retirees use their nest egg to buy a future income stream. This is akin to turning a DC account into a DB payout.

- Phased withdrawals, which limit how much money retirees can access each year, perhaps adjusted by age and the size of nest eggs.

Lawmakers also should consider how policies governing withdrawals interact with safety-net programs. If such programs are too generous, that may give retirees an incentive to quickly spend (or give away) their assets.

Another important issue is whether workers can access their accounts for expenses before retirement. If that is the case, it defeats the purpose of workers building large nest eggs.

How to Incorporate Pensions into the EFW

Pension policy is vitally important for national prosperity and economic freedom. This is especially important since most nations face demographic decline. Adding a pension-specific measure would enhance the value of *Economic Freedom of the World*. But it would not be easy. There would be two challenges:

1. Developing an objective standard by which different pension designs affect economic freedom, and

2. Finding sufficient data to score countries.

With regard to the first question, economic freedom is maximized when there is no pension policy. In other words, individuals will enjoy the most economic freedom when they are free to make their own choices about how long to work, how much to save, and what to do with their savings. Nations following that approach would receive the highest score. That might mean under-developed countries that lack the capacity to operate a functional pension system will earn the top scores in this component (just as some very poor countries lack the capacity to redistribute much money and therefore get good score for size of government).

Here is a look at how various approaches would rank, from the lowest-scoring option on the left and the highest-scoring option on the right.

Table 3.2: Pension Plans and Economic Freedom

Government-managed, PAYG, defined-benefit plans	Government-managed, PAYG, notional defined-contribution accounts	Government-managed, partially funded, defined-benefit or notional defined contribution plans	Government-managed, fully funded, defined-benefit plans	Government-managed, fully funded, defined contribution plans	Mandatory, privately managed, fully funded, defined contribution plans	Laissez-faire

Source: Author's calculations.

As discussed earlier in this chapter, a pure laissez-faire approach is the policy that maximizes economic freedom and thus would merit a perfect score. However, it seems that no nation is in this category. From a practical perspective, this means constructing a scoring system is an exercise in ranking options that range from second best to terrible. On this basis, the default option for the best score would then go to nations with retirement systems based on mandatory private savings.

But there are many secondary questions that have to be answered. Here are some possible choices, though many of them could be characterized as paternalistic.

- A better score for nations that have systems where the private sector will generate the highest shares of retirement income.

- A better score for nations that allow private management of investment rather than government control.

- A better score for nations that choose defined contribution accounts rather than defined benefit accounts.

- A worse score for nations that require annuitization or phased withdrawals to ensure adequacy in old age.

Unfortunately, the data options for scoring pension policy are limited. The International Monetary Fund has extensive macroeconomic and microeconomic data for nations around the world.[4] But there is not enough detail about pension systems to allow proper rankings. The World Bank has produced very good research on pension issues (World Bank, 1994), but it also doesn't have sufficiently detailed databases. The Organisation for Economic Co-operation and Development (2023) has detailed databases, but largely limited to member states. The same is true about the European Commission (Directorate-General for Economic and Financial Affairs, 2024). There are also very thorough private-sector analyses, but they only focus on major nations (Mercer, 2023).

The Social Security Administration in the United States used to publish comprehensive reports covering many nations, but has discontinued that project (SSA-OR-DP-ORES, 2019). But it does still publish updates that are relatively rich sources of information (SSA-ORDP, 2024). Taking those periodic updates and combining them with the sometimes out-of-date information from the International Social Security Administration (somewhat detailed data on the pension systems of nearly 190 jurisdictions [ISSA, n.d.]) should give researchers enough information to rank nations.

Here are the major variables that should be used when ranking nations, along with commentary of whether such data actually exists.

- **Government-run PAYG system – Widely available**

    - Payroll tax rate – Widely available

    - Government pension outlays as share of GDP – Limited data

    - Is payroll tax income capped – Generally available

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4   The IMF's World Economic Outlook Database (2024) has extensive macroeconomic data (available at https://www.imf.org/en/Publications/WEO/Issues/2024/04/16/world-economic-outlook-april-2024), while Article IV country reports have extensive microeconomic data (available at IMF Search Hub https://www.imf.org/en/Search#q=%22imf%20staff%20country%20reports%22&sort=relevancy&f: type=[PUBS,COUNTRYREPS,ARTICLE4]).

- Sovereign wealth fund – Generally available

- Notional DC plan – Generally available

- **Mandatory system of private savings – Widely available**

  - Mandatory savings rate – Widely available

  - DC or DB plan – Generally available

  - Government-run or government-dictated investment – Somewhat available

  - Government-dictated withdrawals – Somewhat available

One additional complication is that most countries have special regimes for different types of workers, so judgements have to be made about how to classify countries. Also, many nations have hybrid systems, meaning that they rely on both government PAYG systems and mandatory private savings. And other nations are in a transition phase with relatively new systems of mandatory private savings, which means most retirees are getting government benefits based on PAYG systems.

Last but not least, there is the issue of how to incorporate a pension rating with other variables in *Economic Freedom of the World*. Presumably it would be a component measure used to calculate a score for the Size of Government. That being said, if pension spending and/or the payroll tax rate are included in the pension score, it would be important to adjust other fiscal components to avoid double-counting.

Sample Scoring Method

Here is a sample grading for a representative group of countries, based on the following methodology.

10.0	–	Total individual choice
8.5	–	Large funded DC accounts
7.5	–	Funded DB plans…or small funded DC accounts
5.0	–	Funded provident accounts
2.5	–	Partially funded government-run system…or…notional definedcontribution PAYG system
0	–	PAYG DB system

Since some nations have blended or hybrid systems, one possible solution is to score their government plans, score their private plans, and then average the two scores.

