

Capitalism, Democracy and Environmental Quality

Brief Analysis No. 721

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September 2, 2010

Like many U.S. presidents, George W. Bush thought exporting democracy to developing countries was more important than exporting capitalism. Both capitalism and democracy improve a society's quality of life, measured by such things as infant mortality and literacy.



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Market-oriented economic policies improve human development by promoting entrepreneurship, encouraging competition and raising individual incomes by increasing the rate of economic growth. Democratic political rights contribute to human development by increasing the control of citizens over government allocation of resources, resulting in things such as law enforcement, public health and education. Interestingly, there are countries — such as Singapore and Hong Kong, which regularly rate as two of the most economically free — that have market-based economies, but are not very democratic.

Suppose, however, that beyond improving the basic conditions of human life, the most important goal is to improve environmental quality. In that case, which should be more strongly encouraged in other countries: capitalism or democracy? In developing countries, modern agriculture and industrialization increase emissions of some air and water pollutants, but rising per capita incomes raise social demand for clean environments, eventually reducing pollution emissions rates. In fact, looking at atmospheric emissions and groundwater discharges of pollutants in developed democracies is revealing

when controlling for cross-country differences like demographics and prevailing industry and government structures. Data on members of the Organization for Economic Cooperation and Development (OECD), a group of developed countries, shows that additional income, or gross domestic product (GDP), is linked to lower emissions. Over the period 1985 to 1995 [see Figure I]:

- A 10 percent increase in per capita income reduced daily sulfur oxides emissions per billion dollars of GDP by 7 metric tons.
- The income increase reduced nitrous oxide emissions per billion dollars of GDP by 2.2 metric tons.
- The higher income also reduced discharges of organic water pollutants by 464 kilograms.

Environmental quality is also sometimes measured by emissions of greenhouse gases produced by human activity, such as water vapor and carbon dioxide (CO₂), thought to contribute to global climate warming. Although such greenhouse gases are not pollutants, they are still a primary concern to many environmentalists. Interestingly, CO₂ emissions per unit of GDP fall as a country's incomes rise.

For instance, the rate of CO₂ emissions in the United States has declined substantially since 1950 [see Figure II], according to the Energy Information Administration:

- From 1980 to 1990, CO₂ emissions per unit of GDP declined an

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average of 2.7 percent per year, or 25.9 percent overall.

- From 1990 to 2000, emissions declined 1.6 percent per year, or 15.2 percent overall.

Comparing the Effects of Capitalism and Democracy. The Fraser Institute's economic freedom index and Freedom House's political rights index can each be used to evaluate the relative impacts on environmental quality from increases in economic freedom and political rights. Economic freedom is characterized by personal choice, voluntary exchange, freedom to compete, and protection of person and property. It requires public policies that promote open markets, limited government intervention, stable monetary growth, free trade and a strong rule of law. A democratic or politically free society is defined by citizens' right to vote, to organize competing political parties and to raise a significant opposition vote, and the realistic possibility of the opposition gaining power through elections. These characteristics can be evaluated for any country for which data is available, and each country

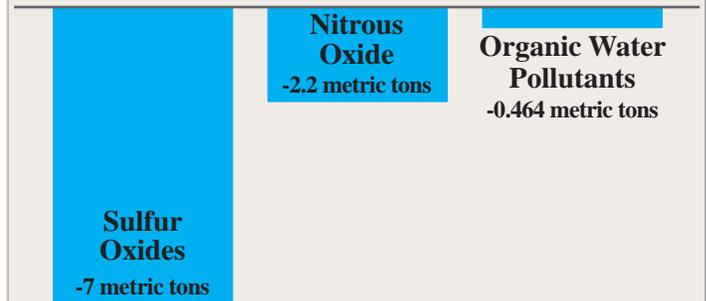
can be assigned a score on a 10-point index scale for each type of freedom.

Using the OECD data on emissions of pollutants in the same analysis as above reveals the impact of an increase in democracy when holding economic freedom constant:

- A one-unit increase in the democracy index reduces sulfur oxides emissions per billion dollars of GDP by 42 metric tons per day.
- The same increase in democracy reduces discharges of organic water pollutants per billion dollars of GDP by 21 kilograms daily.
- However, a one-unit increase in democracy *increases* nitrous oxide emissions per billion dollars of GDP by 28 metric tons.

By contrast, holding political freedom constant reveals that increased

Figure I
Impact on Emissions of a 10 Percent Increase in Income per Capita



Source: Author's calculations. OECD and World Bank data.

capitalism reduces all three types of pollutants:

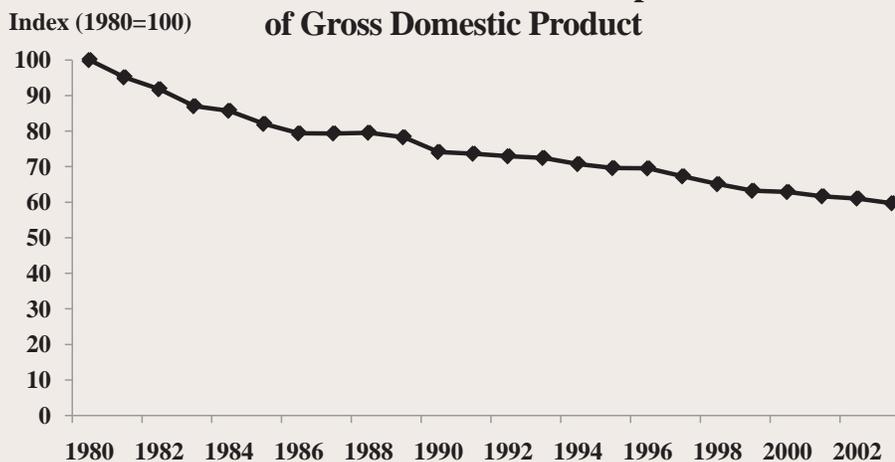
- A one-unit increase in economic freedom reduces nitrous oxide emissions per billion dollars of GDP by 162 metric tons per day.
- The increase in economic freedom reduces discharges of organic water pollutants per billion dollars of GDP by 154 kilograms daily.
- It also reduces sulfur oxides by 131 metric tons.

Conclusion. Developing countries with limited natural and institutional resources can improve air and water quality more efficiently by increasing the amount of economic freedom in society rather than by expanding democratic control over collective resource allocations. Developed countries enjoy greater amounts of both economic and political freedom compared to poorer countries. As they have become wealthier, they have also improved environmental quality by reducing the rate of emissions of pollutants measured against their economic output.

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Figure II

U.S. Carbon Dioxide Emissions per Unit of Gross Domestic Product



Source: Energy Information Administration, "Emissions of Greenhouse Gases in the United States 2003," December 2004. Available at www.eia.doe.gov/oiaf/1605/archive/gg04rpt/trends.html.