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The Earth's Resources Are Limited, but Human Ingenuity Is Infinite

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It was in Malaysia that I first experienced what I now dub “anti-human environmentalism”.

Sitting in the country's ministry of energy, technology, science, climate change and environment, a government scientist presented us with a two-axis diagram. The lines represented “the natural world” and “human activity.” As he laboured over all the environmental depletion we were purportedly responsible for, I tentatively asked: “Do you assume, then, that human beings are just not part of the natural world?” The silence spoke volumes.

Humanity faces huge challenges relating to our coexistence with wildlife, forms of pollution and risks associated with a changing climate. As economists might say, our activities do indeed produce “externalities”. But doomsday anti-human thinkers, who see us as mere leeches on Earth, have been utterly wrong in one crucial respect: the idea that growth is rapidly depleting natural resources.

Provided we maintain sound economic policies, worrying about humans depleting resources amounts to unfounded hysteria.

The biologist Paul Ehrlich is perhaps the most famous proponent of this idea. In his 1968 bestselling book, *The Population Bomb*, he advanced the idea of resource depletion. He renewed this attack at a 2017 Vatican conference, saying: “You can't go on growing forever on a finite planet. The biggest problem we face is the continued expansion of the human enterprise ... Perpetual growth is the creed of a cancer cell.” The Prince of Wales thinks similarly. He has lamented that Earth just doesn't have the capacity to “sustain us all” if more and more people consume natural resources at “Western levels”.

This notion, that humans are like pigs eating from a finite trough, is intuitive. The Earth, logically, appears to have limited natural reserves. If one accepts this, it follows that bigger population or higher consumption levels will deplete the Earth's riches. The implications are obvious: first, infinite growth is impossible due to these constraints on physical resources; second, to avoid the rapid depletion of the Earth's resources, we must limit population growth, reduce consumption, or both.

Such thinking is remarkably common among scientists. But it is uneconomic. What it ignores, as the great University of Maryland economist Julian Simon highlighted, is the capacity of human ingenuity to find new recipes and ideas. Anti-human thinkers fail to appreciate that our brains are also a resource. When toiling under the right institutions and market-based incentives — i.e. prices — we constantly dream up new ways of making or doing things, including new methods of discovery or means of excavating raw materials.

Yes, consumption and population growth put pressure on resource availability. But markets provide us with incentives to change our behaviour or innovate. High prices caused by higher demand encourage us to shift to consuming substitutes in the short term. In the longer term they encourage us to seek out new supply or to rethink our whole approach. If this second effect dominates, the prices of natural resources could fall with population growth. More humans, after all, means a greater brain capacity for ideas to engender abundance.

That is exactly what my Cato colleague Marian L Tupy, and Gale L Pooley of Brigham Young University, find in a fascinating new paper. The facts speak for themselves. Looking at a basket of 50 global commodities between 1980 and 2017, they find real prices fell by an average of 36pc. That happened despite the global population increasing by 69pc over the same period.

A more accurate way to assess the “cost” to humans of these commodities is to calculate their “time price” — the amount of time an average human must work to earn enough to buy them. On that metric, the cost of these commodities fell much further — by a whopping 65pc. If it took 60 minutes of work to buy this basket in 1980, it only took 21 minutes of work to afford them in 2017. A continuation of that trend would see prices of these natural resources halve every 26 years.

This utterly refutes the anti-human narrative and shows that Julian Simon was right. Population growth, far from exhausting resources, seems to be making them more plentiful. In fact, our current situation indicates a “super abundance”: prices (in terms of working time) are falling at a rate proportionally faster than the increase in population.

How does this make sense, physically, on a planet of notionally fixed resources? Tupy and Pooley use a beautiful analogy. They state: “The world is a closed system in the way that a piano is a closed system. The instrument has only 88 notes, but those notes can be played in a nearly infinite variety of ways. The same applies to our planet. The Earth’s atoms may be fixed, but the possible combinations of those atoms are infinite. What matters, then, is not the physical limits of our planet, but human freedom to experiment and reimagine the use of resources that we have.”

It is wrong, in other words, to think of human activity as a pure consumption of our physical inheritance. Our existence, provided we are governed by sound institutions, encourages new and innovative ways to fulfil wants and needs by combining and exploring the resources available to us. Earlier this year, for example, scientists discovered a 16m-ton patch of deep-sea mud rich with “rare earths” almost 800 miles off the coast of Japan. They estimate it could serve the planet’s need for those rare earths for between 400 and 800 years. The earth’s natural resources are neither fully known nor fixed in any meaningful sense.

Neither, therefore, are the opportunities for growth. As former US president Ronald Reagan summarised succinctly: “There are no such things as limits to growth, because there are no limits to the human capacity for intelligence, imagination and wonder.” Provided we maintain sound economic policies, worrying about humans depleting resources amounts to unfounded hysteria.

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