Country	Scores
Hong Kong	**10.0**
Australia	**9.3**
Chile	**9.0**
Netherlands	**8.8**
Singapore	**8.0**
Taiwan	**7.3**
Switzerland	**6.3**
Mexico	**5.8**
Sweden	**5.8**
Germany	**5.7**
Estonia	**4.8**
New Zealand	**4.3**
Canada	**3.3**
South Africa	**3.3**
United States	**2.8**
Italy	**2.5**
France	**1.8**
Argentina	**1.3**
Russia	**1.3**
United Kingdom	**1.2**

Source: Author's calculations

Conclusion

Social welfare spending has become a considerable problem in many nations, with pension expenditures usually being the biggest reason for excessive fiscal burdens. Due to increasing lifespans and falling birthrates, the fiscal costs of pay-as-you-go pension systems will become an even bigger problem in the future. But demographics is not destiny. Some jurisdictions have adopted different ways of providing retirement income security. Most notably, a significant number of nations have systems based on compulsory private savings, while others have experimented with reforms ranging from notional-defined contribution accounts to government reserve funds. This chapter provides a framework for assessing pension systems and shows a potential way of scoring a sample of nations.

Appendix: Types of Pensions

1. **Government-managed, PAYG, defined-benefit plans.** This is the stereotypical system operated by most governments. The government runs the system. Benefits paid each year are financed by taxes collected each year (pay-as-you-go, or PAYG), and retirees are given a specific amount of money based on either their earnings histories or the level of their income. Most of these systems have some level of redistribution that results in upper-income workers getting a worse deal than lower-income workers.

2. **Government-managed, PAYG, notional defined-contribution accounts.** In an effort to deal with demographic change, nations such as Sweden and Italy have shifted in whole or part from defined-benefit PAYG systems to defined-contribution PAYG systems. But since no funds are actually invested in private assets, they are "notional" defined-contribution accounts. But they work the same way as real defined-contribution accounts in that future benefits are tied to taxes paid. This approach reduces or even eliminates redistribution within the pension system and puts a cap on the level of benefits.

3. **Government-managed, partially funded, defined-benefit or notional defined contribution plans.** Some nations do not have personal retirement accounts for individual workers, but instead have government funds (sometimes known as sovereign wealth funds) that are designed to accumulate assets that can then be liquidated to help finance future retirement benefits.

4. **Government-managed, fully funded, defined-benefit plans.** Some countries have retirement systems based on employer-provided pensions. Under this approach, private fund managers privately invest the savings of workers and commit to provide specific payments to those workers upon retirement. To work effectively, this system needs to avoid the problem of under-funding and bankruptcy, which has plagued some US-based defined benefit plans.

5. **Government-managed, fully funded, defined-contribution plans.** A few countries such as Singapore have systems of private retirement savings, but the government is the custodian of the money. To work well, this type of system requires very honest governance and a commitment to invest on the basis of what is good for workers rather than what is in the best interest of politicians.

6. **Mandatory, privately managed, fully funded, defined-contribution plans.** This is the stereotypical "privatized" system. Workers are obligated to set aside a certain amount of money each pay period, with private fund managers then investing the money (and reinvesting all returns) so that workers have a large "nest egg" of accumulated

assets when they retire. Government still plays a role since it mandates the savings, sets the rules that determine qualified fund managers, and also has authority over when and how workers can access their money during retirement.

7.   Laissez faire. This is the "hands-off" approach where government lets people decide how or even if they will save for retirement. This is what used to exist all over the world prior to Bismarck creating a retirement system for Germany in 1889. It appears that the last developed jurisdiction to use that approach was Hong Kong, which only adopted a universal government program in the 1970s (and has since created a system of personal retirement accounts).

Table A.1: National Pensions Systems

Countries	Laissez-Faire	Combined Employee-Employer Payroll Tax Rate	Sub-Component 1.i	Uncapped Payroll Tax	Sub-Component 1.ii	Public Pension Spending as Share of GDP	Sub-Component 1.iii	Notional Defined Contribution	Sub-Component 1.iv	Partial Funding of PAYG Systems	Sub-Component 1.v	Score
Argentina	No	23.5%	0	Partly	5							2.5
Australia	No	General Revenue			10	5.4%	7					8.5
Canada	No	11.9%	2	No	10	5.0%	7			Yes	7	6.5
Chile	No	0.0%	10		10	2.9%	9					9.5
Estonia	No	16.0%	1	Yes	0	6.7%	7					2.7
France	No	15.5%	1	No	10	13.9%	0					3.7
Germany	No	18.6%	1	No	10	10.4%	1					11.3
Hong Kong	No	General Revenue	10		10							10
Italy	No	33.0%	0	No	10	16.0%	0	Yes	8	Yes	7	5
Mexico	No	General Revenue		Yes	0	3.1%	9					4.5
Netherlands	No	0.0%	10		10	5.9%	7					9
New Zealand	No	General Revenue			10	5.0%	7					8.5
Russia	No	22.0%	0	Partly	5							2.5
Singapore	No	0.0%	10	No	10							10
South Africa	No	2.0%	3	No	10							6.5
Sweden	No	14.7%	2	No	10	9.3%	2	Yes	8			5.5
Switzerland	No	12.0%	2	Yes	0	6.7%	7			Yes	7	4
Taiwan	No	5.1%	3	No	10							6.5
United Kingdom	No	27.8%	0	Yes	0	5.7%	7					2.3
United States	No	12.2%	2	No	10	7.1%	5					5.7

Source: Author's calculations

Table A.1: National Pensions Systems (cont'd)

Countries	Laissez-Faire	Mandatory Private Savings Plans									
		Mandatory Private Defined Contribution Accounts	Sub-Component 2.i	Mandatory Private Defined Benefit Accounts	Sub-Component 2.ii	Government-Dictated Investment	Sub-Component 2.iii	Mandatory Annuitization-Phased Withdrawals	Sub-Component 2.iv	Component 2	Total Score
Argentina	No									0	**1.25**
Australia	No	11.5%	10							10	**9.25**
Canada	No									0	**3.25**
Chile	No	10.0%	10					Yes	5	8.5	**9.00**
Estonia	No	6.0%	8					Yes	5	7	**4.83**
France	No									0	**1.83**
Germany	No									0	**5.67**
Hong Kong	No	10.0%	10							10	**10.00**
Italy	No									0	**2.50**
Mexico	No	6.3%	8					Yes	5	7	**5.75**
Netherlands	No			17.9%	10			Yes	5	8.5	**8.75**
New Zealand	No									0	**4.25**
Russia	No									0	**1.25**
Singapore	No	11.5%	10			Yes	0			6	**8.00**
South Africa	No									0	**3.25**
Sweden	No	2.5%	6					Yes	5	6	**5.75**
Switzerland	No			7%–18%	10			Yes	5	8.5	**6.25**
Taiwan	No	6.0%	8							8	**7.25**
United Kingdom	No									0	**1.17**
United States	No									0	**2.83**

Source: Author's calculations

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Appendix
Explanatory Notes and Data Sources

Area 1: Size of Government

A. Government consumption

This component is measured as general government consumption spending as a percentage of total consumption. The rating for this component, as with many of the following components, is designed to mirror the actual distribution of the raw data but on a 0-to-10 scale. The rating is equal to: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. The V_i is the country's actual government consumption as a proportion of total consumption, while the V_{max} and V_{min} are set at 40% and 6%, respectively. The 1990 data were used to derive the maximum and minimum values for this component as well as most other components to follow. Countries with a larger proportion of government expenditures receive lower ratings.

