

# Economic Musings on COVID-19

A Collection of 128 Blogs

June 2023

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## Economic Musings on COVID-19

This collection of 128 blog posts starts with mid-March 2020 and ends in June 2023. They represent the thoughts of a neoclassically trained economist with specialties in health and urban economics. Your blogger is a little more skeptical of markets than many, but still looks to standard analyses as providing power in discussing the serious economic problems that have accompanied COVID-19.

For updates, watch the web page at [allengoodman.wayne.edu](http://allengoodman.wayne.edu).

As with any collection, there is some repetition, but the posts are self-contained, and short. Please feel free to argue with me ([allen.goodman@wayne.edu](mailto:allen.goodman@wayne.edu)) about what I've said, and also feel free to use these analyses in discussions, and for classes.

On May 11, 2023 the Biden administration allowed the emergency declaration to expire. From here on, the government will treat Covid-19 like any other respiratory ailment. We are back to normal.

Your Blogger and his coauthors had written seven editions of our text by 2012. They had created an "Economic Epidemiology" chapter in the fourth edition in 2004. When planning the eighth edition (coming out in 2016) they dropped the chapter on pandemics. HIV/AIDS had seemingly been brought under control and they wanted to move on to other things. In the forthcoming text, [\*The Economics of Health and Health Care, 9th Edition\*](#), they have rewritten a pandemic chapter (Chapter 9) from front to back; very little of the analysis from earlier editions remains. Many of the ideas and analyses will be familiar to readers of this blog. The text will be available in November 2023.

This has been a long, circuitous, and "never dull" journey. Thank you for joining it.

Allen C. Goodman  
Professor of Economics

June 2023

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March 16, 2020

## **Covid-19 ... Like a Massive Tax**

For some years, health economists have argued that diseases and epidemics constitute taxes on those who fall ill, and on the communities in which they live. The Covid-19 virus regrettably fits this model too well. For us, it has features of a sales tax AND an income tax.

Suppose that suddenly a taxing authority levied a tax of 100%, effectively doubling the prices of all goods. People would:

- pay more for what they buy;
- purchase less of what they buy;
- buy goods on the “black market” or engage in other sorts of activities to avoid the tax

Such a tax would severely damage commerce and lead to short-term economic hardship. We have already seen this with the Covid-19 virus.

Covid-19 also acts as an income tax. People’s incomes fall, activities slow, and there is a decrease in demand for goods. Canceled activities, canceled vacations, canceled travel, canceled purchases of both big and small ticket items all have major macroeconomic impacts, and they do not bounce back. China has seen this already, and we will see it soon.

What are the potential policy responses?

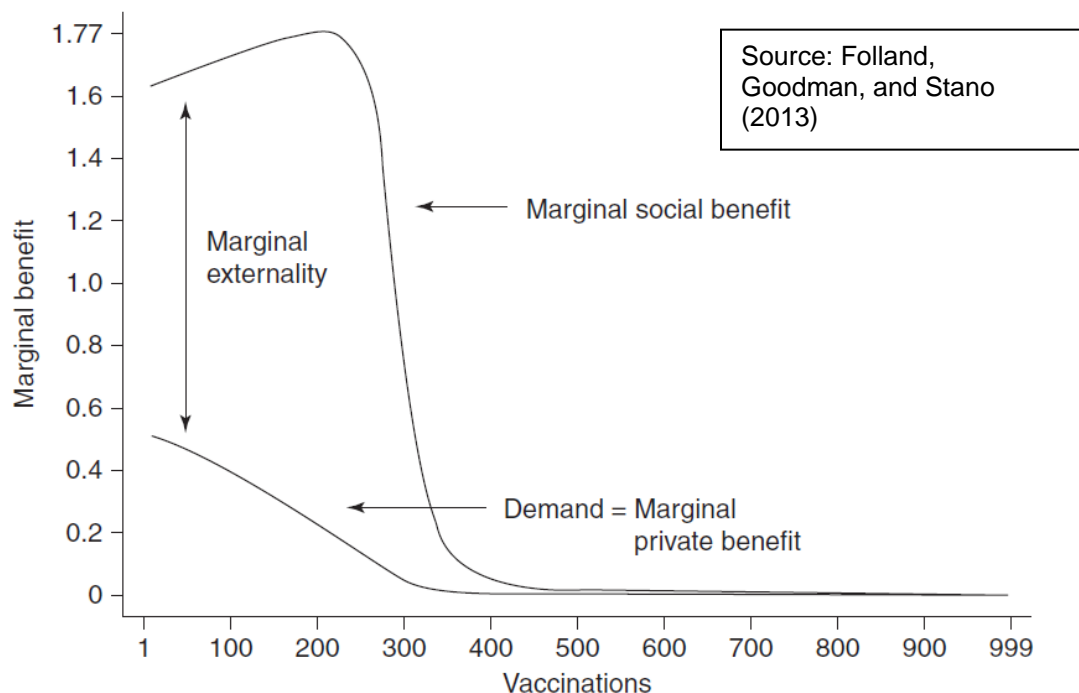
- Sales Tax Response – Make commerce easier through drive-through and on-line shopping methods. These will effectively lower the tax, although they almost certainly cannot reduce it to zero.
- Income Tax Response – Restore demand by putting purchasing power in the hands of consumers. My proposal would be for the government to send a \$250 check EACH WEEK for three months to each of the approximately 130,000,000 households. My “back of the envelope” cost of this is \$422.5 billion. Others may have better solutions, and I would love to see them.

Allen C. Goodman  
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## Public Health, Epidemics, and Economics – 10 out of 10?

Most economic analysis starts with individuals who make decisions usually having to do with buying and selling. Although our decisions involve someone on the other side they don't usually effect other people directly. There is a class of decisions that refer to so-called *externalities*. A smoker lighting up a cigar alone in a park would bother no one else; in a crowded room the smoker would become a pariah because of the pollution. Epidemics such as Covid-19 provide just this kind of externality. Although market-based bargaining solutions (many referring to Nobel Laureate Ronald Coase) exist, no one seriously believe that they could work in epidemics of the current scale.

Epidemics represent profound externalities that can only be solved by public health methods. Although a vaccination for Covid-19 is nowhere near, it is useful to look at models that apply vaccinations to influenza. Folland, Goodman, and Stano (2013) present a model by Boulier and colleagues (2007) that examines the vaccination externality in more detail. It starts with the Susceptible-Infective-Removed (SIR) model of epidemiology originally developed by Kermack and McKendrick (1927) and reinterpreted mathematically by Hethcote (2000). This model relates the disease incidence to its *infectiousness*, *the size of the population*, and *the percentage of the population that is susceptible*.



**FIGURE 25-2** Marginal Private and Social Benefits of Influenza Vaccination  
 Source: Bryan L. Boulier, Tejwant S. Datta, and Robert S. Goldfarb (2007) "Vaccination Externalities," *The B.E. Journal of Economic Analysis & Policy*: Vol. 7: Iss. 1 (Contributions), Article 23. Available at: <http://www.bepress.com/bejeap/vol7/iss1/art23>, with permission from publisher.

March 17, 2020

In the accompanying figure, from the first vaccination, the initial marginal private benefit is a little less than 0.6 cases of influenza prevented. The marginal external benefit is a little more than one additional case prevented, giving a marginal social benefit of 1.6 cases prevented. The marginal external benefit curve “balloons out” to be as high as 1.58, equaling  $(1.77 - 0.19)$  additional cases prevented, before falling toward zero, as the number vaccinated increases, and the number who could catch the disease correspondingly falls. Interestingly, the first person vaccinated does not generate much external benefit because that first vaccination has small preventative impact. The last person “doesn’t need” to be vaccinated because there is no one to infect him or her.

One does not have to be a Marxist or Socialist to argue that epidemic-related public health (i.e. government) interventions such as information, quarantine policies, or vaccines produce profound economic good. On March 16, President Trump rated his administration’s performance thus far as 10 out of 10. Based on the information given, readers may wish to give their own ratings.

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## Economic Models of COVID-19: Taxes and Cigars

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## Economic Models of COVID-19: Taxes and Cigars

Health economists have worked for many years in interdisciplinary teams with epidemiologists and sociologists to look at the implications of epidemics and pandemics. Working together we have constructed simple, yet powerful, analytic models that can provide insights into the transmission, immediate impact, and long-term consequences of epidemics. This essay provides such models to look at the economic impacts of COVID-19, as well as some policy prescriptions that follow directly. We present two models that refer to:

- Epidemics as “taxes”
- External transmission of epidemics

### *Taxes*

Economists have argued that epidemics constitute taxes on communities. The COVID-19 virus regrettably fits this model too well. For us, it has features of a sales tax AND an income tax.

Suppose that a taxing authority suddenly levied a sales tax of 100%, effectively doubling the prices of all goods and services. People would:

- pay more for what they buy;
- purchase less of what they buy, and switch to substitutes (which would also be taxed);
- “do without” entirely;
- buy goods or services on the “black market” or engage in other sorts of activities to avoid the tax.

Such a tax would severely damage commerce and lead to short-term economic hardship. We have already seen this type of impact with the COVID-19 virus. Consumers have stopped traveling, going out for dinner, buying large-ticket items, and going to sporting events. Consumers have changed food-shopping habits. More affluent people can dip into savings and “ride out the storm”, at least in the short term. The poor have few such options.

COVID-19 also acts as an income tax. People’s incomes and wealth fall, activities slow, and there is decreased demand for goods and services. We have already seen this as well. Canceled activities and canceled purchases of both big and small ticket items all have major macroeconomic impacts. In the short term this may mean pay cuts, and lay-offs, further reducing incomes. Some, especially women, must stop working in order to take care of children and other family members. Many workers currently earn below the minimum wage and do not have paid sick leave, vacation benefits, adequate health insurance, or the option to work from home. The reduction in income for minority group members and poor people is exacerbated by the recent rules to “shelter in place”, which

make it difficult for them to meet their basic needs. The reduced expenditures are not always offset by increased subsequent expenditures. China has seen this already, and we will see it soon.

### *Transmission*

Transmission of COVID-19 introduces the concept of *economic externalities*. Most economic analysis starts with individuals who make decisions on buying and selling. People's market decisions involve someone on the other side, but they don't usually affect parties other than those doing the transacting. In contrast, a smoker lighting up a cigar alone in a desert bothers no one else; in a crowded room the smoker becomes a pariah because of the pollution. The pollution is an economic externality, impacting others who are not involved in the transaction. Epidemics such as COVID-19 provide just this kind of externality.

Epidemics can be addressed *only* by public health methods. Although a vaccination for COVID-19 is nowhere near, it is useful to look at models that apply vaccinations to influenza. Epidemiologists start with the Susceptible-Infective-Removed (SIR) model originally developed by Kermack and McKendrick and reinterpreted mathematically by Hethcote. (Hethcote 2000, Kermack and McKendrick 1927) This model relates the disease incidence to its (1) *infectiousness*, (2) *the size of the population*, and (3) *the percentage of the population that is susceptible*.  $R_0$ , or reproductive rate is the number of susceptible people that one infected person can infect. The higher the reproductive rate, the more quickly an infection can spread. (Van den Driessche and Watmough 2002)

Public health alleviation activities must target the three incidence factors above. Epidemic-related public health (i.e. government) interventions such as information, quarantine policies, or vaccines produce profound economic good. Sufficient vaccine coverage is needed to protect the population to attain "herd immunity", which once achieved, will cause the rate of new cases to fall. The equation for vaccine coverage indicated by reproductive rate is  $1 - 1/R_0$ . (Scherer and McLean 2002) The 1918 influenza had an  $R_0$  value of about 2, implying that about 50 percent of the population would have required inoculation. Interestingly, the last group "doesn't need" to be vaccinated because there is no one to infect them. (Coburn, Wagner and Blower 2009)

## *Policy*

Given what we know about the “tax” and the “transmission” issues, what short-term policy implications follow?

### Tax

- Sales Tax Response – Reduce state sales taxes to 0. Make commerce easier with drive-through and on-line shopping methods. All of these will effectively lower the COVID-19 tax, although they will not reduce it to zero.
- Income Tax Response – Restore demand by putting purchasing power in the hands of consumers. Our proposal would be for the government to send a \$1,000 check EACH MONTH for six months to each of the approximately 130,000,000 households in the United States. One check will not do it! The “back of the envelope” cost of this is \$780 billion.

### Transmission

Institute broad public health measures to reduce the infectiousness, the size of the at-risk population, and the percentage of the population that is susceptible. Such measures include:

- Testing extensively for COVID-19 and isolating the affected population.
- Implementing broad public health measures to reduce the infectiousness.
- Assume responsibility at the federal level. Only the federal government has the financial resources to shoulder the burden of these activities. The federal government can print money, borrow on international markets, and organize resources at the national level – options that are simply not available to even the most capable state and local officials.

We have variously characterized COVID-19 as either a “tax” or a “cigar”. We are circumspect in our claims. Economic models cannot cure COVID-19, nor can they alleviate pain and suffering, but they can provide valuable insights into characterizing diseases, proposing policies, and measuring the accompanying costs of disease-related policies and interventions.

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March 18, 2020

## Test Everybody?

The COVID-19 virus has prompted the call for testing. On the one hand, people want to know if they're well ... or if they are sick. On the other hand, the logistics of testing 330 million Americans are daunting and almost prohibitively expensive.

Most women are familiar with Pap smear tests for cervical cancers or mammograms for breast cancers. Similarly, men are familiar with tests for prostate cancer. In both cases, asymptomatic people are tested for indications of cancer, leading to relief, if the test is negative, or further tests and treatment if positive. Who could oppose this?

In fact, there are good reasons not to test everyone. If some people are not at risk, then it is a waste of money to test them. In a sense it is like putting a stop sign in the middle of a road, where there is no crossroad. People stop with no discernible benefit. For this reason, the US Preventative Services Taskforce guidelines apply to women at average risk for breast cancer. Among other recommendations, it says all women should make individual decision about having mammograms between ages 40 and 49. Biennial (every two years) screening is recommended between ages 50 and 74. A mammography is an X-ray test with its own set of risks. Why undergo the test if the risk greater than the potential gain?

Moreover, tests are not infallible. Disease screeners fear "false positive" tests which say that people may be ill when they are not. A false positive leads to further tests, including biopsies and treatment (including chemotherapy, radiation, or surgery) that are total wastes. Anyone who gets tested is at risk for a false positive. We do not know what the false positive rate for a COVID-19 test is, but it is almost certainly greater than zero. Testing large numbers of people leads to the risk of wasted resources, due to false positive tests, on quarantine and treatment for those who are not sick.

The politics of testing have also been apparent. With increased testing comes more positive results. The more people tested, the more positive cases, simply because we are testing more people. Some observers believe that the Trump administration did not want to see more positives, so they restricted testing.

The public has been infuriated by the fact that the tests are not available to everyone ... we are scared. The reluctance of the Trump Administration to use available WHO tests is inexcusable. However, focusing screening tests on those with some symptoms, or on health care workers potentially exposed to COVID-19, will constitute a far more efficient set of tests, rather than testing everyone.

Allen C. Goodman  
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March 20, 2020

## Martin Arrowsmith in 2020 – Dealing with Plagues

*Arrowsmith* by Sinclair Lewis was published in 1925. It won the 1926 Pulitzer Prize, which Lewis declined, largely because his earlier novel *Main Street* had been denied the 1921 prize for not being sufficiently “wholesome”. Although *Arrowsmith* is ultimately a complex tale of medicine, ethics, and intellectual growth of idealistic young physician Martin Arrowsmith, this posting concentrates on the characterization and treatment of a plague. In the book, Martin believes that he has a treatment for the plague having to do with bacteriophage, or *phage* that destroys the bacteria. While his wife Leora pleads for him to give it to everyone, Martin argues that he needs a “control group” (who do not get the treatment), so that he can determine whether the treatment is effective. Shortly thereafter Leora falls fatally ill when infected by the *Bacillus Pestis* and dies.

Among our frustrations in these difficult days are the lack of a vaccine, and a cure for the COVID-19 virus. Our science seems slow, our testing seems slow, and our production seems slow. The standard for testing is the “double blind” test where neither the subject nor the tester knows who is getting the test substance or the (inactive) placebo. All of these take time, and we cannot administer vaccines or cures without knowing whether they work. We don’t currently have the *phage*, and if we did, we don’t know whether it would work.

It is tempting to look for villains in the provision of efficacious vaccines and treatments. Has the pharmaceutical industry been hamstrung by federal regulations that may have slowed the production of potentially helpful treatments? There is some evidence that this occurred in the past, although regulations have been eased in the recent decades. Americans should be reminded that the Thalidomide tragedy of the early 1960s, in which many pregnant women were given a medication to address morning sickness, led to the births of babies with malformed limbs. US drug regulators refused to approve Thalidomide for distribution, thereby preventing thousands of potential casualties. As an aside, Thalidomide is approved today to treat Hansen’s disease, once known as leprosy, and some multiple myeloma. In most places women who use it must also use birth control.

Has the structure of the US pharmaceutical industry, including high reported profits, led to underinvestment in timely responses in the forms of vaccines and cures? Possibly, although there have been no vaccines or cures forthcoming from pharmaceutical industries in other countries which regulate corporate profits more strictly than do we.

March 20, 2020

What happens to Martin Arrowsmith? At the book's end, he and friend Terry Wickett plan to build a laboratory to do medical research without commercial pressure. *Arrowsmith* is still considered the 1926 Pulitzer Prize Novel winner, and Sinclair Lewis won the 1930 Nobel Prize for Literature "for his vigorous and graphic art of description and his ability to create, with wit and humour, new types of characters."

About the processes of creating vaccines and treatment – like making wine, or growing trees, they take time. We are impatient.

Allen C. Goodman  
Professor of Economics



March 23, 2020

### **Forget the Great Recession -Think the Great Depression.**

In late 2017 the Trump Administration proposed and passed a massive tax cut into an already humming economy. The results were more redistributive than expansionary, because the economy was already close to full employment. Because interest rates were so low, large amounts of the funds freed up by the tax cut went into the stock market and real estate. Wages rose only slowly.

There have been proposals in the past week to send checks to millions of American households. These checks should be large (\$1,000 per month) and continuing (at least 6 months). Without them, aggregate demand will collapse. Forget the Great Recession ... think the Great Depression.

Younger Americans may not be aware that throughout the Great Depression, the unemployment rate was in the high teens compared to the 3.5 to 4 percent that we have seen in the past couple of years. In December 1939, the unemployment rate was 17.2 percent; in December 1940 it was 14.6 percent; on the eve of Pearl Harbor in 1941, it was 9.9% (source: <https://www.thebalance.com/unemployment-rate-by-year-3305506>). The New Deal did not make the Great Depression go away. World War II did. Aggregate demand skyrocketed because families and households now had jobs, after a decade or more of unemployment and poverty. The unemployment rate fell close to zero.

Is it possible that some checks will go to those who don't need them? Absolutely! Is it possible that there will be fraud? Again, absolutely! Might people spend them on cigarettes or alcohol, rather than on healthy food or rent? Again, absolutely, although one can point to corporate activities subsequent to the 2017 tax cut, in which corporate executives enriched themselves and stockholders by raising their salaries, and buying back stock shares, rather than paying their workers more, raising productivity, or raising production.

As of 2019, personal consumption expenditures constituted 70 percent of the economy. Even a 10 percent decrease in consumer spending will drastically affect the economy. Incomes and levels of wealth will fall. Many health professionals believe that there will also be substantial increases in self-medication (think substance abuse) to mitigate the pain. Forget the Great Recession ... think the Great Depression.

Allen C. Goodman  
Professor of Economics

March 24, 2020

## **Back by Easter? Marginal Benefits and Marginal Costs**

Yesterday (March 23), President Trump announced that we shouldn't seek a cure for the COVID-19 virus that is worse than the disease. Today, he hoped that we could lift major "in place" regulations by Easter Sunday, April 12, less than three weeks from today. What can economic analyses offer?

A set of safety analogies will help. Everyone agrees that driving too fast on city streets can be dangerous, leading to loss of life and loss of property. Yet no one seriously argues that we should have speed bumps every hundred yards on busy thoroughfares. No one seriously argues that we should have a stop sign at every intersection. No one seriously argues that we should have a national 15 MPH speed limit, even though it could save 30,000+ lives per year.

Why? Because the incremental (or marginal) benefit of safety is swamped by the much higher incremental (or marginal) cost of lost time, and ruined shock absorbers. Individuals monitor marginal benefits and marginal costs for a host of decisions, and public officials pass laws and implement policies based on marginal benefits and marginal costs.

What are the benefits of "in place" COVID-19 regulations?

- Reduced numbers of COVID-19 illnesses, with their attendant costs in terms of illness, absenteeism, and lost productivity, in the trillions of dollars
- Reduced numbers of COVID-19 deaths, again with costs in the trillions. Economists currently put the "value of a statistical life" at about \$10 million (Kniesner and Viscusi, 2019) dollars, so saving 100 thousand lives would save one trillion dollars in "lost people". This number can be scaled up for larger numbers of saved lives.

What are the costs of "in place" regulations?

- Lost output from shuttered factories, offices, governmental agencies, and amusement facilities, valued in the trillions.
- Lost interactions with business partners, customers, families, and loved ones, again valued in the trillions.

Both benefits and costs must be evaluated over time. If we act swiftly, will we prevent the spread? If we send people back early, will the virus flare up again? There are sophisticated models available to guess these impacts. Yes, guess!

The devil, so to speak, is in the details. Which trillions are greater than other trillions? No serious public servant advocates putting in zero restrictions. Both Republican and Democratic governors have imposed "in place" regulations.

March 24, 2020

No serious public servant in the US has (yet) advocated a total 3-week lock down as is currently being implemented in India, a country of 1.3 billion people.

Policy-makers often conduct sensitivity analyses based on plausible parameter estimates of disease spread, and disease impact. Decisions must be made on the basis of careful analysis ... not a hunch that "it's going to get better soon." COVID-19 doesn't care that "America is a great country" any more than it has cared about China, Italy, Iran, or Spain being great countries. Sober analyses of good conceptual models must guide our policies in these difficult times.

Allen C. Goodman  
Professor of Economics

*Reference*

Kniesner, Thomas J. and Viscusi, W. Kip, The Value of a Statistical Life (April 10, 2019). Forthcoming, Oxford Research Encyclopedia of Economics and Finance ; Vanderbilt Law Research Paper No. 19-15. Available at SSRN: <https://ssrn.com/abstract=3379967> or <http://dx.doi.org/10.2139/ssrn.3379967>

March 26, 2020

## Testing 2 – Finding the Denominator, Finding the Location

Like many who have looked at US maps over the past several weeks, your blogger found that West Virginia reported no cases of COVID-19. Impermeable wall, no infection? Well, no. In an interview Senator Joe Manchin (D-West Virginia) explained to the reporter that there had been no cases, because they hadn't tested anyone. Once they started testing .... they found it.

Why, why, why is testing so important? There are two basic reasons. First, we must know the disease incidence, the percentage of the population that might be expected to get the disease, and the positivity rate. Some will not get the disease. Neither your blogger nor his mother could ever remember his getting measles. Yet he never got measles when classmates or friends did. Most likely, he had a very mild case as a very young boy, which gave immunity. Maybe he was naturally immune (his two brothers both got measles, but he was away at college at the time). That said, he is not going into a room with someone infected with measles.

This means that we need a numerator (the number of people with the disease) and denominator (either the number of people exposed OR the total population). The two different denominators obviously would yield different, but very useful, information. We must know the *case fatality rate* and the *attack rate* (the number of ill divided by the number exposed) in order to protect people. We do not always know the number of negative results, because many testing facilities do not log or release them. We cannot wait to vaccinate 330 million Americans (older Americans may remember Sabin Oral Sundays of the 1960s where we were given polio vaccines on sugar cubes at the local public schools – recipients were asked to donate 50 cents or a dollar to defray expenses).

Second, we must know where it is. Without upsetting the squeamish, we do *contact tracing* for persons with syphilis and HIV/AIDS. Once infected, a person is asked the names of all of his/her sex partners. If these partners can be contacted, treated, and warned of safe conduct, an epidemic can be avoided. The same goes with COVID-19. The Chinese, South Korean, and Singapore governments engaged in information-gathering processes whose intrusiveness would probably appall most Americans. To the extent that they were able to track the disease and its carriers, they appear to have limited the spread. Although some contact tracing has occurred in the US for COVID-19, it has been woefully limited.

March 26, 2020

It is necessary to limit the testing to those who are at risk. As much as the “worried well” may get reassurance by testing negative on a COVID-19 test, the testing is a (very) scarce resource and it must be deployed to discover the numerator, denominator, and location. This is the science, and it is important.

Allen C. Goodman  
Professor of Economics

March 28, 2020

## **Manufacturing Through COVID-19 – Serious Problems**

In Summer 1967, as a 19-year old college student, your blogger worked on the piston pin line at Ford's Brook Park Cleveland Engine Plant #2. He earned \$3.40 per hour (well over \$25 today, adjusted for inflation – they don't have those jobs for college students anymore). He worked from 3:30 pm to midnight, so he couldn't spend the money partying after work. He was able to pay for his next year of college as an out-of-state student at The University of Michigan.

Economist Paul Romer was on NPR today talking about the possibility of people going back to work if they were healthy, and if they were tested, possibly every two weeks. In principle, if workable, this is a net positive since the apparent marginal benefits exceed the marginal costs. More production is better than zero production; positive wages are better than zero wages. Paul Romer is an outstanding Nobel Laureate economist. Your blogger doesn't know him personally, but he would be proud to consider him a friend. That said, he believes that this advice is misguided.

The logistics are daunting. In a factory, there are surfaces everywhere. There is air and sweat everywhere. Although things almost certainly have changed, at the Cleveland Engine Plant #2 they had dropped a wall to 7 feet above the floor, to keep the heat and fumes from dissipating to the rest of the plant. Think of the impact of one sneezing worker on an assembly line.

At the end of the shift, workers go home, possibly to pick up more infection and bring it back. Testing every two weeks will not catch the person whose spouse or child, or neighborhood grocer, was exposed last night. The only way to avoid this is to put the workers in dormitories, closing the system, and limiting the infection. It is feasible, but it is expensive, and it is unlikely that American workers would accept it ... for very long.

University professors live good lives. Our work is not physically strenuous, and not done in strenuous conditions, and we work with exciting peers and students. We have moved our current courses online and we can do it from home. It is a mistake to believe that large parts of the manufacturing economy can do the same.

Allen C. Goodman  
Professor of Economics

March 30, 2020

## **The Pharmaceutical Industry – Watch What You Listen For**

Your blogger does not customarily spend much time watching Financial TV. He (and his wife) have a diversified portfolio, and they are in the market for the longer term. No “market timing” for them. In the last month or so, however, in part due to increased home time, and in part due to extraordinary changes in asset valuation, he has watched more, and paid more attention.

This morning (March 30) he was watching CNBC personality Jim Cramer talking about several pharmaceutical companies announcing that they are testing possible vaccines/treatments/cures related to the COVID-19 virus. Paraphrasing Cramer, “This must be the case” because “they are strong companies and they don’t have to say anything.” Really?

Although the pharmaceutical industry seeks and receives considerable patent protection for specific drugs, the companies are still competing for consumer, insurer, and investment dollars. There are always various drugs in various stages of development. If Company A announces that it is testing a COVID-19-related drug, then it is certainly in Company B’s interest to announce that it has something. While it would be foolish to announce development is NONE is going on, it is hard to believe that the big players have no drugs in their portfolio that could address COVID-19. Whether those drugs are at all efficacious is another story entirely ... but it doesn’t hurt to announce ... at least now.

Secondly, the pharmaceutical industry, and its analysts have argued that the costs of developing a drug are enormous, in part (to mix metaphors with the oil industry) because they must drill so many dry holes before hitting a “gusher”. Joseph A. DiMasi, director of economic analysis at Tufts Center for the Study of Drug Development has made a cottage industry over the years of estimating drug development costs. In a 2016 *Journal of Health Economics* study, DeMasi and colleagues argue that it cost \$2.6 billion per approved compound. The component parts are average out-of-pocket cost of \$1.4 billion and time costs (the expected returns that investors forego while a drug is in development) of \$1.2 billion. Your blogger and many health economist colleagues have raised eyebrows at these orders of magnitude, in part because the authors are beholden to the industry for the proprietary data that they use, and the results are almost impossible to replicate. However, whether the cost is \$2.6 billion or even one-quarter of that, they reflect the reality that it takes lots of time and considerable resources to develop new drugs.

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What are the takeaways? First, it is not surprising to see a lot of announcements – talk is cheap. Second, believe the experts who tell you that COVID-19 vaccines/treatments/cures are not months but years away, and believe it that they will be expensive.

Allen C. Goodman  
Professor of Economics

### *Reference*

DiMasi Joseph A. ,Henry G.Grabowski, Ronald W.Hansen, "Innovation in the pharmaceutical industry: New estimates of R&D costs," *Journal of Health Economics* 47, May 2016, 20-33



April 1, 2020

## Numbers Matter – Death Estimates and False Negatives

We have been inundated recently by numbers. Your blogger would like to focus on two of them today.

- 100 – 200 thousand COVID-19 related deaths
- Potential 30% false negative rate for screening test

In the past couple of days, the Trump Administration has released potential COVID-19 predictions of between 100 and 200 thousand deaths, if, as according to Deborah Birx, “if we do things almost perfectly.” At a news conference on Tuesday, the President noted that if we “did nothing” the number of deaths would be close to 2 million.

While it is hard to imagine any US policy-maker “doing nothing”, 150,000 deaths would come with horrendous dollar costs. Valuing each life at \$5,000,000 leads to a permanent loss of \$750 billion dollars. Unlike stock values, these won’t bounce back. To put this into perspective, it costs close to a billion dollars (in normal times) to build a hospital. Imagine a circumstance where 750 US hospitals vanished into thin air – not shuttered (like auto plants) but obliterated. While a more sophisticated analysis would net out the probabilities that some of the people would have died anyway, hence lowering the loss estimate, the economic loss is staggering and permanent.

