

# Environmental Markets vs. Environmental Socialism: Capturing Prosperity and Environmental Quality

By Terry L. Anderson, *John and Jean DeNault Senior Fellow, Hoover Institution*



It is hard to date the beginning of environmentalism. It might have started when the Reverend Thomas Malthus in 1798 penned *An Essay on the Principle of Population*. Therein he postulated that humans would continue to reproduce until the population demands exceed their ability to produce food, after which famine, disease, and pestilence would check population growth in a “Malthusian trap.” His postulate continues to permeate environmental thinking. For example, in the 1970s, the Club of Rome, armed with data and computers, predicted precise years when we would reach the limits of the world’s resources.<sup>1</sup> Their predictions of disaster for humankind called for regulations to restrict use and consumption of resources and thereby restrict economic progress.

Despite the fact that we have avoided the trap, this pessimism persists, cloaked in romantic views of nature without human beings. Henry David Thoreau’s *Walden* provided a more romantic or transcendental view from his window and John Muir used wilderness as his environmental pulpit, but both were not sanguine about human beings’ ability to respect and preserve nature. Aldo Leopold’s *Sand County Almanac* continued the romantic tradition of the nineteenth century, calling for a “land ethic” to encourage resource stewardship.<sup>2</sup>

Malthus’s ghost set the stage for modern environmental policies, with books such as Rachel Carson’s *Silent Spring* and Paul Ehrlich’s *The Population Bomb*.<sup>3</sup> Like earlier predictions, the books forecast famine, pestilence, and wild species endangerment if we did not limit population growth and resource use.

Both of these books set the stage for the environmental movement that gave us a regulatory alphabet soup—the WA (Wilderness Act, 1964), the CAA (Clean Air Act, 1970), the CWA (Clean Water Act, 1972), and the ESA (Endangered Species Act, 1973), to mention a few. This legislation is based on the premise that private individuals and companies will not be good environmental stewards, thus making command and control at the federal level necessary to ensure environmental quality. The classic example of the need for regulation, especially the Clean Water Act, was the Cuyahoga River fire in 1969, allegedly caused by chemicals in the water but actually resulting from a railroad spark that ignited logs and other debris that had accumulated at a trestle.

To be sure, some of the environmental regulations have had a positive effect on the environment. For example, endangered species such as the bald eagle are no longer routinely shot or poisoned, and populations of bald eagles have increased enough to reduce them from “endangered” to “least concern.” Similarly, sulfur emissions have been reduced significantly to reduce the threat of acid rain.

The record of environmental regulation, however, is not an upward trend. To the contrary, many regulations—environmental, energy, trade, health and safety, and so on—have thwarted environmental and economic progress.<sup>4</sup> A book titled *Political Environmentalism: Going Behind the Green Curtain* documents several examples.<sup>5</sup> The Endangered Species Act has succeeded in protecting iconic species such as the grizzly bear, whales, and the bald eagle, but it has also made many species the enemy in a war of “shoot, shovel, and shut up.” Recall the spotted owl that was the poster child of protectionists wanting to stop logging in the Pacific Northwest in the late 1990s. Listing the spotted owl as endangered virtually halted logging on almost all of the nation’s national forests, but it also stopped private forestland owners from wanting the owls on their property and it encouraged, because timber prices increased, more logging on private lands. Similarly, the red-cockaded woodpecker in the Southeast has led to harvesting pine trees at a younger age before they become old-growth trees suitable for woodpecker habitat.<sup>6</sup>

Fishery management focused on season, catch, and equipment regulations led to more intensive fishing during the season, greater bycatch (fish that weren’t targeted for markets but were killed in the process), and fewer—but bigger and more efficient—boats. As a result, such regulated fisheries declined rather than improved.<sup>7</sup>