Sources: World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics*; United Nations National Accounts.

B. Transfers and subsidies

This component is measured as general government transfers and subsidies as a share of GDP. The rating for this component is equal to: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. The V_i is the country's ratio of transfers and subsidies to GDP, while the V_{max} and V_{min} values are set at 37.2% and 0.5%, respectively. The formula will generate lower ratings for countries with larger transfer sectors. When the size of a country's transfer sector approaches that of the country with the largest transfer sector during the 1990 benchmark year, the rating of the country will approach 0.

Sources: International Monetary Fund, *Government Finance Statistics Yearbook*; World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics*; United Nations National Accounts.

C. Government investment

Data on government investment as a share of total investment are used to construct the 0-to-10 ratings. Countries with more government investment as a share of total

investment receive lower ratings. The rating for this component is equal to: $(V_{max} - V_i)$ / $(V_{max} - V_{min}) \times 10$. The V_i is the country's ratio of transfers and subsidies to GDP, while the V_{max} and V_{min} values are set at 50% and 15%, respectively.

Sources: International Monetary Fund, *Investment and Capital Stock Dataset*; World Bank, *World Development Indicators*; Organisation for Economic Co-operation and Development, *OECD Data.*

D. Top marginal tax rate

i Top marginal income tax rate Countries with higher marginal tax rates that take effect at lower income thresholds received lower ratings based on the matrix below. The income threshold data are converted from local currency to 1983 US dollars (using exchange rates and the US Consumer Price Index). These figures include sub-national rates if applicable.

ii Top marginal income and payroll tax rate Countries with higher marginal income and payroll (wage) tax rates that take effect at lower income thresholds received lower ratings based on the matrix below. The income threshold data are converted from local currency to 1983 US dollars (using exchange rates and the US Consumer Price Index). These figures include sub-national rates if applicable.

Sources: PricewaterhouseCoopers, *Worldwide Tax Summaries Online*; PricewaterhouseCoopers, *Individual Taxes: A Worldwide Summary* (various issues); Ernst & Young, *Worldwide Personal Tax and Immigration Guide* (various issues); Deloitte International Tax Source, *Guide to Fiscal Information: Key Economies in Africa* (various issues).

Table 1: Income Threshold at Which the Top Marginal Rate Applies (1983 US$)

Top Marginal Tax Rate	<$25,000	$25,000 - <$50,000	$50,000 - <$150,000	<$150,000 +
<21%	10	10	10	10
21% – <26%	9	9	10	10
26% – <31%	8	8	9	9
31% – <36%	7	7	8	9
36% – <41%	5	6	7	8
41% – <46%	4	5	6	7
46% – <51%	3	4	5	5
51% – <56%	2	3	4	4
56% – <61%	1	2	3	3
61% – <66%	0	1	2	2
66% – <70%	0	0	1	1
70%+	0	0	0	0

E. State ownership of assets

This component is based on ratings from the *Varieties of Democracy* (V-Dem) data on State Ownership of the Economy, which "gauges the degree to which the state owns and controls capital (including land) in the industrial, agricultural, and service sectors. It does not measure the extent of government revenue and expenditure as a share of total output; indeed, it is quite common for states with expansive fiscal policies to exercise little direct control (and virtually no ownership) over the economy". We use the original scale (*osp) data from V-Dem for this variable and for all V-Dem-based variables to follow. The rating is equal to: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. The V_i is the country's state ownership score, while the V_{max} and V_{min} are set at 4.0 and 0, respectively. Countries with greater government ownership of assets get lower scores.

Sources: V-Dem Institute, *Varieties of Democracy*, <www.v-dem.net>.

Area 2: Legal System and Property Rights

Notes: The ratings for Area 2 are adjusted to reflect inequalities in the legal treatment of women using a Gender Disparity Index (GDI) provided annually by Rosemarie Fike. The primary data used in the GDI are from the World Bank's *Women, Business and the Law* reports. For additional details, see Rosemarie Fike (2018), *Impact of Economic Freedom and Women's Well-Being*, <https://www.fraserinstitute.org/studies/impact-of-economic-freedom-and-womens-well-being>.

A. Judicial independence

This component is based on three sources. (a) The first source of this component is from the *Global Competitiveness Report* question: "Is the judiciary in your country independent from political influences of members of government, citizens, or firms? No—heavily influenced (= 1) or Yes—entirely independent (= 7)". The question's wording has varied slightly over the years. All variables from the *Global Competitiveness Report* were converted from the original 1-to-7 scale to a 0-to-10 scale using this formula: $EFW_i = ((GCR_i - 1) \div 6) \times 10$. (b) The second source is a collection of questions from the V-Dem dataset, namely: Judicial Purges, Government Attacks on the Judiciary, Court Packing, High Court Independence, and Low Court Independence. Each of the V-Dem variables is individually rated using the formula $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. The V_i is the country's V-Dem score according to V-Dem. For Judicial Purges, Government Attacks on the Judiciary, High Court Independence, and Low Court Independence, V_{max} and V_{min} were set at 4.0 and 0, respectively. For Court Packing, V_{max} and V_{min} were set at 3.0 and 0, respectively. All five scores are then averaged. (c)

The third data source is based on *Update, A Global Measure of Judicial Independence, 1900-2015* (Staton, Linzer, Reenock, and Holsinger, 2019). This data source scores on a 0-to-1 scale, so it was multiplied by 10 to place it on the scale of the other variables. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; V-Dem Institute, *Varieties of Democracy*, <www.v-dem.net>; Jeffrey Staton, Drew Linzer, Christopher Reenock, and Jordan Holsinger (2019), *Update, A Global Measure of Judicial Independence, 1900–2015* (Harvard Dataverse, V1), <https://doi.org/10.7910/DVN/NFXWUO>.