The 30% false negative rate, reported in the April 1 *New York Times* (<https://www.nytimes.com/2020/04/01/well/live/coronavirus-symptoms-tests-false-negative.html>) while less jarring, is still troublesome. On March 18 your blogger talked about the problems of “false positive” tests, which lead to unnecessary treatment. The “perfect screen” gives positive results for those who are ill, and negative results for those who are not. Unlike false positives, false negatives do not lead to unnecessary treatment. A subject who tests negative for prostate cancer may have the false security of not realizing he has cancer, but his going out into society does not lead to contagious spread of cancer. The contrast with COVID-19 is obvious.

Does this mean that symptomatic people should not get tested because the test may be wrong? Obviously not. We need the tests and we need their results. We need to get baseline numbers and calculate the disease incidence. We obviously need better tests and faster tests. Still a 30% false negative rate should give pause, especially to those who are at high risk of becoming ill and/or

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dying. They were tested because they were symptomatic. Even if told they don't have COVID-19, they must be aware (in the back of their minds) that they might.

Numbers matter.

Allen C. Goodman  
Professor of Economics

April 2, 2020

## How Many Ventilators is Enough?

As a graduate student at Yale in the early 1970s, your blogger took an urban economics course from John Meyer and John Quigley. When discussing urban transportation in New York City, Dr. Meyer remarked that you couldn't solve their peak load traffic congestion problem if you paved over every inch of Manhattan. As a result, you had crowding, pollution, slow traffic, and commuters spending three or more hours per day on crowded trains. This peak load problem is now painfully evident in the midst of the COVID-19 pandemic.

There is considerable hand-wringing these terrible days about how we do not have enough ventilators to serve everyone who needs them – and we do not. Critics argue that this shows the terrible flaws in the US health care system (and in the Chinese, Italian, and Spanish healthcare systems). This is a profound peak load problem. Should there have been a “ventilator reserve”, enough to last out the COVID-19 pandemic? How about the appropriate numbers of masks, as well as hospital beds? Where is the reserve? Why did they not pave over all of Manhattan? They saw fit instead to fund subways, buses, and other forms of transportation in its place. In 2020, New York City is a vibrant city, and it still has massive traffic congestion.

The economic analyses argue against such massive reserves. How do you procure them, where do you put them, and how do you maintain them? How do you know whether they will work once you need them? Will they be in the right place? How would you justify the costs of maintaining empty wings of hospitals, waiting (possibly for years) for someone to use them? Should you be spending all of this money on the reserve, when there are roads to be maintained, diseases to cure, poor people to feed, children to be educated? Some argue that this is a problem for the states to solve, rather than the federal government?

Scholars of World War II agree that the United States was woefully under-prepared for its start on December 7, 1941. We had only recently instituted a draft, and we did not have the war-time materiel ready. The war was a national war; President Roosevelt didn't tell the authorities in Hawaii, California, Oregon, and Washington (who feared of being bombed) to “figure out a way” to fight the Japanese. There was a full federal mobilization, that took time – thousands of American servicemen died in battles in 1942, as the Japanese conquered large parts of the Far East and contemplated invading India and Australia. We know the end result – and we know the horrible carnage.

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We almost certainly should have had more advance planning for a possible pandemic, although no one could have foreseen the location and the magnitude of the impact of COVID-19 and the consequent financial dislocation. It is almost inconceivable that we would have enough ventilators and masks, even if the Trump Administration had not in 2018 dismantled a National Security Council directorate at the White House charged with preparing for another pandemic. The shortages are real and understandable. The refusal of the federal government to do what only federal governments can do – organizing a war-time mobilization against COVID-19 – is not.

Allen C. Goodman  
Professor of Economics

April 5, 2020

## Together and Apart – Economies and Diseconomies of Scale and COVID-19

Simply defined, economies of scale mean that if we double the inputs in a process, we more than double the output. Economies of scale are important to modern society. Cities exhibit economies of scale, which is why people move to them, for higher wages, partially offset by higher land (and housing) rents. Hospitals exhibit economies of scale; one sees very few 10-bed hospitals, because common resources such as operating rooms, intensive care units, or testing facilities, require large volume to cover costs. Large corporations exhibit economies of scale in research and development, and in marketing; making 10,000 cars per day does not cost 10 times as much as making 1,000 cars per day.

Are scale economies boundless? Emphatically not. Mumbai or Kolkata have massive populations, and severe urban problems, but then so have New York and Detroit. At what point, analysts must ask, do the economies of scale give way to too much crowding, leading to pollution, congestion, breakdown of public service, or of social order. Metropolitan New York City is the most densely populated area in the United States, but Metropolitan Detroit is not. The crowded streets, buildings, and elevators in New York City signify the vitality of commerce, business, and entertainment, but they also put people very close to each other, and potentially in harm's way for contagious diseases. Certainly factors other than density, such as poverty (making people more susceptible to disease), and availability of health care resources (helping to prevent or cure disease), must be addressed to provide full explanations of the COVID-19 pandemic in local US metropolitan areas.

Economies of scale also work at the micro level. A couple living together does not need two kitchens, two water meters, or two furnaces (although they may require two bathrooms!). Living together saves money. Staying at home, and working apart from colleagues, can be less productive. Tech wizards, University professors, or office workers are now finding that they can work from home, although many are finding the results to be less satisfactory than working together in the same place. Economies of scale matter.

There are rare silver linings. A friend's son has been commuting several hundred miles every week and keeping a separate apartment, in order to do his graduate studies in a different city. Staying in place, and social distancing means that he can do his teaching and research from "home", and be together all the time with his partner ... and saving several thousand dollars. This, too, exemplifies economies of scale.

Allen C. Goodman  
Professor of Economics

## The Wisconsin Poll Tax

The 24<sup>th</sup> Amendment to the U.S. Constitution (1964)

**Section 1.** The right of citizens of the United States to vote in any primary or other election for President or Vice President, for electors for President or Vice President, or for Senator or Representative in Congress, shall not be denied or abridged by the United States or any State by reason of failure to pay any poll tax or other tax.

**Section 2.** The Congress shall have power to enforce this article by appropriate legislation.

In his March 16 posting, your blogger referred to the economic analysis of an epidemic, as having features of an excise tax on desired purchases. Raising the price makes it more expensive to purchase goods, leading to reduced purchases, and loss of consumer well-being.

As recently as the 1960s, Texas, Arkansas, Alabama, Mississippi, and Virginia required that voters pay poll taxes to vote, and the latter three required payment of all missed poll taxes from prior years. These states argued that any reasonable citizen should be willing to pay a small tax in order to vote. The taxes were designed to disenfranchise poor and minority voters. They were successful.

In January 1964, the 24<sup>th</sup> Amendment, stated above was ratified. After some further court cases, the U.S. Supreme Court in the case *Harper v. Virginia Board of Elections* (1966) ruled that the poll tax was unconstitutional at every level, not just for federal elections.

Your blogger is not a Constitutional scholar, but as we watch the Wisconsin election charade, the COVID-19 virus has levied an enormous poll tax on the Wisconsin voters. Without indulging in hyperbole, exactly how large a tax was the Wisconsin Republican Party, and its captive Supreme Court prepared to levy on Wisconsin voters? Those who went to vote put themselves and their fellow voters at risk for COVID-19 illness, and perhaps death. Those who stayed home, like those who could not afford the poll taxes the past century, lost their right to vote.

Wisconsin never had a poll tax until now. Shame on Wisconsin.

Allen C. Goodman  
Professor of Economics

April 11, 2020

## Who Can Re-Open – COVID-19 Cap and Trade

We have been reading this past week about the full court press (remember basketball?) by the business community to President Trump and his business-friendly advisers to reopen at least parts of the economy. On the one hand, the incremental cost of the shut down, along with the social distancing, has been staggering (in the billions of dollars). On the other hand, the incremental benefits have also been staggering (less COVID-19 disease and death than otherwise). Disease prevented is more difficult to see than unemployed workers and shuttered factories, but it is real and substantial, and also denominated in the billions of dollars.

The problem of opening things up takes us back to a debate about economic pollution. If one manufacturer has a smokestack (to remove pollution from the building) the effect on the local air is probably small – the atmosphere is able to assimilate small amounts of pollution. If multiple manufacturers have smokestacks, it leads to serious air pollution, respiratory problems, and potential illness and death. One solution is “cap and trade.”

“Cap and trade” was developed as a system to reduce pollution in the atmosphere. Paraphrasing from the Environmental Defense Fund web site (<https://www.edf.org/climate/how-cap-and-trade-works>) the “cap” is a firm limit on pollution, and it can get stricter over time. The “trade” is a market for companies to buy and sell allowances for them to emit only a certain amount of pollution, with the allowances being set by supply and demand. Trading offers companies strong incentives to save money by cutting emissions. Rather than paying \$1,000 per ton to pollute, the XYZ company spends \$800 per ton to reduce pollution. Nearly every serious economist supports this kind of policy. Until the Republican party decided to oppose all taxes (even sensible ones), most Republicans did as well.

No one wants to impose new taxes on business, especially now, but the business interests will not align with society’s interests if they gather workers to produce goods and services, only to send infected workers back out into the economy. A *COVID-19 cap and trade* policy would provide free permits to allow businesses to hire workers, with stiff fines (announced in advance) for those who send (like smokestacks) infected workers back out into the economy. Those who can produce pollution-free (sending out no infected workers to the community), or with low pollution costs (a small number of infected workers) can re-open. Workers’ health and infection must be monitored (taking temperatures or monitoring coughing), like smoke pollution. The benefits would be manifest, and the costs will be manageable. The permits could be bought and sold. Efficient firms, with respect to infection, could reopen. Inefficient firms would remain closed.

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This is a daunting task. At the moment we do not have enough tests or laboratories to diagnose asymptomatic people. Bringing people together in a workplace magnifies and multiplies the problem of disease transmissions.

There is an understandable push to return to “business as usual” in these terribly unusual times. We cannot return to business as usual without appropriate price signals to reduce the pollution. A COVID-19 cap and trade policy would provide those signals and start the economy moving again.

Allen C. Goodman  
Professor of Economics



April 14, 2020

## What Is It About Epidemics that Business Leaders Don't Understand?



<https://www.citylab.com/design/2012/06/what-pittsburgh-looked-when-it-decided-it-had-pollution-problem/2185/>

The picture above shows Pittsburgh in the early 1940s. They had a pollution problem. It wasn't one company's doing. Too many companies using too much fossil fuel for the air shed to assimilate. It looks bad now, and it was really bad for health. The site above notes that in 1941, influenced by a similar policy introduced in St. Louis four years earlier, Pittsburgh passed a law designed to reduce coal production in pursuit of cleaner air. The new policy ended up not being fully enacted until after World War II. The air got better and Pittsburgh became a poster child for clean-up. But it took a long time ... and it cost a lot of jobs in coal and steel.

Your blogger is a resident of Michigan where Governor Gretchen Whitmer has gotten major pushback from the business community about shut-downs to stem the COVID-19 epidemic. "LOOK AT THE COSTS OF FOREGONE OUTPUT? Why can't a small manufacturer in the 'Thumb' keep working?" Said manufacturer is isolated and will not infect someone else. To borrow from a previous blog, it is like lighting a cigar in the desert – it won't bother others. And it won't.

The problem is that the large part of employment in Michigan, and elsewhere in the US is in BIG places, with BIG factories, and lots of workers coming and going. They are with each other, and their families. Until we have safeguards in place, they should not be working because the total cost of the

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disease is related to the total amount of infected people and their contacts. In economic terms the foregone costs equal the foregone output MINUS the disease costs prevented by keeping people from infecting each other. Many who are saying that the costs of mitigation and shut-down outweigh the benefits are seriously overestimating the costs.

Your blogger has been following plans from Europe. This morning's French news feed (<https://www.thelocal.fr/20200413/frances-coronavirus-lockdown-what-next>) talked about the French need for testing. To paraphrase:

[President] Macron outlined a three-pronged strategy for ending the lockdown – (1) testing, (2) masks and (3) technical tracking solutions. From May 11th, France will begin testing everyone who has coronavirus symptoms.

The country has been massively expanding its testing program from previously testing only healthcare workers and people in high risk groups, and Macron said that from May 11th, there would be sufficient capacity to test everyone who has symptoms, even mild ones.

Anyone who tests positive will be quarantined, but the president did not specify how that would be organized.

This is what testing looks like. This is what will be necessary in Michigan and elsewhere. Anything less is just blowing smoke.

Allen C. Goodman  
Professor of Economics

April 16, 2020

## How Should We Re-Open?

How do you feel when the guy who cuts your grass sneezes without covering his mouth while doing his job? How about the person in the next office? How about the person at the next restaurant table? The answers are obvious, yet this simple model (yes, it is a model) can educate us about the problems that we are facing in re-opening the economy.

How fast we re-open is related to the number of interpersonal contacts related to the job. Let's start with the easy ones. The person who cuts my grass (or fertilizes my lawn and trees) generally wears a mask anyhow. Whether his or her partner or children are sick is of little concern, whether it is a cold or COVID-19. People in these categories can go to work fairly quickly.

Offices and factories are less controlled, but there is still some degree of control. Employers know who should be there, and they can trace their illnesses and the people they have been with. It is more costly, but conceptually it is tractable. In an earlier post, your blogger described the number of surfaces, the amount air and the amount of sweat in a factory. It is daunting, but not insurmountable to do this kind of tracing. These businesses could open up next.

What about classrooms, lecture halls, dormitories, schools, shopping malls, arenas and stadiums? How will we trace 20,000 people at Little Caesar's Arena, 40,000 at Comerica Park, 60,000 at Ford Field or 100,000+ at the Big House? Casinos are full of smokers and drinkers around a table or in front of a (sanitized?) slot machine. Do you remember your favorite intimate dining spot? How intimate will it be with half the number of tables, and with your servers wearing gloves and masks? How profitable will it be with half the number of customers?

As a younger academic, your blogger studied moving behavior for households, and was advised that the best way to find the movers was to hire a private investigator (PI). While expensive, PIs knew what they were doing. What follows is that tracing diseases will require appropriate tests, appropriate testing facilities, and (probably thousands of) tracers who know what they are doing. Re-opening some parts of the economy will be very expensive ... and frighteningly slow.

Allen C. Goodman  
Professor of Economics

April 18, 2020

## How Should We Reopen? – Part 2

In a certain segment of the entertainment industry, illness from one performer can have serious and even deadly impacts on others. If one performer has HIV/AIDS he or she can infect another via unsafe sex or sharing dirty needles. While HIV/AIDS is not the death sentence that it once was, it is life-altering and can be life-threatening.

Some members of this industry have registered in a third-party database to protect their privacy. The production company consults the database, finds out if an actor is cleared to work. (<https://www.avert.org/news/hiv-prevention-adult-film-industry-testing-alone-not-sufficient>). The article cited in the above hot link detailed the case of a 25-year old male performer (patient A). Patient A had an HIV-negative nucleic acid amplification test (NAAT), a highly sensitive test that can detect HIV from 10 to 15 days after infection, but 22 days later he tested positive for HIV, after condomless sex with 12 adult film actors and five non-work-related partners. Two of the man's partners, one actor, and one non-work partner were later diagnosed as HIV-positive.

The parallels to the COVID-19 “back to work” debate are immediate. How will we know when it is safe? How close should people be to each other? What do we do if someone becomes ill?

Your blogger grew up in the 1950s. Everyone had a scar on his or her arm from the “vaccination” for small pox – we knew we were safe. Polio vaccinations followed in the late 1950s and the early 1960s. Again (at least in most of the world), we became safe from polio. MMR (measles, mumps, rubella) followed, providing safety for at least the largest part of the population that has not fallen prey to the “anti-vaxxers”.

Without a vaccine, how will we reopen facilities where people come and go. For now, this suggests a national health ID card, with a chip, and a card reader that indicates whether the person has tested negative for COVID-19. Readers could be provided to restaurants, libraries, University lecture halls, even arenas and stadiums. Put your card in the slot, test negative, you get in. You don't want to get tested ... you don't get in.

Abridgement of freedom? Some. We require drivers to have drivers licenses which suggests that they know how to drive. We require travelers to have passports, because we need to know who they are. We have given away a lot of our freedom at TSA checkpoints that have thus far prevented another 9/11.

Perfect? Inexpensive? Absolutely not. A person who tests negative on Monday may be infected on Tuesday and may not be symptomatic or test positive until days after that. This kind of program would require some type of simple periodic retests, weekly perhaps.

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In addition, antibody tests are important to determine immune response to COVID-19. Jennifer Abbasi in *JAMA* (<https://jamanetwork.com/journals/jama/fullarticle/2764954>) writes that such tests are ramping up quickly.

Scientists said the tests will be critical in the weeks and months ahead, when they may be used for disease surveillance, therapeutics, return-to-work screenings, and more. But the tests must be deployed appropriately, they added, and with an acknowledgment of unanswered questions (Abbasi, April 17, 2020).

Who should run COVID-19 related tests? The federal government! There should be multiple safeguards and serious, very serious, data encryption.

Testing will be expensive, irrespective of who pays the bills. Employers? Health insurers? States? Feds? Institutions? Individuals? Not testing will be far more expensive with renewed waves of pandemic.

... and we should hope for a vaccine soon.

Allen C. Goodman  
Professor of Economics

April 21, 2020

## COVID-19 and the Cities

As a graduate student, your blogger once went to a seminar by George Sternleib. The topic had something to do with urban renewal, but the quote could apply to anything. “If you want a prediction for the future” said Prof. Sternleib, “listen to fortune tellers. They do a better job than we do.” So with that in mind, we talk about COVID-19 and the cities.

Economic analysis has shown that densely packed cities are more productive than suburbs or rural areas. Company profits are higher in cities, and they are willing to pay higher land rents and higher wages. In a “system of many cities”, however, rents and wages reach an equilibrium through the demand for land and the supply of labor. San Francisco is more desirable than Detroit, which leads to much higher land rents. Because people (at least until recently) wanted to work there, they supplied more labor, lowering the general wage level relative to what it might have been. Roughly speaking within a system of cities, the rent:wage ratio in San Francisco adjusts such that workers in similar jobs and similar industries would be indifferent between being there and in Detroit. Ignoring the last several weeks, your blogger had been hearing that some of Detroit’s lost younger generation (young adults in their 20s and 30s who had left the area) were finding it too expensive to live on either the East Coast (New York, Boston, Washington) or the West Coast (Seattle, San Francisco, Silicon Valley), and were moving back. The exact numbers are hard to verify in real time, but they seemed plausible.

What will happen now? The COVID-19 outbreak has had two major impacts in the land and labor markets. First, there has been a massive loss of wealth, the type of wealth that leads people to bid up the price of land and housing. This happened in 2007-2009, and it took housing markets years to recover. Some (Rust Belt cities such as Detroit, Cleveland, and Buffalo) have never really recovered. It is hard to know how the housing impacts will be distributed, but one would also expect for the bubbles in California, Washington, and the East Coast to be deflated. This will lead to lower housing market density and lower rents.

In terms of the labor market, it is clear that the gains to density in productivity will be offset by the disease impact over overly dense contact, in offices, places of entertainment, or sporting events. We have learned to live and be productive at lower densities in the past month. Until we have a vaccine, lower density will be the way to go. Even then, the work-arounds (working from home, getting delivery from restaurants) may turn out to be more permanent.

April 21, 2020

So, the future. It looks like lower densities in the places that have been enjoying the fruits of high density. Somewhat lower rents for housing and land everywhere. Wages could go either way, because there will be a decrease in labor demand, but also a decrease in labor supply. Places with lower density will become more attractive to live in and work.

The long term? Many scholars of the 1918-1919 Spanish Flu epidemic feel that the impacts lasted for several years. Looking at their own country, and its serious bout with COVID-19 Italian social scientist Arnstein Aassve and colleagues write:

analyses suggest that experiencing the Spanish flu and the associated condition of social disruption and generalised mistrust had permanent consequences [emphasis added] on individual behaviour in terms of lower social trust. This loss in social trust constrained economic growth for many decades to follow. These findings have important implications for our understanding of the economic consequences of different approaches to managing the COVID-19 crisis. <https://voxeu.org/article/pandemics-and-social-capital>

Careful researchers, they warn that it is difficult to make predictions in the midst of an epidemic, but it is wise for social scientists and policy-makers to heed their findings.

Allen C. Goodman  
Professor of Economics

April 23, 2020

## Distributing Vaccines – The Economics Are Simple

Listening to public radio this morning, your blogger heard a discussion about the plans for distributing a COVID-19 vaccine. While making it seem difficult, the economics and the distribution would seem to be simple. Look at what worked for the polio vaccine sixty-plus years ago ... and do it again.

In the March 17 entry (<http://allengoodman.wayne.edu/Blog/Epidemics-Economics.pdf>), your blogger discussed the external benefits that accrue to vaccination. Infected people infect others, sometimes a lot of others. So, any vaccine that can reduce infection, will help others. The problem (in economic terms) is that individuals may not recognize the benefits they are bringing to others. This would lead to inadequate levels of vaccination among the population.

The economic answer is a simple one – subsidize the distribution. By lowering the cost (possibly to zero), people who would otherwise not find it worth their while to vaccinate will do so. We will get to (or at least close to) the right amount of vaccination. This is textbook Economics 101 (or at the blogger's University, Economics 2010).

Vaccines for polio became available in the 1950s (for a fascinating account of the politics of science and the rivalry between competing investigators see Kevin Loughlin's 2018 <https://hekint.org/2018/01/30/salk-sabin-disease-rivalry-vaccine/>). The Salk vaccine (dead virus) was first available in the mid-1950s. The Sabin vaccine became available in the late 1950s.

Your blogger got both of them. In Cleveland they were dispensed in public schools. The Salk vaccine was given by needle, by the school nurse, without cost. The Sabin vaccine (giving rise to Sabin-Oral-Sundays, [https://magazine.uc.edu/issues/0408/on\\_campus.html](https://magazine.uc.edu/issues/0408/on_campus.html)) was administered by sugar cube. Families stood in line at Fairfax School to get a sugar cube laced with vaccine. Donations were voluntary – the suggested amount was 25 to 50 cents per cube. The take-up percent rates were into the high 90s, and in some places they were higher (with people from neighboring communities coming in).

Is this type of subsidized distribution the right thing for the Federal Government to be doing? The answer seems obvious.

Allen C. Goodman  
Professor of Economics



April 27, 2020

## Re-Opening Universities

The United States provides higher education better than any other country in the world. Students both from within and without have treasured a US diploma. A college degree has provided an enormous boost to human capital for US students over the post-World War II era, and international students will tell you that road to success comes with experience in an English language University – most of those Universities are in the United States

Your blogger has spent his adult life both as a student, and then as a faculty member, at several US universities. The largest value is in being TOGETHER – in classes, in dormitories, in social situations, in networking. All of these have been challenged by the strictures of the COVID-19 lockdown. In a thoughtful piece in the April 26, 2020 issue of the *New York Times*, Brown University President Christina Paxson states [“College Campuses Must Reopen in the Fall: Here’s How We Do It.”](#) President Paxson writes:

The reopening of college and university campuses in the fall should be a national priority. Institutions should develop public health plans now that build on three basic elements of controlling the spread of infection: *test, trace* and *separate* [emphasis added].

She speaks to the serious problems in the current setting. She writes “A typical dormitory has shared living and study spaces. A traditional lecture hall is not conducive to social distancing. Neither are college parties, to say the least.” She also speaks to the need for facilities to isolate students for quarantine and treatment.

The logistics are daunting. Consider a lecture hall set up with 20 rows of 10 seats each. How many students can sit in the lecture with social distancing? Consider laboratory sections in the hard sciences, with lab partners. Consider Friday evening “happy hours.”

At many universities, classrooms are cleaned once each day. Comfort facilities, water fountains, and sanitizing stations (if available) were designed for much different times. It is easy to predict the attendant costs of making these areas safe as running into the hundreds of thousands (or more) dollars.

The economics of reopening speaks to (at the very best) a “hybrid reopening.” At your blogger’s own university this would mean that classes of 10 or less might be able to meet in person. Computer and hard science labs would have to be continuously cleansed. Larger classes (until people can be safe sitting next to each other) will almost certainly have to remain online.

It is hard for your blogger to contemplate how the large dormitory settings at many universities will be made to work. Going to single room occupancy will

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either unleash large numbers of students into local apartment markets that are not ready for them, or lead them to stay home. Many dormitories have comfort facilities and dining halls that are shared by dozens to hundreds of students. To repeat, the logistics are daunting.

Academics went into their jobs because they love to teach others, and love to learn. The US University model has been sturdy, long-lasting, and productive. For now, it will have to change, and it will be expensive.

Allen C. Goodman  
Professor of Economics

April 30, 2020

## The Shape of the Economy

On yesterday evening's social distancing walk, your blogger's partner asked what he thought was going to happen with the economy for the rest of the year. While he is basically a micro-economist, he studied macro-economics at Yale (the star student was a woman from Brooklyn named Janet Yellen), and learned a few things. Most of them have to do with aggregate supply and aggregate demand.

Aggregate supply is determined by labor force, capital stock, technology, and know-how. Although we are pushing 60,000 lost lives at this writing due to COVID-19, the labor stock is fundamentally intact. We haven't lost factories, and the great technology stocks (Alphabet, Apple, Amazon, Microsoft, and Facebook) are leading the stock market recovery. They help people work from home. This is all good.

However, the factories will not be able to operate the way they did before – public health measures will cost billions of dollars and this will ultimately be reflected in lower output, and higher prices for the goods produced. The medical sector has seen a sea change. A sector that had pushed back on tele-medicine is now embracing it. Moreover, we will have to have planning for the next great pandemic. “Reserve” hospital wings, inventoried n95 masks and ventilators will use up productive capacity without providing much in the way of consumer goods. Think of this as we do the stockpiling of missiles, aircraft, and armaments. Important to have, but costly and hardly leading to increased consumption.

Aggregate demand has been decimated and it will not come back quickly. Almost any sector of the economy related to entertainment will look totally different. People will not want to go into crowded restaurants, and those restaurants which were on the financial edge when 100% full will not make it if 25% or 50% full. Forget crowded lecture halls, concerts and sporting events ... until people can feel safe going there. Cruises, hotels, conventions, European vacations? There are no easy bounce-backs here.

The result, to your blogger, will be a hockey stick with a very long handle. Your blogger is not a forecaster, but the economy will almost certainly be smaller well into the end of 2020, and probably well into 2021.

Allen C. Goodman  
Professor of Economics

May 3, 2020

## **Risk and Uncertainty: What We Have is Uncertainty**

There is a lot of “unknown stuff” going on in the economy right now with the COVID-19 virus and its impacts. We do not know the probability of falling ill, much less dying if we fall ill. We do not know the probability of getting well, once we are ill. The analysis gets us into the discussion of risk and uncertainty. Economists (and most textbooks) often use them interchangeably. How do they differ, and why do we care?

About 25 years ago, your blogger performed some consulting work for a re-insurance company. What is re-insurance? Suppose Jack is in an auto accident and needs several surgeries to recover, followed by physical rehabilitation. The surgeries could easily cost over a million dollars. Jack’s health insurer may have factored this probability into his insurance rate. More likely, however, the insurer bought “re-insurance” against this catastrophic claim. Both Jack’s insurer and the insurer’s re-insurer looked at the probabilities of these adverse events occurring, and based premiums on these probabilities, and on the expected costs that would occur.

The client (a re-insurer) said something very important. “I’ll write insurance on anything as long as: (1) I know the odds; and (2) they don’t change the rules on what I have to pay.” The odds are the probabilities of events occurring. The “rules” relate to mandated coverages, limits on payments, and other aspects of the insurance contract. If, for example, the re-insurer had written a policy based on a maximum of \$2,500,000, and a state changed the mandates to unlimited coverage, then *the rules have changed*.

All of this is about risk. With risk, gamblers (and insurers are sophisticated gamblers) know the odds, and can calculate the probabilities. All casino games have risk, and rewards, and the participants know the risks and the rewards. The skilled players know them better and apply them better. This is risk. One can know the odds, and act upon them. One can insure oneself against them.

What, then, is uncertainty? The renowned economist Frank Knight, of The University of Chicago, wrote:

*Risk* [emphasis added] is the possibility of alternative outcomes whose probabilities are capable of measurement; *uncertainty* [emphasis added] is the possibility of alternative outcomes whose probabilities are not capable of measurement. When probabilities are known, adverse outcomes may be insured against. Uncertainty is handled by judgment, an unequally distributed ability. (Knight, 1921)

COVID-19 has presented uncertainty. There is no experience with the outcomes. There are no good estimates of the odds.

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Another way to look at this is the availability to plan, and to insure against unexpected outcomes. Many readers have planned complicated vacations to other locations in the United States or abroad. This often involve long and expensive trips, with multiple hotel stays, tour plans, and restaurant reservations (searching for that Michelin star). Because they are expensive, many travelers buy “trip insurance” against not being able to make the trip, or having to cut it short. The insurers know the risk, and charge accordingly. Some travelers buy the insurance, and others do not, choosing to “self-insure.” This is risk.

On Thursday, April 30, television host Lawrence O’Donnell observed (in paraphrase) that the COVID-19 virus *has taken away our ability to plan for the future*. Your blogger notes that students cannot plan for college, many workers cannot plan to work (or to pay rent, or buy food), those with family obligations or vacations cannot plan for them. Local courthouses have reported a spike in applications for marriage licenses, for marriages to be done quickly and at a very small scale. Who, now, can plan a large wedding? There is almost no experience rating, and no readily available insurance.

This is uncertainty.

