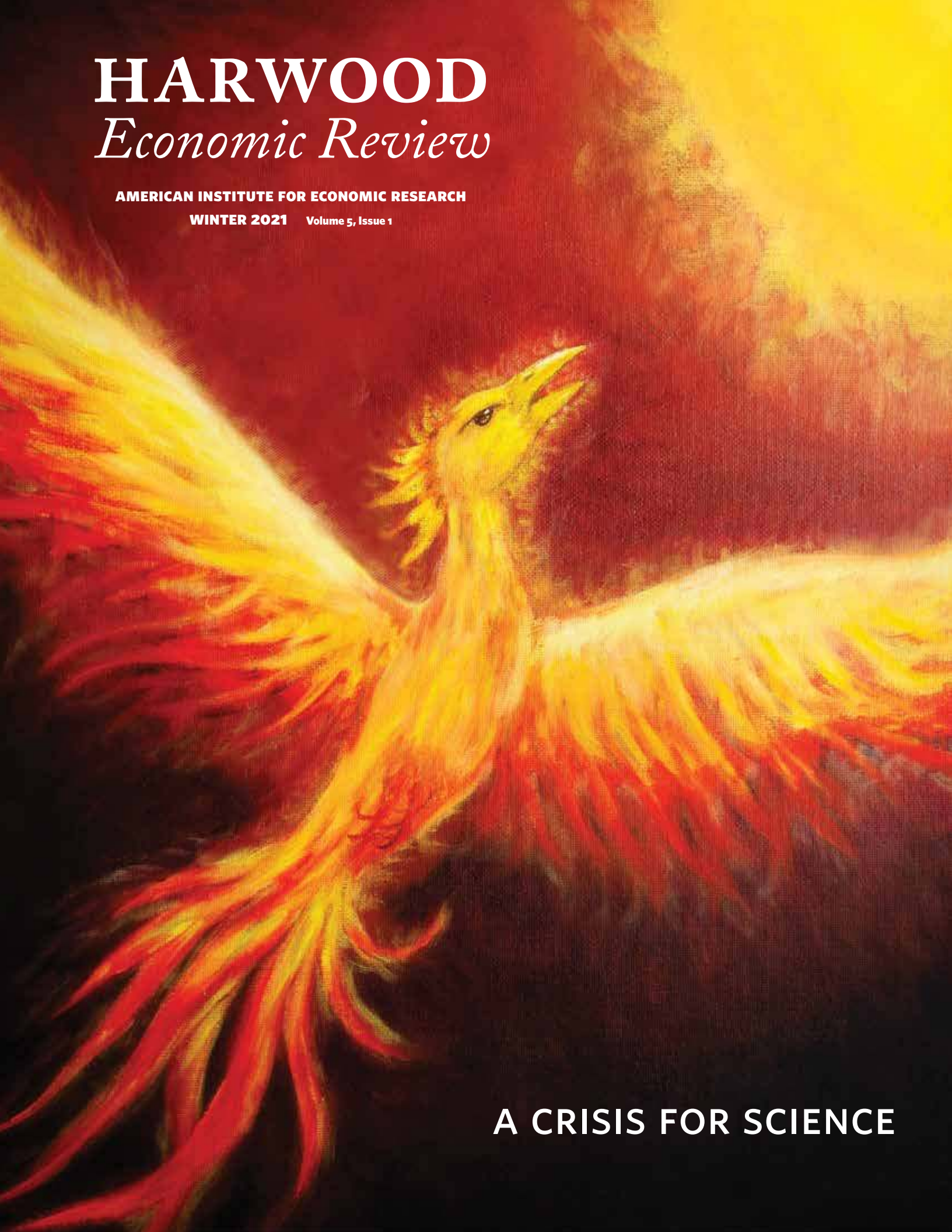


HARWOOD

Economic Review

AMERICAN INSTITUTE FOR ECONOMIC RESEARCH

WINTER 2021 Volume 5, Issue 1



A CRISIS FOR SCIENCE

Harwood Economic Review

AMERICAN INSTITUTE FOR ECONOMIC RESEARCH

- 3** In This Issue
Edward Peter Stringham
- 4** AIER Hosts Top Epidemiologists
Authors of the Great Barrington Declaration
AIER Staff
- 10** If I Ruled the World: A Dangerous Dream
Richard M. Ebeling
- 16** Professor Sunetra Gupta
on the Perils of Disease Modelling
AIER Staff
- 19** Why So Gullible About Government
in the Face of Covid-19?
Donald J. Boudreaux
- 22** Who Deserves Your Trust in the COVID Debate?
Stacey Rudin
- 25** Climate Catastrophism and
a Sensible Environmentalism
Joakim Book
- 28** The Return of the Flagellants
Jeffrey A. Tucker
- 31** The Year of Disguises
Roger W. Koops
- 42** Lockdowners Speak with Privilege,
and Contempt for the Poor and Working Class
Jenin Younes
- 45** The Devastating Economic Impact of Covid-19 Shutdowns
Peter C. Earle and Amelia Janaskie



In This Issue

Edward Peter Stringham, President

This issue of the *Harwood Economic Review* is dedicated to a subject that brought unprecedented attention to the American Institute for Economic Research. Indeed, AIER led the public debate around the world on the issue of restrictions implemented in the name of disease mitigation. We argued forcefully and with attention on evidence and research that this is not the way to manage a pandemic. Indeed, it was startling that anyone ever believed that lockdowns could achieve what they were designed to achieve.

The new year launches with a desperate need to educate the public on economics and the importance of markets for a functioning society. In the most bizarre turn of events in my lifetime, politicians actually imagined that commercial society could be shut down and that this would make some grand contribution to disease mitigation. It never has and never will, which is why public health experts have always recommended strongly against locking down.

An economy is a complex and interconnected network of human, material, geographical, and informational relationships. It is impossible to slice and dice it without causing grave and lasting damage to the whole. A crisis requires a functioning market more than ever.

In helping people understand this, I'm satisfied that we made a huge difference last year. We earned international respect and tremendous new credibility to speak on all the important issues of our time. We certainly have a new sense of responsibility, but also the passion to produce more and even better work. It is also satisfying to know just how much of a contribution to public debate has come out of AIER in the last 12 months.

This year has already begun with AIER being a voice of sanity amidst all kinds of chaos.

I'm optimistic that the great crisis of our lifetime is coming to a close sooner rather than later. Once things are calm, people will be looking for serious answers to the questions of what happened, how we can prevent it in the future, and the need to rebuild the philosophical foundations of a free society, which certainly includes respect for human rights and the bulwarks of economic functioning including sound money.

For now, enjoy this spectacular and indeed historic issue of the *Harwood Economic Review*.

Edward Peter Stringham

AIER Hosts Top Epidemiologists, Authors of The Great Barrington Declaration

AIER Staff

From October 1–4, 2020, the American Institute for Economic Research hosted a remarkable meeting of top epidemiologists, economists, and journalists, to discuss the global emergency created by the unprecedented use of state compulsion in the management of the Covid-19 pandemic. The result is The Great Barrington Declaration, which urges a *Focused Protection* strategy.

After a brief explanation of the strategy, and a discussion of the astonishing costs of lockdown, the Declaration concludes: *Schools and universities should be open for in-person teaching. Extracurricular activities, such as sports, should be resumed. Young low-risk adults should work normally, rather than from home. Restaurants and other businesses should open. Arts, music, sport and other cultural activities should resume.*

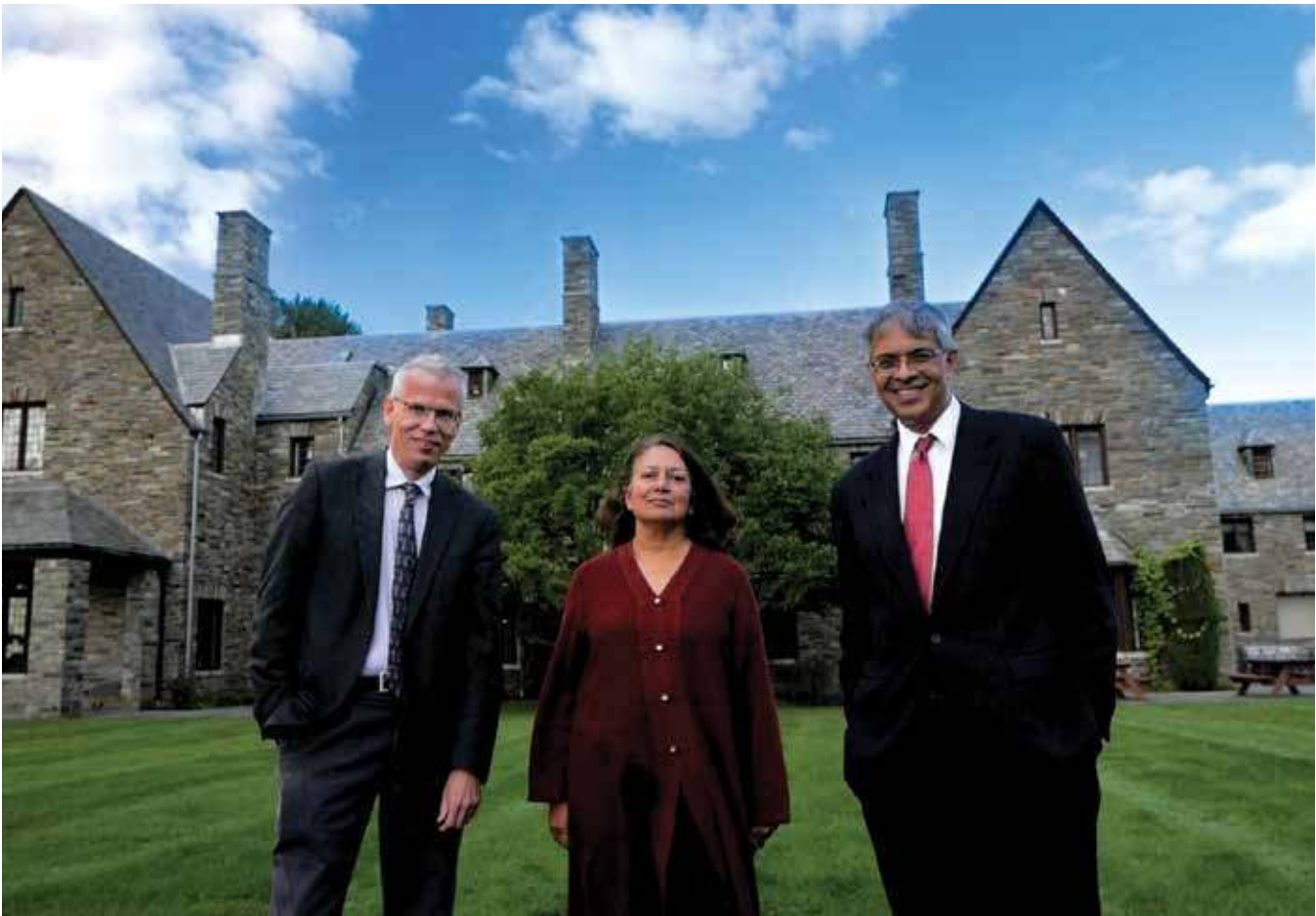
The document is now open for signing by medical professionals and practitioners as well as the general public. You can sign the document.

The American Institute for Economic Research was founded in 1933 in the midst of an economic crisis in the United States. Its purpose was and is to research and promulgate evidence-based solutions to social and economic problems, with a particular focus on the importance of functioning markets. The crisis of the policy response to Covid-19 drew AIER's close attention from late January 2020 and following. The hosting of this crucial meeting was in the interest of backing the best science, promoting essential human rights, and reviving a focus on the common good.

The Great Barrington Declaration

The Great Barrington Declaration—As infectious disease epidemiologists and public health scientists we have grave concerns about the damaging physical and mental health impacts of the prevailing COVID-19 policies, and recommend an approach we call Focused Protection.

Coming from both the left and right, and around the world, we have devoted our careers to protecting people. Current lockdown policies are producing devastating effects on short and long-term public health. The results (to name a few) include lower childhood vaccination rates, worsening cardiovascular disease outcomes, fewer cancer screenings and deteriorating mental health—leading to greater excess mortality in years to come, with the working class and younger members of society carrying the heaviest burden. Keeping students out of school is a grave injustice.



Keeping these measures in place until a vaccine is available will cause irreparable damage, with the underprivileged disproportionately harmed.

Fortunately, our understanding of the virus is growing. We know that vulnerability to death from COVID-19 is more than a thousand-fold higher in the old and infirm than the young. Indeed, for children, COVID-19 is less dangerous than many other harms, including influenza.

As immunity builds in the population, the risk of infection to all—including the vulnerable—falls. We know that all populations will eventually reach herd immunity—i.e. the point at which the rate of new infections is stable—and that this can be assisted by (but is not dependent upon) a vaccine. Our goal should therefore be to minimize mortality and social harm until we reach herd immunity.

The most compassionate approach that balances the risks and benefits of reaching herd immunity, is to allow those who are at minimal risk of death to live their lives normally to build up immunity to the virus through natural infection, while better protecting those who are at highest risk. We call this Focused Protection.

Adopting measures to protect the vulnerable should be the central aim of public health responses to COVID-19. By way of example, nursing homes should use staff with acquired immunity and perform frequent PCR testing of other staff and all visitors. Staff rotation should be minimized. Retired people living at home should have groceries and other essentials delivered to their home. When possible, they should meet family members outside rather than inside. A comprehensive and detailed list of measures, including approaches to multi-generational households, can be implemented, and is well within the scope and capability of public health professionals.

Those who are not vulnerable should immediately be allowed to resume life as normal. Simple hygiene measures, such as hand washing and staying home when sick should be practiced by everyone to reduce the herd immunity threshold. Schools and universities should be open for in-person teaching. Extracurricular activities, such as sports, should be resumed. Young low-risk adults should work normally, rather than from home. Restaurants and other businesses should open. Arts, music, sport and other cultural activities should resume. People who are more at risk may participate if they wish, while society as a whole enjoys the protection conferred upon the vulnerable by those who have built up herd immunity.



On October 4, 2020, the declaration was authored and signed in Great Barrington, United States, by

Dr. Martin Kulldorff

Professor, Medicine, Harvard Medical School

Dr. Jay Bhattacharya

Professor, Medicine, Stanford University

Dr. Sunetra Gupta

Professor, Theoretical Epidemiology, University of Oxford

The co-signers include the following medical and public health scientists and medical practitioners

Dr. Alexander Walker

principal at World Health Information Science Consultants, former Chair of Epidemiology, Harvard TH Chan School of Public Health, USA

Dr. Andrius Kavaliunas

epidemiologist and assistant professor at Karolinska Institute, Sweden

Dr. Angus Dalglish

oncologist, infectious disease expert and professor, St. George's Hospital Medical School, University of London, England

Dr. Anthony J Brookes

professor of genetics, University of Leicester, England

Dr. Annie Janvier

professor of pediatrics and clinical ethics, Université de Montréal and Sainte-Justine University Medical Centre, Canada

Dr. Ariel Munitz

professor of clinical microbiology and immunology, Tel Aviv University, Israel

Dr. Boris Kotchoubey

Institute for Medical Psychology, University of Tübingen, Germany

Dr. Cody Meissner

professor of pediatrics, expert on vaccine development, efficacy, and safety. Tufts University School of Medicine, USA

Dr. David Katz

physician and president, True Health Initiative, and founder of the Yale University Prevention Research Center, USA

Dr. David Livermore

microbiologist, infectious disease epidemiologist and professor, University of East Anglia, England

- Dr. Eitan Friedman**
professor of medicine, Tel-Aviv University, Israel
- Dr. Ellen Townsend**
professor of psychology, head of the Self-Harm Research Group, University of Nottingham, England
- Dr. Eyal Shahar**
physician, epidemiologist and professor (emeritus) of public health, University of Arizona, USA
- Dr. Florian Limbourg**
physician and hypertension researcher, professor at Hannover Medical School, Germany
- Dr. Gabriela Gomes**
mathematician studying infectious disease epidemiology, professor, University of Strathclyde, Scotland
- Dr. Gerhard Krönke**
physician and professor of translational immunology, University of Erlangen-Nuremberg, Germany
- Dr. Gesine Weckmann**
professor of health education and prevention, Europäische Fachhochschule, Rostock, Germany
- Dr. Günter Kampf**
associate professor, Institute for Hygiene and Environmental Medicine, Greifswald University, Germany
- Dr. Helen Colhoun**
professor of medical informatics and epidemiology, and public health physician, University of Edinburgh, Scotland
- Dr. Jonas Ludvigsson**
pediatrician, epidemiologist and professor at Karolinska Institute and senior physician at Örebro University Hospital, Sweden
- Dr. Karol Sikora**
physician, oncologist, and professor of medicine at the University of Buckingham, England
- Dr. Laura Lazzeroni**
professor of psychiatry and behavioral sciences and of biomedical data science, Stanford University Medical School, USA
- Dr. Lisa White**
professor of modelling and epidemiology, Oxford University, England
- Dr. Mario Recker**
malaria researcher and associate professor, University of Exeter, England
- Dr. Matthew Ratcliffe**
professor of philosophy, specializing in philosophy of mental health, University of York, England
- Dr. Matthew Strauss**
critical care physician and assistant professor of medicine, Queen's University, Canada
- Dr. Michael Jackson**
research fellow, School of Biological Sciences, University of Canterbury, New Zealand
- Dr. Michael Levitt**
biophysicist and professor of structural biology, Stanford University, USA.
Recipient of the 2013 Nobel Prize in Chemistry.
- Dr. Mike Hulme**
professor of human geography, University of Cambridge, England
- Dr. Motti Gerlic**
professor of clinical microbiology and immunology, Tel Aviv University, Israel
- Dr. Partha P. Majumder**
professor and founder of the National Institute of Biomedical Genomics, Kalyani, India
- Dr. Paul McKeigue**
physician, disease modeler and professor of epidemiology and public health, University of Edinburgh, Scotland
- Dr. Rajiv Bhatia**
physician, epidemiologist and public policy expert at the Veterans Administration, USA

Dr. Rodney Sturdivant

infectious disease scientist and associate professor of biostatistics, Baylor University, USA

Dr. Simon Thornley

epidemiologist and biostatistician, University of Auckland, New Zealand

Dr. Simon Wood

biostatistician and professor, University of Edinburgh, Scotland

Dr. Stephen Bremner

professor of medical statistics, University of Sussex, England

Dr. Sylvia Fogel

autism provider and psychiatrist at Massachusetts General Hospital and instructor at Harvard Medical School, USA

Dr. Udi Qimron

professor of clinical microbiology and immunology, Tel Aviv University, Israel

Dr. Ulrike Kämmerer

professor and expert in virology, immunology and cell biology, University of Würzburg, Germany

Dr. Uri Gavish

biomedical consultant, Israel

Dr. Yaz Gulnur Muradoglu

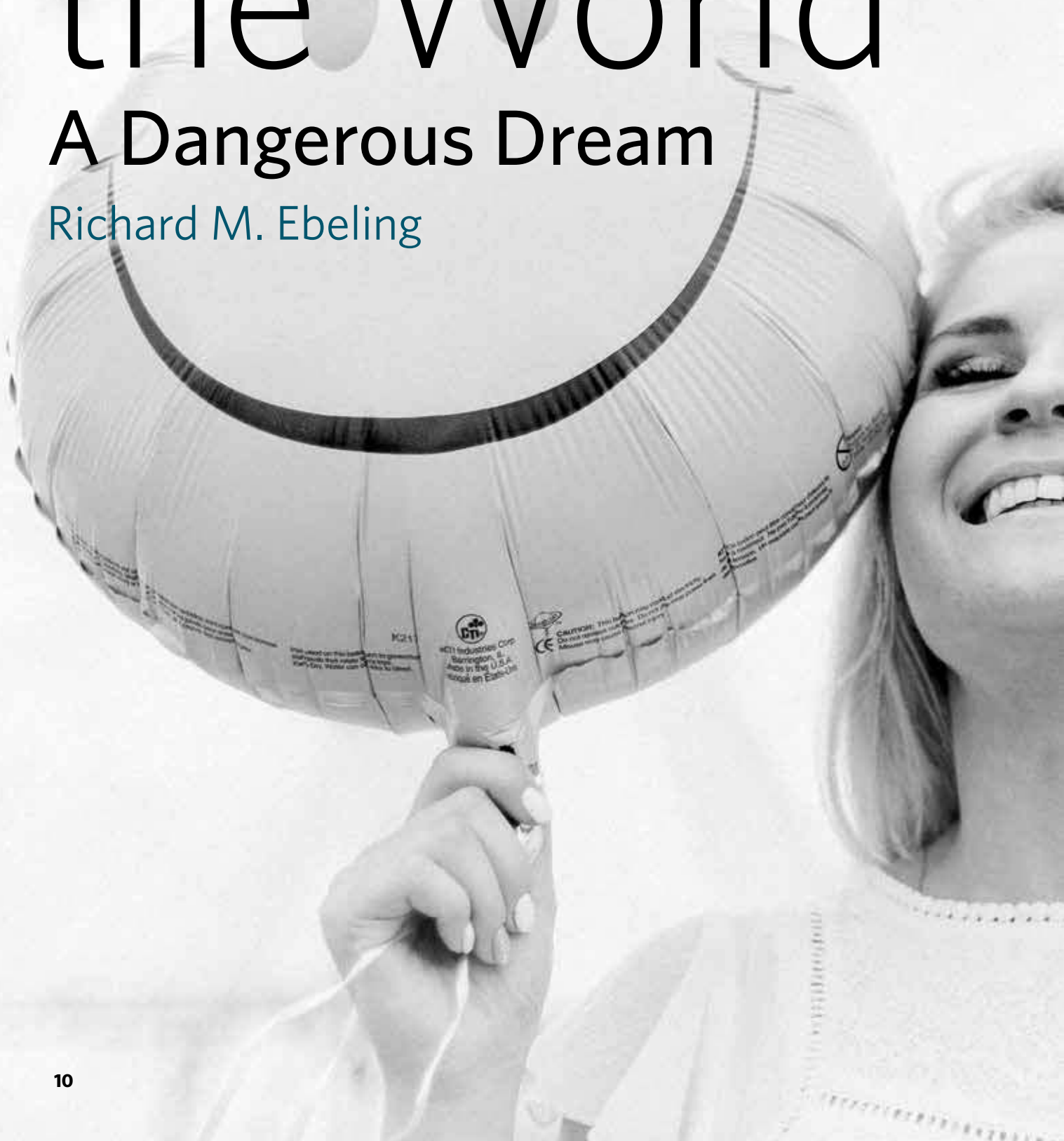
professor of finance, director of the Behavioural Finance Working Group, Queen Mary University of London, England



If I Ruled the World

A Dangerous Dream

Richard M. Ebeling



If I Ruled the World, say the lyrics in the hit song from the 1960s, the world would be a beautiful place with a smile on everyone's face. Every man would say the world was his friend, with happiness that no man could end. No, my friend, not if I ruled the world. A nice fantasy for a daydreamer, but a dangerous plan in the hands of those presumptuous and arrogant enough to think that they could and should have the power to remake the world in which we all live.