Finally, the century-old Jones Act, which prohibits foreign ships from carrying goods from one US port to another, has regulated US marine shipping in ways that have increased greenhouse gas emissions. The US commercial fleet is powered by far less efficient engines with higher emissions than less regulated foreign fleets. And, because of the reduced efficiency, it

takes more ships to carry the same goods. As University of Chicago economist Casey Mulligan reports, “A sizable amount of the cargo that, without the Jones Act, would be shipped on coastal waters ends up on trucks congesting our highways and polluting our atmosphere, especially near large cities where many people live and breathe.”<sup>8</sup>

Despite the detrimental effects of regulations and the gloom and doom from environmentalists, all the evidence suggests, as the Beatles song put it, “It’s getting better all the time,” and the improvement is closely linked to human ingenuity, prosperity, and economic growth. In response to “neo-Malthusians,” the late Julian Simon was fond of saying, “With every mouth comes two hands and a mind.” Harnessing the power of the hands and mind is the key to economic and environmental progress.

One of the more systematic analyses of the relationship between prosperity and the environment is the environmental sustainability index (ESI) developed by the joint effort of the World Economic Forum, the Yale University Center for Environmental Law and Policy, and the Columbia University Center for International Earth Science Information Network.<sup>9</sup> The group measured 145 nations based on twenty indicators and sixty-eight related variables in order to place a sustainability score on each nation. On the ESI scale for 2002, Finland came in first, with a score of 73.9, and Kuwait came in last, with a score of 23.9.

The most significant finding derived from the ESI study compares each nation’s ESI score with its gross domestic product (GDP) per capita and shows that a strong positive relationship exists between wealth and environmental quality. The data follow the pattern of what economists call the environmental Kuznets curve, named after Nobel laureate Simon Kuznets.<sup>10</sup> Generally, environmental quality declines in the early stages of growth and then increases after a certain threshold, where the turning point varies with the environmental goods in question. As incomes rise people shift their focus from obtaining the basic necessities of life to other goods and services. For a person living at subsistence, setting aside land for wildlife or reducing carbon emissions to reduce the potential for global warming is unfathomable. With higher incomes, people demand cleaner water, cleaner air, and other ecosystem services. The higher demand for environmental amenities stimulates environmental entrepreneurship.<sup>11</sup>

More recent data on the ESI for 2015–17 show that environmental quality is rising for 114 of the 135 nations for which data are available, with the world median ESI growing slightly. The United States experienced a year-on-year average growth rate of 2.39 percent for the time period 2015 to 2017.<sup>12</sup> Lesotho had the highest year-on-year average growth rate at 21.56 percent.<sup>13</sup> And Uruguay had the lowest year-on-year average growth rate at -16.78 percent.<sup>14</sup>

## **Institutions Matter**

Whether economic growth occurs and whether it is positively correlated with environmental quality depend mainly on the institutions—especially secure property rights and the rule of law—within each country. Economic growth creates the conditions for environmental improvement by raising the demand for improved environmental quality and makes the resources available for supplying it. Whether environmental quality improvements materialize or not, when, and how, depend critically on government policies, social institutions, and the completeness and functioning of markets.

Institutions that promote democratic governments are a prerequisite for sustainable development and enhanced environmental quality. Where democracy dwells, constituencies for environmental protection can afford to exist without people fearing arrest or prosecution. The democratization of thirty-plus countries in the last thirty-five years has dramatically improved the prospects for environmental protection.<sup>15</sup> In the other direction, dictatorships and warlords burden people and environments in many regions of the world such as China and much of Africa.

Seth Norton calculated the statistical relationship between various freedom indexes and environmental improvements. His results show that institutions—especially property rights and the rule of law—are key to human well-being and environmental quality. Dividing a sample of countries into groups with low, medium, and high economic freedom and similar categories for the rule of law, Norton showed that in all cases except water pollution, countries with low economic freedom are worse off than those in countries with moderate economic freedom, while in all cases those in countries with high economic freedom are better off than those in countries with medium economic freedom. A similar pattern is evident for the rule-of-law measures.<sup>16</sup>

On the other hand, countries with lower freedom index scores, mainly founded on socialism, have both less environmental quality and less prosperity. Consider Venezuela, one of the world’s more repressed economies. It ranks only above North Korea in the Heritage Foundation’s freedom index. It has one of the ten most biodiverse environments in the world and was a prosperous nation at the beginning of the twenty-first century. After decades of socialism, however, environmental quality has declined along with prosperity. Just how much the environment has deteriorated is difficult to say because the government

restricts collection and dissemination of data. It has the third highest deforestation rate in South America, sewage pollution in its water supplies, soil degradation, and urban pollution.