Allen C. Goodman  
Professor of Economics

#### *Reference*

Knight, Frank H., Risk, *Uncertainty and Profit* (1921). University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Available at SSRN: <https://ssrn.com/abstract=1496192>

May 6, 2020

## The Health Externality

As states begin to re-open, there are major questions about “how soon” and “how fast”. In your blogger’s home state of Michigan, there has been major and sometimes dangerous (armed confrontations at the State Capitol) discord. The simple argument seems to be that the problem is in Southeast Michigan (the Detroit metropolitan area), so why should the rest of the state suffer. Politics is never very far below the surface, and a strong-willed Democratic Governor has been opposed by a Republican-controlled Legislature.

If each of Michigan’s 83 counties were an island, each could pretty much do what it wanted, without repercussions. However, health, measured here through contagion, is an externality. It affects those who have it, but even more so (it seems) those who with whom they come in contact. Michigan’s counties (as are the counties in other states) are connected by commerce.

Michigan is well defined by two major Interstate highways. I-75 (starting in Florida) enters Michigan from Toledo, Ohio and goes north to Sault St. Marie in the Upper Peninsula. Cross-country Highway I-94, starting in Billings, Montana, enters Michigan from Chicago and Indiana, and goes through the state to Port Huron, with Canadian exits at Detroit and Port Huron. Contagion jumps into a car, truck, bus, or train and goes where the conveyance goes, up I-75 and across I-94. Northern Michigan is a beautiful area, with lots of summer traffic from Detroit and Chicago. Interviews with participants in the tourist industry, as well as other participants in the business community reveal a deep division – they want the commerce and they fear the disease.

In 2000, partnering with Miron Stano, your blogger wrote an article about the health externality with regard to managed care organizations (MCOs). We showed that good health was a positive externality, but acting separately, the managed care system was likely to provide “not enough care” to “not enough people”. This would occur because the MCO could not internalize the improved health, and would not be able to take advantage of the reduced costs. Consolidating into larger groups, and possibly global budgets constituted an important health care and policy solution. It would reduce costs, and improve health.

Revisited in this (COVID-19) year 2020 the model implies that “good health” is too important for community and county-level decision making. Places that are connected economically are also connected by contagion. Opening up Traverse City, Petoskey, and Charlevoix (beautiful cities up at the top of “the Mitten”) is only good if it improves commerce without bringing in contagion from elsewhere. No one yet seems to have a good idea of how to do that. There are only limited hospital facilities north of the Saginaw-Bay City-Midland area, and a contagious outbreak would have major consequences.

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Goodman and Stano's model speaks to the internalization of the health externality through "large area" regulation. Michigan, Ohio, Indiana, Kentucky, Illinois, Wisconsin, and Minnesota have sought to work together to coordinate policies and re-opening plans. That scale seems about right. With what we know now, counties, and even larger districts within states, and possibly even the state boundaries themselves, are too small.

Allen C. Goodman  
Professor of Economics

*Reference*

Goodman, Allen C., and Miron Stano, "HMOs and Health Externalities: A Local Public Good Perspective," *Public Finance Review* 28 (3), May 2000, 247-269.  
Address: <https://journals.sagepub.com/doi/pdf/10.1177/109114210002800306>

May 9, 2020

## Aggregate Demand Again

On March 23, your blogger wrote an entry “Forget the Great Recession - Think the Great Depression.” Regrettably it was prescient. Neil Irwin of the New York Times wrote (yesterday):

April 2020 — more technically, the period between the second week of March and the second week of April — was the worst month for American workers at least since the Great Depression and possibly in the history of the nation. (<https://www.nytimes.com/2020/05/08/upshot/virus-jobless-rate-demand-collapse.html>)

A recovery will depend on the revival of aggregate demand for goods and services in the economy. Millions of people have lost their jobs and their incomes. They are not paying rent, and they are buying less of everything. Almost no one is traveling, and just about all purchases of anything discretionary have dried up.

The “bounce back” in industries that serve large numbers of consumers will be slow. Looking in a mirror, your blogger traveled in Europe last year, went to symphony orchestra concerts, dined out occasionally (but well). Four years ago, he had his kitchen renovated. Opening up restaurants, permitting concerts, or lifting travel restrictions does NOT mean that people will start demanding them. Availability of “aggregate supply” does not mean that the “aggregate demand” will absorb it. Many (your blogger included) do not plan to go to group gatherings until the group is safe. Only a vaccine will provide this safety.

There is no good fix for the aggregate demand at the higher end of the wealth distribution, who for now may have endured only minor pay interruptions, and who may have seen retirement account values bounce back ... at least some. Even so these people must be convinced that they are safe. For those tens of millions at the lower end, it is essential to provide them with the purchasing power for what they need. The “one shot” stimulus payment of \$1,200 was inadequate and grudgingly distributed. At least one more, and probably two or three more are not only necessary, but essential.

Otherwise, forget the Great Recession ...

Allen C. Goodman  
Professor of Economics



## We Need a Cost-Effective Vaccine

Economists can destroy “the vibe” at parties (remember parties?) by asking participants to “define their terms”. Very few terms are misused more than “cost effectiveness”. Austin Frakt did so in the May 11 *New York Times*, where he conjoined valuation of life with cost-effectiveness analysis (<https://www.nytimes.com/2020/05/11/upshot/virus-price-human-life.html>). Valuation of life refers to the benefits of saving a life – cost-effectiveness refers to the costs. In particular, he was looking at the cost of an additional year of good health.

In evaluation research, economists seek a resource allocation that gives the biggest bang for whatever batch of bucks we are spending. The “bang” refers to “well-being” in terms of additional years of life years, for example, less the cost of prolonging that life or the “buck”. An intervention is termed *economically efficient* if it maximizes the difference between the bang and the buck. In contrast a benefit-cost analysis simply compares the bang and the buck. If the bang exceeds the buck then there is a Benefit-Cost ratio that exceeds 1. This is a much lower bar than economic efficiency, because there are conceivably lots of allocations that may have a B-C ratio greater than 1, but are not “efficient.”

Cost-effectiveness analysis is neither. Early uses of cost-effectiveness analysis were in the purchase of armaments after World War II. The “Iron Curtain” had come down and we wanted to prevent a war with the Soviet Union. Our opponents had fighter planes and we needed fighter planes. Our opponents had missiles and we needed missiles. Our opponents had submarines, and we needed submarines. A decision might be made to procure 200 fighter planes, 100 missiles, or 10 submarines. Cost-effectiveness analysis was to guide us to the least expensive way to make each of those purchases. Lurking in the background were the benefits of avoiding another war, but no one seriously sought to put a valuation on them – how, exactly does one value “freedom”. The decision had been made, and the procurement was performed (sometimes more effectively than others) to get the fighters, missiles, or submarines.

In the health sector cost-effectiveness has referred to cost per incremental improvement, where the cost is in the numerator and the effectiveness is in the denominator. Frakt provides a good discussion in his article by referring to the cost of a “Quality Adjusted Life Year” or QALY. Your blogger notes that if a health care recipient receives a treatment costing \$50,000 and it gives her one-quarter of an additional QALY, the cost per additional QALY is \$200,000, that is \$50,000 divided by one-quarter year. Is that a little or lot? Since no valuation is given, we cannot tell whether this is efficient.

In health policy analysis, evaluators have often used a “cut-off” point of \$50,000 per QALY. That means that one should adopt an innovation if it costs \$50,000 or less per QALY; if more, it should not be adopted. This is totally

May 13, 2020

arbitrary and has no relation to any sorts of benefits. Dozens of economic analyses (some by CDC staff economists) have shown why this is so. Frakt notes that more recently many health economists have adopted \$100,000 to \$200,000 for the cut-off point. This is no less arbitrary and no more right.

All that said, in May 2020, we must seek one or more COVID-19 vaccines ... and quickly ... and probably expensively, and we must use cost-effectiveness analysis to guide us. Vaccines will undoubtedly bring great benefits, just like we felt in the 1950s in terms of avoiding an unthinkable nuclear war, but no one is measuring benefits now. The term “Manhattan Project” is used as a comparison, and while hackneyed, it is apt. The apocryphal story about the July 16, 1945 explosion of the first nuclear device in New Mexico is that Project Leader J. Robert Oppenheimer didn’t know if it would work. Within 4 weeks, World War II was over.

A quick search for the Manhattan Project (<https://www.ctbto.org/nuclear-testing/history-of-nuclear-testing/manhattan-project/>) notes that it employed more than 130,000 people and cost nearly US\$ 2 billion at the time, roughly equivalent to \$28 billion in 2019 dollars. A (set of) vaccine(s), developed for \$28 billion now would, without question, be cost-effective. We would be happy with twice that cost.

Allen C. Goodman  
Professor of Economics

May 14, 2020

## Flattening the Curve, and then Watching It Spike

The day before last your blogger drove his wife to the Tampa International Airport to catch a coast-to-coast flight. Encountering more traffic than expected, it was nerve-wracking to get to the drop-off area. Upon arrival, at 4:30 pm, we were the ONLY CAR at the entire Blue Terminal at TIA ... on a Tuesday afternoon. It was like one of those bad “end of the world” movies, although it was not a movie. Although we arrived with only a 50 minute window, she easily went through TSA and got to the gate quickly.

She changed planes in Atlanta, and arrived on the West Coast 5 hours later. “How was it,” I asked her. “It’s hard to wear a mask for 5 hours,” she replied.

So what does this have to do with economics? We have flattened the curve by limiting exposure because people are not flying. It is working ... and we still have over 80,000 (and probably over 100,000) people dead in less than four months. Can anyone imagine what things would have looked like if Tampa International Airport, and Delta Airlines were filled to normal levels of travelers, going all over the country and the world. It would be like injecting a deadly drug directly into a vein. Disease and epidemic everywhere.

Yet Republican politicians and their journalistic henchmen (that’s you, Lee Chatfield, Mike Shirkey, Nolan Finley, and Ingrid Jacques), are encouraging resistance (party affiliation makes little difference as Republican Mike DeWine in Ohio gets the same opprobrium as Democrat Gretchen Whitmer in Michigan). If the demonstrators are carrying loaded rifles ... well they really didn’t mean that. They don’t want people to get hurt, but the people should be able to exercise their First (and apparently also their Second) Amendment rights.

Well ...they didn’t mean airplanes, and they know things are bad in Southeast Michigan, but people at the top of the Mitten have the right to get exposed to COVID-19, just so long as it doesn’t come from the residents from Southeast Michigan who travel there every summer. Michigan residents should depend on the business people to do what is best for them, and us.

The problem with that is that it is not best for them, and certainly not best for us. The virus is an economic externality. We still don’t know who has it, and we don’t know how it is transmitted, and it contains a wallop that that we cannot stop.

Those who want to test whether we are flattening the curve should open the Universities, fill the stadiums (the Big House and Spartan Stadium), and the airplanes. Do it, and it will be like holding a lit firecracker in one’s hand to see what will happen.

Or ... cut out the posturing ... and the loaded rifles.

Allen C. Goodman  
Professor of Economics

May 18, 2020

## **Race to the Top, or Race to the Bottom**

As the United States starts to open up the economy from the medically-induced coma, the progress is uneven, and the results uneven as well. In a New York Times article this morning (<https://www.nytimes.com/2020/05/18/opinion/germany-coronavirus-reopening.html>), Anna Saurbrey quotes Karl Lauterbach, a Social Democratic lawmaker and an epidemiologist. Lauterbach notes that “The way we’re easing the lockdown is unsystematic”. Lauterbach is afraid that states may outbid each other to jump-start the economy.

The economics here are instructive. On the one hand, isn’t competition a good thing, to get people working, and to get goods in the hands of the consumers, taxes into the state coffers, and multiplier impacts into the spending? Surely we don’t want for the current (the last 3 months) situation, with Depression-level output and employment. Why not have a race to the top?

On the other hand ... . We have an economic analysis for this. For many years, economists and policy-makers have used models to examine the sending of production and jobs to places where there are lower wages, lower safety standards and worse pollution. Isn’t this a race to the bottom?

Where the current situation differs is that when we send the jobs to Mauritius (your blogger had a terrific shirt made in Mauritius), Sri Lanka, Vietnam, or China, there is little feedback in terms of the lower safety standards, and particularly the pollution. The goods are cheaper for us, and the pollution is there, not here.

Suppose that Indiana or Ohio opens up faster than Michigan, so that factories in South Bend, Elkhart, or Toledo (with a long-time Tigers baseball farm team, the Mudhens), open up sooner. Workers, and shoppers cross the border, work, shop, bring back the virus, and infect others. This is not Mauritius – we have an open economy with Indiana and Ohio. Unlike our international ports of entry, there is no conceivable way to monitor these borders. The more that opens up, the more people and the more commerce (at least for now), the more danger for feedback. Imagine, if a large University, for example, in South Bend, a mile or two from the Michigan border, opened up its stadium for a football game.<sup>1</sup> Does anyone think the contagious results would stay in Indiana?

Preliminary results of re-opening have suggested that both business owners and consumers have, if anything, erred on the side of caution, but there are still voices (particularly at the highest level) clamoring for “full stadiums” and a full reopening. Let’s continue the caution.

Allen C. Goodman  
Professor of Economics

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<sup>1</sup> No University at this time has seriously considered doing this, so the example is “imaginary”.

May 20, 2020

## Clark Clifford in 2020

Clark Clifford was an attorney, an activist in the Democratic Party, and (almost always referred to as) a “consummate Washington insider.” In 1968, he replaced Robert McNamara as Secretary of Defense. In a 2006 interview, Steve Inskeep of NPR and author David Halberstam (author of *The Best and Brightest*) discuss the circumstances of Clifford’s appointment (<https://www.npr.org/transcripts/6490307>).

Mr. HALBERSTAM: Well, he was afraid – [President Lyndon] Johnson was afraid that McNamara was unraveling under the pressure of being the principal architect of a war that was a failure. That he felt, in his own words, that McNamara had, quote, gone dovish on him. So he fired him, and Clark Clifford was brought in.

INSKEEP: Well, who was that man, Clark Clifford?

Mr. HALBERSTAM: Clark Clifford was an old-time fixer who had gone back to the Truman years. Johnson thought that he would have conventional thoughts about Vietnam. But Clifford instead, from the very beginning, thought it was a disproportionate investment - didn't work. And where some of the more senior people refused to listen to the word - the reporting coming out of the country - Clifford, from the start, began to ventilate the process and understood that it wasn't working.

INSKEEP: What did he begin to do?

Mr. HALBERSTAM: He began to try and convince the president that it couldn't be done. He began to try and turn the entire Defense Department to a recognition of the limits of what we were doing, and to convince his colleagues in the other branches of the government that it wasn't doable. And he was pretty lonely in the trenches - Clifford was - for quite awhile there.

So, what on earth does Clark Clifford (who died in 1998) have to do with COVID-19? After becoming Secretary of Defense, Clifford had a briefing with some of the military chiefs of staff, and was told that the US would have to keep a troop presence in Viet Nam for a while.

“How many?”, asked Clifford.

“About 100,000”, he was told.

“For how long”, asked Clifford.

“Thirty years”.

According to legend, Clifford marched into the President’s office and told him that he didn’t know about other people, but he (Clifford) was not going to throw away his reputation by supporting an expensive (in terms of money and lost lives), and futile endeavor. President Johnson subsequently chose not to run for another term, President Nixon was elected in November 1968, with a “secret plan” to end the war, and the US presence ended by 1975.

At this date (May 20, 2020), over 92,000 Americans have died in less than four months. We will almost certainly reach 100,000 by the end of May. We could be closer to 200,000 than to 100,000 by the end of 2020. Suppose that with

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masks, gloves, social distancing, emptied classrooms and stadiums, we settle down to a “steady state” of 30,000 – 50,000 deaths per year until a vaccine comes. President Trump and his supporters have indicated that that may be acceptable. Columnist Margaret Sullivan wrote on May 10:

“We don’t shut down our economy because tens of thousands of people die on the highways,” said Sen. Ron Johnson (R-Wis.). “It’s a risk we accept so we can move about.” President Trump also argued that car-related deaths are “far greater than any numbers we’re talking about.” [https://www.washingtonpost.com/lifestyle/media/trump-wants-america-to-normalize-coronavirus-deaths-its-the-medias-job-not-to-play-along/2020/05/09/72de4c32-9090-11ea-a9c0-73b93422d691\\_story.html](https://www.washingtonpost.com/lifestyle/media/trump-wants-america-to-normalize-coronavirus-deaths-its-the-medias-job-not-to-play-along/2020/05/09/72de4c32-9090-11ea-a9c0-73b93422d691_story.html)

Your blogger used the identical analogy in his March 24 [entry](#). The difference is that we can quantify the benefits of time saved in leisure, travel, and delivery costs by not having a 15 MPH national speed limit. We have made that trade-off. That said, driving has become far safer in terms of deaths per passenger-mile than it was in the 1960s when your blogger got his first driver’s license.

COVID-19 is new, it is deadly, and we don’t know how to make it safer, and continue to do everything we used to do. Opening up the economy too fast will lead to more deaths. Putting full crowds into Senator Johnson’s U of W Camp Randall Stadium for football games, with the knowledge, technology and crowd control that would make America “run” again, would lead to hundreds if not thousands of deaths. We let people drive their cars, but we have speed limits, and we warn them not to drive on icy roads ... and we have police to enforce the rules.

So:

“How many COVID-19 deaths are acceptable?”, we asked.

“Maybe 30,000 – 50,000 per year”, they answered.

“For how long?”

We need a Clark Clifford, and we need him inside the White House.

Allen C. Goodman  
Professor of Economics

May 25, 2020

## Memorial Day – 2020

As of today, May 25, 2020, Memorial Day, approximately 99,300 (<https://www.worldometers.info/coronavirus/country/us/>) Americans have died from COVID-19. In three-plus months the United States has incurred a loss (valuing human life at \$5 million per life lost) of life valued at approximately \$500 billion dollars. This is equivalent to about three years of deaths from traffic accidents. Slightly over 58,000 Americans died from all causes in 1964-1975 Vietnam War.

Your blogger is not an epidemiologist, but the number of deaths seem to have plateaued recently at between 1,000 and 1,500 per day. Extrapolating this through June and July would suggest at least 30,000 more deaths, and probably closer to 60,000 deaths by August 1, leading to a total of between 150,000 and 160,000 deaths. The economic costs are staggering. It does not take a computer to do the math.

A study (<https://www.medrxiv.org/content/10.1101/2020.05.15.20103655v1.full.pdf+html>) by Columbia University researchers estimated that approximately 36,000 deaths could have been averted had the United States instituted lockdown measures one week sooner. This is a PRELIMINARY study that has not undergone peer review. It is sensitive to all kinds of modeling assumptions. Your blogger downloaded the article. It is THICK, and it is hard to read. Your blogger knows about this, because he often writes articles that are thick and hard to read.

What is important is that this is a “bottom up” model. This contrasts to a “top down” model in which the researcher calculates a model for an aggregate (say the entire US), and distributes the results down to the lower (for example, county) level. In a sense, top down modeling uses a sample size of 1 (the aggregate), and distributes down. The local results are extremely sensitive to the distribution model. Ideally, top down and bottom up models give the same policy results. Your blogger prefers bottom up models because they model the differences among the component areas more clearly.

The Columbia researchers starts at the county level among the 3,142 US counties. They concentrate on the 311 US counties with cumulative cases over 400 as of May 3, 2020. We know which ones they are – Cook (Chicago), Kings, Queens, Bronx, and New York (New York City), Wayne (Detroit), Los Angeles, Nassau (suburban New York City), Bergen, Essex, and Middlesex (New Jersey), and so on. This is where the action is. The authors aggregate up the results. They report 95% confidence intervals around the 36,000 “point estimate” between 30,200 and 40,700.

The public and the press are hungry for news, and this is news. There have been numerous questions about the underlying model assumptions by reputable academics. The research will be vetted, questioned, and possibly re-analyzed. The political reaction was predictable. President Trump reacted by

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saying “It's a disgrace what I watch from this fake news media and from some of these liberal institutions. Columbia is a liberal, disgraceful institution to write that because all the people that they cater to were months after me, they said we shouldn't close it.” (<https://www.axios.com/trump-columbia-study-coronavirus-covid-deaths-18552947-6664-4a06-8b66-cc20576bb7f5.html>).

Is this line of research an appropriate topic? The answer has to be “yes.” It is no less appropriate than asking what would have happened if we had evacuated a coastal shoreline earlier in the face of a hurricane. It is no less appropriate than asking what would have happened had the Salk and Sabin vaccines been delayed, or not developed. It is no less appropriate than asking what happens with people refuse to vaccinate their children for MMR (measles, mumps, rubella) or for chicken pox.

It is clear that lockdowns saved lives. It is quite likely that they have saved a lot of lives, and had they been done sooner, they would have saved a lot more. We are easing them slowly, and we hope that we are doing the right thing at the right time. Another 30,000 lives per month is a lot to lose.

Allen C. Goodman  
Professor of Economics



## Say's Law and the Macroeconomics of 2020 in the Era of COVID-19

Your blogger first learned about macroeconomics in the mid 1960s. Times were good, the economy was growing at a rate of 4 to 5 percent per year, and unemployment was below 4 percent, in large part due to the expenditures for the Viet Nam War. However, all of our parents had gone through the Great Depression in the 1930s, and it was never out of their minds. No one wanted to see something like that again.

The study of macroeconomics emerged in the post World War II economics profession, in reaction to the Great Depression. Prior to that, a doctrine called Say's Law<sup>1</sup> stated "A product is no sooner created, than it, from that instant, affords a market for other products to the full extent of its own value." Stated in another way, as long as people were willing to work, they would earn money from selling their goods or services, and they would be able to spend it on other goods and services. So, there would not be unemployment, and people would have the wherewithal to buy what they wanted. It is often phrased "Supply creates its own demand."

Adherents of Say's Law viewed any economic downturn as temporary. Workers were demanding too much, or sellers were charging too much. If markets were allowed to adjust, everyone who wished to work could do so. Advocates of Say's Law had elegant models to show how if wages and prices fell enough, the economy would always return to full employment. The Depression started at the end of 1929 and lasted into the early 1940s. It was not short term. There was not a simple return to full employment.

John Maynard Keynes attributed the Great Depression to a collapse in demand for goods and services. His cure for this problem was for the government to buy things, to create demand. It was used fitfully in the 1930s by the Western democracies (ironically most effectively by Germany), but World War II created the demand to end the Depression. As World War II ended, economists worried that the economy would fall back into Depression. In large part, because the US was the only intact economy after the War, there was great world demand for US goods and services. The 1950s showed stable economic growth that moved into the 1960s.

The boom of the 1960s gave way eventually to "stagflation" of the 1970s and many economists argued that the government should get out of the way. Economic decision-makers would figure them out, and the government policies would not be effective. Critics of the Keynesian analysis argued that there was a "natural rate" of unemployment related to labor market search frictions, and attempts to go lower were essentially attempts to "fool Mother Nature." Yet over time the natural rate decreased, and after the 2007-2009 recession, the economy

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<sup>1</sup> A *Treatise on Political Economy* (*Traité d'économie politique*, 1803) from [https://en.wikipedia.org/wiki/Say%27s\\_law](https://en.wikipedia.org/wiki/Say%27s_law).

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grew for almost ten years, albeit by smaller annual increments than in the past. The 2017 tax cut was essentially Keynesian in scope. It was an increase in aggregate demand into an economy that was at close to full employment

Then came COVID-19. In the three month period ending this weekend (the end of May 2020), both aggregate supply and aggregate demand have tumbled. Aggregate supply shut down first. Large parts of the US (and world) economies simply shut down. Aggregate demand followed shortly. The workers without money had little to spend. Large sectors of the economy, particularly those related to people coming together in large places, such as airlines, cruise ships, downtown districts, and sporting events, have collapsed. Universities limped through the spring, but most do not know what the Fall will bring. Auto factories have closed, re-opened, and closed again.

Depending on Say's Law will not help us in the next twelve to eighteen months. Supply is limping back, due in large part to workers' collective reluctance to put themselves in danger. There will not be a lot of supply to create the new demand. In a sense Say's Law is working as stated ... but there is not enough supply to create its own demand.

The government knows how to create the necessary demand. It is not wrong to do so. It is essential.

Allen C. Goodman  
Professor of Economics

June 6, 2020

## Searching for the Number

It is natural to seek to describe items using a single number. Suppose someone exclaims “there’s a big guy coming down the street”. Onlookers observes that he’s 5’6” tall. That’s not big. But what if he weighs 300 pounds. That’s big. We have needed two dimensions to describe him, height and weight. If he was 7 feet tall, “big” would almost certainly refer to height. Both dimensions matter.

With the onset of COVID-19, the State of West Virginia seemed impervious to the disease. While all of its neighbors had infections and deaths, West Virginia did not. Why? They weren’t testing. When they started testing, they found ... infections and deaths. At the outset, in West Virginia and elsewhere, death rates seemed high, because asymptomatic people (who had the disease) were not being tested. As more people were tested, it was discovered that a lot of people had the disease (the denominator of a fraction), but only a fraction (although too large a fraction) died from it (the numerator). To describe the death rate, analysts need the numerator and the denominator. Both dimensions matter.

Your blogger has taught economics for over 40 years. If there is a truism, it is that “complex” things require complex measures. One can’t measure “big” with one number; one needs two, sometimes three. Measuring the impact of COVID-19 needs many more than one number. New methods are being proposed daily.

On Friday, the Federal Government announced its measure of the unemployment rate. The April unemployment rate was 14.7 percent, and many economists expected the May rate to push 20 percent. Everyone was surprised when the percentage announced was 13.3. What happened? How could everyone have been so wrong? And ... are things as good as they look (although 13.3 percent is pretty terrible).

In the July 5 New Republic, Timothy Noah explains:

But that 3.1 million job gain is wiped out when you take into account a statistical glitch that the BLS [Bureau of Labor Statistics] admits to—the misclassification of about five million workers as “employed” who said they were “not at work for other reasons” than losing their jobs. The likelihood that these people will get their old jobs back diminishes with each passing day. But even aside from the question of job viability for these workers, the BLS is required [emphasis added] to classify such people as unemployed, and for some as yet ill-explained reason, it didn’t. If it had, the BLS says, the unemployment rate would have *risen* in May to 16.1 percent. And that’s before seasonal adjustment to the jobless count, which would raise the rate even higher. <https://newrepublic.com/article/158062/donald-trump-unemployment-coronavirus-stimulus>

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Your blogger is an economic statistician, and recognizes that Bureau of Labor Statistics economists are among the best in Washington. They have always taken pride in the professionalism of the reports. Someone put out a wrong number. One hopes that is all that it is.

Timothy Noah observes that people are returning back to work ... and that is good. “We all want unemployment to go down, so that really is something to celebrate—however cautiously.”

Employment, and unemployment are very complicated. It has long been understood that when the economy contracts, the measured rates do not rise as much as is “really happening”, because so-called “discouraged workers” leave the labor market and are no longer considered unemployed.

The case at hand is complicated. The reality is that workers who are “‘not at work for other reasons’ than losing their jobs” ARE unemployed. They are not working.

Employment and unemployment are complicated. COVID-19 is complicated. Big people are complicated. We need (many) more than one number to describe them.

Allen C. Goodman  
Professor of Economics

June 10, 2020

## COVID-19 Three Months In: Random Thoughts

1. Roughly three months ago the United States recognized the major potential impact of COVID-19, as people started dying and the economy went into Depression. As of this date (June 10, 2020), over 115,000 people in the United States have died from (<https://www.worldometers.info/coronavirus/country/us/>) COVID-19. Valuing their lives at five million dollars each provides a loss estimate of \$575 billion.
2. Your blogger and his partner drove from Florida to Michigan the week of June 1. As one rides north on I-75, the “mask gradient” becomes much steeper. Michigan and Ohio are far more observant of social distancing and personal protection measures than is Florida. The percentage of people masking in Michigan is much larger than in Florida.
3. Daily reports show that states that “opened up” earlier, including Arkansas, North Carolina, Florida, and South Carolina, are showing major increases in the number of COVID-19 cases (<https://www.nytimes.com/2020/06/10/world/coronavirus-live-updates.html>). There are reports today that the Republican convention plans to move from Charlotte, North Carolina (which will not guarantee big crowds) to Jacksonville, Florida (which apparently will).
4. The stock market, while not recovering to its February highs is right about where it started the year 2020. The S&P and the Dow Jones averages are slightly below their December 31 closes, and the “tech heavy” NASDAQ is almost 10 percent higher.
5. “Re-opening” the economy will likely be slow, and with stumbles. While the tech industries seem to have held up well, industries that depend on large groups of consumers randomly congregating (entertainment, dining, education, sports) will face difficulties. At this date, Major League Baseball has still not agreed on plans for the 2020 season.
6. There will be tangible losses to human capital of our young people that will be hard to measure. Most public school students spent 20 to 25 percent of their 2019-2020 school years in makeshift circumstances. It is hard to imagine that Fall 2020’s 4<sup>th</sup> graders will be as prepared as their previous counterparts.
7. It is highly speculative to conjecture when musical arts, sports, and other activities that children ages 6 to 17 use to gain performance skills, and learn collaborative skills, will resume. We face a potential “lost generation” in the arts, and in sports. While again hard to measure, this is a tangible societal loss.
8. When one conducts clinical trials, there is a “stop rule” that is invoked if the intervention is harming significant numbers of people. Are US decision-makers prepared to invoke “stop rules” if and when the colleges/restaurants/casinos open up, and COVID-19 rates spike? If so, what will they be? If not ... ?

Allen C. Goodman  
Professor of Economics

June 14, 2020

## How Should We Reopen? Round 3 – The Health ID Card

Your blogger (YB) does not typically go on rants. They are strenuous, and generally unproductive. The loud voice scares people away. It is better to try to persuade ... softly. This afternoon, an excellent interview of Paul Romer by Russ Roberts (<https://www.econtalk.org/paul-romer-on-the-covid-19-pandemic/>) led to the discussion that if people had the right information (about COVID-19) “most” of them would do the right thing. That is, if they were well, they would go out, and if they were sick, they would stay home. Ignoring the BIG question of what “most” means in this case, it brings us back to the question of how we know whether we (and they) are safe.