We seem to be in the midst of a tidal wave of such dreamers who are dreaming of their ability to reconstruct and redirect the social and economic affairs of the rest of us. The coronavirus crisis with its accompanying government-made economic recession has served as the catalyst for even more such dreamers than usual.

They always seem to be lurking around in the nooks and crannies of society, hoping and waiting for an opportunity to assure people that if only they were in charge, if only they had the political power to correct the wrongs, rectify the injustices, redesign human affairs, and see that everyone received what they *really* deserved, well, the world would be that beautiful place, with a smile on every face, and it would never end, my friend. If only they ruled the world.

Someone Ruling the World Means the Rest of Us Are Ruled

The problem is, if someone were to have this role to rule the world it would mean that everyone else would have to conform to what the ruler dictated and commanded. In other words, for the ruler to have such latitude of discretionary action, everyone else in society would be confined within the restrictions, regulations and redistributions that would be an essential aspect of being able to remake that world in the ruler's image of that beautiful place.

We are a bit shocked at the thought of it all if that ruler is seen to be a Hitler or a Stalin. No, no, it is said, that is not what is meant! We mean a nice and gentle ruler of the world, who will provide good paying jobs, reliable and quality healthcare for all, financially comfortable retirements, free education, a clean, climate friendly global environment, plus economic and social equality for all that has inclusiveness with diversity for every race, gender, ethnicity, and social group. That way, we would all have a smile on our face.

Besides, it would not be a political dictatorship in such a beautiful world but some form of *participatory democracy*. We will all participate, we will all discuss, we will all agree on the happiness that no one would ever end. The problem is that unless there is unanimous agreement as to what such a world should be like in all of its content and detail when bestowing on the political ruler the power to make sure we live in the way about which we are all presumed to be in agreement, then any dissenting and disagreeing members of the society may find themselves as a voting minority living in a world that they might consider to be neither beautiful nor happiness-making.



Taming Capitalism for the Good of Society

But such considerations do not stop the dreamers from following their political paternalist dreams. A case in point can be found in a recent article by Mariana Mazzucato, a professor at University College in London, England, on *Capitalism After the Pandemic: Getting the Recovery Right* (*Foreign Affairs*, October 2, 2020).

Her basic and starting premise is that *capitalism* fails to work in social and economic crises. It is unjust in its outcomes in terms of income inequality and insufficiently race and gender *inclusive*. Corporations only pursue shareholder profits while many others in society lose their jobs, sink into financial distress, and government is starved of the needed tax-based resources to assure fairness, social justice, and long-term growth and betterment for humankind. In addition, the capitalist system, through its focus on profits rather than people and the *social good*, is destroying the planet due to a disregard for the fact that we only have ten years left before 2030 when the consequences from *climate change* are beyond repair, with all of us being doomed to man-made fire and brimstone thereafter.

The coronavirus crisis offers an opportunity to set the world right, she says, by reducing and restraining existing market freedoms, and reorienting the society and the economy by moving government to center stage for a rebalancing and correcting of all the inequities and harmful effects of leaving people with insufficient political oversight and management. *It is not enough for governments to intervene as the spender of last resort when markets fail or crises occur*, Professor Mazzucato argues. *They should actively shape markets so that they deliver the kind of long-term outcomes that benefit everyone*. She is confident that governments can do more than simply spur economic growth. *They can steer the direction of that growth to build a better economy*.

Out with the Bad Intervention, and in with the Good

It is not that Professor Mazzucato thinks we live in a *laissez-faire* world. No, she highlights that big businesses and corporations and the large financial institutions know how to game the interventionist system by getting subsidies, handouts, and special favors from government to cover losses in bad times and get financial support the rest of the time for research and development and investments of various sorts in general at others' expense.

But in no way does she see the answer to this corruption and plunder of taxpayers and consumers to be the abolition of favors and privileges for such interest groups. Professor Mazzucato simply wants the government to intensify and extend such interventionist policies into the forms and types that she considers better and best in pursuit of what she views as the social purposes that she considers the right ones for the good of all in society.

For instance, if companies get subsidies and tax breaks or other types of government support to benefit them in good times and bad, then that same government should attach far more strings than at present to demand how those businesses shall run their business, including what they should produce, how their products should be priced, along with mandates about the wages and work conditions that such enterprises must provide for their employees.

Private enterprises should be commended to reduce their carbon emissions, limit the dividends paid out to shareholders and the salaries allowed to be paid to senior executives, and to not put any of their revenues into tax shelters in other places around the world. Race and gender *inclusiveness* should be required, with quotas of some sort, one presumes. Also, semi-worker management would be insisted upon through mandatory worker-participation on corporate boards.

The Entrepreneurial State Equals Economic Fascism

Behind all this is the view that growth and betterment is not the result of private sector innovation, or private sector savings and investment, or private sector incentives and entrepreneurship. No, the government needs to be seen as the senior partner in the economy that serves in the leadership role of working with the private business.

We have to get over the *false notion that the private sector is the sole creator, not a co-creator, of wealth in the economy, and that the public sector is merely a toll collector, siphoning off profits and distributing them as charity*, Professor Mazzucato argues. Instead, what is needed is what she calls the *entrepreneurial state* that directs businesses in everything they do.

As part of this, she says that government should take over partial or even total ownership and planning of certain companies by obtaining shares in those enterprises in which the government injects funds. In this way, the government can *attach strong conditions to its deals [with private businesses] to ensure they serve the public interest*. That way the government can see to it that products are properly priced, made available to those whom the government thinks should have access to them (such as pharmaceutical drugs) and positively influence a *more equitable distribution of income*.

She may say that the current health and economic crisis is a *rare opportunity to change capitalism*, but if one means by *capitalism* a system of free enterprise in which private owners and entrepreneurs peacefully and honestly pursue profits by satisfying consumer desires in an arena of competitive supply and demand, what Professor Mazzucato calls for is better labelled a fascist-style command economy rather than some asserted form of modified capitalism.

Not all businesses would be nationalized and directly owned by the government, if Professor Mazzucato *ruled the world*, only some selected ones. But most of the economy, while remaining nominally in private ownership would no longer have the liberty and latitude to be guided by how their private owners and shareholders thought best. In her world, government would control, dictate and enforce how those businesses operated in virtually every facet of their activities. She may refer to it as *public-private collaboration*, but it becomes the government that calls the tune. Welcome to the world of fascist economics.

Back to Marx and Socially Objective Value

But how would Professor Mazzucato know what was worth doing, to what degree, and in which forms? As she sees it, there is an *underlying problem in economics: the field has gotten the concept of value wrong. Modern economists understand value as interchangeable with price. This view would be anathema to earlier theorists such as Francois Quesnay, Adam Smith, and Karl Marx who saw products as having intrinsic value relative to the dynamics of production, value that wasn't necessarily related to their price.*

The Classical Economists like Adam Smith had been perplexed by what became known as the paradox of value. How is it that something as essential for human existence as water often bears a very low price in the marketplace, while a diamond that panders to the superfluous vanities of man usually fetches a very high market price? They found an answer in the labor theory of value, which said that the relative values of goods are determined by the quantities of labor that had gone into their production.

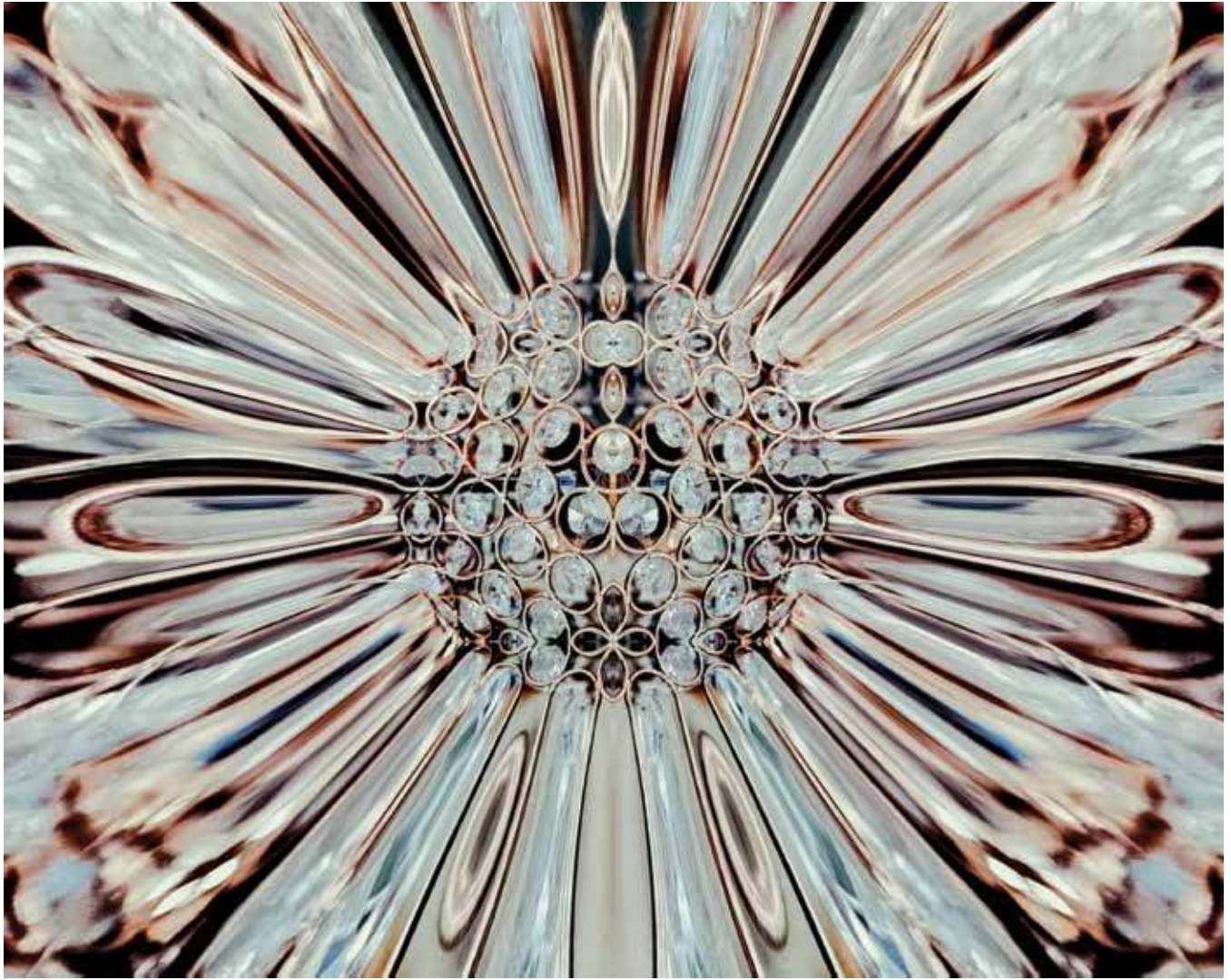
Normally water is available in fairly unlimited amounts that require little or no human labor to supply, while diamonds usually require large expenditures of human effort to prospect and mine for the precious gem, followed by the jeweler's labor to precisely cut the rough stone into its finished form. Hence, though highly valuable, water sells for a very low price, while the *nonessential* diamond sells for a much, much higher market price.

Subjective Value at the Margin of Things

The *modern* theory of value that Professor Mazzucato eschews is the theory of *subjective value* as evaluated by a decision-maker at *the margin*. The marginalists of the late 19th century, and most especially the *Austrian* economists starting with Carl Menger, argue that value is not *intrinsic* to a good as determined by the quantity of labor that has gone into its manufacture.

Instead, value originates in the mind of an evaluator concerning the usefulness of various goods that could satisfy purposes or goals he has in mind. But the evaluation of their usefulness is not between all water versus all diamonds, but an estimate of their worth *marginally*; that is, the importance and value of increments or additional individual units of the goods.





If water is fairly abundant; that is, not very scarce relative to all the uses for which units of water might be applied, it is not too surprising that a potential buyer will be only willing to pay a relatively low price for one more unit of water, when most of his uses for it may already have been satisfied. On the other hand, diamonds are much scarcer, with their supply far more limited relative to all the uses for which people might desire diamonds; hence, the value, and therefore, the price someone might be willing to pay for one more diamond is likely to be far higher than some last unit of water with which it might be compared.

At the same time, if workers have value in alternative uses for their labor time, the wages they may be offered in different lines of employment will reflect the (marginal) value of the goods which that labor time might assist in bringing to market. It has nothing to do, per se, with the quantity of labor invested in any product.

Social Value Just Means What Professor Mazzucato Wants

What Professor Mazzucato is really trying to get away from is that the value of things is not intrinsic or independent of how individual human beings judge them, given their personal estimates concerning their usefulness and worth for achieving the ends they have in mind. Suppose that she insists that more of *the society's* resources should be assigned to a higher *socially valuable* use such as supplying *free* higher education or more climate change research and solar and wind power investments, rather than using those resources to manufacture additional flatscreen TVs and designer skateboards.

If you understand that *value is in the eyes of the beholder*, and people may not only value different things, but also differently *at the margin*, from how Professor Mazzucato sees it, then it is all just a matter of her personal opinion versus other people's about how they should spend their own money to further the ends and goals that matter to them in their lives, all things considered.

Then Professor Mazzucato is left with spending her own money her own way and trying to reason with and persuade others to voluntarily spend their money and time the way she thinks they should for that *better world*. What if many or most others do not see things her way or, at the margin, not very much in terms of how they want to spend their own money? Then, maybe, a lot fewer of the resources in the society get used to do the good things that she wants and even considers right and good for others, if only those others saw things her way.

In a free society based on mutual respect for every individual and their, respective, right to peacefully live their own life in their own way in voluntary and mutually agreed relationships and associations with others both inside and outside of the marketplace, poor Professor Mazzucato may live her life with many disappointments.

If only she ruled the world! And that is what all of this talk of *social values* separate from individual personal evaluations and their reflection in the prices people are willing to pay on the market is all about. If there are *needs* and values outside of and independent from what real individual human beings want and value, then you can blissfully and self-righteously assert, with appropriate contempt for those less enlightened than yourself, about how the resources in society should be used to advance what purposes.

She knows the *real value* to humanity as a whole for *free* higher education, or investment in fossil fuel alternatives to *save the planet*, or the type and form of *diversity* employments that would make a more just workplace, or the amount of income redistribution that would make a fairer world, or . . .

We Cannot Fully Know What People Value Outside of the Market

The fact is, we do not know the value of any of these things, and multitudes of others, other than as discovered and expressed by people's real willingness to put their money where their values are in the buying and selling of the marketplace. This, of course, also is expressed in people's willingness to voluntarily donate to charity and various philanthropic causes that enable the organizations reflecting these voluntary givings to demand the goods and services in the marketplace through which they can advance their achievement.

How much easier it is to say that government represents *society's interests* while the private sector just reflects, well, personal *selfish* interests. And that government is the *co-creator* of all that is good in society. Professor Mazzucato wants to discard the reality that government has no resources to spend other than what it has first coercively taken from others through taxation; and that government does not create wealth, it can only take some of the wealth produced by private enterprisers and reallocate it in directions different from how the producers of that wealth would have chosen to use and dispose of it, if not for the compulsory hand of those in political power. See my other article on Marianna Mazzucato's ideas, *The Downsides and Dangers of Mission Making*.

Similar to a magician on a stage, Professor Mazzucato can only succeed by deflecting our attention and understanding of what her agenda is really all about through a rhetorical sleight-of-hand. The task is to get people to see what is hiding behind the curtain of those who wish they could rule the world.



Professor Sunetra Gupta on the Perils of Disease Modelling

AIER Staff

Dr. Sunetra Gupta, Oxford Professor of Theoretical Epidemiology, and co-author of the Great Barrington Declaration, has been warning of the dangers of computer-based disease modeling for more than 20 years. The article reprinted below originally ran in *Nature*, Vol 412, August 9, 2001. It was written some five years before the modellers made dramatic inroads into mapping public-health contingency plans in the event of a pandemic.

Although we now have at our disposal some fairly sophisticated methods of characterizing uncertainty, she warned, these do not actually enable us to control or even predict the extent of the disaster. Used injudiciously in these circumstances, mathe-

matics—and especially mathematical modelling—can serve to obfuscate rather than clarify, or at best add nothing at all to the situation other than the illusion of control.

Further: No phoenix is likely to arise out of the ashes of a misguided mathematical model.

What's extraordinary to consider is how the principles she presents here apply equally to economics, sociology, history, and political theory. Gupta writes here like the F.A. Hayek of epidemiology. But the topic of the day is public health and here are her extraordinary observations, ending in a grave warning.



Avoiding Ambiguity

Scientists sometimes use mathematics to give the illusion of certainty

Sunetra Gupta

What words conceal is as important as what they reveal. Although the essence of raw communication may be clarity, in literature it is the inexact and the imprecise that allow us to push forward the boundaries of human experience and cognition. This is most obvious in poetry, which relies on the flexibility of meaning to record and analyse the breadth and depth of human emotion. For example, the wealth of tenderness in this extract from Seamus Heaney's poem *Sunlight* derives from the mystical alliance between love and a well-worn object:

*And here is love
like a tinsmith's scoop
sunk past its gleam
in the meal-bin*

Yet it also questions our very definition of love. Such poetry highlights not only the ambiguities in the relationships between the words that it uses but can also cause one to pause and reflect upon the relationship between the word and the object or idea to which it refers. And it is not only the reader who is held in this state of productive perplexity, for post-modern literary theory grants the author the prerogative of being equally unaware of the layers of meaning contained within his or her own creation.

The exploitation of ambiguity seems to occupy a much smaller place in the pursuit of scientific knowledge. Notably, the language of mathematics—which has proved to be an indispensable tool in scientific inquiry—distinguishes itself by the lack of ambiguity in its terms. Mathematical metaphors are powerful analytical tools precisely because of the unequivocal relationships between their components, whereas the power of the literary metaphor derives from the uncertainty in the connections between its parts.