Venezuela's record follows that of its socialist guiding light, the former Soviet Union. The *Huffington Post* reported that attendees of the Sochi Olympics faced signs in hotel rooms telling them not to use the tap water "because it contains something very dangerous."<sup>17</sup> The condition of Sochi's water "is an example of the massive environmental degradation in the former Soviet Union that began in the 1920s when Josef Stalin ordered industrialization at all costs to catch up with the West. An irony is that although the USSR took hundreds of thousands of environmental shortcuts while industrializing, it never did catch up."<sup>18</sup>

These two examples of socialistic, top-down control of the environment give credence to the saying, "No one washes a rental car." The antidote is free markets, which explain why the exception to the rule of not washing rental cars is that rental car companies always wash the rental cars they own.

### **Free-Market Environmentalism**

The connection between property rights and markets is the basis for the idea of "free-market environmentalism."<sup>19</sup> The combination of markets and property rights connects self-interest to resource stewardship by compelling resource owners to account for the costs and benefits of their actions and facilitate market transactions that create efficiency-enhancing gains from trade. To be sure, some people may act with enlightened self-interest if they are motivated by what Aldo Leopold called a land ethic.<sup>20</sup> However, good intentions are often not enough to produce good results, which is why Leopold, the pragmatic environmentalist, declared, "Conservation will ultimately boil down to rewarding the private landowner who conserves the public interest."<sup>21</sup>

Markets based on secure property rights provide a decentralized system for enhancing the value of resources. They generate information in the form of prices that give demanders and suppliers objective measures of subjective values. Resource stewardship will occur as long as private owners are rewarded for the benefits they generate from resource use while being held accountable for any costs they create.

To be sure, governments play a critical role in clearly specifying and recording ownership claims, establishing liability rules, and adjudicating disputed property rights. That said, well-defined and enforced property rights impose discipline on resource owners by holding them accountable for the damage they do to others and rewarding them for improving resource use. Property rights incentivize owners to protect the value of their environmental assets.

Trade encourages owners to consider not only their own values in natural resource use decisions, but also the values of others who are willing to pay for the use of the resource. When rights are transferable in the marketplace, owners, be they individuals, corporations, nonprofit organizations, or communal groups, have an incentive to evaluate long-term trade-offs since their wealth is at stake. In short, property rights align self-interest with society's environmental interests.

Market forces based on demand and supply of environmental goods and services stimulate human ingenuity to find ways to cope with natural resource constraints. Producers improve productivity and find substitutes to conserve in the face of resource scarcity, while consumers reduce consumption and redirect their purchases in response to changing prices.

In addition to promoting gains from trade, free-market environmentalism embraces the free enterprise market system as a proven engine for economic growth, which, in turn, is an important driver of environmental quality. Since the fall of the Soviet Union, economists have devoted an untold number of pages and statistics showing the correlation between the institutions of free societies and economic development.

Moreover, the new technology and innovation that stimulate growth in other sectors can be applied to the environment, thus reducing the cost of producing environmental quality. For example, computer technology can be applied to transportation to improve fuel efficiency, reduce congestion, and decrease automobile emissions. Global positioning satellites and geographic information systems can better define land boundaries, track land use, and monitor water supplies.