B. Impartial courts

This component is based on four sources. (a) The first source is the *Global Competitiveness Report* question: "The legal framework in your country for private businesses to settle disputes and challenge the legality of government actions and/or regulations is inefficient and subject to manipulation (= 1) or is efficient and follows a clear, neutral process (= 7)". The question's wording has varied slightly over the years. (b) The second source of this component is Judicial Corrupt Decision from the V-Dem dataset. The rating is equal to: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. The V_i is the country's Judicial Corrupt Decisions Score, while the V_{max} and V_{min} are set at 4.0 and 0, respectively. (c) The third source is the Rule of Law indicator found in the *Worldwide Governance Indicators*. The formula used to calculate the 0-to-10 ratings is: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. V_i represents the component value. The values for V_{max} and V_{min} are set at 2.5 and −2.5, respectively. Countries with values outside the V_{max} and V_{min} range received ratings of either 0 or 10, accordingly. (d) The fourth source is the "Transparency and the fairness of the legal system" indicator from the Economist Intelligence Unit (EIU). The original scale is 1-to-5, so the rating formula for data from the EIU is: $EFW_i = ((EIU_i - 1) \div 4) \times 10$. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; World Bank, *Worldwide Governance Indicators*; V-Dem Institute, *Varieties of Democracy*, <www.v-dem.net>; Economist Intelligence Unit, *Business Environment Rankings*.

C. Property rights

This component is based on three sources. (a) The first source is the *Global Competitiveness Report* question: "Property rights, including over financial assets, are poorly defined and not protected by law (= 1) or are clearly defined and well protected by

law (= 7)". (b) The second source is Property Rights and Rule-Based Governance from *Country Policy and Institutional Assessment* (CPIA) data from the World Bank. This has been scaled to the Legal System and Property Rights data via regression. (c) The third source is the "Degree to which private property rights are guaranteed and protected" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; World Bank, *Country Policy and Institutional Assessment*; Economist Intelligence Unit, *Business Environment Rankings.*

D. Military interference

This component is based on the *International Country Risk Guide* Political Risk Component G, Military in Politics: "A measure of the military's involvement in politics. Since the military is not elected, involvement, even at a peripheral level, diminishes democratic accountability. Military involvement might stem from an external or internal threat, be symptomatic of underlying difficulties, or be a full-scale military takeover. Over the long term, a system of military government will almost certainly diminish effective governmental functioning, become corrupt, and create an uneasy environment for foreign businesses". Originally on a 0-to-6 scale, the rating is algebraically converted to a 0-to-10 scale.

Sources: PRS Group, *International Country Risk Guide.*

E. Integrity of the legal system

This component is based on two sources. (a) The first source is the *International Country Risk Guide* Political Risk Component I for Law and Order: "Two measures comprising one risk component. Each subcomponent equals half of the total. The 'law' subcomponent assesses the strength and impartiality of the legal system, and the 'order' subcomponent assesses popular observance of the law". Originally on a 0-to-6 scale, the rating is algebraically converted to a 0-to-10 scale. (b) The second source is Judicial Accountability, Compliance with the High Court, Judicial Review, Transparent Laws with Predictable Enforcement, and Access to Justice for Men from the V-Dem dataset. (An adjustment for the area as a whole is made later to account uniformly for gender disparities.) Each of the V-Dem variables is individually rated using the formula $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. V_i is the country's V-Dem score according to V-Dem, and V_{max} and V_{min} are set at 4.0 and 0, respectively. The five measures from

V-Dem are then averaged. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: PRS Group, *International Country Risk Guide*; V-Dem Institute, *Varieties of Democracy*, <www.v-dem.net>.

F. Contracts

This component is based on three sources. (a) The first source uses the World Bank's *Doing Business* estimates for the time and money required to collect a debt. The debt is assumed to equal 200% of the country's per-capita income where the plaintiff has complied with the contract and judicial judgment is rendered in his favor. 0-to-10 ratings are constructed for (1) the time cost (measured in number of calendar days required from the moment the lawsuit is filed until payment); and (2) the monetary cost of the case (measured as a percentage of the debt). These two ratings are then averaged to arrive at the final rating for this component. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the time or money cost value. The values for V_{max} and V_{min} are set at 725 days/82.3% and 62 days/0%, respectively. Countries with values outside the range from V_{max} to V_{min} received ratings of either 0 or 10, accordingly. (b) The second source is Enforcement of Contracts from the *Historical Ratings Research Package* by Business Environment Risk Intelligence (BERI). The formula used to calculate the 0-to-10 ratings is: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. V_i represents the component value. The values for V_{max} and V_{min} are set at 4 and 0, which corresponds to the range of the variable. (c) The third source is the "Efficiency of the legal system" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Bank, *Doing Business*; Business Environment Risk Intelligence, *Historical Ratings Research Package*; Economist Intelligence Unit, *Business Environment Rankings*.

G. Real property

This component is based on the World Bank's *Doing Business* data on the time measured in days and monetary costs required to transfer ownership of property that includes land and a warehouse. 0-to-10 ratings are constructed for (1) the time cost (measured in the number of calendar days required to transfer ownership); and (2) the monetary cost of transferring ownership (measured as a percentage of the property value). These two ratings are then averaged to arrive at the final rating for this com-

ponent. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min})$ × 10. V_i represents the time or money cost value. The values for V_{max} and V_{min} are set at 265 days/15% and 0 days/0%, respectively. Countries with values outside the range from V_{max} to V_{min} received ratings of either 0 or 10, accordingly.

Sources: World Bank, *Doing Business.*

H. Police and crime

This component is based on two sources. (a) The first source is the *Global Competitiveness Report* question: "To what extent can police services be relied upon to enforce law and order in your country? (1 = Cannot be relied upon at all; 7 = Can be completely relied upon)". (b) The second source is the "Impact of crime" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; Economist Intelligence Unit, *Business Environment Rankings*.