In a previous blog (<http://allengoodman.wayne.edu/Blog/Reopen2.pdf>), YB wrote about the adult film industry with their ID cards that had to be presented when appearing for work. These cards certified that the actors did not have sexually transmitted infections. No card, no work.

Here comes the “mini-rant”. Over the last several years YB has had contact with at least five different health care organizations. EVERY TIME he goes somewhere new, he must fill out a new form, generally on paper, and almost always, it is transcribed with inaccuracies. This exchange happened within the last couple of years.

Nurse: “We see here that you have arthritis, psoriasis, high blood pressure, diabetes, and skin cancer.”

YB: “I don’t have diabetes.”

Nurse: “It says here you have diabetes.”

YB: “That information is inaccurate.”

YB has NO card other than his Medicare card and his insurance ID. He has several credit cards with which he can move thousands of dollars securely. He carries all of his referrals and records on a flash drive. Recently, he asked if he could insert the drive into the doctor’s laptop. That was fine with the doctor. No one had ever asked him to do this.

Why has our medical records system been so bad? In short, the doctors liked it that way. They claimed that they had to protect patient confidentiality. They claimed that the records systems did not allow them to share records. They claimed that there was not a standardized system. They claimed the HIPAA required it. YB has believed for at least thirty years that the EMR (electronic record system) was and is bad because a transparent system makes it easier to monitor bad (and good) work. If Clinic A, or Insurer B cannot readily access the data from Hospital C, then Hospital C faces less oversight. Along with that, there

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is the very real probability (indeed the almost certainty) that there will be mistakes in transmitting data from Hospital C to the clinic or to the insurer, and vice versa.

The time is long overdue for a national health ID Card with insurance coverage, medical conditions, prescription drugs, COVID-19 tests and everything else. As YB said in his April 18 blog, card readers could be provided to workplaces, restaurants, libraries, University lecture halls, even arenas and stadiums. Put your card in the slot, test negative, you get to work, you go to the restaurant, or to the lecture. You don't want to get tested ... you don't get in.

Isn't it time?

Allen C. Goodman  
Professor of Economics

June 20, 2020

## The Distributional Aspects of COVID-19

COVID-19 has shown itself to be distributionally unfriendly. People of color have suffered illness and death in disproportionate numbers to the rest of the population. Low income and service workers, in dangerous occupations have also suffered disproportionately. No “compensation” has been offered that can come close to indemnifying those groups that have suffered so greatly.

A more subtle distributional impact is emerging in reopening the economy. The younger and healthier members are urged to go back to work (albeit with request that they waive the ability to sue for COVID-19 related illnesses or death). The argument is that if they get sick, they will for the most part recover, and go on about their business. If this happens with enough people, we may get to some kind of herd immunity and the pandemic will die out. People over age 60 (your blogger is 72) should stay at home, out of harm’s way, until the pandemic is over.

Roughly speaking, this was the Swedish approach. While large portions of the world’s economy went into a medically-induced coma, observers saw a Swedish society that seemed to be going on “as normal”, presumably without the economic dislocation. However, things aren’t quite what they seemed.

Epidemiologist Keren Landman wrote (<https://elemental.medium.com/its-not-looking-good-in-sweden-right-now-624e7fe0a1ed>):

The goal of Sweden’s strategy was to avoid the financial collapse facing countries whose near-universal shutdowns have led to severe economic contractions, while simultaneously slowing disease transmission to avoid health care system overload. But the strategy seems to be resulting in more deaths: Sweden’s daily per capita Covid-19 mortality rate, already high in late April, is currently higher than any other European country—and an order of magnitude [higher](#) than that of its neighbors Finland and Norway.

Despite the country’s ban on care home visits, Covid-19, the disease caused by the SARS-CoV-2 coronavirus, ravaged the largely older populations living in these homes.

Professional economists are uncomfortable with distributional analysis. It does not fit in well with mathematical models, and it involves interpersonal comparisons, with which economists are also uncomfortable. If one taxes a rich person a dollar to give to a poor person, is “society” better off because the poor person might value that extra dollar more than the rich person. While the answer would seem to be “yes” to any thinking and caring observer, putting this into models is, yes, uncomfortable.

Many people ages 65 and over have been somewhat shielded from the worst of the financial shocks of the pandemic. Social Security payments have continued unabated, and stock prices, after a massive sell-off are back to where they were at the beginning of 2020. Portfolios aren’t great, but they are OK. It is



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not clear what is happening to housing equity (few buyers and few sellers), but lots of elderly people are not saddled with mortgages, and those who have them can refinance and bargain-basement interest rates.

They are not shielded from the danger brought about by six or more decades of aged bones and tissues, episodes of cancer, and compromised auto-immune systems. They do not want to go to concerts, dine out, or face large classrooms of students.

The younger generation are stronger and more durable. They must also care for young children, and they are disproportionately likely to lose their jobs. If they are running businesses, they are in danger of losing them. Some of them must take care of their older parents and relatives. While healthy, they face greater financial losses both now and into the future.

Remarkably, some of the programs seem designed to compensate the younger generation, in what amounts to a transfer from the elderly. Payroll protection plans, unemployment insurance, and the \$1,200 payment from the March 27 CARES Act provide help, however imperfect, to those who need it a lot. This is a redistribution, again, however imperfect.

The COVID-19 virus economic collapse has laid bare the serious age, race and class-based inequalities of our 2020 society. Measures to address them have worked to the extent that they have been tried. More, and bigger, measures will be necessary as we try to move to recovery.

Allen C. Goodman  
Professor of Economics

June 25, 2020

## The Right Amount of Care

Since March, most Americans without acute medical or dental complaints have stayed away from providers' offices. Dentists almost all closed down – the liquification that accompanies most dental procedures was deemed to be far too dangerous given a disease (COVID-19) that is carried in droplets. Elective surgeries to medical providers were severely curtailed, and routine office visits were canceled or (later) replaced in some cases by tele-medicine sessions.

In a June 22 *New York Times* (<https://www.nytimes.com/2020/06/22/opinion/coronavirus-reopen-hospitals.html>) article, Dr. Sandeep Jauhar reports a recent [survey](#) that indicated that only one in ten respondents said their health or a family member's health had worsened as a result of delayed care. Eighty-six percent said their health had stayed about the same. After enumerating a bunch of reasons, Dr. Jauhar conjectures that perhaps “Americans don't require the volume of care that their doctors are used to providing.”

Maybe. Health economists have a simple way of defining the “right” amount of care, defined by days of care, visits, or dollars. It is where the incremental (or marginal) benefit equal the incremental (marginal) cost. Less care means giving up treatment that brought higher benefits. More care means getting treatment that while possibly helpful costs more than it is worth.

A prime example of the issue involves insurance copayments. When your blogger (YB) was younger, he had hair and some hair-related skin problems (eczema, psoriasis, dandruff). He also had health insurance that bought him prescription shampoo for two dollars per bottle at a time that *Head and Shoulders* shampoo cost seven dollars per bottle. The retail price of the prescription shampoo was fifty-five dollars. Did YB buy it? Of course he did, even though the travel cost to pick it up exceeded the shampoo cost. Was this excess treatment? Almost certainly.

Insurance does that. Through coinsurance, people pay less than the true cost of their treatment – as a result they buy more than they should. This insurance-related behavior is called *moral hazard*, although it is not clear what is moral or immoral about it. COVID-19 essentially raised the “price” of going to the provider. Raise the price, and people buy less. This is a central tenet of economics.

YB did not go to the doctor, and he did not go to the dentist. In mid-April a tooth started to throb. No dentist ... be extra careful, floss a lot, and don't chew the ice. This is good preventive behavior. Upon seeing the dentist this week, YB discovered that he did not need to worry about the throb ... but he does need a crown on the other side. YB also had a telemedicine visit with another provider. It was suitable to the type of examination needed. There has been a lot of discussion about telemedicine, and COVID-19 may have let the telemedicine “genie” out of the bottle.

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Are we no less healthy than we would have been otherwise, and did the curtailment of visits due to COVID-19 expose previous “excess use” of health care? We need a stronger test of the hypothesis, and it will be difficult to provide one. It is hard to measure the health of people who do not get their health measured (that is they don’t go to a doctor or self-record items like weight or blood pressure). Moreover, we must ask whether those who curtailed visits will make up for the lost health care in the last six months of 2020 or later?

Studies that ask subjects to “recall” how they felt are afflicted with memory bias. About the best inference to be drawn will come from examining subjects six to twelve months hence and relating their health conditions (at that future time) to the amount, and timing of their care including and directly after the COVID-19 lockdowns and slowdowns. This is a “natural experiment” and the results, of necessity, will be messy.

The question of the “right amount of care” is an important one, and the elimination of wasteful health spending is a vital component to the reduction of health care expenditures. The finding that for the short term certain chronic treatments can be postponed without too much harm, seems sensible enough, but the inference that most of the care was not needed is speculative.

Allen C. Goodman  
Professor of Economics

June 28, 2020

## All It Took Was One Packed Bar

This story is by Tresa Baldes in the Detroit Free Press (June 27, 2020) - <https://www.freep.com/story/news/local/michigan/wayne/2020/06/27/harpers-bar-east-lansing-coronavirus-grosse-pointe/3268551001/>

All it took was one packed bar. An infected patron. And a wild party afterward.

This is the toxic combination that has led to a new wave of COVID-19 cases in the Grosse Pointe community, where at least 30 new cases in recent days have been tied to an outbreak at a popular East Lansing bar almost 100 miles away.

Harper's Restaurant & Brew Pub saw shoulder-to-shoulder crowds after reopening earlier this month, including some college students from the affluent Grosse Pointes who unknowingly got infected and brought the virus back home. According to multiple families that are now in quarantine, one of those students who visited Harper's came into contact with a friend who held a huge house party in Grosse Pointe Woods, where dozens of friends partied without masks and social distancing, they said.

The party was held on a Friday night, parents said. The host was symptomatic during the party, got sicker over the weekend and was tested for COVID-19 on Monday, though didn't share the positive results with friends until Tuesday night, parents said.

By then, the virus had spread among college-age kids hanging out for the summer ...

As of late Friday, the number of COVID-19 cases linked to Harper's brew pub had increased to 76, according to Ingham County health officials.

Your blogger has been waiting for this to happen. YB is a University professor of forty-plus years of experience. In the past couple of months, he has been asked what he thinks about universities re-opening in the Fall. He has watched with interest the plans of Notre Dame University, the University of Michigan (his alma mater), Yale University (where he got his doctoral degree), his own University (Wayne State in Detroit) and just about anywhere else.

Notre Dame has announced that they will be starting the semester a couple of weeks early (in mid-August), and finishing up at Thanksgiving, in advance, they hope of the second wave of COVID-19. Notre Dame is about 100 miles from Chicago. When Notre Dame students visit Chicago over Labor Day, for a family celebration, for a family tragedy, or just a party with friends, how many will be infected, and how many will bring the infection back to South Bend. And then ... what will Notre Dame do? What will Michigan do? What will Yale do? What will Wayne State do?

YB's daughter was a Peace Corps volunteer in West Africa and she was teaching the children in the village about germs and hygiene. She put hot pepper powder on their hands and then told them to wash it off. They found that it didn't

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come off very well, tasted bad, and could make them uncomfortable if they touched their eyes or their noses with it without thoroughly washing with running water and soap. It could get on the clothes of others that they touched. It was infectious, although the effects ultimately were limited. Unlike hot pepper powder, germs cannot be seen or smelt with the naked eye.

With COVID-19, the impacts on other college students will lead to illness, and with the instructors, and other older adults, they could lead to death. The public has been anxious "to reopen". We want restaurants, we want concerts, we want football. YB has asked about the external effects of filling up Michigan Stadium (the Big House) with 100,000 fans. The title of this article says it all.

All it took was one packed bar. Multiply that by 1,000.

Allen C. Goodman  
Professor of Economics

July 2, 2020

## Underinvestment in Education – The COVID-19 Story

Your blogger (YB) and his wife/partner/lover are both university professors. Like many, we observed the COVID-19 jolt in the way universities are run and the move to online, off-campus education. We have seen the federal government pledge to rebuild the airline industry (“Boeing is a great company”), the cruise ship industry, and other parts of the private economy.

By the time classes start on September 1, YB + partner will have spent over \$2,500 out of pocket to get themselves ready to teach. Both have bought new computers, professional-grade earphones and microphones, and we have upgraded our home wi-fi system to handle the 24 hour per day use at over double the intensity. Shed no tears for us – we can afford it, and we owe it to our students. Many colleagues in the private sector have had their employers purchase them more powerful machines, and help move their “office offices” to their homes. Shed no tears for them either.

The states and the cities are seemingly being left to fend for themselves. In particular, the education sector has been told to plan for:

1. Teaching as usual;
2. Teaching as usual, with plans to go online at a moment’s notice;
3. Teach online, and depend on students/parents/caregivers to shoulder major burdens of the teaching.

YB is not a betting man, but he would put 99 percent of his chips on #3.

Over the last several decades, there have been chronic reports of public-school teachers who must buy supplies for their students, finance trips, out of their own pockets, or bring in supplies to clean filthy classrooms. This was IN THE SCHOOLS. When COVID-19 hit the public schools, they too went online. Have the public-school teachers been supplied with new computers, enhanced wi-fi, or professional grade earphones and microphones? Hardly. Instead they are all being told to hunker down in the face of eviscerated state and local education budgets. There may be furloughs and there may be lay-offs.

Even if they go back to school, are the buildings set up for social distancing, masking, or appropriate meals? Think about where you went to school, or where your children go to school. YB’s office building at his own university is totally unfit for use in the COVID-19 economy. There are common halls, common comfort facilities, common stairways, and common elevators. There will be a common outbreak of COVID-19 when we reopen.

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The lack of investment in our educational system reflects economic insanity now more than ever. Our future depends far more on the creation of human capital among those ages 21 and under, than whether Boeing can get their 737-MAX out three to six months earlier (and for what ... no one is traveling).

So, let's get the priorities straight. We have deferred the maintenance on our educational systems for decades. Economic sanity dictates that we remedy these deficits ... now.

Allen C. Goodman  
Professor of Economics

July 4, 2020

## How Should We Re-Open? July 4 Edition

Today is July 4. On April 16, your blogger (YB) wrote his first blog on reopening. Less than three months later, it is appropriate to revisit it and see where things stand. The original material will be in red – the commentary will be in black.

How do you feel when the guy who cuts your grass sneezes without covering his mouth while doing his job? How about the person in the next office? How about the person at the next restaurant table? The answers are obvious, yet this simple model (yes, it is a model) can educate us about the problems that we are facing in re-opening the economy.

How fast we re-open is related to the number of interpersonal contacts related to the job. Let's start with the easy ones. The person who cuts my grass (or fertilizes my lawn and trees) generally wears a mask anyhow. Whether his or her partner or children are sick is of little concern, whether it is a cold or COVID-19. People in these categories can go to work fairly quickly.

This has largely happened. When the pandemic struck, YB was in Florida with his wife. He has since returned to Michigan, where the initial pandemic exploded in late March. Again, most outdoor types of activities (as noted above), have resumed (in Florida, most of them never stopped).

Offices and factories are less controlled, but there is still some degree of control. Employers know who should be there, and they can trace their illnesses and the people they have been with. It is more costly, but conceptually it is tractable. In an earlier post, your blogger described the number of surfaces, the amount air and the amount of sweat in a factory. It is daunting, but not insurmountable to do this kind of tracing. These businesses could open up next.

There have been fits and starts. Many manufacturing plants have opened, only to close again, due to infections. Office workers are being called back ... very slowly. Large corporations, as well as municipal governments, are telling their workers that they should plan to work at home through the end of calendar 2020.

What about classrooms, lecture halls, dormitories, schools, shopping malls, arenas and stadiums? How will we trace 20,000 people at Little Caesar's Arena, 40,000 at Comerica Park, 60,000 at Ford Field or 100,000+ at the Big House? Casinos are full of smokers and drinkers around a table or in front of a (sanitized?) slot machine. Do you remember your favorite intimate dining spot? How intimate will it be with



July 4, 2020

half the number of tables, and with your servers wearing gloves and masks? How profitable will it be with half the number of customers?

What about these facilities? Harper's, a popular "watering hole" in East Lansing opened up, did everything they could to promote social distancing, and within two weeks there were 158 COVID-19 cases spread over 15 Michigan counties. They have since closed. Florida has opened up beaches, and closed them up. Universities still do not know what they will do, and the start of classes for many of them is only six to seven weeks away. For some public schools, the start is even sooner.

Schools that state that they will be welcoming students in person have presented scheduling plans (for two-day per week classes, half of the students attend one day; half the other) that challenge existing pedagogies, and strain credulity about students' social behavior. No US professional team sport has re-opened, and college sports (although they will not admit it publicly) are seriously rethinking their seasons.

As a younger academic, your blogger studied moving behavior for households, and was advised that the best way to find the movers was to hire a private investigator (PI). While expensive, PIs knew what they were doing. What follows is that tracing diseases will require appropriate tests, appropriate testing facilities, and (probably thousands of) tracers who know what they are doing. Re-opening some parts of the economy will be very expensive ... and frighteningly slow.

Contact tracing, at the level that it would be necessary, will need to be funded federally, and with big dollars. This has not been done. The organization seems largely to have occurred at the local and state levels, and one must ask what happens when people will begin traveling. Will we be contact traced at TSA checkpoints (where, by the way, they routinely unmask travelers in close proximity to each other)? Contact tracing is also fraught with privacy issues regarding tracing via cell-phone chips and apps, as well as other even more invasive technologies. One need not be a Big Government "hater", anarchist, or Luddite to be seriously frightened by these possibilities.

Finally, isn't it time that we looked at how other countries are doing this? As a health economist, and textbook ([\*The Economics of Health and Health Care, 8th Edition\*](#)) co-author, YB has often looked to the health care systems in other countries for guidance. They do lots of things differently, and yes ... lots of things better. Isn't it time?

Allen C. Goodman  
Professor of Economics

July 11, 2020

## COVID-19 is a Tax, and a Big One

In his first blog, on March 16, your blogger (YB) talked about how diseases and epidemics serve as taxes. This week he had an episode that indicated exactly how this taxation worked.

In early June, YB made a routine appointment with his ophthalmologist (eye doctor) for a routine examination. YB is well over 65 and it is wise to check for cataracts, glaucoma, and general eye health. Besides, his current pairs of eyeglasses are so scratched that they need replacing. The appointment was made for July 14, and duly noted on various calendars.

This past Tuesday, YB got a phone call from the doctor's office:

**Office:** Dr. Goodman, can we reschedule your eye appointment from July 14 to August 3?

**YB:** Sure – let me wipe my shaving cream off the phone (calendar/alarm clock/Sudoku puzzle), and put the new date on my calendar. Can I ask why it is being rescheduled?

**Office:** Once we reopened in early June, we were using our usual schedules. We've discovered that with enhanced cleaning measures, it is taking us more time to see patients. We can't see as many in a day, and we have had to reschedule.

This, readers, is a tax increase. Increased taxes lead to decreased quantity and also lead to increased prices. The question of health care prices is better left to another post, but the decreased quantities are real and substantial.

Now about schools. No serious educator is talking about "school as usual" this academic year (which in many places will start in early August). Spacing students is like spacing eye doctor patients. If they meet in school buildings (that were never built with something like this in mind) smaller groups of students will be meeting for fewer days each week, in rooms that will have to be made cleaner every day than they were the day they were built. Make no mistake. This is a tax increase. Increased taxes lead to decreased quantity and also lead to increased prices (sound familiar?)

The COVID-19 pandemic has levied enormous taxes on the US population. We could avoid some of the taxes by flattening the curve, especially in the places that thought they were immune to it. Taxes land on people who can't avoid them ... also on people who won't avoid them.

Allen C. Goodman  
Professor of Economics

July 17, 2020

## The States and the Great Lockdown

Ben Bernanke, wrote an excellent article in the July 15 *New York Times* entitled "[Ben Bernanke: I Was Chairman of the Federal Reserve. Save the States.](#)" In this article, Chair Bernanke notes that in the 2009-2010 recovery effort to the "Great Recession", Congress responded with a stimulus package of nearly \$800 billion. However, that stimulus was partly offset by cuts in spending and employment by state and local governments. As a result, unemployment stayed stubbornly at levels of 9 and 10 percent in 2009 and 2010, and fell only slowly through the succeeding years.

Why is that? The federal government can spend without limit and has been doing so recently. These expenditures have made "The Great Lockdown" somewhat less bad than it might have been. Unemployment has been well over 10 percent, but much less than the 20 percent that many (including your blogger) had feared.

The problem, notes Dr. Bernanke, is that the states cannot spend without limit, and must run balanced budgets. If their revenues fall, their expenditures (on schools, roads, and other governmental items) must fall. These reduced state expenditures will essentially "undo" the stimulus that the Feds have provided. We could be stuck with double digit unemployment for months if not additional years.

The cure is for the Feds to GIVE money to the states. It's not like there is nothing to spend it on. Re-opening the schools will cost billions of extra dollars to make them safe for students and teachers. Michigan's roads still "suck", and will suck for even longer if maintenance is deferred. Additional monies to support Medicaid for those who have recently (and perhaps permanently) lost their jobs and their health insurance will also billions. What are we saving it for?

Senator McConnell has asserted that they don't want to bail out states that have been reckless with their spending. How is preparing schools for students "reckless"? How is making the roads (one could dare say in Senator McConnell's home state of Kentucky) passable "reckless"? How is protecting the health of the poorer state residents reckless, despite the fervent efforts of Texas and Florida to continue to deny them enhanced Medicaid?

This is not only humane policy, but also good macroeconomics. Let's try it.

Allen C. Goodman  
Professor of Economics

July 25, 2020

## Opening Schools

Your blogger (YB) and his Department Chair spent three days this past week scheduling an in-person exam. The experience reinforced YB's long-standing fears about the problems of reopening schools. In a nutshell, things will be time-consuming, costly, and potentially dangerous.

YB's place of employment is no secret (Wayne State University in Detroit), and YB has been proud of the University's response. The President who is both a physician and an epidemiologist, has been (almost brutally) honest about the problems of reopening. He has put together an outstanding set of committees to try to foresee the problems, and to come up with solutions. The University has been solicitous of faculty preferences in terms of coming in to teach, teaching hybrid courses (some meetings in person, some online), or going entirely online. YB is old enough to worry about in-person classes (he receives Social Security), and has some underlying health risk factors. He is grateful for the University's support. Wayne State has been good to him.

In our economics department, as in most US economics departments, students take "qualifying exams" in microeconomics and macroeconomics. We postponed our May 2020 exams to late August because of the COVID-19 pandemic. This summer, we decided that we would have to administer these two exams, and late August (just before Fall classes begin) seemed to be a good alternative. Our Department's Graduate Committee voted to hold the qualifying exams in person. Because no one is taking both of the exams, we can hold them at a single time, in a single place.

Recognize, please, that scheduling an exam for eight people is usually simple. Find a classroom nearby, set the time, assign proctors to oversee the exams, and let them start. For this exam, we need to do the following:

- Go to the University Public Health **and** Academic Restart committees for approval to hold the exam;
- Find a room that will accommodate 45 to 50 people, in order to maintain the social distancing that will allow us to seat eight examinees plus a proctor;
- Provide a set of social distancing and mask rules for the examinees;
- Make sure that all students and the faculty proctor complete the *Warrior Safe Training* (the proctor should ask to see proof) and that they also complete Campus Daily Screener every day beginning two days before the exam and the day of the exam.

We will also have to set up rules about what to do if a student:

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- shows up without having taken the screener and refuses to leave;
- calls up reporting ill the day of the exam;
- falls ill during the exam.

Multiply this by a million or so, and we have the logistical problems of reopening the K-12 schools, as well as our universities. It will be far worse in situations other than ours. Our graduate students are cooperative adults who have chosen to devote several years of their adult lives to graduate education. Move this model to elementary or high schools, or to undergraduate education. Are we prepared to schedule every in-person school activity this way? Are teachers to become the “screening police”? We have seen what happens at convenience stores or restaurants where clients are told to put on their masks. And the scenario described here is occurring at a university which is taking reopening very seriously.

YB does not have a solution for all of this. He does advocate a “stadium model” for entering the campus. When YB want to go to a Tigers game, he must go through a “turnstile” where his ticket is scanned. No ticket, no game. We can provide turnstiles and barcodes, and we must provide “ticket takers”. Once the students have shown their valid tickets, they can enter the appropriate locations. Faculty members have far more on their plates than to serve as screening police.

Let us turn to the CDC and Department of Education mandates to send children back go the schools. To paraphrase tennis “bad boy” John McEnroe, “They can’t be serious!” If they are, more’s the pity.

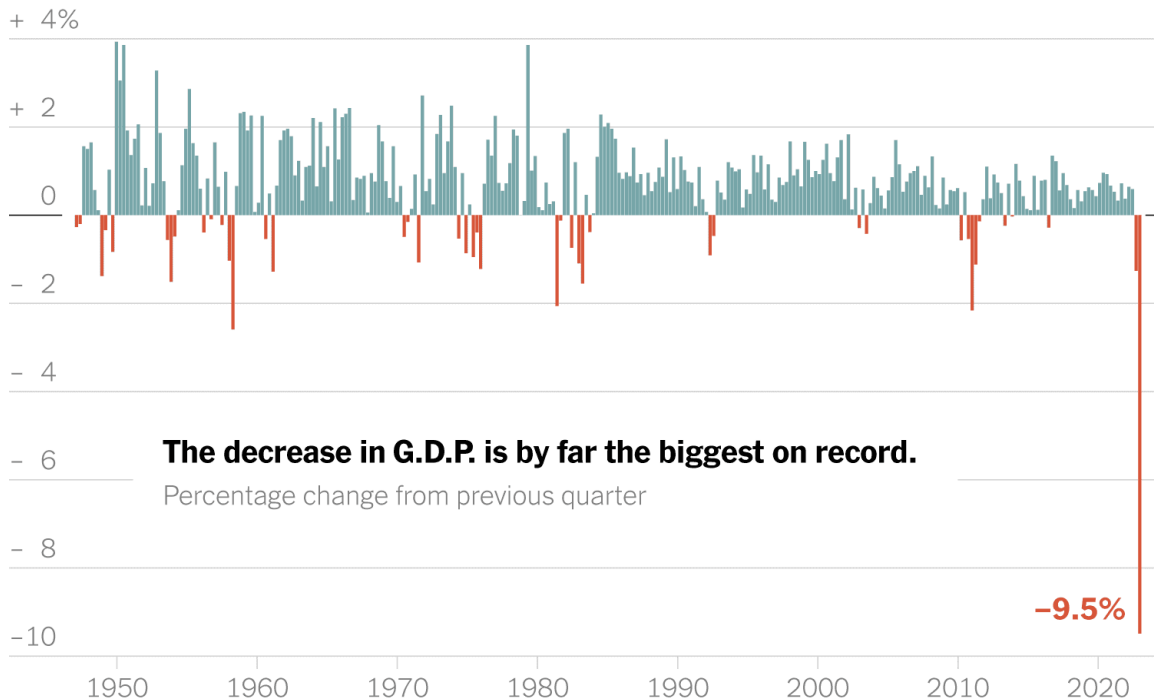
Allen C. Goodman  
Professor of Economics

August 1, 2020

## Forget the Great Recession

When your blogger started in March 2020, one of his first columns admonished readers not to think of the impending downturn as another “Great Recession.” He admonished the readers to think of major stimulus packages. In one he spoke of a stimulus of \$1,000 per month.

The following diagram comes from the July 30 New York Times. It shows a downturn in GDP that is unprecedented in the United States, at least since World War II. The United States is not unique. Western Europe had a drop that was at least as large.



Source: <https://static01.nyt.com/images/2020/07/30/us/gdp-2q-change-promo-1596113580367/gdp-2q-change-promo-1596113580367-threeByTwoMediumAt2X-v3.png?quality=75&auto=webp&disable=upscale>

This picture is a snapshot of something that happened a couple of months ago, and the third quarter may show an increase, because activities have reopened. It will almost certainly be trumpeted as a success, because we will have produced more than before. It will not be good, and 2020 will not be good... in fact it will be really bad.

YB has predicted that the economy would be slow to reopen – not because of recalcitrant governors, but because it is hard to reopen. Private businesses have not returned to full production, in part because they cannot control the coronavirus, and in part because the demand for their goods is not

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there. YB has already (several times) talked about the reopening of schools. There is almost no federal guidance, and only a little more state guidance.

This morning YB read about an Indiana school district that reopened and already had their first positive test for COVID-19. Major League Baseball will almost certainly shut down in the next couple of weeks because they cannot deal with the logistics of running their business during a pandemic. Can you really believe that the Miami Marlins “voted” to play even though two-thirds of them were infected – and their owners let them do it – Derek Jeter really is impervious to criticism. No one knows what will happen with college football.

What is to be done?

1. Congress MUST continue the Paycheck Protection Act (protecting employers) and re-up the CARES act (protecting employees). Not only do these acts allow businesses to stay open, but they support aggregate demand.
2. Recognize the CARES act for what it is – a long overdue increase in the federal minimum wage.
3. Impose a carbon tax on toxic COVID-19 emissions. Private markets do not generally handle “non-point-source” (we don’t know where it came from) pollution. We cannot depend (right now) on the “profit maximizing” goals of business to determine the right amount of output.
4. Provide another \$1,200 stimulus grant to households who need it. The targeting was roughly right before. Do it again!
5. Stop, or at least put a pause on, our trade wars. Our supply chain is seriously compromised, we are imposing additional costs, but reducing foreign input into our goods. Many economists point to the Smoot-Hawley tariff of 1930 as a prime contributor to the deepening and continuing of the Great Depression. Don't do it again!

There is still time to get things right, if the adults in the room can start acting like adults. Otherwise, forget the Great Recession ... think the Great Depression.