Markets, like Mother Nature, hold no guarantees, but then no institution, private or public, does. Forces in the natural world are complex and therefore difficult to model and predict. Just when we think there is a pattern in nature, a volcano blows, sunspots erupt, or a fault slips, and the pattern is disrupted. Similarly, forces in the human world are complex and difficult to model and predict. When we think there is a pattern to consumption habits, preferences shift or nature changes resource scarcity, and the pattern is disrupted.

For the most part, the best that we humans can do is sense the changes in our surroundings and adapt to them. When the first human touched fire, she undoubtedly pulled her hand back and said to herself, “Don’t do that again.” Similarly, when whales were overharvested, leading to whale oil shortages, consumers and producers searched for substitutes and the first “oil boom” occurred. When the owner of a beachfront house realizes that waves are lapping at his doorstep, he wonders whether he should build a seawall or move farther from the beach. These are individual responses to what Friedrich von Hayek called the “special circumstance of time and place.”<sup>22</sup>

In assessing the success of any human response to these special circumstances, we must continually recall that nature and people are dynamic and ask whether and how people will respond. Throughout the history of the world, both nature and humans have shown remarkable resilience. As science writer Emma Marris puts it, we live in a “rambunctious garden” that seems to survive despite human action.<sup>23</sup>

This conclusion raises the question of whether human action can make the “rambunctious garden” even more “uncontrollably exuberant” (as the dictionary defines it). This requires an institutional system capable of determining what the human demands are for environmental goods and services and what natural capabilities there are for meeting them. Doing so requires getting the incentives right to collect information on both sides of this equation.

The central theme of free-market environmentalism is that property rights and markets are institutions that do this. Property rights create incentives for owners to know what they have, know what environmental goods they can produce, and know what demands there are for environmental resources. Environmental markets create information on all of these dimensions in the form of prices.

Between these two institutions—property rights and markets—are environmental entrepreneurs who reduce the frictions which economists call transaction costs. These “enviropreneurs” observe when natural conditions or human demands change, discover new environmental resources, see new opportunities for existing resources, discover demands for environmental goods, and find ways to get demanders to pay suppliers. All of these entrepreneurial actions work best when property rights are well defined, enforced, and marketable. When they are not, institutional entrepreneurs have an incentive to create or improve upon the property rights to environmental assets.

If human action can be linked to our dynamic natural environment through property rights, markets, and prices, the rambunctious garden will not just survive, it will thrive. Free-market environmentalism offers optimism for future generations.

### **Environmental Markets at Work**

Since the 1970s, when environmental regulations helped solve a myriad of environmental problems by picking the low-hanging fruit—stopping the killing of endangered species such as the bald eagle, designating over 100 million acres of wilderness where not even pedal bikes are allowed, and restricting emissions into the air and water—environmentalists have begun looking for better ways to achieve environmental goals. As the Environmental Defense Fund’s motto puts it, they are “finding the ways that work.”

Environmental markets are one of those ways. From the early days when “free-market environmentalism” was considered an oxymoron, markets have proved an effective tool for environmental protection. Water markets have thrived, creating higher prices for water and encouraging conservation. Where water has a higher value left instream, environmental groups have negotiated with diverters—farmers and municipalities—to leave more water instream for fish and wildlife. By owning land or conservation easements that restrict land use, environmental groups such as the Nature Conservancy have been able to allow environmentally friendly energy production and protect grizzly bear habitat where there can be predation on livestock. Transferable fishing quotas have given fishermen a stake in ocean fishery management and efficiently improved fish stocks and allowable catches. Finally, emission trading programs for sulfur dioxide have virtually eliminated acid rain at far lower costs than regulatory mandates.

None of these examples are meant to say that markets can solve all environmental problems. Rather, they suggest how property rights incentivize owners to take account of the value of owned resources and the costs of using them in alternative ways.

Perhaps the hardest of all environmental issues to deal with using markets is climate change. The benefits of reducing the rise in global temperatures are diffuse across the world and across time, the benefits accrue over dozens or hundreds of years, and the costs accrue and are concentrated on companies that produce hydrocarbons and economies that depend on them. Couple this with the impossibility of defining and enforcing property rights to the atmosphere, and market solutions seem impossible.