Thus, by their very nature, mathematical metaphors can only be applied to a narrow range of problems: those that lend themselves to reduction into very precise elements, and for which the relationship between these elements can be explicitly declared. Most importantly, this whole artificial exercise has to be able then to comment on some aspect of the problem that would otherwise not have been evident.

But something about the comforting rigidity of the process, its seductive notation, but perhaps mostly its connotations of intellectual privilege, has drawn a diverse selection of disciplines to the altar of mathematical reasoning. Indeed, the widespread misappropriation of the language of mathematics in the social and biological sciences has to be one of the great tragedies of our time.

Nothing can be sadder than the sight of equations crawling down a page of literary theory, nothing more raucous than the invasion of the simple rules of cause and effect into the language of psycho-analysis. Far less obvious in its poverty of reasoning is the inappropriate application of mathematical methods to the analysis of certain scientific problems for which we have no obvious solutions. These projects are usually driven by our inability to cope with the unpredictable—stock-market crashes, hurricanes, earthquakes and epidemics. Although we now have at our disposal some fairly sophisticated methods of characterizing uncertainty, these do not actually enable us to control or even predict the extent of the disaster. Used injudiciously in these circumstances, mathematics—and especially mathematical modelling—can serve to obfuscate rather than clarify, or at best add nothing at all to the situation other than the illusion of control.

There are a number of reasons why the language of mathematics may not always provide much insight into a complex reality. At a very simple level, many of the fundamental processes involved, such as a consumer choice or movement of livestock, may not be amenable to mathematical formulation. Of greater concern is that, when one is attempting to formalize a set of complicated interactions, assumptions can creep in unawares. This is particularly true when a previously useful mathematical model is retailored to fit a new crisis. It is rather easy in these circumstances to become trapped in, and even comforted by, a prevailing paradigm. It is unfortunate that assumptions embedded in the mathematical structures employed may not always be obvious to the general public.

There is the danger here that mathematics is being used as a signifier of power much as English is currently used in several post-imperialist cultures. At least its very flexibility sometimes permits English to escape the fate of oppressor's language by mutating into a poetic hybrid, as in some examples of post-colonial literature. Mathematics, however, by virtue of its inflexibility, is liable to be less tolerant to misapplication. No phoenix is likely to arise out of the ashes of a misguided mathematical model.

We are fortunate to have at least two modes of inquiry at our disposal: one that depends upon the fidelity of the word to its referent, and another that conversely makes use of the gulf between a word and its referent, as well as between words themselves. But both may fail, as indeed they have time and time again, in the face of human disaster. It is when a catastrophe occurs that we become acutely aware of the limitations of language, and seek to hide behind a curtain of polemic or an abstruse set of equations. It is in these situations that word becomes completely divorced from its referent, and thus negates both poetic and scientific logic.

The language of mathematical reasoning is no less beautiful for the lack of concealment of meaning. In trying to capture the essence of a system through a minimum of unambiguous symbols, scientists and artists are driven by a similar concern for beauty and symmetry, a similar thirst for light. What makes mathematics special is its promise of prophecy, the promise that it will help us understand all mysteries and all knowledge. Without a humble awareness of its limitations, such prophecies can have a very hollow ring.



Why So Gullible About Government in the Face of Covid-19?

Donald J. Boudreaux

At my blog, Café Hayek, I recently posted several entries in opposition to the Covid-19 lockdowns specifically, and, more generally, to Covid-caused hysteria. These posts sparked negative reaction in the comments section and in my email box. This negative reaction is, I think, unwarranted.

Unwarranted Faith

Among the most frustrating features of the pro-lockdown argument is the blind faith that those who make it place in the politicians who issue the orders and oversee the enforcement. This frustration is hyper-charged when such faith is displayed by classical liberals and libertarians, who normally understand that politicians and their hirelings have neither the knowledge nor the incentives to be trusted with much power. Yet in the face of Covid, executive-branch government officials are assumed somehow to become sufficiently informed and trustworthy to exercise the unbounded discretionary power—that is, the *arbitrary* power—required to prohibit vast swathes of normal human interaction ranging from the commercial through the educational to the personal (such as prohibiting family gatherings above a certain size).

Why this faith? The proffered answer, of course, is that Covid-19 is unusually dangerous and, therefore, we have no choice but to put faith in government officials. This answer is bizarre, for it insists that we must now trust with *unprecedented* power people who regularly act in ways that prove them to be unworthy to hold lesser amounts of power. My head explodes. . .

Moving on, and without pausing to explore just what is meant here by *unusually*, let's grant that Covid-19 is indeed unusually dangerous. But also unusually dangerous is arbitrary government power. Is it unreasonable for those of us who fear this power to require that proponents of lockdowns meet a higher standard of persuasion before we accede to the exercise of such power? Given that the initial spark for the lockdowns, at least in the United Kingdom and the United States, was Neil Ferguson's suspect and widely criticized Imperial Model—a model, recall, offered by a man with an awful record of dramatically exaggerating the likely mortality rates of diseases—is it unreasonable to demand that much stronger evidence be offered before we turn silent as governments continue massively to interrupt normal life?

If you're tempted to answer these questions in the affirmative, recognize that there's at least one important *difference* between pathogens and power—a difference that should be, but isn't, taken into consideration by pro-lockdowners. The difference is this: Population immunity, either through a pathogen's natural spread or through a vaccine, will at some point significantly reduce that pathogen's danger; in contrast, for protection against government power there is no population immunity or vaccine. When such power expands, the ratchet effect documented by Robert Higgs ensures that that power remains more elevated and widespread than before.

Unlike pathogens, government power continues to nourish itself as it grows into an ever-greater danger. Quaking at the very thought of Covid while discounting the danger that lurks in the immense expansions of government power done in the name of fighting Covid is wholly unreasonable.

Where's the Perspective?

Several of Café Hayek's commenters and my email correspondents push back against anti-lockdown arguments by observing that ordinary people support lockdowns because they don't wish to die, to become severely ill, or to have their loved ones stricken with Covid. This observation is accurate—as is an accompanying observation that Covid is spread from person to person. But as an argument for lockdowns it's without merit, for it begs several questions.

How many lives are actually saved, on net, by the lockdowns? Obviously, the Covid-induced expansions of government power are not justified if the net number of lives saved is small. And remember, against the lives saved by lockdowns must be counted the lives lost because of the lockdowns—lives lost to suicide, to the reduced health and safety that comes from lower income, and from the failure to diagnose and treat non-Covid illnesses.

Yet those who insist that the desire not to be killed by Covid justifies the lockdowns largely ignore these questions and trade-offs. It would be as if a sincerely expressed desire not to be killed as a pedestrian by an automobile were taken as justification to prohibit automobiles. Such a prohibition would result in approximately 6,000 fewer pedestrians in America being killed annually by automobiles – itself alone an undeniably happy result. Yet would such a

prohibition be justified by this objective fact? Would your answer change if someone with a superficial familiarity with economics declares that the danger posed to pedestrians by automobile traffic is a *negative externality*?

And *whose* lives are being saved by the lockdowns and for how long? I'm baffled by the ongoing failure in the public discussion to recognize that Covid kills mostly very old or sick people, and is practically of no danger to people under the age of 50. This reality alone should utterly discredit the case for locking down entire economies and life events. (Note, by the way, that I write this essay as a 62-year-old.) Not only does Covid pose no real—and much less no unusual—danger to most people, the group of persons to whom Covid does pose an unusual danger is easily identified.

As the Great Barrington Declaration sensibly argues, preventive efforts should be focused on helping this (relatively small) group of vulnerable persons. Keeping them isolated or otherwise protected from the coronavirus simply does not require the vast majority of the population to be locked down, *socially distanced* from each other, or saddled with other restrictions. In fact, as the Declaration's authors note, by delaying population immunity, lockdowns likely *increase* the long-term threat to old and sick people.

Public Panic

It's no good response to note that the general public is panicked by Covid. This panic is indeed real. It explains why the public isn't more resistant to the lockdowns. But this panic does not justify the lockdowns.

Consider: The risk in America of being killed by terrorism is, as Bryan Caplan describes it, *microscopic*. Between 1970 and 2012 the chance that an American would, in any one year, be done in by terrorism was 1 in 4 million—much less than half the chance of being killed by a home appliance. Yet the 9/11-sparked panic over terrorism has resulted in a permanent increase in efforts to protect Americans from this virtual non-threat.

How much prosperity—including increased health and safety—are we failing to produce because we now waste billions of dollars worth of resources on protection from this minuscule risk? Too much.

And don't forget that government's response to 9/11 also includes America's seemingly permanent war stance in the Middle East and a scaling up of government's violation of our privacy. How much of our freedom has been permanently lost because of excessive fear of terrorism? Much too much.

Rather than accept as given the public's irrational fear of terrorism, the far better course is to stop stoking this fear and, instead, to calm it by broadcasting accurate information about terrorism's relative risks. (Aren't we constantly told that one of the core functions of government is to produce and spread accurate information as a *public good*?) The spread of better information would prompt the public to demand better policies.

The same must be said about Covid. Tamping down the Covid hysteria by making available accurate information about this disease is what well-informed and public-spirited governments would do. Yet such governments are largely mythical. Real-world governments behave quite differently. Most governments, in the U.S. and elsewhere, chose—and continue to choose—a course precisely the opposite of what 'good' governments would choose. The reason, alas, isn't mysterious: As H.L. Mencken observed, *The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.*

Covid-19 is the perfect hobgoblin. And while its dangers are not imaginary, their degree and impact certainly are. Governments' failure to ensure that their citizens are accurately informed about Covid is itself sufficient reason to distrust governments with the powers they've seized over the course of this hellish year.



Who Deserves Your Trust in the COVID Debate?

Stacey Rudin



Epictetus

Stoic philosopher Epictetus believed that honorable character and a life of wisdom begin with a clear understanding of one basic principle: *some things are within our control, and some things are not.* How we are perceived by others—our popularity—is ultimately outside our control; we should focus on character, not reputation, because *trying to control or change what we can't only results in torment.* The year 2020 has revealed this to be true. Many Americans, especially affluent types, prioritize reputation over character, and it has indeed resulted in torment.

In the COVID debate, there is a mainstream, *popular* narrative, and a competing, *unpopular* narrative—a *fringe*. The former exploits the common, mediocre desire to be *popular*. Joining the movement is easy. It results in back-pats, validation, and requires no uncomfortable confrontations. This narrative states that it is impossible for humanity to survive the COVID-19 pandemic without a vaccine, lockdowns, and masks, some combination of which will be required into the indefinite future. The narrative supports blaming others for *infecting you* with diseases, rather than encouraging personal responsibility for immune and general health.

Proponents of the competing narrative, on the other hand, must stand up to massive social forces simply to make their arguments, which are not radical: they support a return to classic pandemic management tools, the same ones used by Sweden and other states and countries which did not lock down for COVID-19, which resulted in average mortality for 2020. They do not believe this pandemic warrants a complete overhaul of the economic, social, and educational systems. They believe that every human being should be empowered with truthful information about risk and how to best care for personal health, and to make his or her own choices.

Faced with these competing narratives, we must consider motives and costs. The force of social pressure to conform with the mainstream narrative is large, so we know from the outset that the people willing to argue against it are either insane, or extremely driven, courageous, and strong. It is easy to eliminate the possibility that they are crazy—many of them, such as Elon Musk and the scientists who drafted the Great Barrington Declaration—are giants in their fields. They risk everything, weathering exhausting personal attacks from all sides, in order to battle the crowd.

Who are these people? What do they gain by doing what they do? Princeton professor Robert P. George, a specialist in moral and political philosophy and the theory of conscience, uses the example of slavery to demonstrate that every serious moral dilemma reveals two categories of people: the majority, who go along with the popular zeitgeist no matter how atrocious it is; and the minority, who risk their very existence to fight it.

I sometimes ask students what their position on slavery would have been had they been white and living in the South before abolition. Guess what? They all would have been abolitionists! They all would have bravely spoken out against slavery, and worked tirelessly against it.

Of course, this is nonsense. Only the tiniest fraction of them, or of any of us, would have spoken up against slavery or lifted a finger to free the slaves. Most of them—and us—would have gone along. Many would have supported the slave system and happily benefited from it.

So I respond by saying that I will credit their claims if they can show evidence of the following: that in leading their lives today they have stood up for the rights of unpopular victims of injustice whose very humanity is denied, and where they have done so knowing: (1) that it would make them unpopular with their peers, (2) that they would be loathed and ridiculed by powerful, influential individuals and institutions in our society; (3) that they would be abandoned by many of their friends, (4) that they would be called nasty names, and (5) that they would risk being denied valuable professional opportunities as a result of their moral witness. In short, my challenge is to show where they have at risk to themselves and their futures stood up for a cause that is unpopular in elite sectors of our culture today.

Epictetus would recognize these people, those willing to pursue unpopular causes, as people of character—mature people who create their own merit by forgetting what other people think of them.

Never depend on the admiration of others. There is no strength in it. It is a fact of life that other people, even people who love you, will not necessarily agree with your ideas, understand you, or share your enthusiasms. Grow up! Who cares what other people think of you!

While this path leads to wisdom and self-respect, Epictetus recognizes that it carries a tremendous social cost—which is why only a minority choose it. *You may be ridiculed and even end up with the worst of everything in all parts of your public life, including your career, your social standing, and your legal position in the courts.* This happened to the abolitionists for decades, and it is happening to COVID dissenters now: Dr. Scott Atlas was smeared by 100 of his colleagues

at Stanford, who then refused to debate the substance of their claims against him; one Google search will reveal dozens of smears against the Great Barrington Declaration and its authors.

What do these anti-lockdowners gain by presenting their case to the public? Nothing material—a concept which is difficult for pro-lockdowners to understand. What they gain is security in the knowledge that they fought for truth, justice, and what is right, even to the point of risking everything. This is a privilege.

Anti-lockdowners get to stand up for the least powerful in our society. For those who have no voice. For the people who are desperate for their industries to survive. For the small business owners who make just enough to feed their children. For the *essential workers* who stand in the supermarket checkout day in and day out, while their children stay home playing video games in place of school. For the kids in developing countries who walk for miles through fields just for a WiFi signal. For the frightened elderly people who haven't hugged a family member in eight months. For the hospital patients who will die alone and afraid. For the religious congregations prevented from doing outreach.

For the families foregoing holidays, birthdays, and travel. For the socially isolated. For the babies who are growing up without seeing smiles. For the special needs kids deprived of their therapies, for the women and children locked home with abusers. For the new patrons of the food bank, for the formerly proud career men newly sunk to the unemployment line. For those driven to drugs or drink, for those whose rehab was suspended. For those considering suicide. For those whose vaccinations and medical treatments have been delayed or cancelled.

For those wondering if life will ever again be worth living. For those who feel there is nothing left to rely on, now that lives, livelihoods, and educations can be decimated at government whim.

Anti-lockdowners believe that all of these people, every single one, deserves a voice, a unique vote as to the philosophy of his or her life, and that no one else—even someone vastly more powerful—has the right to override it. By supporting this system of equality and fairness, anti-lockdowners seek to live in a world built on those principles, which protects themselves, their families, and the world of human beings as a whole, prioritizing human beings over corporate and government interests.

What do the lockdowners gain? To answer this question, we need only consider who the acceptance of their program benefits. Tech interests, billionaires, pharmaceutical companies, certain political parties. The 1%—the same people who can easily work from home, who are not harmed by lockdowns, who consider themselves so smart that their decision as to *what should be scary* must hold for every single person on the planet. No votes are needed, because their judgment is so good. Whatever businesses and educational systems and social structures need to die, must die, because they say so. All they need to do to push this system is gain the cooperation of the media, which can be done with dollars alone.

Ask yourself, who deserves your trust? I would argue that anti-lockdowners are today's abolitionists—people willing to take up an unpopular cause at incredible risk. Lockdowners may currently be *popular*, but they are on the wrong side of history.



Climate Catastrophism and a Sensible Environmentalism

Joakim Book

Like many of us, I had an iconic and charismatic high school teacher who left a lasting impression. He used to say something memorable about asking for forgiveness: *Apologize if you're in the wrong, he said, but double down if you're not.*

As the pro-lockdown media poured its anger over the Great Barrington Declaration and other voices for human freedom and dignity have been silenced or viciously attacked, allow me to heed my high school teacher's great advice—and double down.

Much of the outrage over AIER's sponsoring and hosting of the Declaration had nothing to do with what the scientists in it said, or even the topic of societal disagreement that it captures. Conspiratorial writers from *Byline Times* to *The Guardian* as well as editors at Wikipedia attacked AIER for a minor, inconsequential connection to the *evil* Koch Foundation, damning the Institute's efforts in a laughable attempt of guilt-by-association.

As a *carte blanche*—the ultimate *gotcha* in these unenlightened and confused times—many of these outlets attacked AIER for *downplay[ing] the threats of the environmental crisis*, and linked specifically to a number of my climate change articles.

I don't see how I have anything to apologize for regarding what's in those articles—so instead I'll double down.

How to do environmentalism, and how not to do environmentalism

A tragic dissonance has emerged in most popular climate arguments: a childlike refusal of accepting the lesser of two evils, of trading off one goal for another. The more ardently you push climate policies, it seems, the more strongly you hold romantic and unrealistic beliefs about how we can repent for our environmentalist sins. In impossibly short times, it is believed, we can effortlessly transition to 100% renewable energy; overhaul society completely, but at no cost whatsoever; and our restrictive climate policies will even boost our economies and *create jobs!*

You must presume that the world is a pretty sinister place if greedy capitalists, supposedly in it for the money, are all leaving these *obvious* opportunities on the table.

Never mind that renewables—or more aptly called *unreliables*—can't power a modern civilization, that their intermittency problem is light years behind where its proponents assume it to be, that they're not energy-dense enough to provide us with the energy and electricity we want. Without the amazing help of fossil fuels we couldn't do half the things we're currently doing—living, eating, flourishing, helping, traveling (well. . .), producing.

None of that matters; we need to fix the climate, activists say, and quell CO₂ emissions urgently. But while we're at it we must also ensure equal gender representation on corporate boards, and shut down tax havens, and confiscate the rich's productive assets. And naturally, end racial inequality, and most certainly regulate who may use a public bathroom carrying this or that gendered sign on it.

A cynic, perhaps reaching for a tin foil hat or the closest religious text to understand how this could possibly make sense, would conclude that catastrophists are not really addressing the problem they say they are. Alternatively, climate change can't be *that bad* if the same Green New Deal bill that saves humanity is littered with minimum wage laws and paid maternity leave and a range of other social policies that just *happen* to align with what the hard-left has long wanted.

But we don't have to be cynics to derive this conclusion: its proponents freely and openly say so. The British organization *Extinction Rebellion*, whose infamous promoters chain themselves to trains and block London roads for media attention (or sling fake blood at buildings), happily confess that they do things that feel right rather than what would have material impact for their cause.

For years, people like Naomi Klein, the author of *This Changes Everything: Capitalism vs. the Climate*, have said that their goal is to destroy capitalism—and climate change just happens to be the best tool and best argument she has found. Simon Hannah for OpenDemocracy describes capitalism as having a '*parasitoid*' relationship to the Earth. Capitalism, he writes, *is simply incompatible with social justice* and the climate change issue offers a vivid illustration of this.

If you're concerned about these other societal problems—which you could be as they are serious concerns in their own right—then you're also unavoidably telling me that you don't think the climate crisis is existential or even that bad. After all, if you think climate change will kill millions or billions of people, why would you bother, for instance, throwing everything and the kitchen sink at a coronavirus the mortality of which is a rounding error compared to the apocalyptic climate future you see? (When faced with claims of mass death, always ask *how* exactly that's supposed to happen as we're safer, richer, better fed, and better protected against the powers of nature than ever before).

The worse and more unavoidable the damages from a changing planet are, the more acute does a rapid transition to nuclear power look, and the greater the merits of geo-engineering—for instance, artificially spewing out sulfur into the high atmosphere, mimicking large volcano eruptions of the past.

Michael Shellenberger, a pro-nuclear environmentalist, writes

The problem posed by the existence of nuclear energy was that it proved we didn't need to radically reorganize society to solve environmental problems. We just needed to build nuclear plants instead of coal-burning ones. And so the New Left environmentalists attacked nuclear energy as somehow bad for the environment.

[S]olar farms require hundreds of times more land, an order of magnitude more mining for materials, and create hundreds of times more waste, than do nuclear plants. And wind farms kill hundreds of thousands of threatened and endangered birds, may make the hoary bat go extinct, and kill more people than nuclear plants.