Allen C. Goodman  
Professor of Economics

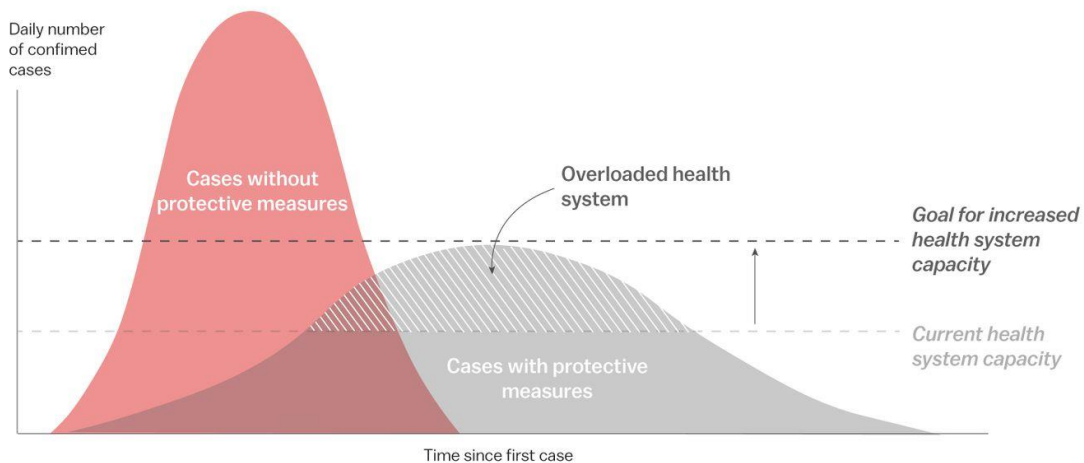
August 4, 2020

## Despite the Uptick, Michigan Drops ...

On August 3, the Detroit News ran a headline that said “[Despite uptick](#), Michigan drops out of top 15 states for COVID-19 cases.” This very short article (by Craig Mauger) noted that recently, according to the [Johns Hopkins](#) database, Virginia, Ohio, Alabama and South Carolina had surpassed Michigan for total cases, according to the university's tracking. Due in large part to the severity of early cases, Michigan still ranked ninth in total deaths with 6,212 deaths.

As this is published, with bated breath, clenched teeth, and fervent hopes [that the legislature doesn't do something stupid] your blogger (YB) will note that the restrictive measures put in place by Gretchen Whitmer, Michigan's governor, (also known as “that woman from Michigan”) seem to have flattened the curve. The semi-ugly graphic below, which for many reflects their forced recognition of a normal distribution (although it is not clear that it really is normal), shows that measures can work (the grey curve) ... and they have.

### Raising the line while flattening the curve



Source: Adapted from CDC and Kumar Rajaram, UCLA

**Vox**

It is not clear why Michigan was smacked so hard at the beginning. Detroit Metropolitan Airport is a major port in the US – China air travel industry (YB has flown nonstop to China himself from Detroit), and the initial surge was probably travel and traveler-induced. No one saw it coming, and Michigan (particularly southeastern Michigan) was one of the epicenters along with New York and New Jersey (many feel that the surge in those places related to travel from Europe).

YB and his partner were in Florida when the pandemic struck, and we seriously considered staying there all summer. Place doesn't seem to matter right now, and Florida (at least into early June) seemed to be OK. However, it



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was getting really hot there, and we missed Detroit, so in early June we did a three day drive up I-75.

We're glad we did because we all know what has happened since. Policy has failed in Florida. Florida now has (as of August 3) nearly half a million cases (over five times as many as Michigan), and over 7,000 deaths. Ray Charles (of blessed memory) could have seen this coming. People were flocking to restaurants, and to the beaches. Shoppers at Publix (a grocery chain) masked, but shoppers at other stores often did not. The gyms and the pools reopened. To date Governor Ron DeSantis has refused to issue a mask mandate. Well into the end of July, Governor DeSantis was insisting that all of the schools reopen for "in-person" classes, although he seems to have backed off from that stance as we have moved into August.

In Michigan, we are lucky (thus far) that the adults in the room have made the right decisions, and have been (largely) followed. Even the Republicans (who control the legislature) and some of the more reactionary news media have backed off. Michigan's university presidents have been extraordinarily cautious about reopening, and Michigan State President Samuel Stanley sent the following letter to students this week:

"If you can live safely and study successfully at home, we encourage you to consider that option for the fall semester ...  
Living away from campus may be the best choice for you and your family, particularly if you have family members at higher health risk."

(source: <https://www.lansingstatejournal.com/story/news/2020/08/03/msu-president-students-should-consider-studying-home-fall/5577478002/>).

Flattening the curve is not rocket science, but it requires patience and self-control ... and (thus far), it works.

Allen C. Goodman  
Professor of Economics

## Surprises in the Year of COVID-19

This is a health economics blog related to COVID-19. Your blogger (YB) has tried to apply health economics analysis to various events that have occurred. There has been a certain rueful self-congratulation relating to the ability to have predicted adverse events, such as the economic downturn, the problems with testing, and the problems with reopening. There have also been surprises. This entry looks at some of them.

1. YB is surprised at the reluctance of a fairly large part of the population to believe that public health measures work. YB grew up in the 1950s and 1960s where the tobacco industry insisted that there was NO link between cigarette smoking and cancer, and then watched one spokesperson after the next (it was equal opportunity for men and women) die of lung cancer. YB has seen a small but determined bunch of anti-vaxers insist that MMR vaccine has higher marginal costs than marginal benefits, and they won't vaccinate, even (potentially) if there is an anti-COVID vaccine. The opposition of millions of Americans to common sense mask rules has been astounding, despite the overwhelming evidence that these rules work. This is not climate change, where the results occur "slowly". This is real time, and thus far over 165,000 Americans have died.
2. That said, YB is surprised that where masking has been mandated and followed, it seems to have worked as well as it has. New York and New Jersey were COVID-19 wastelands in late March and April. Michigan, through strong leadership, and despite the callow opposition of the state Republican party and the *Detroit News*, has, for now, "gotten ahead" of the disease. It is again far too early to be self-congratulatory, but the evidence is there, and it is important. Contrast the New York / New Jersey story to Florida, Arizona, and Texas.
3. YB is surprised at the speed with which the American Congress and the Federal Reserve initially responded to the economic shutdown. Imagine a car engine that suddenly starts leaking oil. Without repair, and much more oil, the engine will seize up and the car will come to a sudden, eventful, and very costly halt. The Federal Reserve opened the cash spigots for liquidity for the American public. The Congress passed serious stimulus packages. Things were bad, but they could have been much worse.
4. That said, YB is surprised that as of the second week of August, Congress has balked at extending the stimulus (the Fed has been much better). It was clear that the recovery would be slow. Sending workers back to their jobs, when their jobs were unsafe, was not going to work ... and it didn't. Sending students back to face-to-face school is not going to work ... just watch. College football is not working and Major League Baseball is barely working. Yet, to date Congress cannot agree on an additional stimulus.

August 9, 2020

5. YB is surprised at the breakdown of both the global and the internal supply chains. Part of the problem involves the seriously bad game of “chicken” that the Trump administration is playing with China. Chinese parts and goods are essential to lots of things that we produce and consumer in the United States. Impeding trade is tantamount to an enormous tax hike facing the United States.
6. Following up on Surprise 5, YB is surprised at the holes in the internal US supply chain. Yeast, napkins, YB’s favorite barbecue sauce, not to mention almost anything having to do with bleach. Masks are grotesquely expensive for what they are (pieces of paper), and the mask supply response has been slow and inadequate.
7. That said, demand for sweat suits has apparently increased. So, apparently, has the demand for bleach ... and pianos. YB is surprised. Aggregate consumption has suffered mightily, but there are a few bright spots.

Earlier in the year, YB threw his lot in with the “hockey stick” crowd, predicting a quick decline, and a very slow recovery. He has been right about that. Regrettably, this has been no surprise.

Allen C. Goodman  
Professor of Economics

August 11, 2020

## College Football?

Do you know the 2019 record of the MIT football team? Or the University of Chicago football team? Or for that matter, the Cambridge University football team or the Sorbonne football team? Didn't think so. Does it matter?

Your blogger (YB) is a proud alumnus of The University of Michigan, and he roots for their sports teams. His two brothers went to Ohio State – enough said. Play college football this year? You have got to be kidding!

This is a health economics blog, so let's put this in context. Just about every large Midwestern University has severely limited in-person presence for Fall 2020 because of the COVID-19 pandemic. The percentage of in-person classes started at about 20% and it is falling like an anchor. The economic externality that is COVID-19 will spread almost anywhere, and will infect students, and their instructors, and their instructors' immediate families and grandparents. And they want to play college football ... because the players and coaches want to?

Please explain this to the band members and would-be professional wind players who cannot meet because of the virus. Please explain these to the drama students who have been reduced to small plays and soliloquys. Please explain this to dance students whose programs have largely gone up in smoke.

Again, the economics. Suppose that the Michigan football team has come up with a self-financed testing program that guarantees that none of their student-athletes have COVID-19. Why are they not sharing that with the other 45,000 or so students? What do they do if they play another Big Ten school that does not have this program? And if all of the Big Ten teams have it, why are they not sharing it with students at their Universities?

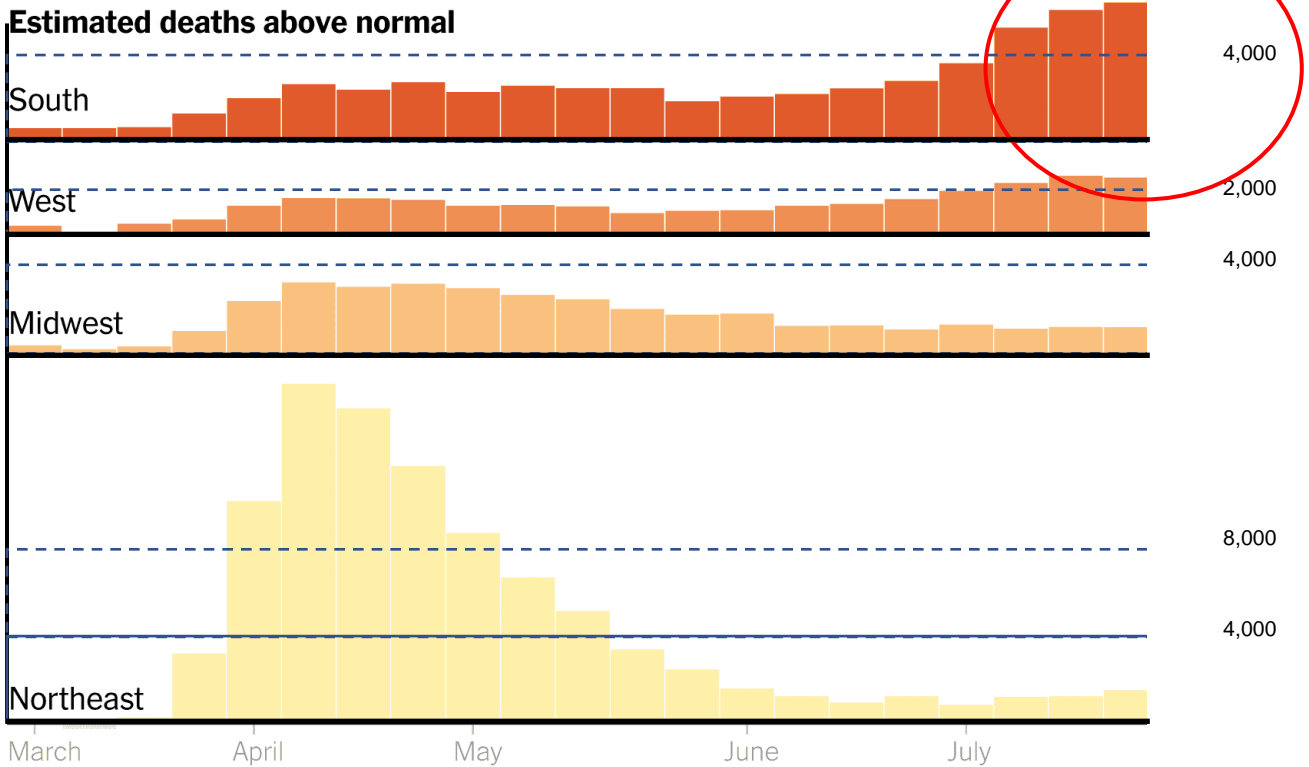
President Mark Schlissel (U of M), Samuel Stanley (Michigan State), and Roy Wilson (Wayne State) are all physicians, and have experience with infectious diseases. They are the adults in the room, and it is time for them to make the adult decisions. Close down college football for 2020.

Once more, the economics. There are estimates that many large Universities will lose millions of dollars in television revenue if they do not play. The sports economics of college football are a topic for another column, and candidly, for another economist. But YB leaves you with the question ... Do you know the 2019 record of the MIT football team? Or the University of Chicago football team? Or for that matter, the Cambridge University football team or the Sorbonne football team?

Allen C. Goodman  
Professor of Economics

## Deaths Above Normal

People die. In economic terms, their “health capital” has deteriorated to the point that it cannot sustain life. Think of your favorite old car that lasted 150,000 miles with some tender loving care, usual maintenance, and a little luck. You thought about getting a new one and the old one up and died. The car’s capital stock depreciated to the point that it either wouldn’t run or wasn’t worth fixing.



Source: <https://www.nytimes.com/interactive/2020/08/12/us/covid-deaths-us.html>

### Estimated deaths above normal, March 1 to July 25

<b>South</b>	57,000 total excess deaths
<b>West</b>	29,000 total excess deaths
<b>Midwest</b>	38,000 total excess deaths
<b>Northeast</b>	95,000 total excess deaths

Your blogger has written about the valuation of human life. A figure of \$10 million is usually attributed to an entire life. Using this figure with the excess deaths gives a loss of \$219 billion dollars since March 1. Billions of dollars are hard to imagine. YB has estimated the cost of a building a new hospital at a billion dollars. We have lost the equivalent of 219 hospitals since March.

Looking at the graphic above, one can see that the largest losses occurred in the Northeast, particularly in New York and New Jersey. These

August 14, 2020

happened in April and May, and they happened because figuratively speaking a sudden COVID-19 hurricane hit. Since May, the largest number of “deaths above normal” have happened in the South. To continue the analogy, rather than being hit by a sudden storm, this is likely being getting warned to get off of a barrier island in advance of a hurricane, but staying put instead, and planning a “kegger” with 250 friends.

Texas Lieutenant Governor Dan Patrick offered to trade older people for younger people. In a discussion with Fox News host Tucker Carlson in late March, Patrick said:

“You know, Tucker, no one reached out to me and said, ‘As a senior citizen, are you willing to take a chance on your survival in exchange for keeping the America that all America loves for your children and grandchildren?’” Patrick said. “And if that’s the exchange, I’m all in.”

“That doesn’t make me noble or brave or anything like that,” he added. “I just think there are lots of grandparents out there in this country like me.”

Source: <https://www.theguardian.com/world/2020/mar/24/older-people-would-rather-die-than-let-covid-19-lockdown-harm-us-economy-texas-official-dan-patrick>

Almost five months later, the US has settled into a death rate of over 1,000 per day due to COVID-19. Texas has had approximately 537,000 COVID-19 cases, and almost 10,000 deaths. Dan Patrick argued on [July 1](#) that Texas “did ‘all the right things’ when it started reopening in May and that deaths – not confirmed cases – are the key metric.” Since then, Texas has had over 7,500 additional deaths.

Noble and brave? How about just plain stupid?

Allen C. Goodman  
Professor of Economics

August 17, 2020

## Somewhat Misleading Statistics – The COVID-19 Tax

In the late 1960s your blogger was introduced to the book [How to Lie with Statistics](#), by Darrell Huff. This volume, written in 1954, and apparently never out of print, shows how even simple statistical analyses can be misused, misinterpreted, or, more ominously, manipulated to provide intentionally misleading inferences or predictions. YB has spent most of his career as an applied economic statistician, and reading the Huff volume early has led him to be circumspect in his use of analyses. YB has been referred to as “careful” or “thoughtful”, as well (on occasion) as “tiresome” or “pedantic”, but he has always been circumspect.

One Huff example he remembers is a deconstruction of a phrase that “quantity decreased by 20 percent from Month 1 to Month 2, and increased by 20 percent from Month 2 to Month 3, bringing it back to its initial level.” Huff points out that if quantity was 100 in Month 1, a 20 percent decrease would take it down to 80 in Month 2. A subsequent 20 percent increase would take it up to 96, NOT to 100. Indeed, a 25 percent increase would be necessary to take it back from 80 to 100. This is not rocket science, but it is a necessary correction to potentially sloppy analysis.

The August 15 New York Times presented a headline in the business section that could be reformatted as:

<u>Months</u>	<u>Monthly Change</u>
February – March	8.3% decrease
March – April	14.7% decrease
April – May	18.2% increase
May – June	8.4% increase
June – July	1.2% increase

This looks like a big drop, but followed by an even bigger increase. However, recalculating the changes, assuming that the February retail sales were at the level of 1.000, gives:

<u>Month</u>	<u>Level</u>
February	1.000
March	0.917
April	0.782
May	0.924
June	1.002
July	1.014

August 17, 2020

For March, April, and May, retail sales were down by an average of 12.7 percent per month, and since February, they were down by an average of 7.2% per month.

How bad were March, April, and May? Recall that for many people, rents for living spaces were suspended. Had rents been collected, things might have been even worse for retail spending. Although there was a bounce-back by June and July, it was to previous levels, not make-up spending. Landlords will begin demanding rents soon. This could have a big impact on retail spending.

COVID-19 has imposed a major demand shock on the macroeconomy. It is likely to continue for a while.

1. People are uncertain and they want to save for precautionary reasons.
2. People will have to pay rent, and they will not increase their shopping.
3. Lots of people are still out work, and the federal government has not renewed the \$600 per week unemployment benefit that put a floor under spending.

YB has written several times about COVID-19 tax as a tax. This COVID-19 tax on consumption may continue for a while.

Allen C. Goodman  
Professor of Economics

### *Reference*

Huff, Darrell, How to Lie with Statistics, W. W. Norton & Company  
ISBN:978-0-393-31072-6, 1994



August 20, 2020

## Three Cheers for Michigan State

NPR.org ran the following story yesterday.

Two Midwestern universities announced on Tuesday that they will be modifying their fall plans because of the coronavirus pandemic. The University of Notre Dame is moving all undergraduate instruction online for two weeks, and Michigan State University is going fully remote for the semester.

“The virus is a formidable foe,” [Notre Dame President] Jenkins said. “For the past week, it has been winning. Let us as the Fighting Irish join together to contain it.”

<https://www.npr.org/sections/coronavirus-live-updates/2020/08/18/903707406/michigan-state-and-notre-dame-suspend-in-person-learning-over-covid-19-concerns>

If the reader will oblige, “you could see this one coming.” Notre Dame was one of the first universities to announce that they were going to reopen in the fall. In an earlier blog ([Re-opening Universities](#)) on April 27, YB questioned the plans of Brown University. In another blog ([Race to the Top](#)), YB took on Notre Dame, with an “imaginary” reopening plan. Notre Dame later announced a plan for reopening early, and closing by Thanksgiving, and apparently forbidding any parties, or allowing students ever to return home. They reopened, and it has not worked.

This is a health economics blog. COVID-19 is a form of air pollution – the more activity, the more pollution. The pollution increases with increased activity (students, crowding, parties, in short everything that happens in colleges). It decreases with prevention (masks, social distancing, cleanliness activities, and so on). Notre Dame discovered that its students had gone to (gasp!) parties. Michigan State’s discovery occurred earlier at a local watering hole, whose owners did everything they could to provide a safe space, but didn’t own the sidewalk, where everyone congregated. The COVID-19 air pollution kills people – thus far over 170,000 in the United States.

Why is Notre Dame doing this? Might one suggest ... football? Notre Dame football is legendary, and brings in a lot of money. Notre Dame wants its football, and staying open suggests that athletes are students who play football. If students are on campus, then playing football is ... OK. So far a lot of the students have come down with COVID-19.

Michigan State (and YB is a University of Michigan graduate) is more honest. They’re not playing football, and they are pretty much closing down their campus. Michigan State loves their football and its celebration, but it has not been participating in the hue and cry that followed the canceling of the Big Ten season. Coaches and athletes at Nebraska, Iowa, Ohio State, and yes, Michigan have been carrying on that they should play football because the athletes want to

August 20, 2020

play. It is safe for the athletes, they say. Tell that to the first tuba player who wants to play, but cannot. Tell that to the lab scientists who are locked out of their labs. Tell that to the dancers who can't perform.

There are lots of things in the US university system that are more important than football ... lots and lots. This one hurts, but **THREE CHEERS** for **MICHIGAN STATE**.

Allen C. Goodman  
Professor of Economics

August 24, 2020

## Bad Incentives

Today we sent a student home from an exam. The student had informed us of possible exposure to COVID-19. The student was given a COVID-19 test four days previously, and there was still no reported result. The student was honest, having self-reported ... but the student will have to retake the exam another time. Had the student lied (or simply not informed us), the student might have possibly infected another group of students and the exam proctor ... or not.

Any set of university administrators that believes that they have appropriate protection plans for students returning to campus are fooling themselves. It is that simple. Your blogger's university has made copious plans for testing, reporting, and contact tracing, but most of these plans depend on the inherent honesty, and good behavior of the various members of the college community. Suppose that the exam is pivotal to the student's medical school or law school application. Suppose that the exam is pivotal to the student's retaining his or her financial support. The student will want to take the exam. We economists urge students to compare marginal benefits to marginal costs, but we do not teach them enough about externalities (i.e. the virus) that raise the marginal costs. The incentives for individual decisions here are ... bad.

In a July 21 article in *The Atlantic*, Professors Julia Marcus and Jessica Gold wrote, of the return to on-campus learning proposed by many universities:

Students will get infected, and universities will rebuke them for it; campuses will close, and students will be blamed for it [emphasis added]. Relying on the self-control of young adults, rather than deploying the public-health infrastructure needed to control a disease that spreads easily among people who live, eat, study, and socialize together, is not a safe reopening strategy—and yelling at students for their dangerous behavior won't help either.

<https://www.theatlantic.com/ideas/archive/2020/07/colleges-are-getting-ready-blame-their-students/614410/>

Your blogger has been saying this for months. YB has advocated online learning. YB has suggested a "stadium model" of campus entry with limited entry points and bar-coded "tickets". YB is tired of being a scold.

No one is happy with any of these proposals. No one wants to be scolded. Instead most universities have embraced a system of well-meaning but bad incentives ... leading to dangerous outcomes.

Allen C. Goodman  
Professor of Economics

September 4, 2020

## Labor Day Weekend 2020

Today is Friday, September 4, 2020. According to [Worldometer](#), almost 192,000 US residents have died of COVID-19. With a death toll of about 1,000 per day, it is reasonable to expect that by Election Day, November 3, 2020, about a quarter of a million US residents will have died. This number is staggering and constitutes a permanent loss to the United States. We have calculated it several times in the last six months, but at an average cost of \$5,000,000 per statistical life, it is a loss of almost one trillion dollars.

Your blogger's home state of Michigan was smashed by COVID-19 in late March and early April. Fueled almost certainly by travelers into the Detroit Metro Airport from the Far East, the local economy was sent reeling, thousands were hospitalized, and thousands died. Democratic Governor Gretchen Whitmer, with little help from the state's Republicans, instituted severe restrictions – to date the gyms and pools have not re-opened, but guess what? They have worked. Michigan is now 18<sup>th</sup> among the states in total cases, behind Texas, Florida, Arizona, and several other states that made points of only partially shutting down, or re-opening quickly. Social distancing works ... and so do masks.

Governor Whitmer has endured constant political sniping (and in April some potential real sniping from occupiers of the State Capital in Lansing), but she maintains a high approval level. People in Michigan (for the most part) have been safe. Most of them understand why.

Not at Adrian College. David Jesse of the *Detroit Free Press* [today](#) (September 4) wrote that Adrian, a small private liberal arts college about 90 minutes southwest of Detroit reported 200 cases of COVID-19. There are currently 133 students in isolation on campus which is 5.9% of the total campus community. Yet Adrian plans to stay open. The answer apparently is sports. In an August 16 article, Free Press sports writer Jeff Seidel wrote:

“The biggest thing I tell my coaches is, ‘We have to learn how to live with this,’ ” [Adrian Athletic Director Michael] Duffy said. “It's not going away. We learned to live with the Spanish Flu. If you look at pictures back from 1918, you're gonna see people sitting in the stands with face masks on 6 feet apart. Well, guess what? That's what we got to do today. It's no different. And we survived that. And we'll survive this. But we got to be smart.”

<https://www.freep.com/story/sports/columnists/jeff-seidel/2020/08/16/michigan-college-football-adrian-lawrence-tech-concordia/5590824002/>

Today's article quoted Adrian's President Jeffrey Docking that Adrian plans to stay open, play sports, and apparently quarantine large portions of their students.

September 4, 2020

As we approach six months of blogging, YB has spent several blogs explaining how he was right, so it is circumspect and honest to own up to his mistakes.

Dr. Leana Wen was on television (MSNBC and other locations) early and often, stating that the US could easily face 200,000 deaths by the end of the year. YB felt that she was an inveterate scold. Leana Wen was right. *Mea culpa!*

Suzanne Nusbaum, a dear friend, spoke of the dangers of air travel to anywhere, as she reluctantly canceled trips to China and to Italy. You know where this is going. *Mea culpa!*

Michael Belzer, a Wayne State economics colleague, opined in April that we would be online for all of 2020-2021. *Mea culpa!*

The great economist John Maynard Keynes was once criticized for changing his mind on important issues. Keynes responded “when I get new information, I change my mind. What do you do?”

Allen C. Goodman  
Professor of Economics

September 10, 2020

## He Knew

So, there you have it. Donald Trump knew it was coming, and he knew it was going to be bad. Bob Woodward reports this in his forthcoming book, *Rage*.

This is a health economics blog. Early in 2020 Your Blogger provided a thought experiment kicked off by the question “If a 15 MPH speed limit could save 35,000 lives per year, why don’t we have a 15 MPH speed limit?” The economic answer is that the lives saved are not worth the cost in increased travel time and increased shipping time. Economists do this kind of analysis all the time. It makes us delightful party guests (remember parties?).

As YB writes this, the US has lost over 195,000 lives in about six months (<https://www.worldometers.info/coronavirus/country/us/>). Compared to the speed limit example, this is a loss of life of 390,000 people per year, or more than ten times the number of people dying in traffic accidents (which are probably down this year, because of decreased driving).

When hurricanes approach, we evacuate those in the way. We have methods of doing this that mitigate potential panic. Is it costly? Yes. Is it inconvenient? Yes. Does it save lives? Yes. Do some people refuse to evacuate? Also ... yes.

There are people out there (Dan Patrick in Texas, Ron DeSantis in Florida, Doug Ducey in Arizona) who would undoubtedly answer that it was worth losing 390,000 lives per year because the cost of mitigation would be much higher than that. There are people out there who would look at the stock market and say that “the market is not bothered” by the losses.

These are all policy discussions that are worth having, but it requires that the adults in the room have them, and then explain them. The “Big Discussion” will occur on November 3. Maybe the American public feels about COVID-19 the way that they feel about the 15 MPH speed limit.

Just remember this. He knew.

Allen C. Goodman  
Professor of Economics

September 16, 2020

## The Empire Struck Back

This morning the Big Ten Presidents reversed an August 11 decision to postpone the Fall football season. From this morning's *New York Times*:

In a statement on Wednesday morning, the league [Big Ten] said players, coaches, trainers and others who are on playing and practice fields would undergo daily testing for the virus, and that any player who tested positive would be barred from games for at least 21 days.

(<https://www.nytimes.com/2020/09/16/world/covid-19-coronavirus.html>)

Other sources have noted that the availability of "quick testing" for athletes provides methods and information that were not available when the Conference made their initial decision not to play in Fall 2020. From the *Detroit Free Press*,

The COVID-19 testing will be for players, coaches, trainers and others who are on the field for practices and games. Test results must be completed and recorded prior to each practice or game. Players who test positive for the coronavirus through point-of-contact (POC) daily testing would require a polymerase chain reaction (PCR) test to confirm the result of the POC test, per the league. (<https://www.freep.com/story/sports/college/2020/09/16/big-ten-football-update-vote-2020/5814647002/> )

This is a health economics blog. One economic question is what this COVID-19 testing will cost. A second economic question is what it would cost if it were given to all of the students on campus, including those who are currently locked up in quarantine? Will the tuba player in the marching band be given the polymerase chain reaction (PCR) test? Will the humanities scholar in the library stacks be included in this testing protocol?

Your blogger is an alumnus of The University of Michigan so he thinks in those terms. As noted above, if this protocol is good for The University of Michigan football team, is it being offered to all U of M students in Ann Arbor? or Flint? or Dearborn? Is it being offered to U of M faculty and staff? If not, why not?

YB is an empiricist. He found the following data on COVID-19 tests from maps in the *New York Times* (<https://www.nytimes.com/interactive/2020/us/covid-college-cases-tracker.html>), as of September 10.

Illinois	1,760	Penn State	322
Iowa	1,616	Maryland	287
Ohio State	1,528	Indiana	286
Wisconsin	1,097	Michigan State	179
Nebraska	504	Minnesota	124
Michigan	344	Rutgers	91
Purdue	322	Northwestern	73

September 16, 2020

It is ironic that Iowa, Ohio State, and Nebraska, ranked #2, #3, and #5 in number of cases (college football loves rankings), led the public outcry for playing football.

The universities have brought students back to campus, only then to impose quarantines on them. These students are apparently not being given rapid testing. According to accounts too numerous to mention, at many universities (including U of M) they are being dumped into quarantine dorms, often without adequate supplies, supervision, or guidance.