That is why many economies resort to calls for “marketlike” solutions which are really political solutions disguised as markets. A carbon tax is at the top of the list of these solutions. A governmentally imposed tax on carbon emissions equal to the social cost of carbon associated with global warming would encourage producers to reduce their use of hydrocarbons. Of the many problems associated with this solution, the difficulty of establishing the proper tax, the difficulty of enforcing it across nations, and the politics of distributing the tax proceeds make it a pipedream.

The good news is that asset and financial markets are already responding to climate change. Increased rainfall raises the value of land for crops, lower snowfall reduces the value of ski resorts, rising sea levels and storm surge lower the value of beach front properties. The result is that asset owners and investors facing higher variance in their returns are adapting.

Even if the atmosphere as a greenhouse gas sink and greenhouse gas emissions themselves are not priced, prices correlated with the effects of climate change will induce adaptation. For example, if climate change reduces the productivity of land for certain wheat production, the price of land will be high relative to its productivity. This generates an incentive for wheat farmers to seek new places for wheat production where land prices are lower. Hence, the 2012 Bloomberg News headline, “Corn Belt Shifts North with Climate as Kansas Crop Dies.”<sup>24</sup> As Hoover Senior Fellow Edward Lazear puts it, “Economic incentives will induce people who are setting up new households, businesses, and farms to move to areas that are less severely harmed by warming temperatures.”<sup>25</sup>

There is evidence that property owners who experience increased coastal flooding due to slowly rising sea levels are moving to higher ground. A paper in the journal of *Environmental Research Letters* by three Harvard University professors tested the hypothesis “that the rate of price appreciation of single-family properties in MDC [Miami-Dade County] is positively related to and correlated with incremental measures of higher elevation.”<sup>26</sup> Using the value of 107,984 properties between 1971 and 2017, they found a positive relationship between price appreciation and elevation in 76 percent of the properties (82,068) in the sample.

A similar study by economists at the University of Colorado and Penn State found that beachfront homes in Miami exposed to rising sea levels sell at a 7 percent discount compared to properties with less exposure to coastal flooding.<sup>27</sup> Moreover, the discount has risen significantly over the past decade. Comparing rental rates to selling prices of coastal homes, they found that the discount in selling prices “does not exist in rental rates, indicating that this discount is due to expectations of future damage, not current property quality.”

Though not armed with large data sets and sophisticated regressions, Massachusetts real estate agents are coming to the same conclusions. According to Jim McGue, a Quincy real estate agent, the nor'easter that “happened here in March certainly underscores what a 100-year flood map is all about.” Another broker, Maureen Celata from Revere, said a home that included a private beach sold for 9 percent less than its list price of nearly \$799,000 and took fifty-five days to sell, which she called an “eternity.”<sup>28</sup>

Wine producers in California, Bordeaux, and Tuscany beware. A study by Conservation International published in the Proceedings of the National Academy of Sciences forecasts that wine production in California may drop by 70 percent and regions along the Mediterranean by as much as 85 percent over the next fifty years.<sup>29</sup> The silver lining is that vintners will adapt by moving their grape production north, some predicting it will even move to places such as Montana, Wyoming, and Michigan, noted for their severe winters.<sup>30</sup>

In the future you may also see more signs on fruit saying, “Country of Origin—Canada.” Canadian biologist John Pedlar sees more people in southern Ontario “trying their hand at things like peaches a little farther north from where they have been trying.” This is consistent with the US Department of Agriculture’s Plant Hardiness Zone Map, which shows tolerant zones moving north.<sup>31</sup>

The conclusion is simple—property rights encourage prosperity and environmental stewardship.