Nuclear energy should be the environmentalist's greatest gift: in one fell swoop we could make a serious dent in CO₂ emissions. But of course, the more ardent an environmentalist you are, the more fiercely you oppose nuclear, going nuts from just voicing the option ("Nuclear is awful, filthy, unclean, dangerous, and unsafe!").



It's like all the previous arguments about how devastating human civilization is for the planet, how desperately urgent it is for us to take action, that we *listen to the scientists* as Greta Thunberg urges us, just go out the window. Well, not *those* scientists, explaining how modern nuclear plants can safely power our societies. Or how unreliaables give us higher electricity prices and *more* CO₂ emissions in our electricity mix. Or how modern engineering can tame the sea. Or how modern information technology, large-scale supply chains, and construction of storm shelters have reduced Bangladeshi deaths from cyclones by 99% in a generation, even though Bangladesh has a much larger population today.

We should deal with the threats of climate change, but we should do so sensibly and in conjunction with other threats. Because one thing is dangerous and potentially harmful, every other dangerous and harmful thing doesn't just go away. Do things like the World Health Organization recommends here, things that help against the baseline danger of nature *as well* as the increased risk from climate change:

The development of a 500 metre coastal mangrove forest zone will further reduce the vulnerability to cyclones, which is especially important given the likelihood of a rise in sea level and an increase in tropical storm frequency and strength due to climate change.

In a special climate issue of the *Scientific American* from last year, climate scientist Jennifer Francis was accounting for recent extreme weather events. After several long paragraphs outlining how bad the record-setting heat waves of the 2018 summer had been in the U.S., Japan, Scandinavia, and in the Arctic, she wrote, *Worldwide, thousands of people without air-conditioning died.* (emphasis added)

Yes, exactly! Scorching heat waves are bad for people, *with or without climate change.* A sensible, effective, and direct way to fix that. . . is ensuring that people have access to air-conditioning! Instead of aiming for some elaborate government-mandated degrowth platform, circular economies, carbon tax, or subsidies for solar and wind—how about just giving people cash for air conditioners? That should be much more effective in preventing deaths from inhospitable elements, even if climate change makes nature a little bit less safe for humans.



Most changes to the climate can't be rolled back

What's scary about the climate impact of the CO₂ we've already emitted into the atmosphere is that it lingers there for hundreds of years. Unless we find a way to remove it from the skies, much of what will happen to the planet over the next century or so is already *baked in*.

That also means that we must prepare for those changes rather than muck about with blunt tools like carbon taxes or symbolic bans on plastic bags.

So let's abandon fanciful and fleetingly ineffective climate policies. Let's rapidly transition to the cleanest and most reliable electricity source we have (nuclear). Let's build protective dams along vulnerable coastlines, and experiment with ways to raise and reclaim land from the sea. Most importantly—and globally just—let's make sure the poorest of the poor can enrich themselves enough so that they too stand a chance against the inevitable changes that we know will come. Let's stop torturing ourselves with totalitarian policies against a virus we can't control. Let's stop injuring poor countries with our obstacles to their goods and services, and their migrating people.

Those are climate policies that a sensible, pro-human environmentalist could get behind. Blunt and small-impact carbon taxes, Paris Agreements with next-to-no effect, or symbolic gestures like recycling—not so much.

How's that for doubling down?

The Return of the Flagellants

Jeffrey A. Tucker

The lockdowns have disproportionately targeted fun. No house parties. No travel. Bowling, bars, Broadway, theater, amusement parks, all banned. Weddings, forget it. Restaurants, hotels, conventions, and even golf were all targeted by the lockdowners.

There is an ethos here. To beat the disease, you have to suffer. You have to eschew joy. You must sit at home and go out only for bare essentials. Even today, the great disease mitigator Andrew Cuomo, who already admitted in a phone call that the lockdowns were not science but fear, has warned New Yorkers not to travel outside the state except when absolutely necessary.

There is even a costume associated with the new national penance. It's a long sweater dress, wool leggings, clompy sneakers, gloves, and the biggest face covering you can find. It's not about safety. It's about symbolizing your virtue, contrition, and allegiances.

The first time I saw this costume, which reminds me of women at a Taliban funeral, was back in mid-March. A hipster millennial, once living a carefree life, found new meaning in suffering for a cause, and quickly turned on anyone not dressed in dread while listening to the *Dies Irae* in one's head.

What's going on here? Surely this is not about the science. There is a moral drama at work, one that taps deeply into some spiritual impulse within people. It's about the belief that bad things are happening to us because we have sinned. The clothing and the banning of fun are part of our acts of contrition and our penance for wrongdoing. Sounds crazy? Not so much. Otherwise, it is hard to explain. And this kind of response to disease is not unprecedented.

Eyewitness to History explains that the Flagellants were a religious movement that arose during the Black Death:

The Flagellants were religious zealots of the Middle Ages in Europe who demonstrated their religious fervor and sought atonement for their sins by vigorously whipping themselves in public displays of penance. This approach to achieving redemption was most popular during times of crisis. Prolonged plague, hunger, drought and other natural maladies would motivate thousands to resort to this extreme method of seeking relief. Despite condemnation by the Catholic Church, the movement gained strength and reached its greatest popularity during the onslaught of the Black Death that ravaged Europe in the mid-fourteenth century. Wearing white robes, large groups of the sect (many numbering in the thousands) roamed the countryside dragging crosses while whipping themselves into a religious frenzy.

Here is a firsthand account of the Flagellants in the 14th century by Sir Robert of Avesbury, as quoted from Norman Cohn's classic work *Pursuit of the Millennium*:

In that same year of 1349, about Michaelmas (September, 29) over six hundred men came to London from Flanders, mostly of Zeeland and Holland origin. Sometimes at St Paul's and sometimes at other points in the city they made two daily public appearances wearing cloths from the thighs to the ankles, but otherwise stripped bare. Each wore a cap marked with a red cross in front and behind.

Each had in his right hand a scourge with three tails. Each tail had a knot and through the middle of it there were sometimes sharp nails fixed. They marched naked in a file one behind the other and whipped themselves with these scourges on their naked and bleeding bodies.



The Catholic Encyclopedia explains the terrifying movement in more detail:

*The Flagellants became an organized sect, with severe discipline and extravagant claims. They wore a white habit and mantle, on each of which was a red cross, whence in some parts they were called the Brotherhood of the Cross. Whosoever desired to join this brotherhood was **bound to remain in it for thirty-three and a half days, to swear obedience to the Masters of the organization, to possess at least four pence a day for his support, to be reconciled to all men, and, if married, to have the sanction of his wife.***

*The ceremonial of the Flagellants seems to have been much the same in all the northern cities. Twice a day, proceeding slowly to the public square or to the principal church, **they put off their shoes, stripped themselves to the waist and prostrated themselves in a large circle.***

*By their posture they indicated the nature of the sins they intended to expiate, the murderer lying on his back, the adulterer on his face, the perjurer on one side holding up three fingers, etc. First they were beaten by the "Master", then, bidden solemnly in a prescribed form to rise, they **stood in a circle and scourged themselves severely, crying out that their blood was mingled with the Blood of Christ and that their penance was preserving the whole world from perishing.** At the end the "Master" read a letter which was supposed to have been brought by an angel from heaven to the church of St. Peter in Rome. This stated that Christ, angry at the grievous sins of mankind, had threatened to destroy the world, yet, at the intercession of the Blessed Virgin, had ordained that all who should join the brotherhood for thirty-three and a half days should be saved. The reading of this "letter," following the shock to the emotions caused by the public penance of the Flagellants, aroused much excitement among the populace.*

Four of them would chant in their native tongue and, another four would chant in response like a litany. Thrice they would all cast themselves on the ground in this sort of procession, stretching out their hands like the arms of a cross. The singing would go on and, the one who was in the rear of those thus prostrate acting first, each of them in turn would step over the others and give one stroke with his scourge to the man lying under him.

This went on from the first to the last until each of them had observed the ritual to the full tale of those on the ground. Then each put on his customary garments and always wearing their caps and carrying their whips in their hands they retired to their lodgings. It is said that every night they performed the same penance.



To reiterate, these people expected everyone else to celebrate them, for it was they who were keeping the world from falling apart completely. Their sacrifice was an act of benevolence to the rest of humankind, so how dare people show ingratitude! Even worse, the more people continued to live in revelry and fun, the more the Flagellants had to punish themselves. For this reason, they felt and showed disdain for anyone who declined to join their cause.

If you do not see the parallels here with what's going on today, you haven't been paying attention for 7 months. See, for example, the tremendous media hatred for Trump rallies. This also helps explain why the lockdowners celebrated the BLM protests but condemned the anti-lockdown protests. The former are seen as part of penance for sin whereas the latter are calls to persist in sin.

The Catholic Church, which has a long history of crushing nutty extremism within its ranks, was clear: this was a *dangerous heresy*; the real epidemic, the Church opined, was not the disease but an *heretical epidemic*. None of it mattered: the movements grew and persisted for hundreds of years, proving yet again that once fear and irrationality take hold, it can take a very long time for rationality to return.

But how can this be? We are not a very religious people as we were in the Middle Ages. Where are the priests guiding the new Flagellants? What is the sin we are attempting to expiate? It doesn't take that much imagination. The priests are the data scientists and media stars who have been calling for lockdowns and celebrating them now for most of 2020. And what is the sin? It doesn't take that much imagination to extend this analysis: people voted for the wrong person to be president.

Maybe my theory here is wrong. Maybe there is something else going on. Maybe we are really talking about a general loss of meaning in life, a guilt that comes from prosperity, a desire on the part of many to turn lights of civilization off and wallow in suffering for a time to purge ourselves of the stain of vice. Whatever the answer to the question of why this is really happening, and that it has nothing to do with actual science, is an observation that seems incontrovertible.

In England in the 14th century, when the marauding Flagellants came to town, good members of the community found these people amusing and rather ridiculous, and otherwise they went about their lives, having fun and building a better and more prosperous society. Let those who desire to suffer be free to do so. As for the rest of us, let us get back to having good lives, including partaking in actual fun.

The Year of Disguises

Roger W. Koops

2020 is a year of disguises. Some examples include computer models/modelers disguised as *science/scientists*, Tyrants/Dictators/Totalitarians disguised as *elected officials*, propaganda machines disguised as *news sources*, brain-washing disguised as *information*, censorship disguised as *public health safeguard*, panic and fear disguised as *social responsibility*.

Even the virus itself has been disguised by humans as an *apocalypse*. But, the last part is not the doing of the virus, but the doings of a select number of humans who are responsible for many of the other disguises as well. And if you look at the totality of events in 2020, it is clear that the average citizen has been treated generally less than human, certainly not as adults in any case.

I believe we are in as great a crisis as a species as we have ever been. The crisis is **not from some seasonal virus** (which is a health issue), but **it is from ourselves and what we have devolved into as a species** (social, cultural, ideological issues).

I have debated with myself on how to approach the following essay. Under normal circumstances, it would be easy. But, the topic has been so warped and sensationalized into

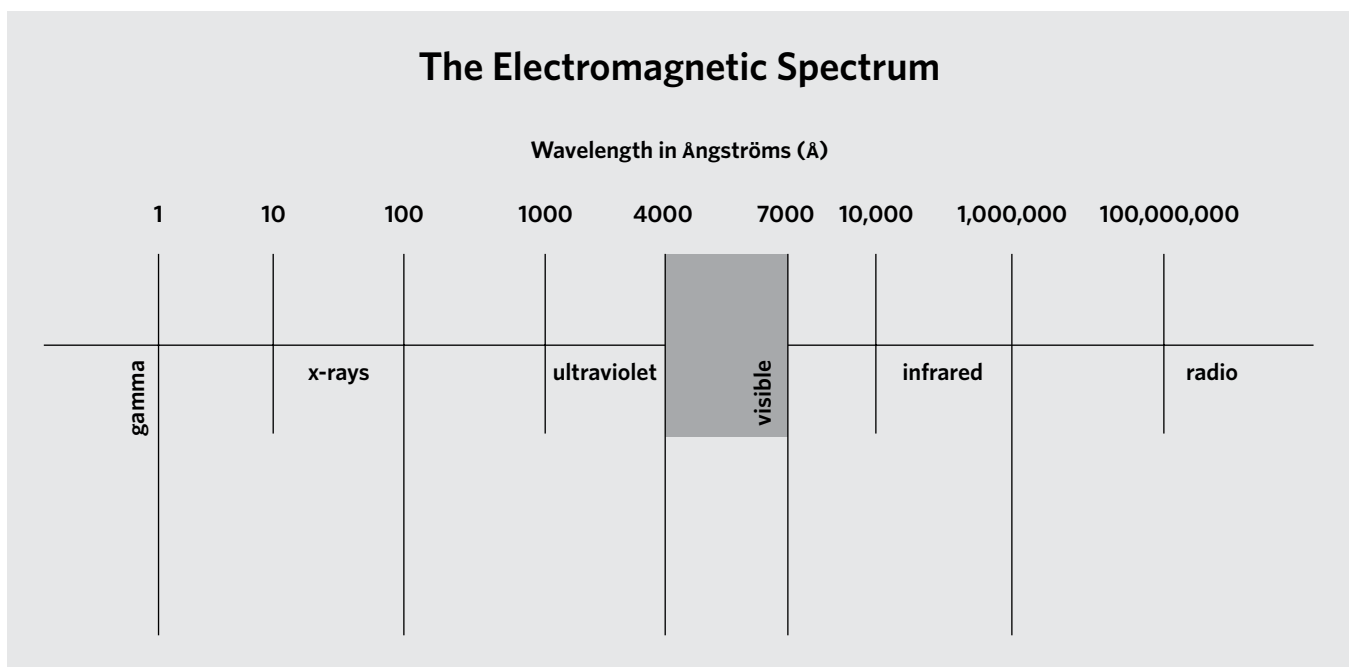
political and social hyperbole, it is difficult to get a handle on it. I could go at it strictly from a scientific perspective, but that would tune many people out.

After about two weeks of my own internal debate and several versions, I have decided to treat the readers of this essay as Human Adults. I will try to not get too technical but rather use rational arguments to approach the issue of a viral infection from the perspective of the virus molecule outside of the host, i.e., the natural environment.

Computer modeling is *a* tool, not *the* tool. The model is only as good as the assumptions put into the model. It has been clear from the start that the modelers have NO idea of how a virus works in the natural world. They have based their modeling on the assumption that the culprit is the human being. The human being must be controlled in order to control the virus. This is completely wrong. I hope to present arguments that illustrate the weaknesses of the modeling concepts.

Human Perception

The natural perceptive abilities, i.e. the physical senses, of human beings are quite poor. For example, we can see only a very, very small part of the electromagnetic spectrum, illustrated as follows:



Consequently, humans have difficulty understanding that which is not directly observable by their senses. Size and mass we do okay at, providing we can see it. We tend to have better abilities with larger things that we can observe. But, even size perception has its limits. For example, many people cannot grasp the scope of our universe.

Smaller things, things we cannot see we have trouble with. We live, and have always lived, in a world with things that are far smaller than our ability to detect without some instrumental aid. For example, when I tell people that their bodies are mostly empty space, they scoff. We have solid substance, they say, we can feel it. I respond that the reason we feel it is solid is because that is how our brain interprets it.

For example, neutrinos are subatomic particles with no mass. They do not interact with matter. We are bombarded by interstellar neutrinos throughout our lives. They pass right through us. It makes no difference where you live because they pass right through the Earth, too. You can live a whole lifetime and never have experienced a collision of a neutrino with a cell in your body. Think about it; is it difficult to grasp?

Yes, neutrinos are exotic and basically of interest to physicists. But we exist in a constant interaction with other not-so-exotic things.

Bacteria and fungi, at the cellular level, exist at the micron scale (see the scale diagram below). But, they have the cellular machinery to grow on their own, i.e., their cells will divide and multiply as long as they have nutrients. We cannot see them normally without a microscope. But, if they keep growing, eventually we can see them (as things such as moldy bread, or mildew on the wall), or even feel them (old vegetables that get a *slimy* feeling actually have a bacterial plaque on their surface). Both bacteria and fungi can form *spores* to protect themselves under harsh conditions. It is a form of hibernation.

We have bacteria and fungi in our bodies constantly. Our immune system usually keeps them at bay, or more accurately, keeps them in balance. However, if our immune system weakens, or if a balance is shifted towards the bacteria/fungi, the balance can tip in their favor and we can experience disease. We tend to have more difficulty with control of bacterial/fungal infections than viral infections. In fact, the most common cause of a fatal outcome due to viral infection, including coronavirus, is a bacterial infection.

The reason the second week of infection is considered the worry stage is NOT because of the virus; rather this is the time when a weakened immune system, either by exposure or by losing the balance battle cannot prevent the bacteria/fungi from taking off. Most people who die from influenza, coronavirus, even rhinovirus, do so primarily from pneumonia (bacterial infection) or some other systemic bacterial infection.

Other things, besides fighting a virus, can weaken the immune system. Aging, diabetes/obesity, liver disease, kidney disease, cancer, lung disease, other infections (viral/bacterial/fungal), stress, circulatory problems, cardiovascular disease, and several others all can cause weakened immune systems (that is why they are called "comorbidities"). Clearly, the number and degree of conditions that weaken your immune system greatly increase the risk of severe disease or death from any infectious disease (bacterial, fungal, or viral).

All of these things occur at a level where our senses cannot perceive them. Fortunately, our bodies recognize these things at the molecular level and it is our own chemistry (we call *biochemistry*) that intervenes, mainly in the form of our immune system.

The Virus: What are we dealing with?

My Doctoral degree is in *organic* chemistry, specifically, chemistry involving carbon-based compounds. Chemistry is about working with problems at a molecular level. Guess what a virus like coronavirus is? It is a complex organic molecule. Organic chemists would call it a *macromolecule* where *macro* means large. It is only considered *large* in comparison to small molecules. I am naturally inclined to look at a virus like coronavirus as an organic molecule.

Coronavirus (CV) and influenza (IF) are very similar at the molecular level. Both are ribonucleic acid (RNA) viruses and both are enveloped helical (meaning that they have a similar 3-dimensional structure with a protein outer part and the RNA inside). CV is a positive strand RNA and IF is a negative strand RNA. This means they have opposite structures much like you have a left hand and a right hand. Their viral class identification is different partly for that reason.

Both CV and IF behave almost the same outside of the body and this is due to their size, structure, and relative chemical similarities. On average, both are about the same size, ranging around 100 ± 30 nanometers or nm (CV can range smaller in size than IF). For consistency purposes, I will refer to both of them at the 100 nm size, which is reasonably accurate (nm is 10^{-9} meter (0.00000001 meter), a

Relative Size Visual Comparison Chart

size	100 nm	300 nm	1 micron	2.5 micron	5 microm
	<p>Here it is</p> <p>↓</p> <p>°</p>	o	O	O	O
example	CV/IF surgical mask	N95 mask	bacterium start pollen start	utility mask pore	typical dusts
humans	aerosols		large aerosols/small droplets		droplets

micron (μm) is 10^{-6} meter (0.000001 meter). The meter is about 10% longer than a yard, or 39.37 inches so 1 micron is 0.00003937 inch.

I have created the following scale for a reference point using font sizes, and I hope that the fonts are reasonably accurate. Note that our eyes cannot see 5 micron, so this is enhanced.

As the chart shows, both CV and IF as a molecule outside of the body are VERY, VERY small. They are undetectable without the use of an electron microscope. We simply cannot detect it in the natural environment. The tip of your finger, maybe 1 square millimeter, can literally pick up tens of millions of virus particles and you could not see any of them.

Because of the small size, we really do not know how they truly exist in the environment. They could be floating around as individual molecules, i.e. as single CV/IF particles. They could *aggregate*, meaning that they form clumps of molecules (again, too small to detect). They could attach to any

other particle in the environment. Since they are so small, they could hitch rides with dust particles, pollens, leaves, just about anything that they may have an affinity for. The list of possibilities extends to anything you could think of in the environment, including living creatures. In short, they simply could be anywhere and everywhere.

Molecules can react with other molecules (reactivity), or they can remain as they are or fall apart into smaller molecules (stability). For the purpose of this essay, I will focus mainly on stability.

Most molecules have conditions that can render them either more stable or less stable. Clearly, with an infectious disease molecule, we would want to try and break it apart, or not give it stability. Breaking it apart usually renders it inert; i.e. non-infectious.

In an outdoor environment, we know that the CV/IF molecule will start to break apart within minutes or maybe last

an hour or two. The local environmental conditions will determine how fast the molecule breaks up. We know that heat and ultraviolet (UV) radiation are pretty good at breaking it up.