We know why this is happening. In the 1960s many universities chose to allow their athletic departments to “sink or swim”. Largely cutting them loose to make their own deals led to the creation of athletic empires at Michigan, Ohio State, and many other Big Ten schools. Since then, fans have packed the football stadiums and the basketball arenas (no one pays much to watch swimming meets). In 2020, coaches get multimillion-dollar contracts and have large well-paid staffs. The economics are simple – make a lot of money and run your own empire.

According to Big Ten rules, the University Presidents make the decisions. On August 11, the Presidents tried to act like the adults in the room. On September 16, to borrow from *Star Wars*, “The Empire Struck Back”.

Allen C. Goodman  
Professor of Economics



September 22, 2020

## Two Hundred Thousand Deaths

As Fall 2020 begins today, the United States death toll from COVID-19 stands at over 200,000 – in six months. In six months over three times as many Americans have died from COVID-19 as died in the Vietnam war. The table below shows that the virus has offered close to “equal opportunity” death among the regions with the four largest states (California, Texas, Florida, and New York) leading the country, and growing Georgia jumping into the top five.

### Coronavirus Cases and Deaths

USA State	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop	Population
USA Total	7,051,048	4,832	204,706	200	4,301,469	2,544,873	21,302	618	98,964,491	298,984	
<u>California</u>	790,679		15,071		399,311	376,297	20,011	381	13,672,782	346,039	39,512,223
<u>Texas</u>	733,173		15,254		628,986	88,933	25,285	526	6,073,766	209,470	28,995,881
<u>Florida</u>	685,439		13,324		218,784	453,331	31,914	620	5,120,391	238,405	21,477,737
<u>New York</u>	484,436		33,185		388,221	63,030	24,902	1,706	9,980,765	513,056	19,453,561
<u>Georgia</u>	307,339		6,604		74,037	226,698	28,947	622	3,066,767	288,843	10,617,423

Source:

<https://www.worldometers.info/coronavirus/country/us/?fbclid=IwAR0j6ke5MgKK9eQGY1CeD0m9KZsUP2UjzGO4nBAhUEryA-NVqjroKTQ0-Bs>

Your blogger (YB) has calculated the economic costs several times over the past six months, but valuing a life lost at \$5,000,000 (a conservative number), the economic toll has been slightly over one trillion dollars in lives lost, alone. We have become used to losing 30,000 lives per month. At this rate, we will have lost 400,000 lives by the time we hit the one-year mark in March, 2021.

There is every reason to view this as an underestimate. Personal examples abound. Almost everyone knows someone who found it too difficult to get treatment for a non-COVID-19 condition, and died. Such deaths will not be recorded as COVID-related ... but they are. Many may recover from COVID-19, but their organs may be scarred by COVID-19 and they may die sooner, more often, or more painfully than others. Such deaths will also be related to COVID-19. It is difficult to put a number on these kinds of deaths, but if they constitute even an additional 10 percent, this would account for 20,000 additional COVID-related deaths.

Can the US afford another lockdown to attack COVID-19? They are considering one in the United Kingdom. CNN reported:

September 22, 2020

British Health Minister Matt Hancock said Sunday that the country was "at a tipping point" following a new rise in cases on Saturday, when Britain registered 4,422 new cases, the highest number since early May.

"People must follow the rules and if they don't, we will bring in this much more stringent measures," Matt Hancock said in a BBC interview. When asked about re-imposing a second national lockdown, the minister said: "I don't rule it out. I don't want to see it."

<https://www.cnn.com/2020/09/19/europe/europe-second-wave-coronavirus-intl/index.html>

Economists like YB like to talk about decision-making in terms of marginal benefits and marginal costs. If the marginal benefits exceed the marginal cost of an activity, one should do it. If not ... not. We have reopened our economy from the March/April lockdown. We have more activity and more output ... at the cost of 30,000 lives (over \$150 billion) per month.

COVID-19 drives a hard bargain.

Allen C. Goodman  
Professor of Economics

## Believing Science

One of the hardest types of scientific examination is the “counter-factual.” Economists, most often denied the luxury of “double blind” experiments (where neither the subject, nor the intervenor knows whether the “real drug” is being administered), must ask “what if” questions. In 2020, the major discussion involves “what if” we had locked down earlier? “What if” he hadn’t opened up so soon? “What if” more people wore masks. All of these questions are counterfactuals. They are often fraught with confounding variables, so the answers are not certain. That does not mean, however, that they are not scientific or valid.

Your blogger’s home state of Michigan was smacked early and hard, most probably because of COVID-19 from air travelers from the Far East (Detroit is a Delta Airlines hub). Governor Whitmer, “that woman from Michigan”, imposed severe restrictions on the Michigan economy. After some number of months, it is clear that they succeeded. Michigan’s case numbers have fallen into the middle of the pack. Despite considerable flak from the *Detroit News* and the Republican party, the same *Detroit News* (<https://www.detroitnews.com/story/news/politics/2020/09/09/michigan-voters-approve-gretchen-whitmer-handling-pandemic-poll-finds/5750849002/>) reported that 61% of Michigan voters approved of Whitmer’s handling of the coronavirus outbreak compared with 36% who disapprove, according to the poll. Moreover, only 52% of the voters surveyed said they had a favorable impression of Whitmer.

How do we know that her restrictions worked? Look at some places in Michigan where they were lifted. In June, restaurant regulations were loosened and an outbreak traced to an East Lansing restaurant. In September Adrian College announced that 6% of its students and staff had tested positive for COVID-19, with more than 160 active cases on campus at one time. In South Bend, Indiana, no more than a mile or two from the Michigan state line, Notre Dame locked down the student population due to spikes in COVID-19, while continuing to play college football, to crowds limited to 20% of stadium capacity. As of today (September 25, 2020), Notre Dame’s dashboard (<https://here.nd.edu/our-approach/dashboard/>) shows a total of 725 positive cases. After being just behind New York and New Jersey in terms of number of cases and deaths, in April 2020, Michigan has no fallen way back into the pack. It is safe here. People are being careful. People wear masks and social distance ... even in locations such as Macomb County that supported Donald Trump in 2016.

Some continue to disbelieve science. Within the past week:

- While the Israeli government has instituted a second country-wide lockdown, many Orthodox Jews (in Israel and in the United States) view the policy with indifference, if not hostility.

September 25, 2020

- Florida Governor Ron DeSantis announced that restaurants can reopen to full capacity, although local officials may reduce capacity to 50%. If a county wants to restrict restaurant capacity between 50 and 100 percent, it must provide justification to the state. Mr. DeSantis also refused to mandate mask usage in the state, insisting that such a decision should be left up to local governments.
- Arizona's Governor Doug Ducey announced (on September 24) that he would not order businesses to re-close or impose new restrictions when the COVID-19 infection threat in any area returns to "substantial". "Arizona's open," the governor said. "Arizona's economy is open, Arizona's educational institutions are open, Arizona's tourism institutions are open. The expectation is they are going to remain open."  
([https://tucson.com/news/local/ducey-says-he-wont-impose-new-restrictions-as-covid-19-threat-is-rising-again/article\\_c7acec92-0254-53f2-a8ea-2cfe3c86ff6f.html](https://tucson.com/news/local/ducey-says-he-wont-impose-new-restrictions-as-covid-19-threat-is-rising-again/article_c7acec92-0254-53f2-a8ea-2cfe3c86ff6f.html)).

Let us look at Arizona's educational institutions. In a dispatch dated September 25, Arizona State University (in Phoenix) reported that its COVID-19 case count has risen to 1,753 students and 31 faculty and staff. University of Arizona (Pima County, or Tucson) reported 2,245 identified COVID-19 cases since Aug. 4. With 35,516 tests performed, U of A had a positivity rate of 6.3% (<https://www.azcentral.com/story/news/local/arizona-health/2020/09/25/asu-covid-19-case-update-total-1753-students-31-employees/3527870001/>). Pima County and U of A instituted a voluntary, two-week "shelter-in-place" recommendation for the UA campus September 14.

Open, open, ... open. *Sic transit science.*

Allen C. Goodman  
Professor of Economics

October 2, 2020

## The President is Infected

It is October 2, 2020. Six-plus months into the pandemic, over 7,500,000 cases, and over 213,000 deaths (<https://www.worldometers.info/coronavirus/>). This morning we learned that the President and several members of his staff have been infected. The numbers of those who they may have infected, over the last week, could plausibly be in the hundreds.

This is an economics blog, and your blogger is a teacher. Tests for disease merit some discussion. We depend on tests to determine infection rates and also the validity of the tests themselves. Suppose that we test 1,000 asymptomatic people for COVID-19. Suppose that 950 people do NOT have the disease, and 50 do. The “perfect test” will tell us this. It will find the “right” 50 people who have it (a “sensitivity” rate of 100%), and it will find the “right” 950 people who don’t (a “specificity” rate of 100%). In the perfect world, tests work perfectly.

Our world is not perfect. Policy experts worry most often that healthy people will be thought to be sick – these are called “false positives”. False positives can lead to unneeded treatment, which could be costly. In the case of COVID-19, it means that healthy people must quarantine for 14 days. It is inconvenient, and can be economically costly in terms of missed work, but it is not life-threatening.

Policy experts have traditionally worried less about “false negatives”, that is, people who ostensibly do not have the condition. Why? If they weren’t symptomatic to begin with, then the negative diagnosis will not change their behavior. They were going to keep working, playing, socializing, anyhow, and we are not keeping them from indulging in those activities.

However, we are discovering that some of the so-called “rapid tests” for COVID-19 may have false negative rates between 2% and 29% (equating to sensitivity of 71-98%, <https://www.bmj.com/content/bmj/369/bmj.m1808.full.pdf> ). If so, going to the example above, our perfect test was not so perfect. Taking a false negative rate of 20% for the example above would mean that 10 of the 50 who thought they were “OK”, were NOT OK. They are sick, and they can infect others. It looks like a lot of people were infected this week. False negatives are very harmful when related to infectious diseases.

What makes this much worse, is that there was a group of people (the Trump party) who felt that the laws of epidemiology did not apply to them. Little masking and the continual gathering of big groups in close quarters put themselves, and those who they gathered with, at risk. Senator Mike Lee of Utah tested positive. University of Notre Dame President, the Rev. John I. Jenkins, positive for the coronavirus, just days after [publicly apologizing](#) for not wearing a mask or adhering to social distancing guidelines while at a White House

October 2, 2020

ceremony over the past weekend. Over the last several weeks, Notre Dame has publicly scolded its students for going out to parties ... and getting infected.

At this past week's debate, President Trump taunted Vice-President Biden this week for wearing a mask, and engaging in social distancing behavior. What portion of the 213,000 dead Americans could have been saved by appropriate preventive means? Why has the President refused to support these means?

The President is infected. YB joins all Americans in wishing him, and all other infected Americans, full, safe, and complete recoveries from infections that should not have happened.

Allen C. Goodman  
Professor of Economics

October 5, 2020

## Seatbelts and Masks

Michigan's Supreme Court for now has ended Governor Gretchen Whitmer's emergency powers to address the COVID-19 pandemic. State Senator Mike Shirkey couldn't be happier. *Bridge Magazine* writes:

Shirkey, who said he's reached out to Whitmer to try and set up a meeting for next week, told *Bridge* he thinks it's time to stop treating COVID-19 like a public health emergency ...

Shirkey is encouraging the public to wear masks, socially distance and wash hands, but noted he doubts there's "any appetite" among Republicans for a mandate.

"We're moving now from an era or a time when the focus was on mandating, dictating and frankly in some cases threatening, to more of an informing and inspiring and encouraging and loving and trusting people to do the right thing" approach, he said.

<https://www.bridgemi.com/michigan-government/gop-leader-no-mask-mandates-michigan-needs-learn-live-coronavirus>

It is worthwhile to talk about regulations and mandates. In 1946, American consumers sought to make up for four years of war and a dozen previous years of the Great Depression, by buying new things. Automobiles had not been built from 1942 to 1945 because the war effort had transformed the auto industry into the "Arsenal of Democracy."

Many of the new post-war cars came with seat belts. Car makers reasoned that a lot of the buyers had war-time experience, with airplanes, and the new technology would be attractive. Car buyers took razor blades and cut out the seat belts. So much for technology. Car makers stopped putting them in. Your blogger learned how to drive on a 1962 Rambler without seat belts.

Toward the end of the 1960s there was a movement toward the adoption of seatbelts. There was widespread opposition among buyers and even academics, even though it was crystal clear that seatbelts saved lives. Sam Peltzman, of the University of Chicago (1975) argued that because seatbelts made drivers feel safer, they would take more risks, leading to more crashes. In insurance terms, this is referred to as *moral hazard*, where the very creation of a contract or a law can lead to counter-intuitive behavior.

Suppose, for example, Harry buys home insurance that gives him "first dollar" coverage for theft. Harry knows that he should lock his front door, but the argument according to the moral hazard doctrine is that he won't bother to do so, because the insurer will replace everything Harry lost. Essentially the policy has led Harry to take more risk. While intellectually elegant, the theory and/or theorist apparently never dealt with insurance adjustors. Although some early research supported Pelzman's argument, most recent research shows otherwise. Adolph (2019) argues that "lessons on moral hazard should leave the example of seatbelts in the dustbin."

October 5, 2020

So, what is next for Mike Shirkey? Abolishing DUI laws because the impinge on drivers' freedom to party? Getting rid of speed limits so we can drive faster? After all, making drivers go 70 rather than 90 MPH may lead them to take more risk because they can't kill as many people in a crash at 70 than at 90.

Do masks lead us to take more risks? Is this the problem? Removing mask mandates is like allowing factories to pour raw sewage into the rivers. Removing mask mandates is like removing scrubbers from smokestacks. Back in April, YB wrote a [blog](#) with a picture of the downtown Pittsburgh in the 1940s. The air was so dark that it stained buildings and ruined peoples' lungs.

Later in the article Shirkey asserts:

Businesses "have no interest in putting their clients or their customers or their employees or their families at risk, and they'll now have the ability to make those kinds of judgments,"

Really? Laws matter! We make restaurants handle food properly, and we make restaurant employees take tuberculosis tests so they don't infect us. We make employers provide safe workplaces. Mandates matter!

This is an epidemic that has killed over 210,000 Americans, and over 7,000 Michiganders. Governor Whitmer's mandates probably saved several thousand lives. The title of YB's earlier blog was "What Is It About Epidemics that Business Leaders Don't Understand?"

How about Republicans?

Allen C. Goodman  
Professor of Economics

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October 12, 2020

## The Failed Coup D'état in Michigan

Last week FBI and Michigan State authorities arrested thirteen men in a plot to kidnap Michigan Governor Gretchen Whitmer. According to the various reports, a confederation of discontented extremists had plotted in detail to “arrest”, kidnap, and then possibly “try” the Governor for a set of grievances largely related to her leadership during the current COVID-19 crisis. Fortunately, they failed, and if there is justice, they will spend serious time behind bars.

This is an economics blog, so where is the economics here? We elect officials to provide a wide range of governmental services, and there are decisions to be made. How many police, how many firefighters, how many teachers? How many parks, and how many highways, Fourth of July fireworks and parades, public health clinics. Leaders are elected to make these decisions. How do they decide how much?

There is a model called the “median voter model” that says that under a plausible set of conditions, the elected officials act as if they were making decisions of the “median” (or middle) voter. In 2018 Gretchen Whitmer was elected on a platform of “fix the damn roads.” She won election by almost 10 percentage points, or over 400,000 votes. Apparently, she did a better job of satisfying the median voter than her opponent.

Neither she nor anyone else could have foreseen the COVID-19 pandemic. Like many other Governors (and unlike some others), she took an activist viewpoint, and invoked emergency powers early and hard. After an initial blitz of COVID-19 in March and April, Michigan’s rates fell, and the number of new cases was also checked. In other blogs, YB has noted that Michigan has fallen to the middle of the pack in terms of illnesses and deaths. Governor Whitmer’s policies have been successful.

The public has largely been supportive. In a poll of 600 likely voters by the Glengariff Group, in September, 59% said they approved of Whitmer’s job performance. Another 38% of voters disapproved of the governor’s performance. The report noted that in January 2020, only 43% approved of the job Whitmer was doing and 36% disapproved (source: [Detroit News](#), September 9, 2020). This looks like she was satisfying the median voter.

Some people went to court to strike down the emergency powers that were used, and the Michigan Supreme Court (on a party-line vote) agreed. President Trump tweeted to “Liberate Michigan”. Others collected petitions to “Unlock Michigan.” Senate leader Mike Shirkey, and House Speaker Lee Chatfield fanned the flames of the opposition with repeated rallies, and inflammatory rhetoric. Both Shirkey and Chatfield then professed shock that some “patriots” took them at their word to liberate Michigan by planning to kidnap and possibly kill the Governor. Chatfield then had the unbridled gall to chastise

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Whitmer for not warning legislators (in the middle of an ongoing investigation) that they might be in danger. This is an odd reaction from a Speaker who did not seem to be bothered by armed individuals who “occupied” the State Capitol in Lansing in April. His response then was to recess the Legislature.

Again, this is an economics blog. When the elected officials do not satisfy the median voter, then they will be voted out and the policies will be changed. That is what civilized societies do. When voted out, they leave. That, again, is what civilized societies do. Civilized societies do not deputize militias to kidnap and try elected officials who are doing their jobs. Banana republics do that.

Michigan avoided a coup d'état last week, but we are the laughing stock of the nation.

Allen C. Goodman  
Professor of Economics

October 14, 2020

## The Great Barrington Mistake

On October 4, 2020, a bunch of “heavy hitters” in the public health world released the [Great Barrington Declaration](#). After a couple of paragraphs of opening, they make the following statement:

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* [emphasis added].

They continue:

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 ... Arts, music, sport and other cultural activities should resume.

There is nothing about masking or social distancing in this Declaration. There is no assumption that we will have a vaccine any time soon. There is no mention of who will teach the children in the schools, and who will conduct the symphony orchestras that will again be playing in front of packed houses. The authors propose models of nursing home staffing that lead one to wonder if any of them has ever been in a nursing home.

“Herd immunity” will save us, say the authors. When enough people have become infected, there won’t be any more people to infect. Simple enough.

Your blogger has spent the last seven months writing about appropriate precautions and re-openings. As an economist, he is quite capable of comparing marginal benefits to marginal costs. He can write down the models and derive the optimal theoretical conditions. Shutting down the economy imposes big marginal costs. It is conceivable that at some levels they would exceed the marginal benefits.

Let us do some simple arithmetic. The generally accepted death toll from the 1918 Spanish flu in the United States was 675,000 out of a population of 103.2 million people, or slightly less than 2/3 of one percent. The Spanish flu ended with herd immunity. It is simplistic, to be sure, but extrapolating the Spanish flu death rate to the current US population of 330 million people would lead to 2.16 million deaths. We are at 220,000 deaths right now. Do the arithmetic.

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YB often invokes the public health benefits of a national 15 MPH speed limit. We would save about 35,000 lives per year, because we don't kill each other (often) in accidents at that speed. All advanced countries have rejected the 15 MPH limit because it is "too costly" in terms of time spent traveling.

To continue with that analogy, since March most countries have turned their speed limits from 75 MPH to 40 MPH, and policy-makers have made their countries "wear their seat belts" (through masks, social distancing, and contact tracing). Maybe 40 MPH isn't the right speed, but neither is 75 MPH, on a slippery road in the middle of an ice storm. The signers speak fondly of herd immunity but the levels of herd immunity needed could come with hundreds of thousands of additional deaths.

It is notable that only one economist's name appears on the list of prominent signers of this declaration. YB often notes that economists are terrible party guests, because they often kill a good argument by asking "what do you mean by that?"

They could have used a few more economists in this group.

Allen C. Goodman  
Professor of Economics

October 26, 2020

## The COVID-19 Tax: A View from Michigan

Your blogger drove down to work today. It was the first time since mid-December, and he didn't go into the office, which he believes not to be safe. What he saw was a pall of economic activity. Seven months into the COVID-19 pandemic, the streets are half-full, if that. Stores and restaurants are (largely) empty. YB's Wayne State campus was eerily quiet on a Monday afternoon. Ninety percent or more of the classes are on line.

Governor Whitmer has not turned Michigan into a "prison," irrespective of what President Trump has said. COVID-19 has. The Michigan citizenry, largely-masked, even in Macomb County (which famously flipped for Trump in 2016), have been very careful. They are not dining out. They are not going to movies. They are not driving, even though the price of gasoline has fallen below \$2.00 per gallon. Commerce is down.

In his first [blog](#), YB characterized COVID-19 as a "massive tax". Taxes fall hardest on those who cannot avoid them, and the measures needed to avoid COVID-19 involve masking, social distancing, and yes, refraining from commerce. This has happened in the places that shut down (New York, Michigan, New Jersey) ... and in the places that didn't (Iowa and the Dakotas). Many of the places that have re-opened are considering shutting down again. The virus is an equal opportunity tax. It falls on the White House and on our house.

The tax didn't expire on Easter, or on Memorial Day, the Fourth of July, or Labor Day, however much we (and the President) wanted it. Big June weddings and graduation parties didn't happen. March Madness was canceled and the College Football season has taken on an *eerie* (that word again!) silence. The Big Ten did the right thing (canceling the season), and followed it up by doing the wrong thing ("uncanceling" the season). People have stopped traveling, and have stopped planning to travel.

The tax has settled into a "steady state" of about 1,000 deaths per day throughout the US, with the current total topping 230,000. We call this *mortality*. The long-term illness issues (*morbidity*) are less visible, but very real, and potentially long term in nature (call these the "long run" tax effects).

The remedies? Wear the masks and social distance to mitigate some of the "tax impacts." Learn to live with the higher prices due to the tax. Wait for the vaccine ... sometime in 2021 or 2022, if we catch a break.

Allen C. Goodman  
Professor of Economics

November 10, 2020

## Hopeful News on a Vaccine

Yesterday the Pfizer Drug Company and partner BioNTech announced very hopeful news about the development of a vaccine against COVID-19. According to Statnews.com (<https://www.statnews.com/2020/11/09/covid-19-vaccine-from-pfizer-and-biontech-is-strongly-effective-early-data-from-large-trial-indicate/>), early analysis of results showed that individuals who received two injections of the vaccine three weeks apart experienced more than 90% fewer cases of symptomatic Covid-19 than those who received a placebo. For months, researchers have cautioned that a vaccine that might only be 60% or 70% effective.

Food and Drug Administration (FDA) guidelines mandate that the companies not file for an emergency use authorization to distribute the vaccine until they reach another milestone that occurs when half of the patients in their study have been observed for any safety issues for at least two months following their second dose.

So where does that leave the world that is so desperately waiting? Estimates are that IF the vaccines work up to 50 million doses could be available globally. by the end of 2020, with 1.3 billion available in 2021. The world population is over 7 billion.

The logistics of distribution are daunting. The vaccines have to be kept at temperatures below -90F. Two shots must be given, two to three weeks apart. Although it appears that health care workers will be given the first priority, who will be next, and how will they be contacted, and treated? In the early 1960s (remembers Your Blogger), the population lined up at schools and churches (in warm weather) for "Sabin Oral Sundays", to receive a dose of polio vaccine on a sugar cube. Distribution of this vaccine will be a major supply chain problem, and the US Army has been mobilized to address it. To repeat, the logistics are daunting.

In the meantime, we are having our highest daily case rates since the COVID-19 pandemic started. Almost 250,000 Americans have died from COVID-19 since March. On November 9, the *New York Times* (<https://www.nytimes.com/live/2020/11/06/world/covid-19-coronavirus-updates>) reported that more than 132,700 new cases were announced across the United States on November 6. The country also reported more than 1,000 deaths for the fourth straight day.

So ... some very good news, on top of some very bad news. The economic costs (including the development of vaccines) have been enormous. We are hopeful ... but it will take time.

Allen C. Goodman  
Professor of Economics

November 21, 2020

## Thanksgiving Day – Stopping COVID-19 Pollution

As we approach the Thanksgiving weekend for 2020, the US death toll from COVID-19 has reached 261,626 (<https://www.worldometers.info/coronavirus/country/us/>). The *New York Times* reported today that 1,947 people died yesterday, Friday, November 20. It is as if 6 full jumbo jets had crashed in one day, killing all of their passengers.

Valuing the loss at \$5 million per lost life, we lost over \$9.7 billion yesterday. Dr. Anthony Fauci was quoted in today's *New York Times* (<https://www.nytimes.com/2020/11/20/us/coronavirus-today.html>):

“I think that December, January and early February are going to be terribly painful months”.

President Donald Trump has essentially lost interest in ongoing losses due to COVID-19, waiting with hope for a new vaccine that will end the pandemic. Without indulging in hyperbolae, it is as if a military campaign accepts the losses of 2,000 troops per day because six to twelve months down the road there will be a new “Doomsday” weapon to vanquish the bad guys.

So ... he won't help us. What can the adults in the room do in the meantime to minimize the fearsome costs that COVID-19 is levying on us? YB has likened the costs of COVID-19 to the costs of pollution. Almost all economic activities pollute the environment to a lesser or greater degree. Economists have tools to address pollution.

1. Try to prevent it. Do not engage in polluting activities.
2. Keep it very local. This means that sick people should stay away from well people, and not travel, or congregate, and wear masks if we must travel or congregate. Even the most intransigent Republican Governors such as Kim Reynolds of Iowa or Doug Burgum of North Dakota have recognized this ... as their states hemorrhage COVID-19 deaths due to their failure to do this earlier.
3. Impose a *pollution tax*. COVID-19 is a so-called *effluent*, that pollutes the environment. Rather than closing restaurants entirely, it might be appropriate to levy a 20% sales tax on “dining in.” Encourage the restaurants to pass the tax along to their consumers. Those consumers who feel they have a “right” to pollute should pay the price.
4. Identify pollution hot spots. Restaurants, bars, (yes) houses of worship, and communal events spread this pollution. Would-be consumers should know which of these places are safe and which are not.

The reduced economic activity due to these measures will cost jobs. Reducing pollution almost always does. There are no short-term “Green New

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Deal” air cleaners that will help us through this next six- to twelve-month period. The federal government is working on a vaccine (the Doomsday weapon) that, when distributed, will help render COVID-19 harmless. This is the 2020 “Manhattan Project.” Only the federal government has the resources to implement a project of this size.

Meanwhile, because he won’t help us, we must help ourselves. Less travel, smaller dinners, and watch a lot of football ... this Thanksgiving.

Allen C. Goodman  
Professor of Economics



November 26, 2020

## COVID-19 Pollution and Growth

Your blogger grew up in Cleveland in the 1950s, and in 1969 the Cuyahoga River caught fire and caused damage to a railroad bridge. It apparently wasn't the first time (<https://www.smithsonianmag.com/history/cuyahoga-river-caught-fire-least-dozen-times-no-one-cared-until-1969-180972444/>). The river was so polluted with industrial waste (largely from the steel industry) that there were no fish in there (except during steel strikes). Kids growing up in Cleveland couldn't swim in nearby Lake Erie. We were told that this was the price that we paid for Cleveland's being an industrial leader. Cleaning up the river would cost jobs.

Fifty-plus years later, the river is better, although not great. The Smithsonian story speaks to "river kayaking, fishing and cruising on stand-up paddle boards." This would be unrecognizable to anyone growing up in mid-Twentieth Century Cleveland.

Well into the ninth month of the COVID-19 pandemic in the US, the country is still debating the "pollution effects" of COVID-19. President Trump argues that he cannot "shut down" the country again, and he has apparently come to terms with thirty to forty thousand deaths per month until a vaccine takes hold. President-elect Biden argues that we can fight the disease and keep the economy moving. Can we do that?

The answer, as in many of the economics questions that YB asks, is "well, it depends." COVID-19 has imposed an enormous pollution tax on the United States, and on the world. Those who are hit hardest by a tax are those who have the most trouble adjusting. Amazon, Netflix, Google, and Facebook have done just fine. Electrons are not impacted by the COVID-19 virus. Your local restaurants, movie theaters, health clubs, concert venues, and sports stadiums have been smacked, and will continue to be smacked until a vaccine arrives. The same goes for Universities. Vibrant central cities that have staked their recoveries on entertainment districts will be in tough shape at least into 2022, and maybe longer. Virtual conventions do not employ carpenters and electricians, and virtual consumers do not patronize local restaurants.

Just like the Cuyahoga River fifty years later, the Economy of 2021 will not look like the Economy of 2019. We will be wearing face masks, and we will not be entertaining out. The carnage in the shopping mall sector (which was approaching even in 2019) will continue. Landlords in all sectors have lost billions of dollars in market-determined rents. We can fight the disease and keep the economy moving. Remember, however, that the COVID-19 pollution tax will continue to cost jobs and growth.

Economics is like that.

Allen C. Goodman  
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December 2, 2020

## The Moon and the Ghetto – After 50 Years

In the early 1970s, commentators asked why we could put a man on the moon, but we could not fix the problems in the city ghettos. The answer was there for the taking. We knew where the moon was, and would be, and we could calculate trajectories to get there. The physics, propulsion, and computing problems were daunting, but there was a single point to reach ... and we reached it. Those of us who watched the landing on our black and white TVs will never forget it.

The ghetto, in contrast, contained lots of people, with lots of wants and needs. Prioritizing the needs involved achieving consensus. Understandably, ghetto residents wanted to have say in what was done. The late 1960s race to the moon was accompanied by unprecedented insurrection in many American cities, where opportunities lagged, and government programs were not addressing the needs of the citizens. “Black Lives Matter” for example has shown that fifty-plus years later many of these needs have still not been addressed.

Your blogger believes that there is a similar narrative occurring with creating and distributing the COVID-19 vaccine. According to all accounts, Big (and Little) Pharma are creating vaccines at unprecedented speed. With hope, vaccines will be ready within a year of the “start” of the disease. This has never been done before. YB is a bit less sanguine than others about how well the vaccines will work, and how we will know whether they work, but the technological speed is incredible. We will need them because by the end of December, over 300,000 Americans will have died of COVID-19. This is the “moon” part of the analogy.