## Endnotes

- <sup>1</sup> Donnela H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1962).
- <sup>2</sup> Aldo Leopold, *A Sand County Almanac: With Essays on Conservation from Round River* (New York: Oxford University Press, 1966).
- <sup>3</sup> Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962); Paul Ehrlich, *The Population Bomb* (Cutchogue, NY: Buccaneer Books, 1968).
- <sup>4</sup> Terry L. Anderson and Donald R. Leal, *Free Market Environmentalism for the Next Generation* (New York: Palgrave Macmillan, 2015).
- <sup>5</sup> Terry L. Anderson, ed., *Political Environmentalism: Going Behind the Green Curtain* (Stanford, CA: Hoover Institution Press, 2000).
- <sup>6</sup> Dean Lueck and Jeffrey A. Michael, "Preemptive Habitat Destruction under the Endangered Species Act," *Journal of Law and Economics* 46, no. 1 (April 2003): 27–60.
- <sup>7</sup> Donald R. Leal, ed., *Evolving Property Rights in Marine Fisheries* (Lanham, MD: Rowman & Littlefield, 2005).
- <sup>8</sup> Casey Mulligan, "How the Maritime Industry Is Sunk by Prohibition," *Washington Times*, June 3, 2020, <http://www.realdailybuzz.com/rdb.nsf/DocView?Open&UNID=61f673a554602f408525857d00132a51>.
- <sup>9</sup> World Bank, TCdata360, WEF Environmental Sustainability, [https://tcdata360.worldbank.org/indicators/tour.comp.env?country=BRA&indicator=3554&viz=bar\\_chart&years=2017](https://tcdata360.worldbank.org/indicators/tour.comp.env?country=BRA&indicator=3554&viz=bar_chart&years=2017).
- <sup>10</sup> Tejvan Pettinger, "Environmental Kuznets Curve," *Economics Help* (blog), September 11, 2019, <https://www.economicshelp.org/blog/14337/environment/environmental-kuznets-curve>.
- <sup>11</sup> Bruce Yandle, Madhusudan Bhattarai, and Maya Vijayaraghavan, "Environmental Kuznets Curves: A Review of Findings, Methods, and Policy Implications," Property and Environment Research Center study 02-1, April 16, 2004.
- <sup>12</sup> World Bank, TCdata360, [https://tcdata360.worldbank.org/countries/USA?indicator=1541&countries=BRA&viz=line\\_chart&years=1970,2018&country=USA](https://tcdata360.worldbank.org/countries/USA?indicator=1541&countries=BRA&viz=line_chart&years=1970,2018&country=USA).
- <sup>13</sup> World Bank, TCdata360, Lesotho, [https://tcdata360.worldbank.org/countries/LSO?indicator=1541&countries=BRA&viz=line\\_chart&years=1970,2018&country=LSO](https://tcdata360.worldbank.org/countries/LSO?indicator=1541&countries=BRA&viz=line_chart&years=1970,2018&country=LSO).
- <sup>14</sup> World Bank, TCdata360, Uruguay, [https://tcdata360.worldbank.org/countries/URY?indicator=1541&countries=BRA&viz=line\\_chart&years=1970,2018&country=URY](https://tcdata360.worldbank.org/countries/URY?indicator=1541&countries=BRA&viz=line_chart&years=1970,2018&country=URY).
- <sup>15</sup> Asayehgn Desta, *Environmentally Sustainable Economic Development* (Westport, CT: Praeger, 1999).
- <sup>16</sup> Seth W. Norton, "Population Growth, Economic Freedom, and the Rule of Law," in *You Have to Admit It's Getting Better: From Economic Prosperity to Environmental Quality*, ed. Terry L. Anderson (Stanford, CA: Hoover Institution Press, 2004), 143–72.
- <sup>17</sup> "Sochi Hotel Warns Reporter to Not Let 'Very Dangerous' Water Touch Her Face," *Huffington Post*, February 5, 2014, [https://www.huffpost.com/entry/sochi-hotel-water\\_n\\_4731219](https://www.huffpost.com/entry/sochi-hotel-water_n_4731219).
- <sup>18</sup> Armine Sahakyan, "The Grim Pollution Picture in the Former Soviet Union," *Huffington Post*, February 19, 2016, [https://www.huffpost.com/entry/the-grim-pollution-pictur\\_b\\_9266764](https://www.huffpost.com/entry/the-grim-pollution-pictur_b_9266764).
- <sup>19</sup> Anderson and Leal, *Free Market Environmentalism*.
- <sup>20</sup> Leopold, *A Sand County Almanac*.
- <sup>21</sup> Aldo Leopold, "Conservation Economics," in *The River of the Mother of God and Other Essays by Aldo Leopold*, ed. Susan L. Flader and J. Baird Callicott (Madison: University of Wisconsin Press, 1934), 202.
- <sup>22</sup> Friedrich A. von Hayek, "The Use of Knowledge in Society," *American Economic Review*, 35, no. 4 (September 1945): 521.
- <sup>23</sup> Emma Marris, *Rambunctious Garden: Saving Nature in a Post-Wild World* (New York: Bloomsbury, 2011).
- <sup>24</sup> Alan Bjerga, "Corn Belt Shifts North with Climate as Kansas Crop Dies," *Bloomberg News*, October 15, 2012.
- <sup>25</sup> Edward P. Lazear, "The Climate Change Agenda Needs to Adapt to Reality," *Wall Street Journal*, September 2, 2014.