There are things that chemically will help break it up. For example, saline conditions, like in an ocean are good (it may be considered a *natural disinfectant*). There are man-made disinfectants such as bleach. We know that CV/IF are not stable under pH of 3 or over a pH of 10. So if the molecule encounters either natural or man-made conditions that deal with these pHs, the molecule will break up. Common soaps are good for breaking up the molecule. This is why there is the recommendation to wash with soap and water.

Likewise, there are conditions that increase the stability of the molecule. Both CV/IF survive longer under colder conditions. This is probably one reason why they tend to favor winter months and colder climates.

We know that certain types of surfaces can make it more stable. For example, CV has good stability on plastic (1/2 life of almost 8 hours) and has even been detected up to one week on surgical masks. Some types of metals, such as copper, can speed up decomposition and some metals lend stability (such as stainless steel).

Skin can actually be good at destabilizing because of not only sweat but also the natural oils and detergents that are produced in the skin can break apart these types of molecules. That is a reason that skin absorption is not considered a vector of infection. Serious breaks in the skin, however, such as from burns or injuries, could lead to infection due to the decreased natural inhibition.

So, in general, we would want to try and increase exposure of the molecule to conditions that destabilize while trying to minimize the stabilizing conditions.

The Virus in Disease Transmission

The *rationale* for lockdowns, masks, distancing, etc. all rest on the assumption that human direct transmission is the greatest risk for disease. Anyone, at any given time, in any place can pass the virus to another. It sort of reminds me of the character *Cofi* in the movie *The Green Mile*. People seem to be convinced that somehow, the only way to catch this virus is because it makes a beeline from person to person. In other words, we are the culprits.

But, is this really the case? In short, *No* and here is why.

Because of the modeler's view, if we imprison people (*lockdown*—a term used in penal institutions when prisoners become unruly), cover their faces (*masking*), and keep

them from doing what people do, i.e. socializing (*distancing*), we can stop the virus. This concept is what *wanna-be* dictators all over the world have embraced.

This is **NONSENSE**. Certainly, you can get infected that way but that is only one way of many ways. It may not even be the main way. It is *losing sight of the forest for the trees*.

To examine the path to infection more closely, let's make the following assumptions (which you can see are more or less worst case assumptions):

Assumption 1 A person has CV/IF and is shedding, i.e. releasing virus from their bodies. Further, let's focus on the nasal/oral route for shedding as the only route, even though we know that the virus can be shed from feces.

Assumption 2 All shed virus is infectious. This may sound like a strange assumption but we really do not know how infectious shedding viruses truly are. What is being shed could be combinations of fragmented virus and more intact virus. The reason it is not clear is because a main method that is used for identification of samples is PCR. PCR cannot tell whether what is being amplified is actually infectious or not.

When we exhale breath, speak, sing, laugh, cough, shout, sneeze, hiss, scoff, grunt, etc., air is expelled from our, mostly, upper respiratory tract. This air *MAY* or *MAY NOT* contain particles of moisture (mostly water). These moisture particles *MAY* or *MAY NOT* contain mucus, cellular debris, bacteria etc. from our respiratory tract. These moisture particles *MAY* or *MAY NOT* contain virus particles. In other words, there *MAY* be virus particles hitching a ride or there may be **NONE**.

There is no scientific evidence that when a person is infected that they are continually expelling virus, but that goes to a different essay. Please note, I am not referring to the playground use of the *spitball*, which is a massive collection of saliva, which may or may not contain any of the above. However, I think that we all can agree that amorous kissing when there is an infected person involved runs the highest risk of transmission. But this has more to do with direct contact. I want to deal with indirect routes of transmission.

The expelled moisture particles range in size from very, very small to much larger and for scientific purposes are divided typically into two categories: (1) aerosols, which are the very small particles usually below 1 micron, and (2) droplets, which are particles larger than 5 micron. The range between 1-5 micron is sometimes ambiguously defined either as an aerosol or a droplet but that is not really important for this discussion. You can see the whole range is involved.

Once expelled (egress) away from the nose/mouth, moisture particles will travel certain distances depending on their sizes. Larger droplets fall closer to the individual while aerosols can travel much farther or remain suspended. We have imaging techniques to see droplets using special high speed cameras, but we cannot visualize aerosols.

Clearly, independent virus particles that are NOT hitching rides are expelled as nanoparticles and go out into the environment. We cannot begin to see these. But, as nanoparticles, we should assume that they can remain air suspended for long periods of time and are taken up by the local air movement patterns.

Aerosols and droplets, after leaving the mouth/nose will quickly lose their moisture, i.e. the water base will evaporate. The smaller the particle, the quicker this will happen. With aerosols, it may be within a fraction of a second. Environmental conditions will also affect the timing. Warmer and dryer conditions will speed up evaporation while colder and more humid conditions will slow it down. Studies have indicated that under most normal temperature conditions, aerosols and droplets less than 100 micron in size evaporate before they hit the ground.

What happens to the hitchhiking virus? IT IS STILL THERE! It does not evaporate. It has lost its ride but it is still there.

What happens to it now? It can go anywhere, i.e. it can be dispersed just like the free molecule. It will last as long as it is stable. It can be carried by the wind (outdoors) or by air movements or HVAC (indoors). It can hitch a ride with other carrier things (outdoor examples such as above). It can land on surfaces, any surface, whether indoors or outdoors. Animals or even insects can carry the molecule if it lands on them. If it lands on another person, it can land on their clothes, hair, skin, etc. and be carried by them. If it happens to get sucked into the respiratory tract or absorbed on the eye, it may eventually lead to infection if it can survive the body defenses. The possibilities really are endless.

Indoors, the picture becomes even more complicated because now the vectors of movement, displacement, and contamination possibilities increase. Air handling units can redistribute the molecules to other areas far from the original source. Surface contamination is now a real consideration. Simple items can become sources of infection.

For example desk pens and pencils, office equipment, telephones, notebooks, furniture, electronic devices, cups/glasses, dishes, light switches, etc. Just look around the room that you are sitting in and remember about when you (or someone) *dusts*. At least anywhere that a *dust* can go so can a molecule like a virus. In fact, the very act of

dusting could reintroduce the molecule back into the environment. Anything in that environment that you touch is a potential source.

It should be easy to see why a lockdown is disastrous. A single sick person can spread a virus throughout a whole building and no one would know it until too late. Clearly, air handling, sanitation, people movement, shared items, all will play a significant role in transmission risk.

Further, indoor conditions are better generally for stability and survival of the molecule. Why are meat processing/packing plants at risk? They are refrigerated facilities. There are many people so there is a lot of movement. There are many surfaces for the molecule to sit, like carcasses, that are handled often and routinely.

I think people can start to see the problem that we are dealing with and why the virus doesn't just go away so easily.

Don't Masks Make A Difference?

Before going into that question, I want to provide both some personal background and maybe a little comic relief.

The photo below was taken about 30 years ago, and yes, that is me. I was being fit tested for my own respirator. In my first position after the Ph.D., I was given charge of developing a molecule that was so lethal (yes, it is used medicinally but in very dilute solutions and under strict controls) that even the tiniest of amount contacting my skin, nose, eyes, etc., could knock me out and kill without my ever knowing it; the risks I faced were far greater than any coronavirus. I had to undergo serious Personal Protective Equipment (PPE) training as a result. When your life hangs in the balance, you learn all that you can. I was also a member of an isolator design team to develop a manufacturing unit to contain the production process.



Yes, I do know something about PPE.

The type of respirator that I am wearing in the photo is designed to protect the wearer from chemical agents, mostly, although there are biological filters available. It has unidirectional airflow. That means that the air that I would breathe in would be pulled through a series of filter cartridges (the round canisters on the sides) in order to remove the potentially offending compounds. After inhalation, a valve would close off the incoming air (ingress) and my exhaled breath would exit via another one way valve (egress), which you cannot see but it is located in the middle of the canisters directly in front of my mouth. Of course, this was used with other head and body protection since ALL physical contamination had to be guarded against.

This kind of respirator required both fit and physical certification. I had to be certified on an annual basis to show that my lungs were capable of breathing with this apparatus since the pressure differential was great. That means, I had to be able to suck in the air through the filters as well as deliver out through the valve. Lung capacity was very important; it was NOT a normal breathing experience. You also had to take periodic breaks, as well as a thorough and careful decontamination after each use. The respirator worked only as long as the filter cartridges were effective. They could reach a saturation point or a point where the cartridge was spent and beyond that there would be no protection.

The idea of *masks* on people did not suddenly appear in March of 2020. The usage of face protection with infectious diseases has been well studied, especially with influenza. Do not forget, the mechanics of these two viruses (CV/IF) are essentially the same so what works or doesn't work for one is the same for the other.

The understanding has been that a *mask*, and that term usually refers to either a SURGICAL mask or N95 mask, has no benefit in the general population and is only useful in controlled clinical settings. Further, it has been considered a greater transmission risk than a benefit in the general population. If people still have a memory, you may recall that this was still the advice in February 2020. That understanding has not changed and I will explain why.

The term *mask* by itself means nothing. It is like saying *car*. You have to identify it more specifically because there are many different types and varieties, just like cars. So, for this essay, I will use two terms as follows:

Face Coverings In this category I will include homemade cloth, dust, non-fitted utility, custom stylish, and any other common *mask*, i.e. something that is intended to cover your mouth and nose and that is by and large used in the general population (because they are cheap and inexpensive).

Mask In this category, I am referring specifically to the SURGICAL mask and N95 mask (which is recommended for use in clinical settings by health care workers). If necessary, I will specify between them.

One of the big mistakes by modelers is the concept of a face covering or mask as a *barrier*. I see many references to so-called *experts* who make this claim. This is completely false. No face covering or mask is a barrier. Either they do not know what they are talking about or they are misleading people.

Masks and *Face Coverings* ARE:

FILTERS, not barriers. They FILTER only the things that **they are designed to filter**, to a level of efficiency based upon design, usually not at 100% efficiency. For example, the N95 mask is designed and rated to filter particles greater than 300 nm at 95% efficiency (note: there are masks with greater efficiency than 95%, such as the N99 and NHEPA, but these are very expensive).

Bidirectional, or two-way street flow (unlike my respirator above). That means the air is intended to go in and out through the same place—breathe in, breathe out. The filtering ability affects both ingress and egress, but MOST are intended to be used towards ingress, i.e. to protect the wearer (Surgical masks are the exception).

Designed for *normal breathing patterns*, not exertive force (although the Surgical mask has a pressure rating). This is an important point!

NOT designed to filter infectious agents but rather inert particulates (except the Surgical mask which is intended to preserve a sterile/sanitary operating field).

Designed for minimal usage time. They are NOT intended to be stuck on your face for hours.

I understand the **psychological crutch** that people feel with something covering their mouth/nose. I am sorry, but that is a false sense of security. Perception is NOT reality, just like the neutrino. The mind says that you have some solid thing covering your mouth and nose but that is not really the case, it is porous; things get through (or go around).

I could spend time on the viral transmission ineffectiveness of the variety of face coverings and fitted masks based upon the material, pore size, non-fit, etc., as well as the studies. I will say that there has been only ONE type of mask, the SURGICAL mask, which has shown any ability to reduce, not eliminate, virus transmission because it is actually rated to a 100 nanometer pore size AND it is rated for ingress and egress. But, the SURGICAL mask is not intended for use outside of a controlled, sterile hospital surgical field where its use and function can be controlled. It has limitations.

In Part III above, the expulsion of the virus into the environment was examined. So, what happens if a person wears a mask/face covering? There are two different views of how the mask operates depending on whether it is ingress (protecting the wearer) or egress (protecting the environment). But, both add up to more or less the same thing.

First, what happens on EGRESS. We will look at droplets because most face coverings will not stop an aerosol and the 2020 propaganda has been focused on droplets.

Assuming that a person is shedding virus and they produce droplets that contain hitchhiking virus, and *assuming* the face covering actually stops ALL droplets (best-case scenario), the following molecular pathway will likely occur:

The droplet will lose its moisture. The timing may be different than just going out into the environment but moisture will be lost. However, the expelled droplets may accumulate faster than evaporation. If that happens, the facial covering starts to become saturated with moisture, mucus, cellular debris, bacteria, etc. as well as virus molecules.

The virus molecule DOES NOT EVAPORATE and no matter what happens as far as the droplet is concerned, the virus is now on the face covering, at least initially. This means that the face covering is now contaminated and is a possible source of transmission, both contact and airborne.

The virus is not somehow magically *glued* to the mask but can be expelled, whether or not there is still moisture. This can happen the next time a person breathes, speaks, coughs, sneezes, hisses, grunts, etc. So, the virus can be expelled out INTO THE ENVIRONMENT from the face covering.

So, the face covering acts as an intermediary in transmission. It can alter the timing of the virus getting into the environment, but it now acts as a contact source and airborne source; virus can still get into the environment. Since we know that the stability is good on most covering and mask materials, it does nothing to break down the virus until the covering is removed and either washed or discarded (appropriately).

Here is an important point, as more virus molecules accumulate, more are expelled. The face covering is not some virus black hole that sucks the virus into oblivion.

Second, what about INGRESS?

What works for egress works for ingress. So, if a person is wearing a face covering and they encounter virus, aerosols, or droplets, the virus and aerosols will likely penetrate. If the droplet is stopped, the surface is now contaminated. This means that if the surface of the covering touches the mouth or nose, you can become contaminated, i.e. infected.

This is a common sight with most face coverings, including the *stylish* coverings that people are wearing (I often see the covering moving back and forth against their mouth and nose even as they breathe, like a diaphragm), as well as with the cheaper dust masks and homemade cloth masks. If you inhale, you can become contaminated. If you touch the face covering, such as pulling it up and down, you can become contaminated.

Further, because the surface is contaminated, a person can also expel the virus back out into the environment just as with egress. This can be done by talking, breathing, coughing, etc.

Stopping a *droplet* is NOT the same as stopping the virus!

This molecular evaluation only assumed the best case contact scenario; that is, 100% contact between the face covering and any virus particle that may be encountered. I have NOT examined low efficiency coverings, inappropriate use and handling, non-fit (air will circumvent the covering and go around it since air flow follows the path of least resistance—where the air goes so does a virus). I have NOT examined the eyes or ears as entry points. I have NOT examined the other modes of molecular movement on the surface of face coverings, such as osmosis. I have NOT examined the almost 100% misuse of any covering by the population at large simply because they have not been trained and have been misinformed and are using ineffective coverings.

It boggles my mind when there is some notion that by wearing a face covering you are actually doing a *service* to your neighbor and therefore everyone has to protect everyone by this. Actually, the opposite is true. You are now becoming an additional potential source of environmental contamination. You are now becoming a transmission risk; not only are you increasing your own risk but you are also increasing the risk to others.

To better illustrate, let's look at my respirator above. If I had been exposed to the molecule that I described, the filters would have protected my breathing function (my other protective equipment such as gowns, hoods, etc. would protect the rest of me). But, the respirator surface would have been contaminated (as would the other gown surfaces). If I had gone out into an uncontrolled environment with that respirator (and/or gown, etc.), I could have released those molecules into the environment endangering any person, possibly fatally. I had to de-gown and decontaminate, very carefully, in a controlled environment to prevent that possibility. Even though I had been protected, I was still a risk to others.

Before March 2020, the standard Good Respiratory Practice (GRP) was to cover your mouth/nose when coughing or sneezing. It is especially effective if you use a tissue or handkerchief as a receptacle and cup your hand around them. The hand now actually DOES serve more as a barrier.

Plus, you will more likely remove the potential virus molecule from the environment by proper disposal of the tissue or washing the handkerchief. That is a practice we should be getting back to. I see people now who believe the misinformation and do nothing to shield their cough or sneeze because they believe that wearing a face covering is a barrier on its own. This is not good. So, at the very least, cover your face covering with your hands if you cough or sneeze!



I cannot tell people to not wear a face covering. I chose not to wear face coverings for two reasons, the first is all of the above, and the second is that I have experienced this virus. When I see people with them, I think of virus heaven. But, I am also not afraid because this virus does not frighten me.

I cannot tell people not to erect plastic sheets. But, when I see them, I see a virus motel-check in, stay a while, and then leave. This concerns me more because of the much larger surface area that can act as a virus repository. I have actually advised some places that have done this to either disinfect regularly, or move to glass where disinfection is easier. If there is virus stuck to these surfaces, there is both contact risk and expulsion risk back into the environment.

My view of dealing with the virus is at the molecular level. Do what we can to actually deplete the molecule, not give it stability.

We cannot eliminate this or any other upper respiratory virus. Maybe someday we can advance our immunological techniques to the point that it might be possible to make it a minor player in humans, but we are not there yet. But, we can defend against it by our immune systems and by trusting those with stronger immune systems to protect the weaker. Despite the propaganda, herd immunity was the standard before March 2020; it is not a *fringe* concept.

Here are some important points to consider:

People who have experienced this virus do NOT need to wear face coverings, period.

In the open environment, no one should be wearing face coverings. This is the one place where we can get an assist from nature to help reduce the virus molecules. Considering that less than 5% of transmissions have been associated with open environments (and identifiable activities not random encounters), the risk is truly small.

A face covering may be useful when visiting an at-risk elderly person or in a controlled health care setting such as a hospital or nursing home. But, I think that these should be dispensed by trained personnel and should be focused on using Surgical masks wherever possible. The protection is not so much from viruses but face coverings may be more effective in preventing the spread of bacteria and fungi.

Children should not be wearing face coverings. We all need constant interaction with our environments and that is especially true for children. This is how their immune system develops. They are the lowest of the low risk groups. Let them be kids and let them develop their immune systems.

The *Mask Mandate* idea is a truly ridiculous, knee-jerk reaction and needs to be withdrawn and thrown in the waste bin of disastrous policy, along with lockdowns and school closures. You can vote for a person without blindly supporting all of their proposals!

There may be other health risks associated with continued use of face coverings. While this is anecdotal, I have many physician acquaintances and they are all reporting increases in conditions that may be associated with face coverings, such as facial skin infections, nose/throat and sinus infections, even anxiety conditions. An area of concern is the change in breathing patterns that can be directly associated with face coverings. I train regularly. The only time that I wear a face covering is to gain entrance to the public gymnasium where I train (because it is required). The mask is discarded immediately when I start training, as most other people also do. The staff members do not make a fuss because they understand the dangers of doing exertion with a face covering.

We also do not know enough about the possible consequences of forcing whole populations to adopt face coverings for extended periods. There may be both health and social consequences that we cannot consider at this time. Humans have developed as creatures whereby we interact with our environment. Our whole upper respiratory tract has developed immense defensive systems because of that. I am worried personally about *unnatural selection*. This is when human actions force a direction of evolution that would not otherwise occur. Often, the result is not good. But that is a whole different subject that needs to be considered.

I think that people can see how truly complex and difficult it is to deal with a nanoparticle. It is something too complex for modeling, at least on the environmental scale. It should be clear that humans are only a small part of the equation.

Stopping humans from being human will not stop the virus from being a virus!

We certainly should not have let modeling be experimented with on a worldwide scale directing policy that we had no idea of the outcome; but we did. It should be readily apparent by this time that all of the lockdowns, masking, distancing, closures, etc. have had no effect on the virus. It is time to reverse course.

Modeling could be useful in evaluating conditions in very limited and controlled settings. For example, it could be helpful to design infectious disease care units in hospitals. We could use modeling to examine our knowledge and use of air-handling, people movement and interactions in combination with molecule destruction, PPE, etc. to maybe develop better procedures to protect health care workers but also help reduce viral loads of patients.

For example, would a simply designed, single pass individual exhaust unit that carries the expired air from a patient to a chemical scrubber help reduce the viral load of the environment? Could it also help the patient by reducing the local viral and bacterial load? Could it help reduce or eliminate the molecule from those environments? These and others are questions that can be modeled and then tested. Then, maybe it can be tried on a pilot scale. If that works, maybe we can expand the scale, fine tuning as we go, and maybe reach a point where it works well and it can be used on a larger scale. That is how science works. Start small, gain understanding, finetune, and expand. You do NOT use the whole world as a laboratory on the first shot!

It is time for human beings to be human beings again. Stop trying to lay blame and guilt on people for a natural virus.

If governments want to be helpful in reducing severe disease and deaths, imposing more laws and restrictions is not the answer. Rather, focus on educating people on how to better maintain their immune systems. Encourage healthier lifestyles through education and wellness programs, especially in the less fortunate of our society. Provide or encourage businesses to consider better sick leave alternatives for people in ALL jobs/vocations so that people are not driven by the choice of work to live or stay home and be sick.