The “ghetto” part involves getting the vaccines out in an orderly and efficient way, and making sure that enough people get them. 330 million Americans equal 660 million doses, administered at the correct intervals, all over the country. We will depend on a queuing system of unknown form and unknown quality. We will not be selling the vaccine in stores. Those administering the vaccine cannot put the vaccines on sugar cubes, and provide them in 75-degree offices. The Pfizer vaccine must be stored at temperatures of -94 degrees, colder than Antarctica.

Further, we must depend on patience from a population that cannot patiently keep out of restaurants, casinos, or holiday parties. Distribution will be complicated and will require careful plans. Given the current political climate, those plans will almost certainly not be available until after January 20, 2021.

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So ... kudos to the vaccine developers. We fervently hope that they will “shoot the moon” and there will be numerous effective vaccines available by early 2021. Distribution may be a much more difficult problem. Society is complicated and societal needs are many-faceted. The distribution chain will be complex, and the need for health professionals profound.

In the larger scheme, it may be harder to distribute the vaccine than it was to create it. Aiming at a single point may turn out to have been easier than distributing over 330 million (or over 7 billion world-wide) points.

Allen C. Goodman  
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December 14, 2020

## College – End of Fall Term 2020

Your blogger is a proud alumnus of The University of Michigan. His education at U of M opened doors through his life. “The Leaders and Best ...” goes *The Victors*, the school fight song. What the hell happened to U of M this Fall, and YB is not talking about the football team (that’s another blog posting)?

Given a chance to do some real leadership in the academic world, President Mark Schlissel and his leadership team fumbled, stumbled, muffed, and dug themselves into a hole from which it could take years to emerge. Given the opportunity to put together a first-class effort in running a University under the cloud of COVID-19, The University of Michigan became a second-class s\*\*t-show. So did its rival Michigan State.

The [New York Times](#) (December 12) reported that Ingham County, the home of Michigan State

“... went from having about 300 new infections in August to about 1,800 in September. On Sept. 14, health officials said a majority of the newest cases involved students at Michigan State and ordered people in many fraternities and sororities to quarantine. Virus deaths have more than tripled in the county since the end of August, to 141 from 41.”

Both Michigan and Michigan State sent most of their students home and they will be almost entirely online for Winter 2021. Finally, they did the right thing.

This is a health economics blog. Michigan and Michigan State both have Physician-Presidents. Surely Presidents Schlissel and Stanley understood infectious diseases and the external effects that they have on others. Surely Presidents Schlissel and Stanley understood how 18 to 22-year-old students act in social and group situations, interacting with and infecting others. Although they are both “state institutions”, both (especially Michigan) have healthy endowments that could cushion financial shock.

Was it hubris? Did these institutions think that they could undo science? Neither had the kind of testing and tracing programs that could have cut down the spread of the virus?

Was it sports? The Big Ten made the right decision (canceling) and then made the wrong decision (re-starting). They stood to lose a lot of money by not playing. They lost a lot more respect by trying to play and having whole teams infected, games canceled, and reputations shot. All so Ohio State could play for a national championship.

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The Ivy League canceled their whole fall and winter seasons, and is “postponing” spring sports until at least the end of February 2021. The Michigan schools love to compete with the Ivy League as scholars, and they compete well in many fields. They have fallen woefully short, in judgment with respect to COVID-19.

Universities in the United States will come back after the New Year’s break for the Winter (or “Spring” in some places) term. Maybe they will do a better job this time.

Allen C. Goodman  
Professor of Economics

December 20, 2020

## How to Allocate the Vaccine

The COVID-19 vaccine was rolled out in various locations this past week. Developed in record time, it stands as a testimonial to our ability to focus on a well-defined goal. It seems to work well. The side effects seem to be mild. We commend scientists of the pharmaceutical industry for this feat.

What can economists offer about how to allocate this new vaccine? The answer is at once simplistic and yet so very complicated. Economic theory suggests that we try to maximize the difference between the incremental (or marginal) benefits and the incremental (or marginal) costs. This algorithm suggests that we allocate it first to health care workers and workers in essential and critical industries. They must take care of the rest of us ... and they are easy to find. High marginal benefits, and low (we just take the vaccines to the health care settings) marginal costs. The workers will be at work tomorrow. They will be there three (or four, depending on which vaccine they are getting) weeks from now for the second dose. This one is easy.

Nursing home residents are apparently next. They are older and they have other illnesses, called *co-morbidities* by the professionals. Again, we know (largely) where they are. We don't know how well they will react if they are sick with another condition. Some nursing home residents have dementia problems. Will they have to be convinced, and can they be appropriately "consented" to take the vaccine?

Who next? We have picked the "low hanging fruit" already, in going to the places where those who need the vaccine either work or live. Now it gets much trickier because the beneficiaries are harder to define, and the locations are more diffuse. Your blogger (as is his partner) is 73 years old so he is (apparently) not in the highest risk elderly category (75 and over). The vaccines will be available at CVS and Walgreen pharmacies. In the Royal Oak neighborhood where YB shops, they are across the street from each other (as they are, seemingly, in many areas of Southeast Michigan). YB patronizes the Walgreen's – will that make a difference? Will CVS serve him?

How will he be notified as to where to go? How will they screen him? Will he be given an appointment, or will he wait in line? How will they follow up with him for the second dose and what if he doesn't come in for the second dose? This is not like the sugar cube Sabin vaccines that were given at Fairfax School (Cleveland Heights, Ohio) in the early 1960s, where we stood in line on a summer's day.

What kind of verification will YB get to assure others that he has been vaccinated? A gold certificate suitable for framing? YB has argued several times this past year for a card with a chip that could be scanned by those who care about whether he has had the vaccine. To get into a restaurant, stadium, or

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office building, we would scan the card. Are they ready to issue this kind of card? Will we have the machinery to read them? If not, how will we be sure?

To this point, we have discussed those who are *willing* to get the vaccine. Tens of millions of Americans are apparently not yet willing. Getting them vaccinated will incur even higher marginal costs, yet provide relatively high marginal benefits (from herd immunity). Here we move to two tools, the proverbial *carrots* and *sticks*.

The carrot – Pay them with gift cards of \$10 or \$25.

The stick – Employers are authorized to mandate vaccines. No vaccine, no work.

We must be prepared to use either, or both.

Most observers believe that it will take well into 2021 to achieve the appropriate vaccination levels to prevent the further spread of COVID-19. It may take much longer for vaccine recipients and the general public to start traveling, entertaining, or doing their normal lives again. YB and his partner have been invited to two weddings in the Western US at the end of Summer 2021. When or will they be able to plan to go?

So, blogger, you're an economist. Why aren't you advocating competitive markets? First, the externalities (incremental benefits far exceeding incremental costs) argue that the markets would provide an inadequate (not enough) amount of vaccinated people. Second, the markets do not address a myriad of equity-related issues. Health care workers may not have enough money to bid away vaccines from richer, less essential workers. Third, the provision of vaccines is anything but competitive. We have a very few suppliers, with precious licenses granted by the FDA. Markets, here, won't do it.

The roll-out thus far has been small, and not without problems (much smaller amounts than expected). Well under half a million Americans have received the first vaccine, and it is expected that over 200 million full vaccinations are required to get to herd immunity. We have a long way to go.

Allen C. Goodman  
Professor of Economics

December 25, 2020

## Capital Losses and a Domestic Marshall Plan

It is Christmas Day, 2020, and as of today, 337,842 Americans have died of COVID-19 (Source: [World-Meter](#)). Over the past week approximately 18,000 died. We have lost the equivalent of six World Trade Center bombings in the past seven days.

While it is essential to address the current pain and suffering, it is equally important to look at the enormous “capital losses” that we have incurred over the past nine months. *Capital losses?* How can you say that when the stock market has reached new highs in the past calendar quarter?

Your blogger is concentrating here on the loss of productive capital. In our economics principles courses, we talk about the distinction between consumption and capital. Consumption means consuming goods and services *now*, for personal pleasure. Eating, drinking, going to the movies (remember that?) all constitute present consumption. Investing in education, health, buildings, highways, and the like do not necessarily bring current bliss, but provide for production *in the future*. We have seen staggering destruction of the stocks of such capital goods in the past nine months.

*Loss of life* – Valued at (a conservative) \$5 million per person, we have lost nearly \$1.7 trillion dollars in productive capital.

*Loss of education* – In 2019, there were approximately 57 million students attending elementary and secondary schools (<https://educationdata.org/k12-enrollment-statistics>). The period from March 2020 until Fall 2021 will be remembered for enormous education displacement from the shift in teaching methods. One could easily argue that each of those students has lost *at least one-half year of learning*. Some (particularly those in early years) will probably catch up. A very large number will not. Students in athletics and in the arts may never catch up, as others behind them will take their places.

*Buildings* – Thousands if not millions of buildings have experienced accelerated depreciation, or advanced obsolescence. The physical capital retail sector (malls and many urban shopping areas) was already reeling from online competition.

The office sector will have to be reimagined from top to bottom. Crowded cubicles, obsolete ventilation systems, uncomfortably close stairways, elevators, comfort facilities and common areas will all have to be changed, at the costs of billions of dollars. School classrooms will also have to change, for similar reasons.



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Capital stock relating to certain consumer sectors have also been savaged. The restaurant and entertainment industries have experienced massive drops in demand. These may not be permanent, but they will almost certainly be long-lasting. Large numbers of movie theaters are permanently dark.

There are, of course, some offsets. Amazon is growing like gangbusters. They have increased investment in warehouses, delivery vehicles, and the like. With two to three-year lead time on many of these investments, however, many of the adjustments will be slow.

Similarly, downtown offices are being replaced, in part, by home offices. People who are now working from home, need more room, more furniture, better Wi-Fi and the like.

YB has written of COVID-19 being like a tax, but in a November 17 note, long-time friend Larry Siegel wrote “I see it more like a war, except that there is no upside, no spoils of war.” A good, and scary, analogy.

Following the end of World War II, with the European economies in shambles, the United States engaged in the Marshall Plan, to help with the rebuilding. We poured billions of dollars into the economies of our victorious Allies, and the economies of our vanquished enemies. The incoming Biden Administration may want to consider a domestic Marshall Plan to address our capital destruction. The economics suggest that it would be worth it.

Allen C. Goodman  
Professor of Economics

January 1, 2021

## The Economy in the New Year

It is January 1, 2021. To date, 355,361 Americans have died of COVID-19 (<https://www.worldometers.info/coronavirus/country/us/>). With a few days left in December, according to the [University of Minnesota](#), over 65,000 Americans had died in December. Several vaccines are now available. Although the “roll-out” has been slow, observers hope for large scale immunization to occur sometime within the next six to twelve months.

Your blogger’s partner has asked him what the economy will look like for 2021. Will things “snap back” to the heady growth that we enjoyed through most of the last decade?

Paul Krugman thinks “yes”. In a *New York Times* column [this morning](#), he writes that he expects “rapid growth once people feel safe going out and spending money.” He thinks that will be soon. He is also optimistic about the job-creating capabilities of new technologies, which he likens to the surge information technology in the early 1990s, leading to the productivity surge from 1995 to 2005.

Certainly there is a lot of savings waiting to be spent, so the potential demand is there. However, there is major uncertainty about the economy’s ability to absorb the spending. For example, many businesses have told their employees to continue working at home through June 2021. No major spending increases there.

Travel budgets and plans will almost certainly be on hold through 2021. YB has been invited to two weddings in the western United States in August/September 2021. If they occur, they will almost certainly be smaller, with fewer guests. YB and his partner have made hotel reservations (fully refundable), but no air travel plans.

Conventions and pleasure travel will also be curtailed. International travel will recover only slowly. Detroit residents used to go across to Windsor Canada for Chinese dinners. The fastest way to drive from Detroit to Boston is through Canada. Vacation plans for Canada, Europe, or anywhere across an ocean, will be very slow in 2021.

Moreover, although face-to-face contact remains essential for many activities, many have discovered that it is much less essential than we once thought. The Economics Association meetings used to function as a major labor market event, where eager graduate students met eager employers. The shift to Skype/Zoom had already started in the past couple of years before it hit the profession like a two-by-four “upside the head” this past year. For this next year’s meetings, even with a vaccinated population, there will still be demand to participate “from home”; this next year, and perhaps indefinitely.

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The term “almost certainly” jumps out at us. How safe are restaurants and bowling alleys? How do customers feel about being served by wait staff in masks and rubber gloves? How safe are large weddings? Will Jewish couples and their celebrants be able to “dance the hora” at their weddings? Probably some day, but *almost certainly* not in 2021.

*Almost certainly* there will be hiccups. Schools will reopen in the fall, and have to close down because of COVID-19 outbreaks. Office and retail facilities previously considered “safe” will have to be refitted at the costs of billions of dollars. Sports teams may be allowed bigger crowds, until new outbreaks occur.

The year 2021 will be a year of adjustment. It will be better than 2020, but a major resumption of pre-pandemic spending activities will *almost certainly* wait until 2022 and beyond.

Allen C. Goodman  
Professor of Economics

January 10, 2021

## The Vaccination Mess – and a Proposed Solution

We are about four weeks into the introduction of the COVID-19 vaccine, and no serious analyst can give the roll-out a passing grade. The litany of complaints is several:

1. The wrong people are getting the vaccine.
2. The right people are not getting the vaccine.
3. More of the vaccine is sitting unused than is being used.

Meanwhile, the number of COVID-19 deaths has settled in at about 3,000 per day, and by Inauguration Day (January 20, 2021) over 400,000 Americans will have died of COVID-19 in less than one year. This is over ten times the annual number who died in traffic accidents before the pandemic began.

This failed roll-out is largely due to the reluctance of the federal government to act “federally”. In an earlier blog (April 2, 2020), your blogger (YB) wrote the following about the bombing of Pearl Harbor:

Scholars of World War II agree that the United States was woefully underprepared for its start on December 7, 1941. We had only recently instituted a draft, and we did not have the war-time materiel ready. The war was a national war; President Roosevelt didn't tell the authorities in Hawaii, California, Oregon, and Washington (who feared of being bombed) to “figure out a way” to fight the Japanese. There was a full federal mobilization ...

How did it the vaccine roll-out get this bad? Here are a few bullets.

- YB receives treatment at a local clinic three times per week. He asked the nursing staff whether they had been vaccinated. By their reports, the vaccine assignments have seemed almost random.
- YB was sent emails by two different medical groups. Because of his age, he qualifies for priority placement in the vaccination, and he was told that he should check the web site, and would be contacted by email. The next day, the web site for one of them crashed due to the flood of inquiries, and several days later, there has still been no notification.
- YB's employer indicated that vaccines would be available, but the employer does not know when, and the employer has not really established priorities, other than for medical personnel.

In short, millions of people want the vaccine, and they have no idea when and where they can expect to get it.

Prioritization has been defined at the state level, and the states have largely failed the test. In some places, like Florida, they have further delegated

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distribution to the counties – there are over 3000 counties in the United States. Moreover, state finances to administer and distribute vaccines are a mess. Many states were able to tap so-called “rainy day” funds for whatever fiscal year encompassed the last nine months of 2020, but they are largely tapped out financially by now. There is no plan in place to mobilize the resources necessary to vaccinate ten million people in Michigan, let alone 330 million people around the country.

This is the time for a federal response.

1. Find out from the states who the medical personnel are, and send the vaccines to their employers, with a mandate that they be vaccinated.
2. Prioritize the rest of the potential vaccine recipients by Social Security number. Social Security numbers are birthdate stamped. Moreover, most everyone currently collecting Social Security or receiving Medicare benefits would, by definition, be in a high priority group, and the federal government (because it mails checks to them) knows where they are. Put these numbers in a fishbowl and fish them out lottery-style as vaccine becomes available.
3. Send vouchers to the lottery winners and invite them to come to central locations located in stadiums, shopping malls, and other places with large parking lots, at specified times.
4. Give them a federally-issued Vaccine Identification Card (call it a **VIC**), so they are easily recognized. The **VIC** will be initially activated, and fully activated according to the timeline for second vaccinations. This would be the first step to a national health identification card, which YB has proposed several times in the past year.

This is an emergency. It is time to recognize the emergency nature and to act accordingly.

Allen C. Goodman  
Professor of Economics

## A COVID-19 Report Card

This is the blog #70 since the site opened on March 16, 2020 in response to the explosion of the COVID-19 pandemic. As of today, 410,720 Americans have died from the pandemic (<https://www.worldometers.info/coronavirus/country/us/>). Occasions such as the quadrennial Presidential inauguration (tomorrow) serve as suitable times for “report cards”. How have we in the United States fared?

**Deaths – F.** By any measure this has been a failure. The deaths of 400,000 Americans are tantamount to wiping a major city such as Oakland, California, Tulsa, Oklahoma, or Tampa, Florida off the map. By valuation of life, using a conservative estimate of 5 million per person, this constitutes a loss of \$2 trillion dollars. A hospital costs about 1 billion dollars to build. We have seen the human capital equivalent of 2,000 hospitals (more than one-third of the current total) destroyed.

**Loss of Economic Output – C.** The United States has held its own. Comparative international numbers are hard, and slow, to come by, but in one estimate (<https://ourworldindata.org/covid-health-economy>) the US second quarter 2020 output was about 9.5 percent lower than 2019, comparable to The Netherlands, Latvia, and Japan. Finland was about 5 percent lower, Canada about 13.5 percent lower, and the United Kingdom, over 20 percent lower. All of the economies snapped back toward the end of 2020, but the recoveries have been mixed, and certain service-, travel-, and entertainment-related sectors will see major losses well into 2021, and possibly beyond.

**Attitude – D.** In the face of a national trauma, it is surprising that there was not a singleness of response. Your blogger has noted that when Pearl Harbor was bombed, President Roosevelt did not tell the leaders of Hawaii, California, Oregon, and Washington, “well, you’re on your own.” Irrespective of one’s personal opinion of outgoing President Trump, the lack of federal leadership in doing what only federal leadership can do, was striking. Local leadership from a group including the Governors of Michigan, New York, New Jersey, and (yes, on occasion) Texas and Arizona was often courageous (and sometimes dangerous), but it could not make up for federal purpose.

**Developing Vaccine – A.** When there is a single purpose, there can be extraordinary progress. YB was skeptical of the ability to develop a vaccine within a year or even two. The development of multiple vaccines, some better than others, is a testimony to the underlying science, and to the hard work of those using it.

**Distributing Vaccine – F.** Using the analogy of “the moon and the ghetto” YB predicted (in early December) the logistical problems of distributing it. In economic terms it represents the difference between treating pollution that emanates from one source, and treating pollution from 330 million sources. This

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was never going to be easy, but as of today (over a month into the distribution) over 30 million doses have been produced, and only 11 million have been used. The gap is staggering.

We enter a new “schoolyear” tomorrow. Some of the problems, such as attitude, will change quickly. Others (deaths, distribution) could take a good deal longer.

Allen C. Goodman  
Professor of Economics

January 23, 2021

## The Federalized Vaccine

The appropriate mix of localized and more federalized public goods outputs has long been a topic of economic inquiry. To the extent that the preferences and technologies are local (local government, local schools, police and fire protection), financing and decision-making should be at the community, county (local district) or state level. To the extent that the preferences and technologies are national (war-making, defense, space exploration), the financing and decision-making should be done at the national level.

Today's blog will use this framework to evaluate the COVID-19 vaccine development, and the roll-out. Both of them fill the bill for national public goods. Yet, the first stands out as a public good success. The second, to date, has been found wanting.

First, a little economic history. Your blogger remembers being piled into the family Plymouth in the 1950s on trips between Cleveland and Chicago. The family would take US Routes 20 and 6 through Sandusky, Toledo, Elkhart, South Bend, and Gary on a trip that seemed to take about 12 hours (it was probably only about eight). It was slow, and it went through major cities, because that is where roads went.

After a few years' hiatus, we took the trip again. The new Ohio Turnpike and Indiana Toll Road had shaved two hours off of the trip, bypassing all of the previous fun spots on the way. These roads were part of the Interstate Highway System that provided a 90 (federal):10 (state) match to build new highways. The act was originally related to defense readiness (if the Soviets invaded New Jersey, they could sabotage the 7 tunnels of the Pennsylvania Turnpike and keep our soldiers from responding quickly – hence the construction of tunnel-free I-80). Economic analysis (Fernald, 1999) has suggested, however, that the massive road-building of the 1950s and 1960s offered a one-time boost to the [unprecedented] post-World War II growth in productivity through the early 1970s. Public investment brings returns!

The development of the COVID-19 vaccine with Operation Warp Speed has certainly been a major economic achievement. Although the underlying technology had been developed for the SARS and the MERS viruses, its speedy deployment, and apparent success were not universally anticipated (YB did not expect it so soon). This was a federal program – it had to be so. The resulting product is effective.

Yet, the deployment of the vaccine has been a disaster. Deployment was relegated to the states (51, including DC), and from there often to the counties (over 3,000). It was like requiring the states and the counties to coordinate the planning and building of the Interstate Highway system, having to marshal the resources, and coordinate the plans. The Eventbrite event management and



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ticketing website has been used in Florida. Eventbrite was not designed for this, and it has not been wildly successful, but compared with the roll-out in Michigan, it has gotten the vaccines into some of the right people in the right places. YB and his partner are both in their early 70s – neither has any idea of when or where he/she will get the vaccine. Both have received emails announcing that vaccines would be available, but “don’t call us – we’ll call you”. There appears to be no identification mechanism, nor particular scheduling algorithm.

For years the US had the Selective Service System, which coordinated the draft. No one who went through it remembers SSS fondly, but SSS knew where you were, and they knew how to find you. Several of YB’s classmates left college in the late 1960s and found themselves in the Army only months later. That was fifty years ago – these things can be done.

It is becoming clear that having promoted the vaccine development the Trump Administration did not care about distribution. Meanwhile about 100,000 people have died from COVID-19 in the past month, and probably another 100,000 will die before the end of February, bringing the total number of deaths to over half a million, in less than twelve months.

The new Biden Administration has created a [200-page federal plan](#) for COVID-19 response and pandemic preparedness. The details will be daunting, but the returns will be manifest. This must be done at the federal level, and it is about time.

Allen C. Goodman  
Professor of Economics

Fernald, John, “Roads to Prosperity? Assessing the Link Between Public Capital and Productivity,” *American Economic Review* 89 (3) (1999): 619-638.

February 3, 2021

## How About Rent Vouchers - Big Time This Time?

Your blogger started his economics career studying housing markets and has contributed to the literature since the mid-1970s. One of the major societal problems, then and now, has been the ability of the less affluent among us to pay rent. Public/poverty housing was one solution. Rent control was a second. Rent vouchers were a third.

This problem has been writ large with the COVID-19 pandemic. Almost immediately after lockdowns began in March 2020, public policy advocates argued against evicting people who could not pay rent. Many tenants stopped paying rent altogether. Ten-plus months into the pandemic the rental housing market has been decimated by the disappearing return to landlords' investments in rental units.

Let us be clear. YB does not condone bad landlords, bad properties, or rent-gouging. Yet a very large portion of the housing stock available to lower income people is rental housing, owned by private (and often small-time) owners, who need to collect rents in order to pay the creditors who lent THEM money to buy the property. Well over one-third of American households live in rental units and the proportions are much higher in central cities. No one is served by a deterioration in the units that would make the units less desirable, or uninhabitable.

Through the early 1970s, housing aid for the poor meant public housing, from the supply side. Although public housing was not meant to be poverty housing, by the 1950s and 1960s, the two had become nearly synonymous. By the early 1970s approximately 2.8 million public housing units had been provided in the United States (<https://www.huduser.gov/portal/Publications/pdf/HUD-968.pdf>) since 1937 through Government-subsidized housing programs for low- and moderate-income families. Many "housing projects" were thought to be economically unmanageable and, either rightly or wrongly, as being breeding grounds for a large degree of perceived social ills.

Rent control has never caught on in the US, other than on the coasts. New York City has had rent control since the 1940s, with the Boston area and some California cities following suit. There is a litany of well-recognized problems with rent control. Some tenants get rent controlled units, and other, equally meritorious tenants do not. Landlords are limited in their returns to investment by the inability to adjust rents to changes, most typically in demand. Would-be developers avoid building where rent control is in place or is in the works.

1960s and 1970s economists thought they had an answer. Early analysis spearheaded by Richard Muth, Margaret Reid and others estimated that the income elasticity of housing demand was +1, or higher. In English, this means that a 1% increase in income would lead to a 1% or larger increase in housing expenditures. Rather than producing (and managing) public housing, economists argued that it would be better to give money to those in need, and they would in turn buy or rent housing. The rental housing market in the United States was (and

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is still) thought to be relatively competitive (lots of relatively small suppliers), so income supplements, the argument went, would be unlikely to raise rents by very much. Demand side supplements would get the federal government out of the housing management business, and the market would do the rest.

Federal programs have always been suspicious of giving money to people, fearing that they may spend it wrongly, hence food stamps and later bridge cards. Rather than giving money to the poor, the government began to give housing vouchers, that could be spent only on housing. In the late 1970s and 1980s, the vouchers began to supplant public housing as the major form of housing assistance.

Unlike food stamps, vouchers have never been an entitlement, available to everyone who needed them. They have been limited in number and in size, and they have not helped many low income and/or homeless people. There has never been enough money in the program.

Until now, because Congress is now willing to spend! A voucher expansion program, by its nature, would be targeted to those in need. A housing voucher entitlement program would address two major pandemic-related problems. The first is the lack of income to pay for housing, particularly for those who have lost jobs and/or suffered reduced wages. The vouchers, as is customary, could be related to “Fair Market Rents” that are specific to metropolitan areas. The Federal Government has been doing this for years – the mechanism, through the Department of Housing and Urban Development (HUD), is in place.

The vouchers (with attached payments) would go to the landlords who have been squeezed during the pandemic. While it may be impossible to indemnify landlords for their losses during pandemic-2020, generous-enough payments could alleviate the current problems, and make a dent in those from 2020. These payments would also help pay property taxes to the cash-strapped local governments.

Presidential adviser and former Chicago Mayor Rahm Emanuel famously said, “You never want a serious crisis to go to waste. I mean, it’s an opportunity to do things that you think you could not do before.” It is time, now, to do right by renters.

Allen C. Goodman  
Professor of Economics

#### Reference

National Housing Policy Review, *Housing Markets in the Seventies*, <https://www.huduser.gov/portal/Publications/pdf/HUD-968.pdf>, P. 92.

February 10, 2021

## Happy Valentine's Day

According to the [CDC](#), approximately 675,000 Americans died from the 1918-19 Spanish flu. As of today (February 10, 2021), approximately 483,000 Americans have died from COVID-19 (<https://www.worldometers.info/coronavirus/country/us/>) in eleven months. If the number of deaths decreases to 2,000 per day, effective today, we will reach half a million deaths by the end of next week, and 600,000 deaths in another two months. Catching up with the Spanish flu is not out of the question.

In his first blog, in March 2020, your blogger (YB) likened an epidemic to a tax, leading to reduced activity, to reduced trade, and to tax avoidance behaviors. How accurate has that characterization been?

1. Certainly, there has been reduced activity. The unemployment rate almost everywhere soared in the second quarter of 2020, fell some in the third quarter, and fell a little more in the fourth quarter. According to the Bureau of Labor Statistics in January 2021, “the unemployment rate fell by 0.4 percentage point to 6.3 percent, and the number of unemployed persons decreased to 10.1 million. Although both measures are much lower than their April 2020 highs, they remain well above their pre-pandemic levels in February 2020 (3.5 percent and 5.7 million, respectively).” (<https://www.bls.gov/news.release/pdf/empisit.pdf>)
2. Regarding trade, as measured by GDP, the [Bureau of Economic Analysis](#) shows that real GDP decreased 3.5 percent in 2020 (from the 2019 annual level to the 2020 annual level), compared with an increase of 2.2 percent in 2019. The annualized decline from the beginning of the pandemic (March 2020) was larger than that. International trade has fallen, and the trade for certain sectors (particularly entertainment and services) has cratered. Domestic supply chains have also faltered, sometimes in strange ways (yeast, napkins, barbecue sauce have all become hard to find at given times).
3. Tax avoidance has been odd. The analogy argues that epidemics would lead people to try to avoid them. Curiously, economic conservatives, who would seemingly wish to avoid taxes, have done relatively little to try to avoid the epidemic, wishing to keep businesses open, and defying mask mandates and social distancing directives. States like South Dakota have ignored the taxes and suffered serious economic dislocation, and stubbornly high infection rates. Economic liberals, seemingly less averse to taxes, have tried to do more to avoid them. Relatively conservative Georgia, and relatively liberal Michigan have had about the same number of COVID-related deaths, although Georgia has had half again as many more cases. Michigan has had a relatively strict lockdown policy

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compared with Georgia, and after a terrible initial surge has seemingly kept the number of cases, and deaths at lower levels.

For those who look at political economy, the pandemic almost certainly led to a change in the Presidency. Very simplistically, the economy was humming along in the first quarter of 2020. The pandemic, and the botched Trump response to it, led to a Biden victory. Those who read economic history might compare the Trump response to Herbert Hoover's response to the onset of the Great Depression, where he famously insisted that prosperity was "just around the corner." Hoover was embittered by his loss, and fought New Deal programs such as Social Security for the rest of his political life. His successor, Franklin Roosevelt is remembered differently.

Valentine's Day (February 14) brings some hope. The halting vaccine roll-out seems to be rolling a little better. Schools are planning re-openings, although YB believes that things will not be normal any earlier than Fall 2021, and maybe not even then. The entertainment, dining, hotel, and travel industries will have a tough year. Few large weddings, and few international trips. Golf (outdoors with open spaces) will prosper relative to bowling (indoors and cramped).

So, buy your sweetheart a dozen roses, some high-quality takeout this weekend, and maybe a good cabernet. Dine out next year. Happy Valentine's Day.