<sup>26</sup> Jesse M. Keenan, Thomas Hill, and Anurag Gumber, “Climate Gentrification: From Theory to Empiricism in Miami-Dade County, Florida,” *Environmental Research Letters*, April 23, 2018, <https://iopscience.iop.org/article/10.1088/1748-9326/aabb32>.

<sup>27</sup> Asaf Bernstein, Matthew Gustafson, and Ryan Lewis, “Disaster on the Horizon: The Price Effect of Sea Level Rise,” *SSRN Electronic Journal*, May 3, 2018, [http://leeds-faculty.colorado.edu/AsafBernstein/DisasterOnTheHorizon\\_PriceOfSLR\\_BGL.pdf](http://leeds-faculty.colorado.edu/AsafBernstein/DisasterOnTheHorizon_PriceOfSLR_BGL.pdf).

<sup>28</sup> Kathleen Conti, “Homes Near Ocean Risk Losing Value, Even in a Hot Market,” *Boston Globe*, April 23, 2018, <https://www.bostonglobe.com/business/2018/04/23/sunk-water-view-homes-near-ocean-risk-losing-value-even-hot-market/HskjAqt0acqHiBcbh4LOXL/story.html>.

<sup>29</sup> Lee Hannah, Patrick R. Roehrdanz, Makihiko Ikegami, Anderson V. Shepard, M. Rebecca Shaw, Gary Tabor, Lu Zhi, Pablo A. Marquet, and Robert J. Hijmans, “Climate Change, Wine, and Conservation,” *Proceedings of the National Academy of Sciences*, April 23, 2013, <https://doi.org/10.1073/pnas.1210127110>.

<sup>30</sup> Akshat Rathi, “The Improbable New Wine Countries That Climate Change Is Creating,” *Quartz*, November 10, 2017, <https://qz.com/quartz/1108814/the-improbable-new-wine-countries-that-climate-change-is-creating>.

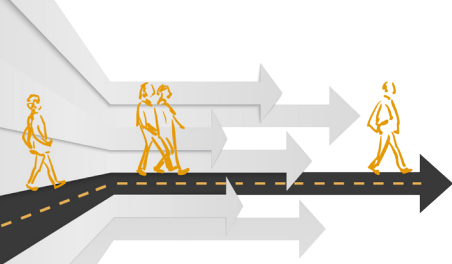
<sup>31</sup> Dan Charles, “Gardening Map of Warming U.S. Has Plant Zones Moving North,” National Public Radio, January 26, 2012, <https://www.npr.org/sections/thesalt/2012/01/25/145855948/gardening-map-of-warming-u-s-has-plant-zones-moving-north>.