Area 3: Sound Money

A. Money growth

This component measures the average annual growth of the money supply in the last five years minus average annual growth of real GDP in the last ten years. Countries where growth of the money supply greatly exceeds growth of real output receive lower ratings. The broad money supply (basically what used to be called M2) is used to measure the money supply. The rating is equal to: $(V_{max} - V_i) / (V_{max} - V_{min})$ × 10. V_i represents the average annual growth rate of the money supply during the last five years adjusted for the growth of real GDP during the previous ten years. The values for V_{min} and V_{max} are set at 0% and 50%, respectively. Therefore, if the adjusted growth rate of the money supply during the last five years is 0%, indicating that money growth is equal to the long-term growth of real output, the formula generates a rating of 10. Ratings decline as the adjusted growth of the money supply increases toward 50%. When adjusted annual money growth is equal to (or greater than) 50%, a rating of 0 results.

Sources: World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics*; United Nations National Accounts.

B. Standard deviation of inflation

This component measures the standard deviation of the inflation rate over the last five years. Generally, the GDP deflator is used as the measure of inflation for this component. When these data are unavailable, the Consumer Price Index is used. The following formula is used to determine the 0-to-10 scale rating for each country: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the country's standard deviation of the annual rate of inflation during the last five years. The values for V_{min} and V_{max} are set at 0% and 25%, respectively. This procedure will allocate the highest ratings to the countries with the least variation in the annual rate of inflation. A perfect 10 results when there is no variation in the rate of inflation over the five-year period. Ratings will decline toward 0 as the standard deviation of the inflation rate approaches 25% annually.

Sources: World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics.*

C. Inflation: most recent year

Component 3C has historically distributed the 0-10 ratings between values for the inflation rate of 50% and 0%. With this report, the value for annual inflation rate that generates a rating of 0 has been changed from 50% to 25% for all years' data. Generally, the Consumer Price Index is used as the measure of inflation for this component as it is often available before the GDP deflator is available. When these data are unavailable, the GDP deflator inflation rate is used. The 0-to-10 country ratings are derived by the following formula: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the rate of inflation during the most recent year. The values for V_{min} and V_{max} are set at 0% and 25%, respectively: the lower the rate of inflation, the higher the rating. Countries that achieve perfect price stability earn a rating of 10. As the current annual inflation rate moves towards 25%, the rating for this component moves toward 0. A 0 rating is assigned to all countries with an inflation rate of 25% or more.

Sources: World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics.*

D. Foreign currency bank accounts

When foreign-currency bank accounts are permissible without *any* restrictions both domestically and abroad, the rating is 10; when these accounts are restricted, the rating

is 0. If foreign currency bank accounts were permissible domestically but not abroad (or vice versa), the rating is 5.

Sources: International Monetary Fund, *Annual Report on Exchange Arrangements and Exchange Restrictions.*

Area 4: Freedom to Trade Internationally

A. Tariffs

i Trade tax revenue This subcomponent measures the amount of tax on international trade as a share of exports and imports. The formula used to calculate the ratings for this subcomponent is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the revenue derived from taxes on international trade as a share of the trade sector. The values for V_{min} and V_{max} are set at 0% and 15%, respectively. This formula leads to lower ratings as the average tax rate on international trade increases. Countries with no specific taxes on international trade earn a perfect 10. As the revenues from these taxes rise toward 15% of international trade, ratings decline toward 0.

Sources: International Monetary Fund, *Government Finance Statistics Yearbook*; International Monetary Fund, *International Financial Statistics.*

ii Mean tariff rate This subcomponent is based on the unweighted mean of tariff rates. The formula used to calculate the 0-to-10 rating for each country is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the country's mean tariff rate. The values for V_{min} and V_{max} are set at 0% and 50%, respectively. This formula will allocate a rating of 10 to countries that do not impose tariffs. As the mean tariff rate increases, countries are assigned lower ratings. The rating will decline toward 0 as the mean tariff rate approaches 50%. (Note that, except for two or three extreme observations, all countries have mean tariff rates within this range from 0% to 50%.)

Sources: World Trade Organization, *World Tariff Profiles.*

ii Standard deviation of tariff rates Compared to a uniform tariff, wide variations in tariff rates indicate greater efforts towards central planning of the economy's production and consumption patterns. Thus, countries with a greater variation in their tariff rates are given lower ratings. The formula used to calculate the 0-to-10 ratings for this component is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the standard deviation of the country's tariff rates. The values for V_{min} and V_{max} are set at 0% and 25%, respectively. This formula will allocate a rating of 10 to countries that impose a uni-

form tariff. As the standard deviation of tariff rates increases towards 25%, ratings decline toward 0.

Sources: World Trade Organization, *World Tariff Profiles.*

B. Regulatory trade barriers

i Non-tariff trade barriers This subcomponent is based on two sources. (a) The first source is the *Global Competitiveness Report* survey question: "In your country, tariff and non-tariff barriers significantly reduce the ability of imported goods to compete in the domestic market. 1–7 (best)". The question's wording has varied slightly over the years. (b) The second source is the "Tariff and non-tariff barriers" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency. Note that, notwithstanding the subcomponent's title, this indicator captures both tariff and non-tariff barriers.

Sources: World Economic Forum, *Global Competitiveness Report*; Economist Intelligence Unit, *Business Environment Rankings.*

ii Costs of importing and exporting This subcomponent is based on the World Bank's *Doing Business* data on the time (i.e., non-money) cost of procedures required to import a full 20-foot container of dry goods that contains no hazardous or military items. Countries where it takes longer to import or export are given lower ratings. 0-to-10 ratings are constructed for (1) the time cost (in hours) associated with border compliance and documentary compliance when exporting; and (2) the time cost (in hours) associated with border compliance and documentary compliance when importing. These two ratings are then averaged to arrive at the final rating for this subcomponent. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the time-cost value. The values for V_{max} and V_{min} are set, respectively, at 228.38 and 0 hours for exporting; and 338.00 hours and 0 hours for importing. Countries with values outside the V_{max} and V_{min} range receive ratings of either 0 or 10, accordingly.