The healthy people in our society should not be punished for being healthy, which is exactly what lockdowns, distancing, mask mandates, etc. do. This goes completely against the principles on which the United States of America was founded.



We have lost the meaning of *Land of the Free, Home of the Brave* to *Land of the Imprisoned, Home of the Afraid*.



Lockdowners Speak with Privilege, and Contempt for the Poor and Working Class

Jenin Younes

The Great Barrington Declaration, signed in October, has unleashed a torrent of criticism. This was to be expected, since it conflicts with the public health prescription that has attained a religious-like status in many circles: lockdowns and social distancing must be enforced in order to stop or slow transmission of the coronavirus.

The authors of the Declaration, three of the world's most renowned epidemiologists, urge an entirely different approach. Those not vulnerable to severe illness and death from the virus—especially children and younger adults—should live as they did pre-March 2020. Doing so will, within a couple of months, generate herd immunity, allowing communities to return to relative normalcy.

The overwhelming majority of condemnation that the Declaration has received does not bear on the substance of its recommendations. Instead, critics accuse the primary signatories of having a subversive, right-wing economic agenda, particularly since the Declaration was created and signed at the American Institute for Economic Research, a think-tank that pushes evidence-based economics and functioning markets.

As someone who was present for the weekend and made a small contribution to this effort, I can attest to right-wing ideology having played no part in formulation of the treatise or the scientists' motivations for participating. The disastrous economic effects of the lockdowns, and the inherent violations of human rights that they entail, have brought together people from different ends of the political spectrum.

I am a left-leaning New York City public defender who voted for Bernie Sanders in the 2016 primaries and Hillary Clinton in the general election. I have never voted for a Republican candidate. I chose my career because I wanted to help those most defenseless in our society: indigent people accused and convicted of crimes and facing the awesome power of the state.

Until I saw the catastrophic effects that the lockdowns were having on the very people I sought to help, I had never been associated or affiliated with any free-market or right-wing institutions. I am not alone in this. Having spoken with the three scientists—Jay Bhattacharya, Sunetra Gupta, and

Martin Kulldorff—on numerous occasions over the course of the weekend, I can say with certainty that neither politics nor free-market ideology had anything to do with their decision to write the Declaration. They are motivated solely by a concern for public health and distress at what lockdowns and various other social distancing policies are doing to human beings. In my experience over the past few months, that, and nothing else, is the common thread uniting anti-lockdowners.

Ironically, it is the Declaration's most prominent critics, rather than its authors, who are politically motivated. Not least among them is Gregg Gonsalves, a Yale epidemiologist who has emerged as one of the most vocal and qualified detractors of the Declaration, which he has, in nuanced fashion, dubbed *bullshit* and *bad science*.

Gonsalves's writings and social media posts over the past six months make his agenda plain. In April, Gonsalves co-authored an editorial in the *British Medical Journal* blaming President Trump for the pandemic and the deleterious effects of countermeasures effectuated in response to it. According to Gonsalves, the President's *most dangerous act* was to support the

mass public protests by his supporters to “liberate” states from their stay-at-home orders, specifically targeting states with Democratic governors . . . By encouraging armed insurrection, said Washington state governor Jay Inslee, Trump is “putting millions of people in danger of contracting covid-19. His unhinged rantings and calls for people to ‘liberate’ states could also lead to violence.”

Nor did Gonsalves confine his attacks to the President. He went after the protestors themselves, calling the anti-lockdown demonstrations *pro-coronavirus rallies* and suggested, without any evidence, that nefarious forces were behind them.

Yet just a month or so later, Gonsalves signed on to a letter with 1,200 other health professionals lauding the Black Lives Matter [BLM] protests as *vital to the national public health* and then authored a piece defending the movement. In an

attempt to stave off accusations of hypocrisy for condemning one form of protest as a *most dangerous act* while condoning another as vital to public health, Gonsalves claimed that

The [anti-lockdown] protesters' response was grounded in the president's own antipathy to protecting the public health. In contrast, the recent protests against police violence, despite the risks of transmission of SARS-COV-2 involved, can be thought of as pro-public health in some ways: ending police violence and confronting racism require political action, as these excess causalities are more than anything else deaths by public policy and require a public response.

Gonsalves further differentiated the two types of protests by arguing that the BLM protestors wore masks, and the anti-lockdown protestors did not. But if his genuine interest was public health, not politics, he could have suggested that the anti-lockdown protestors wear masks, or limited his critique to the alleged presence of guns at the rallies, instead of repeatedly and vociferously denouncing the entire enterprise.

His position simply betrays a breathtaking lack of empathy for the plight of people, particularly members of the working class and the poor, who lost their livelihoods and ability to educate their children as a result of lockdowns.

As a supporter of both movements, it is obvious to me that police violence towards people of color and stripping people of their ability to support themselves and educate their children present dangers to the community. Gonsalves's refusal to recognize the legitimacy of the pain experienced by the latter group and attempts to smear its mission as dangerous to public health is evidence that his view stems from his political leanings, not science or public health.

In a similar vein, last month Gonsalves chastised Martin Kulldorff for an interview with *Jacobin Magazine* in which Kulldorff endorsed a similar approach to that put forth in the Declaration. After deeming Kulldorff's proposals, published in the country's most far left news outlet *Trumpian*, the ensuing exchange made evident that, astonishingly, Gonsalves had not yet read the interview. His eagerness to dismiss arguments he had not even bothered to review should cast significant doubt on the validity of his policy recommendations.

As Kulldorff aptly noted, there is no such thing as *Trumpian epidemiology*.

A few days ago, Gonsalves wrote a piece in *the Nation* addressing the Declaration itself. His first several paragraphs seek to delegitimize the strategy it advocates by linking it to the Trump administration and Scott Atlas, one of President Trump's health care policy advisors, since Atlas holds views similar to those of the Declaration's authors, and the three scientists met with him and Health Secretary Alex Azar after signing it in Great Barrington.

He has likewise tried to discredit the Declaration on Twitter as the product of a *Climate Science Denial Network* and attacked Kulldorff for *hanging out at right/libertarian think-tanks*. This is all proof that Gonsalves's opposition to the Declaration is not scientifically based. Rather, he is cynically politicizing the pandemic in order to advance his ideological beliefs.

Gonsalves's substantive criticisms of the Declaration fare no better. His most salient argument is that a large portion of the American population fall into the vulnerable category, and so they cannot simply be sequestered and protected. Therefore, he claims, the concept of achieving herd immunity is fundamentally flawed.

I addressed that criticism at greater length at <https://www.aier.org/article/the-great-barrington-declaration-and-its-critics/> and another analysis can be found at <https://www.aier.org/article/the-great-barrington-declaration-is-not-saying-lock-up-grandma/>, but to reiterate briefly, Gonsalves's ready dismissal of the Declaration requires ignoring the severe harms that lockdowns and social distancing are visiting upon the world. Gonsalves also makes the conclusory claim that '*focused protection*'. . . *has already been tried without success* in Sweden.

But Sweden, which imposed only minimal restrictions, did not implement mask-wearing as a national policy, and relying upon voluntary social distancing to slow the spread of the virus is not the failure that Gonsalves and the *New York Times* have made it out to be. Sweden had a higher death rate early on than its Scandanavian neighbors, Denmark and Norway, but it currently has a lower per capita death rate than many countries, including the United States and the United Kingdom.

It was widely acknowledged that at the beginning, Sweden ought to have done more to protect people in nursing homes, which accounted for around half of the country's death toll. Now, unlike many other countries in the Northern Hemisphere, it is not seeing a resurgence of coronavirus cases and considers itself well-positioned to handle any additional spike.



Given that Sweden is more or less functioning as usual, it is incredibly myopic to dismiss it as a catastrophe, as though the only measure of a successful approach is a low number of deaths from the coronavirus, without regard to the harm that lockdowns are inflicting on people around the world. While Gonsalves claims that Sweden is far from herd immunity, presumably because the percentage of Swedes with coronavirus antibodies is low, it is settled science that reactive T cells confer protection that labs typically do not measure, and thus the portion of the population that is immune or partially so is much higher than antibody tests can measure. Surely, as an epidemiologist at a top institution, Gonsalves knows this.

Furthermore, if Gonsalves's position is motivated solely by concern for the forty or fifty percent of the American population that is vulnerable to severe illness from a coronavirus infection, it is puzzling that he does not focus some of his efforts on advocating healthier living. Studies have reported that *many of the sickest COVID-19 patients have been people with obesity*. Conditions linked with obesity such as heart disease, lung disease, and diabetes also result in severe illness more often.

A significant portion of the population that is susceptible to severe illness could have become healthy in the past seven months through lifestyle changes, as Dr. David Katz has observed. Yet, public health professionals like Gonsalves have remained silent about people's ability to change their risk level through their own actions (I am not suggesting that all vulnerable people or even all obese people have control over their health, only that many do).

Gonsalves's arguments simply do not withstand rational analysis, and are emblematic of the substantively deficient criticism coming from those who oppose the Declaration. Combined with his previous writings and public statements, it is clear that his stance was formulated not based upon a dispassionate attempt to propagate policies that are in the public interest, but by a desire to prove that President Trump's initial laissez faire response to the coronavirus was wrong and, presumably, ensure that he does not remain in office for a second term.

Undoubtedly, Gonsalves is an excellent scientist, but his opinions about the course of action we should take in response to the coronavirus have nothing to do with his professional qualifications, and everything to do with his political views. To the extent that he has attempted to smear Bhattacharya, Gupta, and Kulldorff as acting to further some covert right-wing political agenda, this is simply a classic case of Freudian projection.

The Devastating Economic Impact of Covid-19 Shutdowns

Peter C. Earle and Amelia Janaskie

To this point, the destruction caused by state and Federal Covid-19 lockdowns has largely been expressed in aggregates. Yet along the same line as a popular critique of Keynesianism, economic aggregates present a greatly truncated story by smoothing over minute but revealing evidence at lower levels. Looking at the policy impact on a smaller scale—regionally, and in terms of industries/sectors—exposes the impact of mandated shutdowns in greater detail.

In response to the Covid-19 pandemic, widespread lockdown restrictions were imposed, ostensibly to keep hospitals from being overwhelmed and medical resources from being consumed to exhaustion. Whether policymakers purposely or out of ignorance disregarded them, the tradeoffs of stay-at-home orders were immediate and severe: a massive spike in unemployment, rivaling the Great Depression; similarly historic drops in GDP, and others. By looking at disaggregated data, though, the devastation of lockdowns becomes all the more apparent.

Organization

We examined the US economy in the period leading up to the Covid-19 policy implementations in two ways: regionally and in terms of industries.

For our analysis, U.S. geographic regions are broken into the following areas: New England, Mideast (Midatlantic), Great Lakes, Plains, Southeast, Southwest, Rocky Mountain, and the Far West. These were compared using data on GDP, imports, exports, business formations, and unemployment.

In the second section, industries are grouped and analyzed in a two-fold manner, by specific sector, and by location on the vertical supply chain. The following metrics were used:

Industrial Production Index: This index (IPI) represents the output of industrial sectors, specifically: consumer goods, non-industrial supplies, materials, and mining. As an index, industrial production is measured against the baseline, which is that 2012 levels were set to 100, and subsequent years compared against it.

Capacity utilization: Capacity utilization (CU) is denoted as the percentage maximum potential output that is actually utilized. Functionally, this is

$$\frac{\textit{Actual Industrial Output}}{\textit{Maximum Potential Output}}$$

Sales/inventory: Sales figures represent, as a dollar figure, the operating revenue of goods sold or services rendered. Inventory is, as a dollar figure, the amount of product that has been produced and stored, but not yet sold.

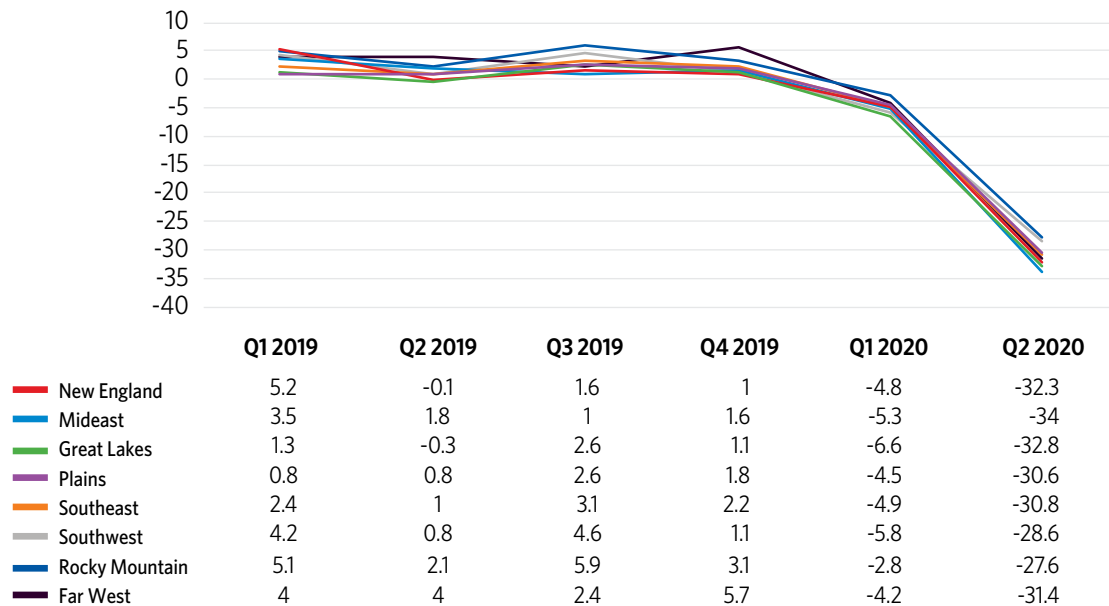
GDP Value-Add: This metric is the dollar amount that a certain sector/region has on the United States' Gross Domestic Product (GDP).

Change in employment: This value represents the number of jobs gained/lost in a particular measuring period compared with that of the preceding period.

Although the lockdown clearly and incontrovertibly damaged industries in aggregate, the breakdown shows clearly that the effects were by no means universal.

GDP by Region

Needless to say the United States as a whole suffered economically from the lockdown measures; the degree of economic loss, however, varied widely between regions and their constituent states.



Gross Domestic Product measures the monetary value of all the finished goods and services in a given place and time.

Although NBER dated a recession as having begun during or just after February 2020, Q1 2020 GDP shows only small declines for each region. Yet with the start of the lockdowns, the Great Lakes saw the largest drop in seasonally adjusted annualized rate of GDP by 6.6% between Q4 2019 and Q1 2020. Within the Great Lakes, durable goods and manufacturing GDP contribution dropped furthest negative compared to other US regions: by -0.76% between Q4 2019 and Q1 2020.

Manufacturing is the region's top industry as it serves as home to a disproportionate number of the top auto and aerospace companies: Ford, Chrysler, GM, Bombardier, Magna International, GE Aviation, and others. The Rocky Mountain region, comparatively, saw the smallest decrease in GDP of 2.8% from Q4 2019 to Q1 2020: that probably owes to its dominant industry, mining, being substantially distanced from the direct impact of lockdowns. It contracted by only 0.05% in Q1 2020.

Q2 2020 reveals massive damage among all regions, with Mideast GDP plummeting the most (34%) and Rocky Mountains the least (27.6%). Among Mideast states, New York's GDP declined the most: 39.3%. This owes not only to the presence of manufacturing within the Empire State, but the singularly detrimental and long-lasting nature of lockdowns on New York City.

Yet compared against all other U.S. states, Hawaii and Nevada's GDP plummeted the most: both by 42.2%. Hawaii and Nevada are both heavily dependent on the tourism industry, which in turn rely heavily upon the accommodation, recreation, and food service sectors. This was exacerbated by widespread flight and route cancellations among the major airlines (Delta cut flights by 85% in Q2) as well as suspended services to specific airports – one of which, notably, was Las Vegas McCarran International Airport.

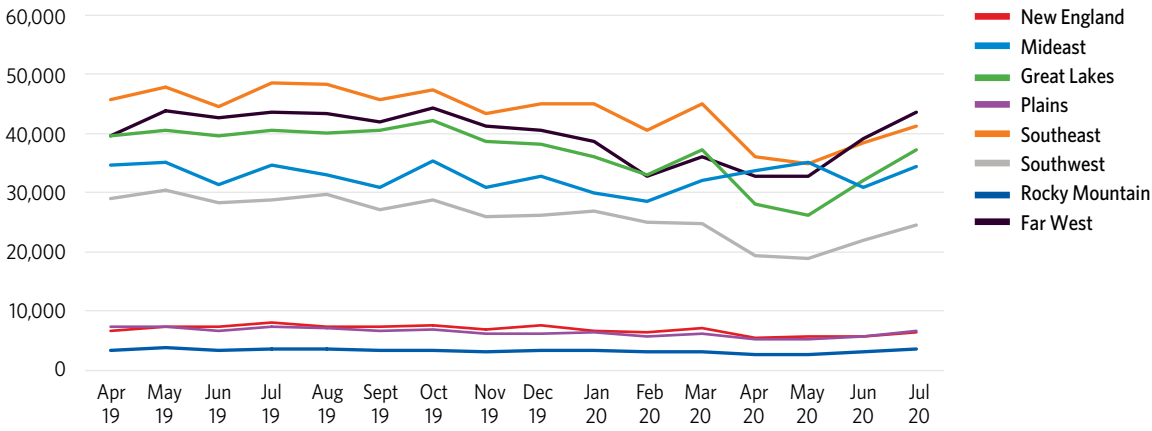
Delaware's GDP dropped the least of any U.S. state between Q1 and Q2 2020 with a decline of 21.9%. One explanation is the prevalence of financial, insurance, and other administrative jobs in Delaware, a large percentage of which can easily shift to a work from home basis.

Imports by Region

The Southwest, Great Lakes, and Rocky Mountains experienced traumatic shocks to imports between Q1 and Q2 2020. Within these regions, the greatest effects were experienced by Oklahoma (-29.85%), Michigan (-46.83%), and Hawaii (-63.98%).

A number of extremely uncommon events in the global oil industry as lockdown policies were being imposed exacerbated the declines in several of these areas. Oklahoma is part of the Permian Basin, and depends disproportionately upon the oil drilling and processing industries; Michigan depends, as previously mentioned, upon the automotive industry and other heavy manufacturing operations (which in turn is sensitive to trucking). Hawaii, as also mentioned, depends upon air and sea transportation.

Imports



Data retrieved from Federal Reserve Bank of St. Louis

One other state not included in these regions, Rhode Island, had a 46.83% drop in imports as well. The steep drop is due to less imports of passenger and commercial vehicles, gasoline, petroleum, and motorboats at the Providence, RI port.

As for best-performing states, New York saw imports vault by 61.93% between Q1 and Q2 2020; this, however, had everything to do with massive shipments of medical supplies to New York City and Long Island hospitals and medical facilities. (Despite an initial, taxing spike in novel coronavirus cases, the greatly feared torrent of desperately ill New Yorkers never materialized.)

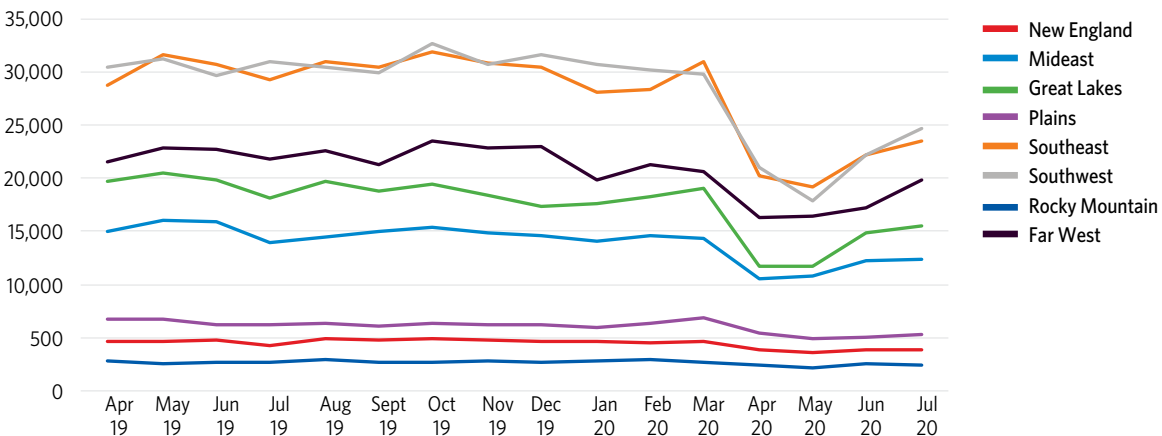
Alongside New York State, Idaho's state imports increased by 19.98% and South Dakota's by 7.82% between Q1 and Q2 2020.