**Terry Anderson**

*John and Jean De Nault Senior Fellow,  
Hoover Institution*

Terry L. Anderson has been a senior fellow at the Hoover Institution since 1998 and is currently the John and Jean De Nault Senior Fellow. He is the past president of the Property and Environment Research Center in Bozeman, MT, and a Professor Emeritus at Montana State University.



# SOCIALISM AND FREE-MARKET CAPITALISM: THE HUMAN PROSPERITY PROJECT

AN ESSAY SERIES FROM THE HOOVER INSTITUTION

Over the last century, free-market capitalism and socialism have provided the dominant interpretations, and conflicting visions, of political and economic freedom.

Free-market capitalism is characterized by private ownership of the means of production, where investment is governed by private decisions and where prices, production, and the distribution of goods and services are determined mainly by competition in a free market. Socialism is an economic and political system in which collective or governmental ownership and control plays a major role in the production and distribution of goods and services, and in which governments frequently intervene in or substitute for markets. Proponents of capitalism generally extoll the economic growth that is created by private enterprise and the individual freedom that the system allows. Advocates of socialism emphasize the egalitarian nature of the system and argue that socialism is more compassionate in outcomes than is the free market. The Hoover Institution's *Socialism and Free-Market Capitalism: The Human Prosperity Project* is designed to evaluate free-market capitalism, socialism, and hybrid systems in order to determine how well their governmental and economic forms promote well-being and prosperity.

## CO-CHAIRS

Scott W. Atlas

*Robert Wesson Senior Fellow*

Edward Paul Lazear

*Morris Arnold and Nona Jean Cox Senior Fellow*

## PARTICIPANTS

Ayaan Hirsi Ali

*Research Fellow*

Terry Anderson

*John and Jean De Nault Senior Fellow*

Peter Berkowitz

*Tad and Dianne Taube Senior Fellow*

Russell A. Berman

*Senior Fellow*

Michael J. Boskin

*Wohlford Family Senior Fellow*

John H. Cochrane

*Rose-Marie and Jack Anderson Senior Fellow*

John F. Cogan

*Leonard and Shirley Ely Senior Fellow*

Larry Diamond

*Senior Fellow*

Elizabeth Economy

*Distinguished Visiting Fellow*

Niall Ferguson

*Milbank Family Senior Fellow*

Stephen Haber

*Peter and Helen Bing Senior Fellow*

Robert E. Hall

*Robert and Carole McNeil Senior Fellow*

Victor Davis Hanson

*Martin and Illie Anderson Senior Fellow*

Caroline M. Hoxby

*Senior Fellow*

David L. Leal

*Senior Fellow*

Bjorn Lomborg

*Visiting Fellow*

Michael McConnell

*Senior Fellow*

H. R. McMaster

*Fouad and Michelle Ajami Senior Fellow*

Lee Ohanian

*Senior Fellow*

Condoleezza Rice

*Thomas and Barbara Stephenson Senior Fellow*

Russell Roberts

*John and Jean De Nault Research Fellow*

Amit Seru

*Senior Fellow*

John B. Taylor

*George P. Shultz Senior Fellow in Economics*

John Yoo

*Visiting Fellow*



The publisher has made an online version of this work available under a Creative Commons Attribution-NonCommercial license 4.0. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0>. Efforts have been made to locate the original sources, determine the current rights holders, and, if needed, obtain reproduction permissions. On verification of any such claims to rights in the articles reproduced in this book, any required corrections or clarifications will be made in subsequent printings/editions. Hoover Institution assumes no responsibility for the persistence or accuracy of URLs for external or third-party Internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Copyright © 2020 by the Board of Trustees of Leland Stanford Junior University

## Hoover Institution

Stanford University

434 Galvez Mall

Stanford, CA 94305-6003

650-723-1754

hoover.org

## Hoover Institution in Washington

The Johnson Center

1399 New York Avenue NW, Suite 500

Washington, DC 20005

202-760-3200