Sources: World Bank, *Doing Business.*

C. Black-market exchange rates

This component is based on the percentage difference between the official and the parallel (black-market) exchange rate. The formula used to calculate the 0-to-10 ratings for this component is the following: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i is the country's

black-market exchange-rate premium. The values for V_{min} and V_{max} are set at 0% and 50%, respectively. This formula will allocate a rating of 10 to countries without a black-market exchange rate; that is, those with a domestic currency that is fully convertible without restrictions. When exchange-rate controls are present and a black market exists, the ratings will decline toward 0 as the black-market premium increases toward 50%. A 0 rating is given when the black-market premium is equal to, or greater than, 50%.

Sources: *MRI Bankers' Guide to Foreign Currency*.

D. Controls of the movement of capital and people

i Financial openness This subcomponent is based on two sources. (a) The first source is the Chinn-Ito Index of *de jure* financial openness. This index is composed of a series of dummy variables that "codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*." This data source scores on a continuous scale from 0-to-1, so it is multiplied by 10 to place it on the 0-to-10 scale. (b) The second source is the "Capital account liberalization" indicator from the Economist Intelligence Unit.

Sources: Menzie Chinn and Hiro Ito (2006), What Matters for Financial Development? Capital Controls, Institutions, and Interactions, *Journal of Development Economics* 81, 1: 163–191; Menzi Chinn and Hiro Ito (2008), A New Measure of Financial Openness, *Journal of Comparative Policy Analysis* 10, 3: 309–322; see also <http://web.pdx.edu/~ito/Chinn-Ito_website.htm>; Economist Intelligence Unit, *Business Environment Rankings*.

ii Capital controls The International Monetary Fund reports on up to 13 types of international capital controls. The 0-to-10 rating is the percentage of capital controls not levied as a share of the total number of capital controls listed, multiplied by 10.

Sources: International Monetary Fund, *Annual Report on Exchange Arrangements and Exchange Restrictions*.

iii Freedom of foreigners to visit This component measures the percentage of countries for which a country requires a visa from foreign visitors. It reflects the freedom of foreigners to travel to this country for tourist and short-term business purposes. The formula used to calculate the 0-to-10 ratings is: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. V_i represents the component value. The values for V_{max} and V_{min} were set at 47.2 (1 standard deviation above average) and 0. Countries with values outside the range between V_{max} and V_{min} received ratings of either 0 or 10, accordingly.

Sources: Robert Lawson and Jayme Lemke (2012), Travel Visas, *Public Choice* 154, 1-2: 17–36; authors' calculations.

iv Protection of foreign assets This subcomponent is based on two sources. (a) The first source is the *Global Competitiveness Report* survey questions on "Prevalence of foreign ownership" and "Business impact of rules on FDI". (b) The second source is the "Risk of expropriation of foreign assets" from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; World Bank, *Worldwide Governance Indicators*; Economist Intelligence Unit, *Business Environment Rankings*.

Area 5: Regulation

A. Credit market regulation

i Ownership of banks Data on the percentage of bank deposits held in privately owned banks are used to construct rating intervals. Countries with larger shares of privately held deposits received higher ratings. When privately held deposits total between 95% and 100%, countries are given a rating of 10. When private deposits constitute between 75% and 95% of the total, a rating of 8 is assigned. When private deposits are between 40% and 75% of the total, the rating is 5. When private deposits total between 10% and 40%, countries received a rating of 2. A 0 rating is assigned when private deposits are 10% or less of the total.

Sources: Anginer, D., A. Can Bertay, R. Cull, A. Demirgüç-Kunt, and D.S. Mare (2019), *Bank Regulation and Supervision Ten Years after the Global Financial Crisis*, Policy Research Working Paper, World Bank; World Bank, *Bank Regulation and Supervision Survey*; James R. Barth, Gerard Caprio, and Ross Levine (2006), *Rethinking Bank Regulation: Till Angels Govern*, Cambridge University Press.

ii Private sector credit This subcomponent measures the extent of government borrowing relative to private-sector borrowing. If the data are available, this subcomponent is calculated as the government fiscal deficit as a share of gross saving. The formula used to derive the country ratings for this subcomponent is $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i is the [absolute value of the] the ratio of deficit to gross savings, and the values for V_{max} and V_{min} are set at 100% and 0%, respectively. The formula allocates higher ratings as the deficit gets smaller relative to gross saving.

If the deficit data are not available, the component is instead based on the share of private credit relative to total credit extended in the banking sector. Thus, the formula used to derive the country ratings for this subcomponent is $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. V_i is the share of the country's total domestic credit allocated to the private sector

and the values for V_{max} and V_{min} are set at 99.9% and 10.0%, respectively. The formula allocates higher ratings as the share of credit extended to the private sector increases.

Sources: World Bank, *World Development Indicators*; World Economic Forum, *Global Competitiveness Report*; International Monetary Fund, *International Financial Statistics.*

iii Interest rate controls / negative real interest rates Countries with interest rates determined by the market, stable monetary policy, and reasonable real-deposit and lending-rate spreads received higher ratings. When interest rates are determined primarily by market forces as evidenced by reasonable deposit and lending-rate spreads, and when real interest rates are positive, countries are given a rating of 10. When interest rates are primarily market-determined but the real rates are sometimes slightly negative (less than 5%) or the differential between the deposit and lending rates is large (8% or more), countries received a rating of 8. When the real deposit or lending rate is persistently negative by a single-digit amount or the differential between them is regulated by the government, countries are rated at 6. When the deposit and lending rates are fixed by the government and the real rates are often negative by single-digit amounts, countries are assigned a rating of 4. When the real deposit or lending rate is persistently negative by a double-digit amount, countries received a rating of 2. A 0 rating is assigned when the deposit and lending rates are fixed by the government and real rates are persistently negative by double-digit amounts or hyperinflation has vitually eliminated the credit market.