Exports by Region

State exports are comprised of goods and services leaving the state for both domestic and international destinations. The Great Lakes, Southwest, and Southeast U.S. regions saw the biggest drops in the number of exports; within those regions, Michigan, Texas, and South Carolina suffered the most. For each of those states, their major exports are derived from several of the sectors hardest hit by lockdowns: plummeting output in Michigan's automotive industry; the extreme conditions which erupted in the oil sector roiled firms in Texas, described in further detail below; as was aircraft/aerospace production in South Carolina.

Conversely, the Rocky Mountain and New England regions experienced less of a decline in exports from April 2019 to April 2020 when compared to other regions despite all still having generally large negative impacts. Although not in these regions, the only state to see a slight increase in exports was Alaska. According to the Anchorage Economic Development Corporation, the Anchorage Airport was the *busiest airport on the globe on some days over the past few months of 2020* due to the reliance on US-Asia cargo trade.

Exports



Data retrieved from Federal Reserve Bank of St. Louis

	New England	Mideast	Great Lakes	Plains	Southeast	Southwest	Rocky Mountains	Far West
Manufactured Imports	-24.52%	8.41%	-32.49%	-22.76%	-26.33%	-36.57%	-17.34%	-23.69%
Non Manufactured Imports	-12.30%	-51.93%	-59.31%	-57.14%	-33.76%	-44.39%	-61.77%	-36.01%
Manufactured Exports	-23.39%	-28.69%	-42.85%	-27.37%	-42.70%	-41.70%	-15.59%	-31.84%
Non Manufactured Exports	-27.70%	-44.68%	-45.37%	-29.36%	-17.07%	-44.86%	-6.52%	-8.38%

Additionally, when comparing manufactured versus non-manufactured imports and exports, we can glean a few insights. The Mideast performed well for manufactured imports with a 15.73% increase over the previous quarter, but this is likely due to medical supplies shipped to New York. Nonmanufactured imports, such as farm products or other raw materials, contain the lowest drops. The Great Lakes and Southwest, however, appear to have experienced the greatest blows to overall trade (imports and exports). The Great Lakes accounts for a large majority of US-Canada trade, which has been suppressed by lockdowns. The chart above details the percent change in manufactured and nonmanufactured imports and exports between May 2019 and May 2020. Manufactured goods are products that were mechanically, chemically, or physically transformed, while nonmanufactured refers to raw materials.

Imports, Exports, and the Oil Factor

In early spring 2020, Oil Producing and Exporting Countries (OPEC), Russia and Saudi Arabia found themselves at an impasse, unable to agree upon production levels. Without delving into the minutia of their contention, Russia initiated a price war by entering into unlimited production of oil, driving world oil prices down. In an effort to maintain market share, Saudi Arabia and soon thereafter other OPEC nations *opened the spigots*, so to speak, flooding world markets with oil, sending prices on commodities, futures, forwards, and other markets plunging.

At this point, worldwide demand for oil was plunging due to lockdowns; in April of 2020 more people worldwide were under some form of lockdown than there were people on Earth at the end of World War II. A large portion of Americans were either at home, unemployed, or working from home; business and vacation travel evaporated.

The combination of nonexistent demand and skyrocketing supply led to a spectacle unseen in financial market history: on April 20, 2020, the May 2020 West Texas Intermediate futures contract plummeted 300% to close at -\$37.63. The crude oil industry which had since the 1950s developed as an oligopoly (and thus only had to bear supply within

predetermined, agreed-upon price ranges) overnight became a *de facto* free market, and storage disappeared. WTI crude oil, for a limited time, was not only *free*, but traders would pay \$37 per barrel to buyers to take physical delivery as the glut filled tank farms and sea tankers.

At the intersection of historically low interest rates and high variable costs of extraction, transportation, refining, and marketing of each barrel, oil firms assumed copious amounts of debt throughout the post-9/11 era. A working assumption is that oil prices would stay above \$30 or \$40/bbl indefinitely, or at least near the long-term norm. With the colossal collapse in oil prices, many such firms were suddenly unable to service debt obligations.

In addition to the immediate damage of the lockdowns, CNN estimates that the second-order effects will result in 100 firms in the oil industry declaring bankruptcy in subsequent quarters. British Petroleum has already pledged to lay off 10,000 employees by the end of 2020 and Marathon Petroleum has announced that 12% of its staff will be laid off. Chesapeake Energy, long a Fortune 500 company, was delisted from the New York Stock Exchange. Oasis Petroleum, only a few years back trading at roughly \$16 per share on NASDAQ, lost 90% of its value; it currently trades at 18 cents per share. Oil firms Noble Energy, Halliburton, Marathon Oil and Occidental Petroleum all lost over 2/3 of their value. Many more jobs, and the jobs that depend upon those, will likely be lost.

Business Applications by Region

Curiously, business applications have actually risen in some regions; notably in the Southeast where an increase of 14.90% between Q1 and Q2 2020 has occurred. The Great Lakes, Plains, Southwest, and Rocky Mountain regions have seen increases as well. The Mideast region evinced a decrease in business applications by 5.85% between Q1 and Q2 2020.

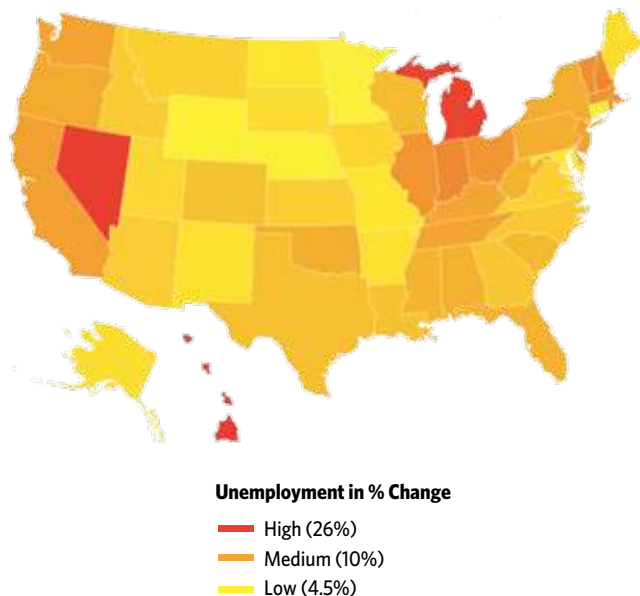
Some explanations for this heartening (if counterintuitive) spike include the following: delays in processing previously-submitted applications once lockdowns went into effect; opportunistic purchases of existing businesses; increased entrepreneurship in the wake of massive regional layoffs; a response to shifting demand in certain products and services owing to Covid-19 and/or the policy responses; or, most likely, some combination of all of the aforementioned.

Unemployment by Region

In April, the Great Lakes region experienced the highest levels of unemployment (18.24%) while the Plains region saw the lowest: 9.99%. Within the Great Lakes between March and April 2020, Michigan saw the greatest increase in unemployment rates (19.75%). Other Great Lakes states also significantly increased between March and April: Illinois by 12.95%, Indiana by 14.48%, Ohio by 11.82%, and Wisconsin by 10.5%. Michigan's construction, manufacturing, and leisure and hospitality industries experienced the deepest impact.

In the Plains region, Nebraska and Minnesota's unemployment rates increased to 8.7%. Overall, the highest unemployment rate in the US in April was in Nevada at an estimated 30%, with the leisure, recreation, and hospitality-intensive economies of Las Vegas and Reno utterly devastated through Q2 2020.

Q1 v Q2 Change in Unemployment



While some regions' unemployment rates have been falling since their peak in April, several have stayed somewhat level; the Mideast, for example. It is likely that where small and service-oriented businesses are dominant (such as in New York City and certain cities in Florida and California), unemployment rates rose steadily as time drew on.

Overall, the Great Lakes and Southwest regions appear to be struggling the most in terms of imports and exports. As previously mentioned, Michigan, Oklahoma, and Texas rely to a large extent upon industries which are being hammered—manufacturing, auto, and petroleum. Further, though, the proximity of these states to Canada and Mexico (nations with whom trade also slowed to a near-standstill) also contributes to explaining the commercial decline.

See unemployment chart on the next page (50)

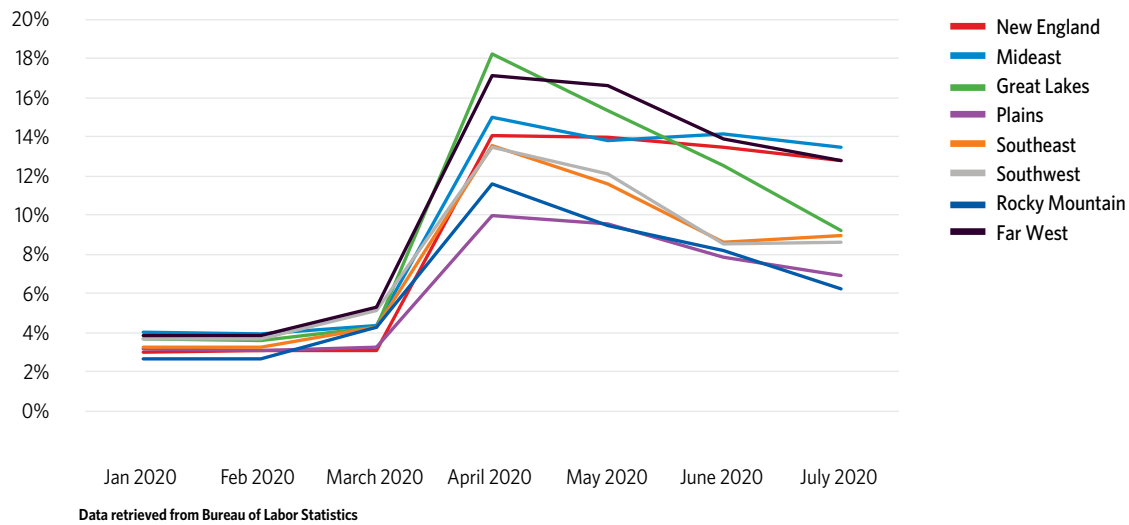
Industrial Production and Capacity Utilization

Although the lockdown has had a negative impact on all industries, the magnitude of the damage is not universal. In evaluating the disparity between respective impacts on various industries in the United States, we will use two sets of measures: industrial production & capacity utilization and sales & inventory. As previously noted, the Industrial Production Index (IPI) measures the supply of manufactured goods, and is therefore a strong predictor of GDP.

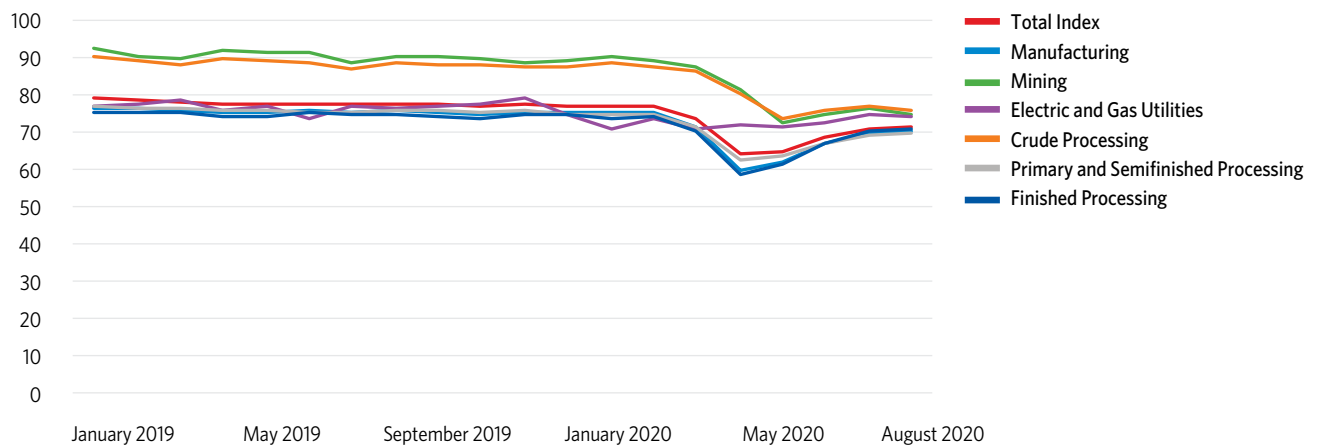
While the Industrial Production Index (IPI) measures the supply of industrial products, Capacity Utilization (CU) is a measure of demand for goods. Although influenced by consumer sentiment, both industrial production and capacity utilization are influenced by real interest rates.

On March 15, 2020, the Federal Reserve, in response to the coronavirus pandemic, cut the Fed Funds Rate to 0% and initiated a number of 2008-era liquidity programs, in addition to a \$700B quantitative easing facility. With tremendous liquidity entering world money and financial markets one would expect both IPI and capacity utilization to increase commensurate with a reduction in the opportunity cost of saving, thus making investments in capital goods, expanded production capacity, and inventories more appealing. And yet beginning in March and at an increasing pace throughout April, both metrics saw sizable declines (see next page).

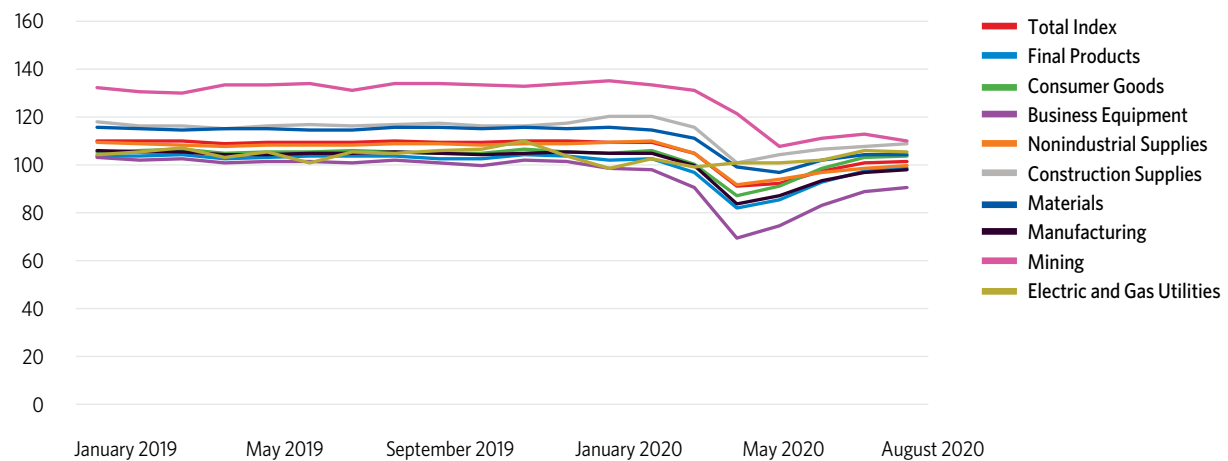
Unemployment



Capacity Utilization



Industrial Production Index (IPI)



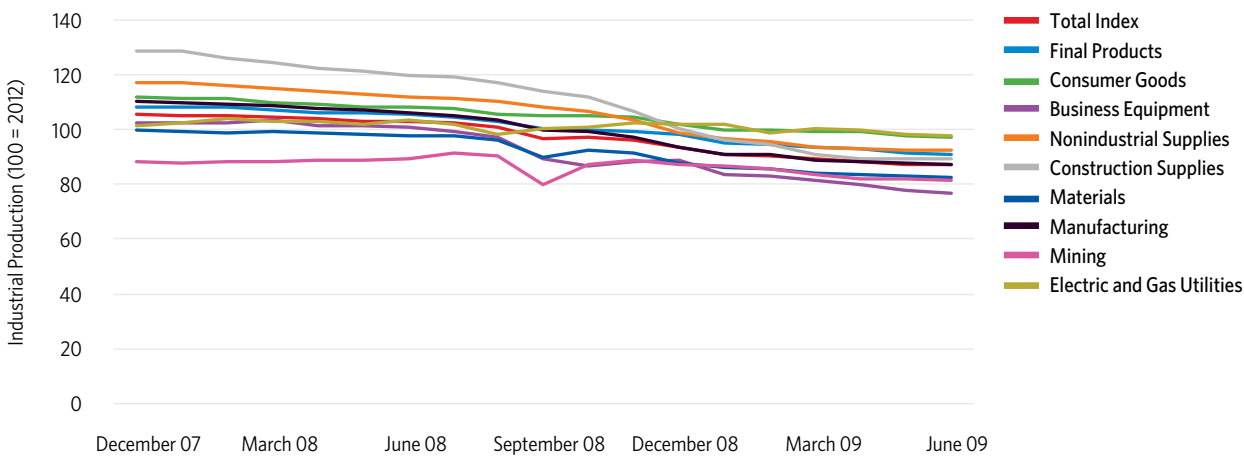
This highlights both the overwhelming degree of uncertainty and the withdrawal of consumers, retail and institutional, from markets as the simultaneous and sudden destruction of both supply (lockdowns forcing the shutdown of plants, etc) and demand (lockdowns resulting both in mass layoffs and widespread sheltering at home, reducing both discretionary spending and overall consumption) collided in the U.S. economy.

Yet not all sectors were damaged equally: business equipment and final products (consumer goods) took the biggest hit whereas the effect on mining, materials, and utilities (capital goods) was milder. With respect to the IPI, between the months of February and April 2020, though business equipment declined a staggering 29.3%, the damage to the utilities sector was just 1.2%; mining lost 8.9% and materials 13.7%.

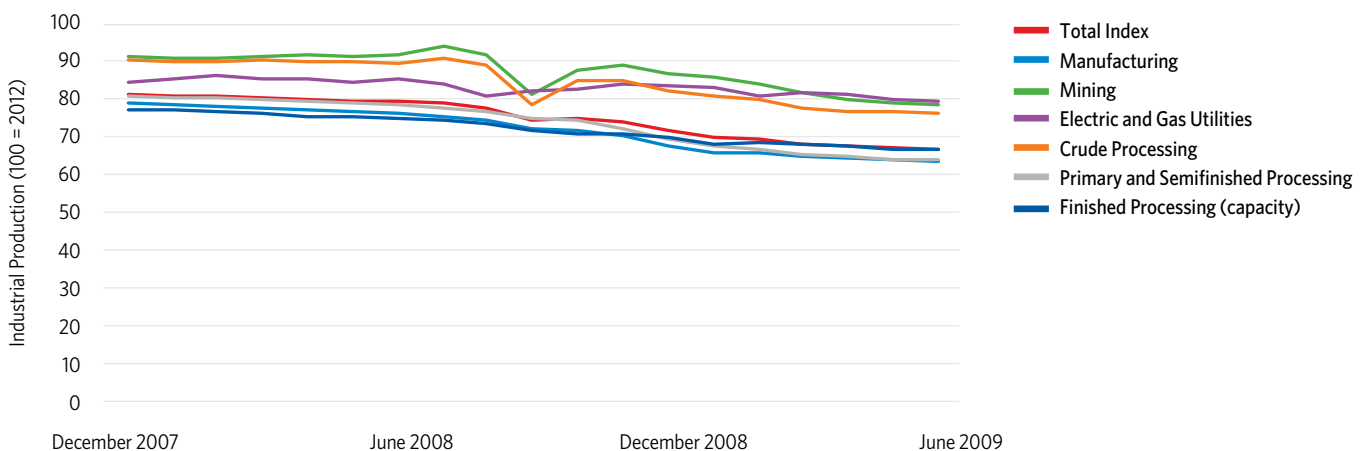
What is most interesting and unique about this specific recession is that the lockdown impact created a significant 'kink' in both IPI and capacity utilization trends. In fact, this sort of disjoint movement in Q2 2020 is vastly and visually different, and more importantly more severe, than even that of the Great Recession between 2007 and 2009. This comparison suggests that a simple, artificial economic slowdown imposed by government policy can have a broader, more devastating effect than what the US endured just over one decade ago: the greatest financial collapse in nearly one century.

So much for Wall Street and its alleged financial *weapons of mass destruction*: a seemingly innocuous, 'temporary' lockdown, even if successful in suppressing the daily case curve, will quickly permeate and destroy the economy in ways that even the riskiest derivatives couldn't come close to.