Sources: World Bank, *World Development Indicators*; International Monetary Fund, *International Financial Statistics*; CIA, *The World Factbook.*

B. Labor market regulation

i Labor regulations and minimum wage This subcomponent is based on two sources. (a) The first source is the "Employing Workers" section of the World Bank's *Doing Business* and uses the following data: (1) whether fixed-term contracts are prohibited for permanent tasks; (2) the maximum cumulative duration of fixed-term contracts; and (3) the ratio of the minimum wage for a trainee or first-time employee to the average value added per worker. Countries with restrictions on fixed-term contracts, restrictions on the duration of fixed-term contracts, and/or higher minimum wages receive lower ratings. (b) The second source is the "Wage regulation" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Bank, *Doing Business*; Economist Intelligence Unit, *Business Environment Ratings.*

ii Hiring and firing regulations This subcomponent is based on two sources. (a) The first source is the *Global Competitiveness Report* question: "The hiring and firing of workers is impeded by regulations (= 1) or flexibly determined by employers (= 7)". The question's wording has varied over the years. (b) The second source is the "Restrictiveness of labour laws" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; Economist Intelligence Unit, *Business Environment Ratings*.

iii Flexible wage determination This subcomponent is based on the *Global Competitiveness Report* question: "Flexibility of wage determination, 1–7 (best)". In earlier years, the question is "Wages in your country are set by a centralized bargaining process (= 1) or up to each individual company (= 7)". Before 2000, the actual union density is used to determine ratings for select countries.

Sources: World Economic Forum, *Global Competitiveness Report*.

iv Hours regulations This subcomponent is based on the Employing Labor section in the World Bank's *Doing Business*; it uses the following five components: (1) whether there are restrictions on night work; (2) whether there are restrictions on holiday work; (3) whether the length of the work week can be 5.5 days or longer; (4) whether there are restrictions on overtime work; and (5) whether the average paid annual leave is 21 working days or more. The 0-to-10 rating is based on how many of these regulations are in place: zero regulations results in a rating of 10; one regulation results in a rating of 8; and so on.

Sources: World Bank, *Doing Business*.

v Costs of worker dismissal This subcomponent is based on the World Bank's *Doing Business* data on the cost of the advance-notice requirements, severance payments, and penalties due when dismissing a redundant worker with 10-years tenure. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the dismissal cost (measured in weeks of wages). The values for V_{max} and V_{min} are set at 58 weeks and 0 weeks, respectively. Countries with values outside the V_{max} and V_{min} range received ratings of either 0 or 10, accordingly.

Sources: World Bank, *Doing Business*.

vi Conscription Data on the use and duration of military conscription are used to construct rating intervals. Countries with longer conscription periods received lower ratings. A rating of 10 is assigned to countries without military conscription. When length of conscription is six months or less, countries are given a rating of 5. When length of conscription is more than six months but not more than 12 months, countries are rated at 3. When length of conscription is more than 12 months but not more than 18 months, countries are assigned a rating of 1. When conscription periods exceeded 18 months, countries are rated 0. If conscription is present but apparently not strictly enforced or the length of service could not be determined, the country is given a rating of 3. In cases where it is clear conscription is never used, even though it may be possible, a rating of 10 is given. If a country's mandated national service includes clear non-military options, the country is given a rating of 5.

Sources: International Institute for Strategic Studies, *The Military Balance*; War Resisters International, *World Survey of Conscription and Conscientious Objection to Military Service*; additional online sources used as necessary.

vii Foreign labor This subcomponent is based on two sources. (a) The first source is the *Global Competitiveness Report* question: "To what extent does labour regulation in your country limit the ability to hire foreign labour? (1 = Very much limits hiring foreign labour; 7 = Does not limit hiring foreign labour at all)". The question's wording has varied over the years. (b) The second source is the "Hiring of foreign nationals" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Economic Forum, *Global Competitiveness Report*; Economist Intelligence Unit, *Business Environment Ratings*.

c. Business regulation

i Regulatory burden This subcomponent is based on the *Global Competitiveness Report* question on the "Burden of government regulation, 1–7 (best)". The question's wording has varied slightly over the years.

Sources: World Economic Forum, *Global Competitiveness Report*.

ii Bureaucracy costs This subcomponent is based on the "Regulatory Burden Risk Ratings" from IHS Markit, which measures "[t]he risk that normal business operations become more costly due to the regulatory environment. This includes regulatory compliance and bureaucratic inefficiency and/or opacity. Regulatory burdens vary across

sectors so scoring should give greater weight to sectors contributing the most to the economy". The raw scores range, roughly, from 0 to 7, with higher values indicating greater risk. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i is the country's Regulatory Burden rating, while the V_{max} and V_{min} are set at 5 and 0.5, respectively.

Sources: IHS Markit.

iii Impartial public administration This subcomponent is based on the "Rigorous and Impartial Public Administration" data from the V-Dem dataset. If nepotism, cronyism, and discrimination are widespread in the application of public administration, countries receive a lower score. The rating is equal to: $(V_i - V_{min}) / (V_{max} - V_{min}) \times 10$. The V_i is the country's impartial administration score, while the V_{max} and V_{min} are set at 4.0 and 0, respectively.

Sources: V-Dem Institute, *Varieties of Democracy*, <www.v-dem.net>.

iv Tax compliance This subcomponent is based on two sources. (a) The first source is the World Bank's *Doing Business* data on the time required per year for a business to prepare, file, and pay taxes on corporate income, value added or sales taxes, and taxes on labor. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the time cost (measured in hours) of tax compliance. The values for V_{max} and V_{min} are set at 892 hours and 0 hours, respectively. Countries with values outside the V_{max} and V_{min} range received ratings of either 0 or 10, accordingly. (b) The second source is the "Tax complexity" indicator from the Economist Intelligence Unit. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Bank, *Doing Business*; Economist Intelligence Unit, *Business Environment Ratings*.

D. Freedom to compete

i Market openness This subcomponent is based on two sources. (a) The first source is the World Bank's *Doing Business* data on the amount of time and money it takes to start a new limited-liability business. Countries where it takes longer or is costlier to start a new business are given lower ratings. 0-to-10 ratings are constructed for three variables: (1) time (measured in days) necessary to comply with regulations when starting a limited liability company; (2) money costs of the fees paid to regulatory authorities (measured as a share of per-capita income); and (3) minimum capital requirements,

that is, funds that must be deposited into a company bank account (measured as a share of per-capita income). These three ratings are then averaged to arrive at the final rating for this subcomponent. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the variable value. The values for V_{max} and V_{min} are set at 104 days/317%/1,017% and 0 days/0%/0%, respectively. Countries with values outside the V_{max} and V_{min} range received ratings of either 0 or 10, accordingly. (b) The second source are the "Freedom of existing businesses to compete" and "Level of government regulation and impact on private business" indicators from the Economist Intelligence Unit. The latter indicator is based heavily on regulations related to starting a business. The final rating is the average of whichever of these sources are available, and the data are chain-linked to assure time consistency.