Industrial Production Index (2007-2009 Recession)



Capacity Utilization (2007-2009 Recession)



Industrial Value-Add

Regarding the Value-Add of the Gross Domestic Product, although the aggregate U.S. GDP grew 3.4% from Q1 2019 to Q1 2020, not all industries saw growth.

Of 14 private industries tracked by the Bureau of Economic Analysis (BEA), four declined. While the agriculture, forestry, fishing, and hunting sectors enjoyed 12.0% growth within this period, the mining industry actually declined 20.3%. However, in Q2 2020, net value-add/loss by sector became more grim. Agriculture, forestry, fishing, and hunting sectors endured a 36.4% loss of on its GDP value-add (which is to say, those sectors' contributions to GDP decreased) compared to the preceding period; in that same time period the mining sector continued its downward trend, losing 40.7% of its value-add to GDP.

Despite that, the hardest hit sectors were the arts, entertainment, accommodation, and food services—unsurprisingly, due to the strict stay-at-home orders—which lost a staggering 91.5% of contribution to GDP versus Q1 2020. This is particularly noteworthy considering the overwhelming predominance of small, thinly-capitalized and narrowly financed firms within these sectors. Indeed, Yelp estimates that a staggering 61% of restaurants will ultimately close permanently as a result of lockdown policies.

The finance and insurance industry did well, increasing the value generated from Q1 2020 by 11.9%—in no small part, likely, due to the ability of most financial industry employees to work from home.

Industrial Sales and Inventories

Industry sales and inventory provide another angle to gauge both consumer spending habits and supply-side production. Sales data is perhaps the most clearcut way of determining demand; in a strong economy, sales ought to also be high. Inventory is a signal of both supply and demand; it moves directly with production and inversely with sales. Normally, in a recession, one would expect sales to decline, and with it inventories too, as businesses respond to the lack of latent demand, for all industries. Yet, this recession is different in a major way; although both inventories and sales stayed relatively constant upstream (e.g. in manufacturing and wholesale sectors), this was not the case downstream (e.g. retailers). Regarding retailers, inventories tended to decrease significantly during the lockdown whereas sales had little movement, if not slightly increased. This phenomenon can be directly attributed to the lockdown.

ABCT and the Term Structure of Production

An interesting contrast can be made between the Austrian Business Cycle Theory (ABCT) explanation of recessions and the *artificial* nature of the policy-driven lockdown recession. To summarize, ABCT demonstrates that sustained periods of artificially low interest rates and credit creation lead to a distortion in the balance between savings and investment. Lower rates drive borrowing and tend to lead to spending on capital goods; which is to say, goods with longer term structures of production that are used to produce other goods. Examples of these are mining, resources, heavy manufacturing, financial markets, and other such goods which tend to be capital intensive and durable, used in the production of other goods. Less affected by the credit expansion, typically, are consumer goods: those which are usually nondurable have no future use after production: food, clothing, and other nondurables typically intended for immediate or near-immediate consumption.

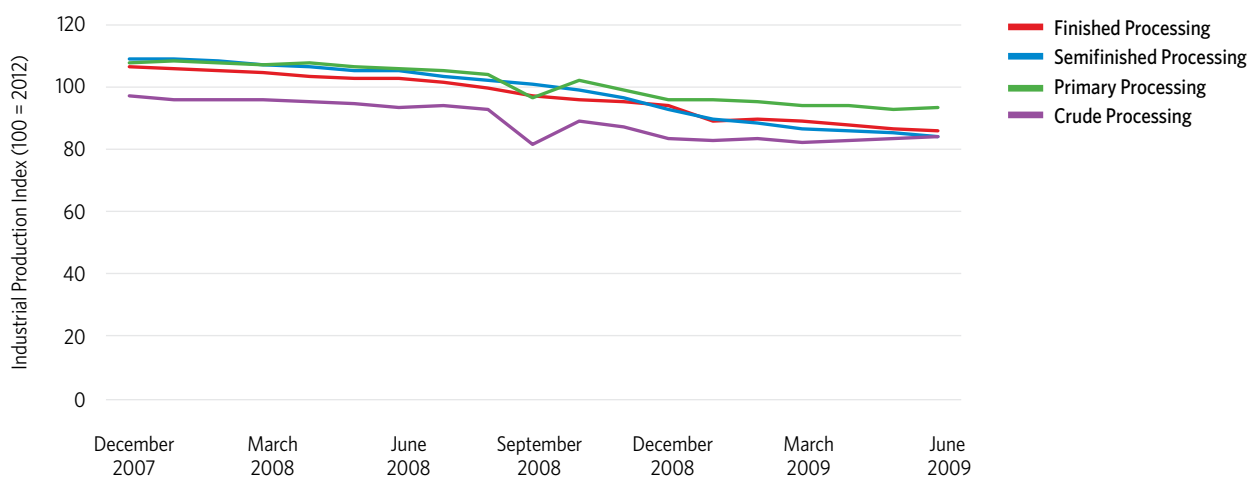
The shift to longer-term production processes is ultimately unsustainable, and with the end of the credit expansion, no further investments can be found which provide sufficient returns at the prevailing rates of interest. A sharp contraction follows in which malinvestment is liquidated: a cluster of error realized, with firms filing for bankruptcy, projects being abandoned, and assets moving from overly extended concerns to more financially solid enterprises. Unemployment tends to rise as well.

The classic case is depicted in the Great Recession (2007–2009). After years of progressively lower interest rates starting not long after the dot-com bust and 9/11, a credit bubble concentrated in mortgages, financial assets, and other sectors had grown, as demonstrated here in the Fed's *Changes in Monthly Industrial Production by Process Stage*—from x to y, the Crude/Processing stage—representing capital goods with the longest term structures of production fell the most when the credit bubble popped. Other stages fell as well, but the degree of distortion driven by low rates and ease of credit is seen to be less severe as the term structure associated with the category of goods decreases. The red periods in the following table depict that shift:

Changes in Monthly Industrial Production Index by Process Stage (2007-2009)

Descriptions	Finished processing	Semi-finished processing	Primary processing	Crude processing
December 2007	0.48%	-0.86%	0.02%	0.30%
January 2008	-0.63%	-0.01%	0.09%	-0.90%
February 2008	-0.32%	-0.59%	-0.09%	-0.56%
March 2008	-0.56%	-0.91%	-0.68%	0.47%
April 2008	-1.71%	-0.89%	0.45%	-0.94%
May 2008	-0.03%	-0.99%	-0.90%	-0.67%
June 2008	-0.27%	0.07%	-0.68%	-1.28%
July 2008	-0.94%	-1.62%	-0.80%	0.83%
August 2008	-2.18%	-1.43%	-1.29%	-1.61%
September 2008	-2.28%	-1.19%	-7.22%	-12.08%
October 2008	-1.41%	-1.73%	6.22%	9.10%
November 2008	-0.47%	-2.53%	-3.10%	-1.57%
December 2008	-1.73%	-3.89%	-3.35%	-4.46%
January 2009	-5.15%	-3.31%	-0.19%	-0.92%
February 2009	0.89%	-1.39%	-0.11%	0.91%
March 2009	-0.91%	-2.05%	-1.64%	-1.65%
April 2009	-1.01%	-1.02%	-0.05%	0.91%
May 2009	-1.68%	-0.89%	-1.49%	1.05%
June 2009	-0.56%	-1.18%	0.83%	0.15%

Industrial Production Changes by Processing Stage (2007-2009)



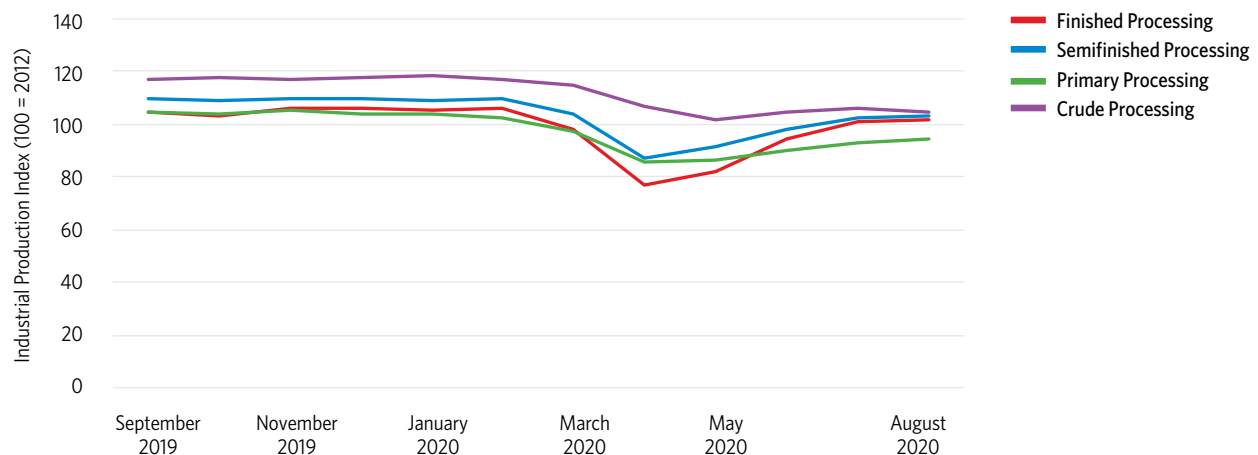
Whereas, in the present case, the deep and sudden recession (and by some measures economic depression) were caused not by the collapse of credit expansion but by policy-dictated business closures, a near total cessation of trade, and the immobilization of the population-at-large. Sudden

skyrocketing levels of unemployment fell immediately upon consumers and, with historically low savings rates the opposite pattern materialized (at least initially): consumer goods fell the most, with less of an impact on progressively longer term structures of production as seen here in red:

Changes in Monthly Industrial Production Index by Process Stage (2019–2020)

Descriptions	Finished processing	Semi-finished processing	Primary processing	Crude processing
September 2019	-1.51%	-0.02%	-0.57%	0.28%
October 2019	-0.95%	-0.71%	-0.73%	0.19%
November 2019	2.77%	0.65%	1.05%	-0.40%
December 2019	-0.51%	-0.18%	-1.23%	0.55%
January 2020	-0.64%	-0.60%	0.07%	0.88%
February 2020	-0.63%	0.70%	-1.19%	-1.28%
March 2020	-7.52%	-4.99%	-5.37%	-1.66%
April 2020	-21.22%	-16.18%	-11.81%	-7.34%
May 2020	6.71%	4.75%	0.78%	-4.40%
June 2020	14.54%	7.56%	4.52%	2.58%
July 2020	7.46%	4.30%	3.26%	1.27%
August 2020	0.19%	0.76%	1.45%	-0.89%

Industrial Production Changes by Processing Stage (2019-2020)



Conclusion

Even broken down from the aggregate economic statistics into which they are usually combined, these disaggregated economic measures nevertheless gloss over the massive damage caused to the majority of firms that aren't captured in government data: the Small Business Administration states that 99.7% of all US businesses are small businesses (less than 500 employees) and that 48% of American workers are employed by a small business.

State-enforced lockdowns create uncertainty, which impacts business investment, winnows savings, and destroys consumption at every point along the term structure of production. With the additional factors of price volatility and reduction of resources (e.g. less retained earnings), business owners are likely to become more averse to risk and withdraw from the market, reducing their expenses (reducing headcount and expenditures, cancelling planned investments, etc) as well. Lockdowns—a policy implementation with virtually no precedent throughout American history—have essentially induced an artificial economic recession (and by some measures, a depression). Virtually every business concern, from the much-celebrated *mom and pop* shops to multinational corporations were at some point, and often at several, forced to contemplate and plan for the cessation of business activities, fully or in part.

The lockdown, imposed at various levels, has had a profound impact on every aspect of commerce. Unlike models and other popular representations of business activity, the economy is not a machine and cannot be 'shut down' and 'restarted' at will; many of the firms which have closed will never reopen, and for uncountable others reacquiring former levels of productivity will be a daunting

task, if even possible. So too will many of the unemployed see an inexorable change in the lifetime trajectory of their earnings and wealth.

Although the pandemic itself may have caused some degree of economic retrenchment, the U.S. policy response at all levels tended to emulate the policies of vastly less market-oriented economies although far better examples were readily available. U.S. states with brief or no lockdown measures (e.g. South Dakota and Nebraska) experienced the smallest degrees of economic damage. And predictably, in industries that are most sensitive to lockdown—small firms generally, where most job creation takes place; service industries, which now dominate the US economy; and more broadly any company with jobs that don't readily convert to a work-from-home basis—the result is wanton destruction and loss.

Join Us

Since January, AIER has been at the forefront of the intellectual battle against scientific, ruinous government health initiatives. Regrettably even as job growth is beginning to falter again there are calls to reimpose the coercive shutdown policies which have generated so much wreckage and dealt costs far beyond what can even be seen.

Read and sign the Great Barrington Declaration

<https://gbdeclaration.org/>



Why You Should Include Charity In Your Will

Andrew Palmer

There is a common misconception that only the rich need to make a will. That is not true. A will eases the pain of your passing on those you leave behind, and without a will, regardless of your personal wishes, state laws will determine the transfer of your estate.

There is an even bigger misconception that only the super-rich leave money to charity when they die. That's also not true. The fact is that most gifts by will, (bequests) are made by everyday people who want to have a lasting, positive impact on their community.

Without this type of generosity, many charitable institutions couldn't continue their missions into the future. Non-profits need our support to do their good work.

Here are four reasons why you should include a charity in your will:

A Gift By Will Is Easy To Make

A bequest is one of the easiest charitable gifts to make. It is simple to implement, and easy to change should you ever need to. You can give specific property or designate a dollar amount or a percentage of your estate. You can also designate a non-profit as a beneficiary of your retirement plan or life insurance policy.

A Gift By Will Does Not Alter Your Current Lifestyle

Making a bequest is a way of demonstrating your commitment to the future of the institution you love that doesn't affect your current asset balance or cash flow. There are no substantial costs, and the gift can easily be modified to address your changing needs.

A Gift By Will Can Change Lives

Non-profits improve our lives every day through their dedicated work, community, and stability. A bequest can help your best-loved charity further its mission and values. It can continue making a difference for generations to come.

A Gift By Will Creates A Lasting Legacy

Including a non-profit in your will is a great way to bring dignity, meaning, and purpose to a life well-lived. You can demonstrate your commitment to the future of the institution you love, and better yet, a bequest can allow you to give to an institution that you may have always wanted to support, but were unable to during your lifetime. Creating a legacy with your gift ensures that you, and your values, will live on.

You don't have to be wealthy to make a difference. Whoever you are, whatever your situation, you can help make a better world by including a charity in your will.



**SEE
PAGE 59
TO GIVE
TO AIER**

Lockdowns and Liberty Conference with Allen Mendenhall and Brad DeVos

February 25-26
Birmingham, AL

AIER will host a private summit led by Allen Mendenhall, Associate Dean at Faulkner University and Executive Director of the Blackstone & Burke, Center for Law & Liberty, and Brad DeVos, Director of Programs at AIER. This summit focuses on the work by economic, political, and legal scholars as we work to fully re-open the United States. Participants will also discuss strategies to ensure the mistakes of 2020 are never repeated.

Modern Monetary Theory: Problems it Poses for the Economy with Thomas Hogan

March 10
Charleston, SC

Join AIER's Bastiat Society program in Charleston for a discussion with AIER Senior Research Fellow Thomas Hogan. He will discuss the basics of Modern Monetary Theory (MMT) based on Stephanie Kelton's book *The Deficit Myth*. Hogan argues the *theory* of MMT is ill-conceived and Kelton made some simple mistakes that led her to very wrong conclusions.

Harwood Graduate Colloquium: Economic Freedom and The Environment hosted by Alison Grant and Brad DeVos

March 18-21
Charleston, SC

AIER will host our next HGC on economic freedom and environmental stewardship, led by Alison Grant, AIER alumna and PhD student in agricultural and applied economics at Purdue University. Applications are now closed for this HGC, however students are encouraged to apply to future graduate colloquia on our website

Ethics, Economics, and Knowledge of Adam Smith with Phillip W. Magness and James Otteson

April 8-11
Fort Lauderdale, FL

AIER and Liberty Fund are co-hosting two private discussion groups which will explore ideas through informal, yet serious, discussion among a small group of individuals from diverse backgrounds. The groups will examine texts by Adam Smith, Bernard Mandeville, and others to investigate their relationship to individual liberty, personal responsibility, the use of knowledge, and market coordination.

For information about these events and more, visit **AIER.org/Events**.



Planned Giving

Each one of us already has a default estate plan—one dictated to us by the government. The government doesn't know who we were; it cares nothing for our achievements, our principles and beliefs, our ethics, or our commitment to our families. In this plan, hard-earned assets can be unnecessarily taxed and heirs can be left with little or nothing.

The only way to make sure that your estate plan reflects your wishes is to design it yourself with competent counsel. Will your legacy be subsumed by faceless bureaucrats as a windfall profit for government programs that you may believe are antithetical to prosperity and justice? Or will it be a responsible transfer of values held dear by the one who earned the money? Make sure that you are the author of your own personal estate plan.

By making a planned gift to AIER—whether it be through your will, charitable trust, or another giving vehicle—you are making an incredible commitment to true freedom, sound money, and private governance. You not only secure your legacy as a champion of free markets, but you ensure that AIER will continue to fight for the principles you hold dear for generations to come.

We are forever grateful for AIER's planned giving supporters who help to ensure that people around the world will always have access to sound economic research, robust education in free market concepts, and practical training from AIER.

Here are some ideas on how to include AIER in your estate plans:

Your Will

If you already have a will, you can generally amend it to create a bequest for AIER and other charities. If you have elected a living trust rather than a will, you can also include AIER and other charities as trust beneficiaries, similar to creating bequests under a will.

Your Retirement Accounts

Retirement accounts—such as an IRA, 401(k), and others—that are left to heirs are double-taxed because (often but not always) they are subject to the estate tax and heirs are also subject to ordinary income tax on what's left. Retirement accounts left to a non-profit like AIER are not taxed at all.

Your Life Insurance

One of the easiest ways to leave AIER in your estate plans is to simply name AIER as a beneficiary of a life insurance plan. Life insurance proceeds, other than when given to a spouse or to a tax-exempt entity like AIER, are generally subject to the estate tax. Therefore, life insurance policies that are no longer needed for financial security are a good choice for enhancing your philanthropic legacy.

Other Giving Vehicles

Several less common giving vehicles are typically used in complex estates, but might be worth consideration. We recommend you speak with your attorney or financial advisor regarding: Charitable Gift Annuities, Charitable Remainder Trusts, and Charitable Lead Trusts.

**To get started
please contact us at 888-528-1216**

SUPPORT AIER

Researching, articulating, and advancing the importance of markets



I followed Colonel Harwood for many years and one thing that came through in all of his writing was that he was a great patriot and a strong believer in an honest currency. Having been in the investment business for 48 years, I think Colonel Harwood's teaching is needed even more now than it has ever been. He had a great impact on my thinking.

—Arnold Van Den Berg, Longtime AIER Donor

AIER donors understand the importance of AIER's mission and want others to understand too.

For nearly a century, the American Institute for Economic Research has educated Americans on the value of personal freedom, free enterprise, property rights, and sound money. Eschewing dogmatic assertions and party politics alike, AIER seeks to scientifically understand and demonstrate the importance of these principles to advance peace, prosperity, and human progress. We support the research of numerous leading economists and share their findings

with policymakers, professionals, educators, and the general public through publications, in-person programs, and online outreach that are each tailored to the needs of these audiences. By strategically articulating and promoting the principles of pure freedom, AIER helps to build the intellectual basis for, and popular consensus around, the expansion of individual rights and market freedom and against the increasing demands for government intervention, central planning, and collectivist policies.

To donate, call AIER at 888-528-1216, visit www.aier.org/donate, or mail in the form below. Thank you!

YES! I WANT TO SUPPORT AIER TODAY.

- \$50 \$250
 \$100 \$500
 Enclosed is my additional tax-deductible donation of \$ _____

NAME _____

STREET _____

CITY _____ STATE _____ ZIP _____

EMAIL _____

ORDER ONLINE aier.org or CALL TOLL-FREE 888.528.1216
We do not share or sell your personal information under any circumstance.

PAYMENT METHOD

- Personal check or money order payable to "AIER"
 MasterCard American Express
 Visa Discover

CREDIT CARD NUMBER: _____

EXPIRATION (month/year) _____ CSV # _____

TELEPHONE () _____

SIGNATURE _____

American Institute for Economic Research
250 Division Street
Great Barrington, MA 01230