Sources: World Bank, *Doing Business*; Economist Intelligence Unit, *Business Environment Ratings*.

ii Business permits This subcomponent is based on the World Bank's *Doing Business* data on the time in days and monetary costs required to obtain a license to construct a standard warehouse. 0-to-10 ratings are constructed for (1) the time cost (measured in number of calendar days required to obtain a license) and (2) the monetary cost of obtaining the license (measured as a share of per-capita income). These two ratings are then averaged to arrive at the final rating for this subcomponent. The formula used to calculate the 0-to-10 ratings is: $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$. V_i represents the time or money cost value. The values for V_{max} and V_{min} are set at 363 days/2,763%/56 days and 0 days/0%/0%, respectively. Countries with values outside the V_{max} and V_{min} range received ratings of either 0 or 10, accordingly.

Sources: World Bank, *Doing Business.*

iii Distortion of business environment This subcomponent is based on the "Price controls" and "State control" indicators from the Economist Intelligence Unit.

Sources: Economist Intelligence Unit, *Business Environment Ratings*.

Acknowledgments

James Gwartney, 1940−2024

James Gwartney, 83, died peacefully in his home in Tallahassee, Florida on January 7, 2024. Gwartney was a professor of economics at Florida State University (FSU) for 53 years. He will be remembered as a prolific scholar, economic educator, and public intellectual.

Gwartney was born in rural Kansas and worked on his family's farm; his early education took place in a one-room schoolhouse. He then attended Ottawa University in Kansas where he studied under future Federal Reserve Governor Wayne Angell. He earned his Ph.D. at the University of Washington and was

hired in 1969 as a professor at Florida State University in Tallahassee, where he remained until his retirement in 2022. Gwartney's enduring legacy will come in three areas:

First, he was a master economic educator. His textbook, *Economics: Private and Public Choice*, initially published in 1976, will soon enter its 18th edition. He was joined over the years in this effort by coauthors Richard Stroup, Russell Sobel, and David Macpherson. In more recent years, Gwartney, with coauthors Richard Stroup, Dwight Lee, Tawni Ferrarini, and Joseph Calhoun, came out with *Common Sense Economics: What Everyone Should Know About Wealth and Prosperity*. Finally, he ended his career as the director of the Gus A. Stavros Center for the Advancement of Free Enterprise and Economic Education at FSU, where he worked to improve the state of K-12 economic education in Florida and beyond.

Second, Gwartney will be remembered as a founder of this *Economic Freedom of the World* (EFW) index. While the idea to do an economic freedom index emerged before his involvement, it was Jim's dogged determination and leadership that led to the creation of the first practical index. In 2009, Gwartney summarized much of his own research work based on the economic freedom index as follows:
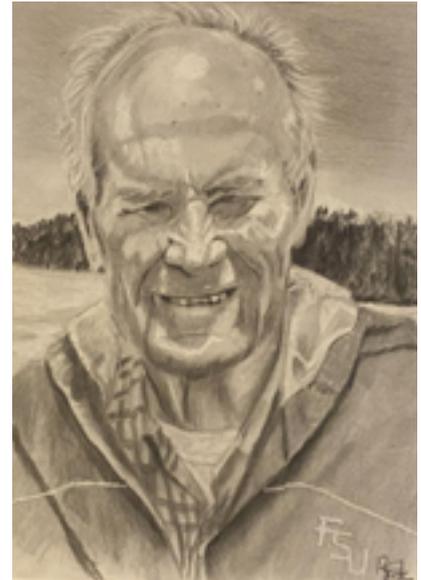
During the past 15 years, economists have become increasingly aware that institutional factors exert a strong impact on both the level and productivity of investment, the rate of economic growth, and the variation in income levels across countries. Some even argue that 'institutions rule.' I am not willing to defend that position, but I do think it is clear that institutions matter and that they matter a great deal.

Third, Gwartney will be remembered as a public intellectual. As his work on the textbook and with the EFW index demonstrate, Gwartney was never content just to publish journal articles for other economists to read. He wanted to reach the public and influence policy. Gwartney served as Chief Economist for the Joint Economic Committee of Congress from 1998–2000. Jim was also critical in the founding of the James Madison Institute in Florida.

Gwartney was a member of the Mont Pelerin Society. He served as president of the Southern Economic Association in 2007–2008. He had a long-time affiliation with the Association of Private Enterprise Education (APEE). He was APEE's president, received its prestigious Adam Smith Award, and was awarded APEE's Clark-Kent-Aronoff Service Award (jointly with his wife, Amy).

Jim Gwartney was more than a great economist. His enduring faith in God and his devotion to Amy, his wife of 61 years, were an example to many. Gwartney faced life's many challenges with an inspirational amount of grace and dignity. He survived a life-threatening cancer in the late 1970s, and then battled eye problems that led to blindness for the last 30 years of his life. Despite it all, he was working on textbook revisions and conducting economic freedom research right up until his final days.

Robert Lawson

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JAMES D. GWARTNEY was a Professor Emeritus of Economics at Florida State University, where he remained until his passing in January 2024. He was a founding author of *Economic Freedom of the World* (publication and index). He co-authored *Economics: Private and Public Choice* (Cengage/South-Western Press, 2022), a widely used principles of economics text that will soon enter its 18th edition. He also co-authored the economics primer, *Common Sense Economics: What Everyone Should Know about Wealth and Prosperity* (St. Martin's Press, 2016). His publications appeared in both professional journals and popular media such as the *Wall Street Journal* and the *New York Times*. He served as Chief Economist of the Joint Economic Committee of the US Congress during 1999–2000. In 2004, he was the recipient of the Adam Smith Award of the Association of Private Enterprise Education for his contribution to the advancement of free-market ideals. He is a past President of the Southern Economic Association and the Association for Private Enterprise Education. He held a Ph.D. in economics from the University of Washington.

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