Allen C. Goodman  
Professor of Economics

Number of COVID-19 deaths as of 2/20/2021 - 509,872  
(<https://www.worldometers.info/coronavirus/country/us/> )

## Allocation When Markets Cannot be Used

Economists love markets. We talk about going to the grocery store, needing to buy catsup, and knowing that lots of varieties of catsup will be available. The grocer doesn't need to know when we will show up, and producer almost certainly doesn't know, nor care who we are, and when we will buy. We do not have to order catsup in advance and we can almost always depend on there being lots of bottles of Heinz (your blogger's favorite).

There is no "Central Catsup Board", and there are no catsup price controls. Somehow the information gets to the suppliers, through the merchants, and the catsup appears. No one worries about catsup allocation or catsup shortages. When YB started taking economics in the 1960s, instructors delighted in comparing the US market economy to the empty store shelves of the (then) Soviet Union, which engaged in central planning.

In the late 1970s Americans got a taste of the problems of regulated markets with periodic gasoline shortages. If Pennsylvania, for example, tried to regulate gasoline prices, gasoline producers would simply ship their gas elsewhere. There were shortages. People lined up to get gas. Some gas stations had preferred customers who would drive up to a station and flash their lights to get the pumps turned on. Younger Americans might find pictures of the 1970s gas lines to look quaint, but there *were* lines. The lines vanished when the gasoline market was deregulated.

There are times that market solutions are uncomfortable. Imagine that the owner of a water bottling company marks up prices by a factor of two or three immediately after a hurricane lays waste to an area. This occurred after Hurricane Irma in 2017 (<https://www.usatoday.com/story/money/2017/09/06/hurricane-irma-case-water-sells-99-99-amazon-residents-fear-price-gouging/636893001/>). While justified in terms of supply (reduced) and demand (increased), it is at least "bad form" and brings opprobrium down on the merchant. Increasing rents when "gentrifiers" move in can force long-time residents to pay increased prices for units that they have been renting for years ... or move. This is a market situation ... that is uncomfortable.

We have not sought market solutions for the allocation of the COVID-19 vaccine, but we seem to have achieved the worst features of both market and more centralized plans. No one argues that medical personnel, nursing home residents, first responders and others should bid against each other for vaccines, but the refusal of the previous (Trump) administration to federalize the distribution led to 51 different state plans, devolving into over 3,000 county plans. Whether people of similar circumstances can get vaccines depends on where they live and who they know.

Number of COVID-19 deaths as of 2/20/2021 - 509,872  
(<https://www.worldometers.info/coronavirus/country/us/> )

As a case in point, after weeks of trying to find a vaccine, YB and partner got an appointment for March 9. YB went to a web site that he had not known about, because a friend told him about it. YB and his partner had to get separate appointments at TWO different stores (15 minutes apart), because that was the only way. We recounted this mess to a physical therapist who had been trying to get vaccinations for his elderly parents. He had had no idea of this channel. YB + partner plan to get the vaccine on March 9 – if it shows up. There have been instances of canceled appointments because there was not enough vaccine.

It did not have to be this way. People's Social Security numbers are date-stamped. The federal government knows who is over 65, and where they live, because it collects income taxes from them, and sends them Social Security checks. There are enough empty spaces (and plenty of parking) at local shopping malls that mass-inoculation sites could be created. This has occurred at some locations, but not all, and very few in metropolitan Detroit. People can be given photo-ID vaccination passports which can be scanned at schools, airports, theaters, and the like. YB has been talking about this for months. Scan the passport, and enter. Choose not to vaccinate, and stay out.

So, markets do a great job of allocating, except when they don't. When they don't, we have to try something else! The time for something else has come.

Allen C. Goodman  
Professor of Economics



February 22, 2021

## The Right Amount of Care, Revisited

On June 25 your blogger (YB) (<http://allengoodman.wayne.edu/Blog/TooMuchCare.pdf>) examined the “right” amount of health care in the context of the COVID-19 pandemic. At that time, since the March lockdowns, most Americans without acute medical or dental complaints had stayed away from providers’ offices. Dentists had almost all closed down – the liquification that accompanies most dental procedures was deemed to be far too dangerous given a disease (COVID-19) that is carried in droplets. Elective surgeries to medical providers had been severely curtailed, and routine office visits had been canceled or (later) replaced in some cases by tele-medicine sessions. Some conjectured that the care was mostly postponed, and would be made up – in other words, the ultimate impact would be small. Others, including YB, were not sure.

A February 22 article (<https://www.nytimes.com/2021/02/22/opinion/medical-care-coronavirus.html>) by Dr. Wayne A.I. Frederick, President of Howard University, suggests that we are seeing longer-term impacts, and that they vary by socioeconomic group. Dr. Frederick notes:

Last year, excess deaths increased 14.7 percent for white people, but 44.9 percent for Latino and 28.1 percent for Black populations, according to the C.D.C. Just as the pandemic has disproportionately affected communities of color, this hidden crisis will target the same minority populations, which have higher rates of diseases like hypertension and diabetes, and less access to quality health care.

Hypertension and diabetes are so-called “silent” killers, and otherwise healthy people may not know that they have them or that they (the diseases) are killing them (the people). YB discovered his high blood pressure at a routine screening about 15 years ago after getting a flu shot. He rolled up his sleeve and registered 170/90 (high!). Stunned, he tried the other arm – 170/90. A few days later at a physician’s office – 165/90. He has been on blood pressure meds ever since. They are cheap and they work. YB has a family history of that includes stroke. Dialing down the BP is a good idea.

Impressionistically, it looks like surgeries are bouncing back to normal and a lot of routine care is also coming back. However, the kinds of “well care screens” that occur in clinics, drug stores, or general “well care visits” may be slow to rebound. The “falling tide” may beach all boats, but it may beach the boats of lower income and minority households more. Dr. Frederick (who remarkably maintains a medical practice while serving as Howard’s President) writes that in January, he operated on a patient with pancreatic cancer who had the highest levels of jaundice he had ever seen. The patient reported that he hadn’t sought medical attention earlier because of apprehensiveness about coming to the hospital during the pandemic. Dr. Frederick reports, that as a result, the patient’s condition was worse than it otherwise would have been and extended his time in the hospital.



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If these “silent killers” are not caught, monitored, and treated, the long-term impacts of COVID-19 may be longer-term than 2020/21. Solutions include better education, “tele-medicine” (where a patient could take his/her blood pressure in real time with a telephone app) with physicians and nurse practitioners, and possibly even the return of home visits. These preventative procedures are not “exciting” medical procedures, but they improve health and save lives.

Measuring the right amount of care is tricky. Getting the wrong amount of care can cost lives.

Allen C. Goodman  
Professor of Economics

March 3, 2021

## The New Revisionism on In-Class Education During COVID-19

In a March 2 article New York Times reporters Margo Sanger-Katz and Claire Cain Miller wrote:

Scientists and doctors who study infectious disease in children largely agreed, [in a recent New York Times survey](#) about school openings, that elementary school students should be able to attend in-person school now. With safety measures like masking and opening windows, the benefits outweigh the risks, the majority of the 175 respondents said. <https://www.nytimes.com/2021/03/02/upshot/covid-opening-schools-experts.html>

It is tempting to cherry-pick inflammatory quotes, but many of those quoted blamed teachers, unions, and politicians for not following the advice of public health professionals, who, they assert, “have dedicated their careers to taking on these exact issues of school reopening.” (Mitul Kapadia, Associate Clinical Professor, University of California, San Francisco; Director, Pediatric Physiatrist, Benioff Children’s Hospital).

As we slowly emerge from the year-long deep hole of COVID-19 (as of today 531,652 Americans have died - <https://www.worldometers.info/coronavirus/country/us/>), it is wise to recall that in the 50 weeks since things closed down, public health professionals have not always spoken with a single voice. For the first several months, professionals did not have good ideas of how the disease was spread, nor how contagious it was to whom.

Moreover, the facile comparisons of affluent private schools (which can afford small student-teacher ratios) to crowded public schools are not useful for policy. Further, the suggestion that all that Michigan schools have to do is to open the windows in the middle of February suggests that the advocates have never visited Michigan, or Ohio, or any place that sees a real winter.

Public school teachers did not choose their vocations for the high pay, nor for the working conditions. There has been legitimate concern about the transmission of disease, particularly in older, badly ventilated buildings with poor comfort facilities, common hallways and common stairwells. It will cost billions of dollars to fix these problems.

There is a large literature in economics that measures the costs of regulation in terms of foregone, or misplaced, production. Students have suffered enormously with the foregone opportunities from in-school instruction. One could argue that elementary students will have longer to “catch up” than their teen-age siblings. Nonetheless, these are real (and large) costs.

However, an honest appraisal of regulation must also consider the benefits in terms of averted deaths. There would almost certainly have been

March 3, 2021

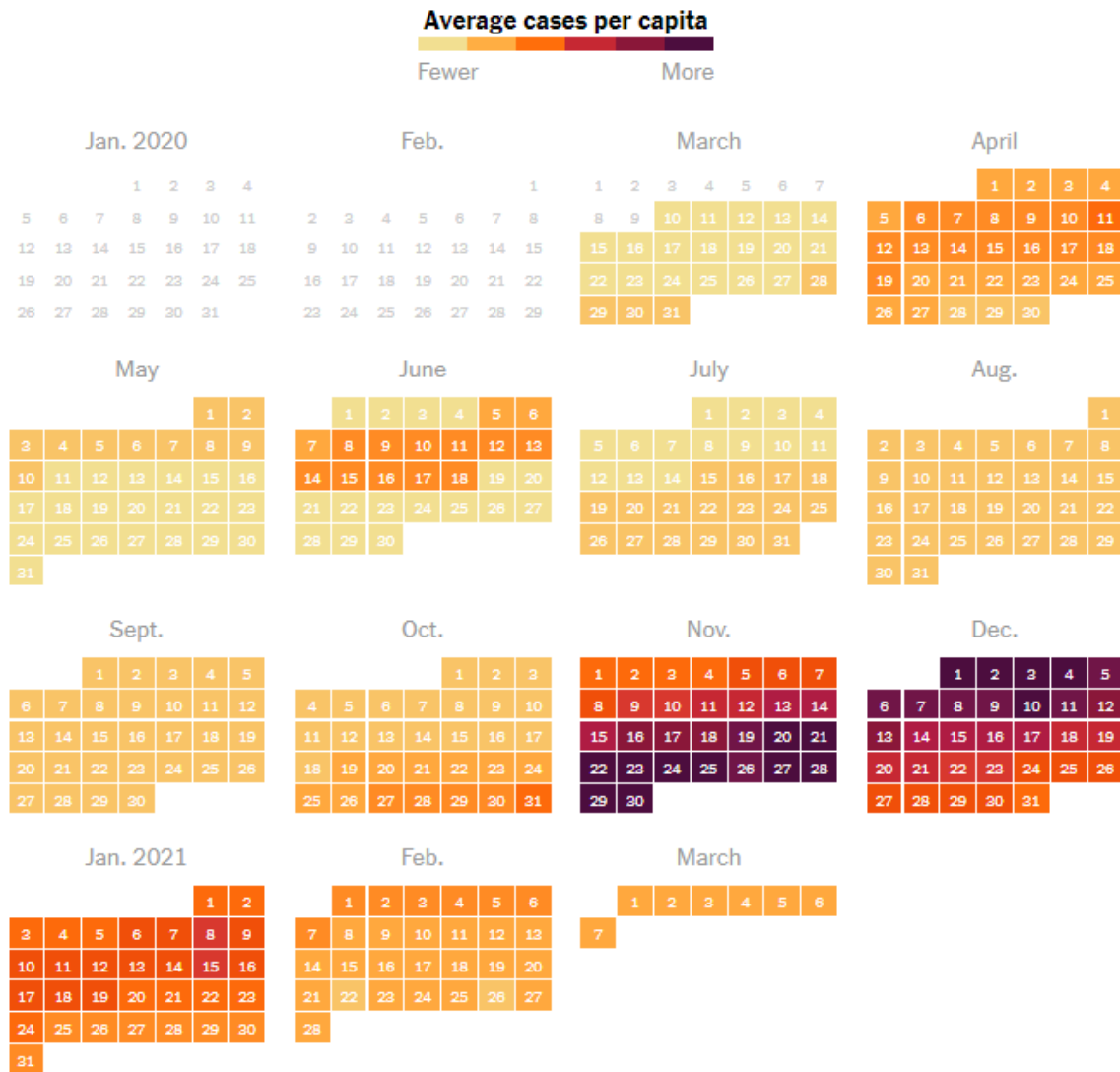
thousands of additional deaths, had schools remained entirely open. These were averted, and they must be counted, and valued.

A reasoned and cordial discussion of school re-opening is essential as we plan for the 2021-2022 academic year. Revisionist finger-pointing is not.

Allen C. Goodman  
Professor of Economics

### Time to Remain Patient

As approach the one-year anniversary of the COVID-19, it is insightful to look at where we have been. Your blogger lives in Oakland County, Michigan, about 15 miles north of downtown Detroit. Detroit was one of the first metropolitan areas to be decimated by COVID-19 in March and April 2020. Michigan started serious lockdown procedures early in the pandemic, and compliance in Oakland County has been good. Cases seemed to wane in May, a good part of June, and early July before starting an inexorable rise that led to the highest rates in November and December 2020. Back last spring, CDC experts worried about a “second wave”. Looking carefully at Oakland County, in the figure below, we saw a “first wave” in April, a “second wave” in June, and a “third wave” in November and December.



Source: <https://www.nytimes.com/interactive/2021/us/oakland-michigan-covid-cases.html>

By CDC standards, as of today, despite lockdowns, compliance, and about two months of vaccine, Oakland County remains at a “very high risk level”.

March 8, 2021

There is considerable agitation from the business community, education providers and users, and all parts of the entertainment sector, to re-open. Parts of Florida are now 100 percent open. Is this the right time to do so?

The data indicate otherwise. Well over 1,000 persons per day are still dying in the United States from COVID-19, a figure that would have been frightening until it became normal not very many months ago. The virus is still infecting and killing a large number of people. It spreads rapidly when people are together. This is a classic economic externality. One smoker in a stadium does not impact others – a thousand smokers certainly do.

We do not run cars in indoor garages, or use charcoal heaters indoors simply because we cannot see carbon monoxide (which is odorless, colorless, and very toxic). Our case numbers in Michigan are higher than they were in July, August, and September, before the start of the third wave. No one here wants to see a fourth wave.

Americans hate to be patient. It is time to remain patient.

Allen C. Goodman  
Professor of Economics

March 13, 2021

## Nursing Homes and COVID-19

One of the first COVID-19 hot spots was a nursing home in Kirkland, Washington. In three weeks after the first positive tests at Life Care came back on February 28, 2020, 81 residents, about two-thirds of its population —tested positive for the virus, and 35 people died. Dozens of its workers received coronavirus diagnoses (<https://www.nytimes.com/2020/03/21/us/coronavirus-nursing-home-kirkland-life-care.html> ).

On March 13, about a year later, depending on the count, between 130,000 (<https://data.cms.gov/stories/s/COVID-19-Nursing-Home-Data/bkwz-xpvg/> ) and 174,000 (<https://www.aarp.org/ppi/issues/caregiving/info-2020/nursing-home-covid-dashboard.html> ) of the over half a million COVID-19 deaths have happened to nursing home residents and staff. Many are outraged, and *The New York Times* presented an article today entitled “[How U.S. Ratings of Nursing Homes Mislead the Public](#)”. The findings are damning. Authors Jessica Silver-Greenberg and Robert Gebeloff note that people at five-star (putatively high-quality) facilities were roughly as likely to die of the disease as those at one-star (low quality) homes. Although the authors are careful, they still imply that better nursing homes may have saved more lives. The question that your blogger wants to address are why did all of these deaths happen, how did they happen, and what can we do in the future?

The “why” is easiest to answer. Nursing home residents are typically (well) over 65 years old, and are often compromised health-wise. Many of them have multiple conditions (comorbidities), and they are susceptible to heart, lung, and other organ deficiencies that would render them more susceptible to COVID-19. The virus preys on weaker humans, and the elderly are often weaker.

The “how” is not much more difficult. Residents often gather into group settings for meals or activities. Caregivers care for many residents, and one virulent illness in a facility can be transmitted quickly to others. It was not uncommon even before the COVID-19 pandemic to see lockdowns due to influenza. YB encountered this when his mother was in a nursing home setting seven or eight years ago.

What are the economic fundamentals of nursing homes? Why do we “put” elderly people into nursing homes? Consider the alternative. George has an elderly relative with difficulty in the “activities of daily living”, which include bathing, toileting, eating, dressing, and walking. The elderly relative cannot or will not move in with George’s family, and needs to be taken care of 24/7. Roughly speaking, it costs \$500 per day to provide 24/7 care. Hiring and managing outside caregivers costs at least \$20 per hour. Total this up over the year, and families are pushing \$200,000 per year. This does not include skilled nursing care, nor visits to providers. They cost extra.

March 13, 2021

George's well-meaning family members respond that they would be glad to take care of the elderly relative. They may, and they can, and that is great. While taking care of the relative, they work less, or not at all, they delay or stop their educations, and they put all of their leisure time on hold. These are not money costs, but they are costs.

Skilled nursing facilities can provide less expensive care for two basic reasons. *First*, not everyone needs care at the same time. Not every resident needs to get dressed or take a shower at the same time. The same Certified Nursing Assistant (CNA) can care for multiple residents. This saves money. Clearly the fewer CNAs per resident, the higher the quality care, but facilities do not need to provide the 1:1 ratio that is essential in a home.

*Second*, facilities can take advantage of economies of scale. One does not need forty dining rooms for forty nursing home residents. One does not need forty nurses to dispense necessary drugs to forty nursing home residents. There are substantive economies of scale that allow facilities to treat (say) 40 residents for much less than double the cost of (say) 20 residents.

In many ways, a skilled nursing home is like a hotel. The residents live in rooms, eat meals, and gather in the lobby. Unlike hotels, many of the residents are not capable, nor are their families, of discerning quality of the facility. Hotel visitors who are upset by the quality of the hotel can choose another hotel. Nursing home residents do not always have that option. Moreover, as Silver-Greenberg and Gebeloff note in their article, many of the quality measures are at best, inaccurate, and in some cases either "cooked" or fraudulent.

The COVID-19 pandemic has revealed a nursing home sector that has been understaffed, underpaid, and overworked. We cannot empty out the nursing homes into private homes. Some of the answers to the problems stated are obvious, but difficult to implement.

1. A better inspection system – This requires more inspectors, better inspection criteria, and elimination of a system that apparently does not do well in separating the inspectors and the inspectees.
2. Better pay and more staffing – The two go together. Many workers in skilled nursing facilities are paid little more than minimum wage. Better pay, and better training, will lead to more highly-skilled, and larger numbers of workers, driving down the ratio of workers to residents.
3. Better means for monitoring care – Families or paid caregivers should be provided better means of monitoring the care of their loved ones. During COVID-19, this task, more essential than ever, was more impossible than ever as family members could not enter the facilities. Various types of information systems, or computerized apps, can help provide this information to family members.

March 13, 2021

It is likely that even if the COVID-19 response had been quicker and more intensive, large numbers of elderly would have died. There was conflicting early knowledge of how the vaccine spread, and how best to fight it. At the outset most CNAs did not wear face masks, rubber gloves, or special footwear. The 2021 vaccination roll-outs properly targeted elderly and those within nursing homes. In March 2021 there is now a (very) cautious reopening of selected skilled nursing facilities to selected visitors.

With the oldest baby boomers now reaching 75 years old, that segment of the population will continue to grow for the next twenty years. Many of them will need care in skilled nursing facilities. Nursing homes will not go away. We must spend more on them, regulate them better, and keep our eyes wide open for the next pandemic. When it comes, it will almost certainly strike nursing home residents first.

Allen C. Goodman  
Professor of Economics



March 18, 2021

## Second Dose

Your blogger got his second dose of Pfizer yesterday (March 17). The side effects were almost non-existent. In 14 days, he should be good to go ... for something.

As we enter the 13<sup>th</sup> month of COVID-19, our short-term prospects are promising. Over 70 million Americans have received at least one dose of vaccine. Opportunities are being opened for more and younger people to be vaccinated. We can look forward in the next several months to large numbers of Americans with the immunity that the vaccine brings.

This leads to a number of questions?

Will we be able to travel ... and where?

Will we be able to fly (more easily) across oceans, and cross (more easily) international borders?

Will we be able to go to events with large numbers of people ... and when?

Will public schools in Fall 2021 look like schools in 2019 ... or more like 2020?

Will universities in Fall 2021 look like universities in 2019 ... or more like 2020?

Will we be able to eat out at restaurants where wait-staff do not have to wear gloves and masks?

Will downtown office spaces in 2022 look like 2019, or 2020?

Will people continue working from home occasionally, or almost always?

Addressing any one of them would take a separate blog post.

In April 2020, Lawrence O'Donnell of MSNBC noted that we had lost our ability to plan for the future. Weddings, graduations, family events, and sports events, were postponed or canceled. In-person gave way to Zoom. Hugs gave way to elbow taps, and then to ... six feet apart. Twelve months later, these have not changed.

YB and partner look forward to a careful airplane trip to the West Coast this summer to see his daughter and son-in-law. Golf has proven to be a reasonably safe outdoor activity, and swimming a reasonably safe indoor activity. That is about the extent of their planning.

His University has asked faculty to prepare to teach on campus in Fall 2021, unless COVID-related issues prevent them from teaching on campus in

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Fall 2021. Auditoriums for several hundred students will seat 50 or so. Classrooms for 40 will have become classrooms for ten. That is about the extent of their planning.

In Europe, and in many US areas, COVID-19 is yet again rising. New and potentially dangerous strains of the virus are occurring. Irrespective of what people in Texas or Florida think, getting too many people together too close, and too fast, will be dangerous.

Those looking to sing, dance, hold hands with family members, and shake hands with old friends, should probably wait until 2022.

Allen C. Goodman  
Professor of Economics

March 25, 2021

## The Benefits of Vaccine Passports Far Outweigh the Costs

On September 11, 2001, terrorists hijacked four Boeing jetliners and the resulting crashes left approximately 3,000 Americans dead. Shortly thereafter, the United States implemented a set of screening procedures which are still in effect. These procedures have cost billions of dollars in the hiring of Transportation Security Administration (TSA) guards, metal scanning devices, other computer software that we don't really know about, and millions of hours of additional consumer time in traveling through airports.

Have the benefits been worth the very high costs? Maybe. We have not seen another carnage like 9/11. The screening has prevented it. It has also made travel times longer, travel expenses costlier, and travel itself much, much, less enjoyable.

In a thoughtful March 22 *New York Times* article, Drs. Saskia Popescu and Alexandra Phelan argue that "[Vaccine Passports Won't Get Us Out of the Pandemic](#)." They argue that until coronavirus vaccines are distributed equitably and nations agree to immunization standards, vaccination passes will not end the spread of Covid-19. This is a very high bar. Sensible people cannot now go to restaurants, concerts, ball games, or weddings without the fear that someone at the next table, in the next seat, or dancing the hora with them is infectious. Shopping malls and cinemas, on life support before, are dying now.

Your blogger has mapped this out before. Put a bar code on the card, and install bar code readers at entrances to restaurants, campuses, hotels, airports, and stadiums. They have done this for years at Comerica Park, where the Detroit Tigers play. Swipe the card, and get in.

Is it costly? Most establishments have scanners that could be programmed to accept bar codes. In fact, most cell phones will accommodate such scanners. Will the poor be disadvantaged? No more so than being required to vaccinate children for school, or carry driver's licenses.

Personal liberties? If you believe that your rights are being trampled, stay out. It is hard to imagine how anyone who will accept being patted down at TSA checkpoints can object to carrying a vaccine passport.

If such vaccine cards are the first step to universal medical service cards, then so much the better. Close to 550,000 US residents have died from COVID-19. Compare that number, please, to the 3,000 that died on 9/11. We accept the inconvenience of airline screening. Vaccination passports will provide far greater benefits, at far lower costs.

Allen C. Goodman  
Professor of Economics

April 1, 2021

## Michigan is Spiking Again

From the April 1 **Chicago Tribune**.

In a rural stretch of Michigan along the shore of Lake Huron, coronavirus outbreaks are ripping through churches, schools and restaurants where the virus has infected line cooks and waitresses. For more than a week, ambulances have taken several hourlong trips each day to rush severely ill coronavirus patients to hospitals in Detroit, Saginaw or Port Huron, where beds in intensive care units await.

(<https://www.chicagotribune.com/coronavirus/ct-aud-nw-nyt-michigan-coronavirus-surge-20210401-2abgvvmz5cgvpmakrw55c3sa-story.html> )

Michigan, which carefully closed in April, and has spent the following year carefully reopening, is getting skewered by its fourth wave of COVID-19.

Your blogger is a health economist. Routinely over the past year he has sought to resist being a COVID-19 scold. Here comes the scold.

Suppose someone lights up a cigar in the city park, half a mile from where you are. He (or she) enjoys ... it doesn't bother you. Suppose, instead, that half of the walkers in the city park are smoking smelly panatelas. The air cannot assimilate all of the odor or the smoke. This is pollution! It mucks up the air shed and it makes people sick.

Opening up restaurants, sporting events, concerts, religious services, puts too many COVID-19 polluters in too small a place ... at least for now. Some are carrying or transmitting COVID-19. They will infect others, some of whom will die.

Business leaders (and their Republican allies) have led the opposition to shut-downs. It is in their interest to be open because they lose their (financial) shirts when they are closed. It is not in their interest to recognize the cumulative nature of their actions. Their openings lead to "super-spreader" events, that impact entire communities. This is what we are seeing in Michigan.

Economists often propose taxes to correct "market failures" like pollution. It makes the polluters face the real costs of their pollution. What about a 20% tax on in-restaurant meals, baseball games, and yes, religious services? The restaurants can pass the tax along to their customers. Those who want to eat out will pay it. The others (YB included) will wait.

Allen C. Goodman  
Professor of Economics

April 8, 2021

## Wave 4 in Michigan

In a “man bites dog” event, the Republican-dominated Michigan State Senate brought forward a bill that, if passed, would almost certainly require every eatery in Michigan to cease indoor dining immediately because of COVID-19. According to *Detroit Free Press* writers, Dave Boucher and Susan Selasky, if Michigan:

“has a test positivity rate of greater than 15% to not more than 20% for not less than 7 consecutive days or if 15% to not more than 20% of hospital beds in this state are being used to treat individuals with coronavirus for not less than 7 consecutive days, (a state) emergency order must close the qualified establishment to indoor dining [emphasis added] and limit the occupancy of a meeting or event held at the qualified establishment to a maximum of 10 individuals from not more than 2 households.”

(<https://www.freep.com/story/news/politics/2021/04/08/michigan-senate-gop-bill-indoor-dining-ban-covid-19/7105692002/> )

Republican support for this legislation seemed to rest on the “certainty” that it provided to those firms affected. Restaurants would “know” when they have to close rather than guess whether they might. As of Tuesday, April 6, the seven-day average for test positivity in the state was 16%. The Republicans may have realized that COVID-19 is still here, and that they cannot legislate it away. This is what responsible legislators do.

All of this occurs, as the state tries to achieve some sort of normalcy for the last eight months of 2021. There has been cautious hope that workers can go back to the workplace, summer camps can open, concerts can occur, sports teams can play to larger crowds, and yes, restaurants and bars can open to 100% capacity. Yet, even in the face of accelerating vaccination, the virus is back, and it is affecting younger people as well as the older ones. Hospitals are postponing elective surgeries in advance of expected floods of COVID-19 patients. Wayne State University closed the campus down this week to all but the most essential workers.

There is reason for cautious optimism. Your blogger and his partner have been vaccinated (YB – Pfizer-2; Partner – Moderna-2), but they have been cautious about socializing, and they do not plan on frequenting restaurants anytime soon. Filling up Orchestra Hall, Comerica Park, and the Big House for the Fall seem to be elusive goals. Summer and Fall 2021 will look a lot more like 2020 than 2019.

In his first blog, thirteen months ago, YB spoke of the COVID-19 tax. We are still paying it. We cannot yet avoid it.

Allen C. Goodman  
Professor of Economics

April 16, 2021

## Trying to Stop a Runaway Train

“Michigan’s third COVID-19 surge is ‘like a runaway train,’” said Dr. Nick Gilpin, Beaumont Health’s medical director of infection prevention and epidemiology in the April 15, 2021 web edition of the [Detroit Free Press](#) reported. Beaumont is beginning to put up modular triage units and tents outside some of its hospitals, using curbside triage units at its Grosse Pointe and Troy hospitals, and a tent outside the Dearborn hospital.

Why Michigan? Why now? Wasn’t the vaccine supposed to stop all of this? Why isn’t Governor Whitmer shutting things down?

About a year ago, we didn’t know much about COVID-19 transmission. Should we open packages? Should we disinfect the newspapers that are delivered to our homes? Should we pick up golf balls at the golf course? We know much more now. COVID-19 is transmitted through droplets that come from other humans. The more contact we have with other humans, the more droplets ... and the higher probability of more COVID-19, especially if those droplets come from people are infected, or who have not been vaccinated. You can look it up! (<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html> ).

This is a health economics blog. The most efficient way to achieve a given goal (here, reduction of illness and death) is the cheapest way. Michigan shut down hard twelve months ago, and it was reasonably successful in cutting back the disease losses. Many business people and Republicans felt that the shut down was too hard and too long (i.e. that it cost too much, and was hence inefficient). The Governor weathered a firestorm of political napalm and physical threats. The misogyny directed toward the three women who run Michigan was palpable, and it has not ceased.

Understandably, the Governor is reluctant to shut things down again. If she went too far in 2020, one could argue that she is not going far enough in 2021. Stopping COVID-19 means stopping infectious droplets. Vaccinations will make them less infectious, but herd immunity is still several months away. What is the best way to reduce the infectious droplets? Almost certainly, it is to reduce activity. Your blogger’s home institution shut down all face-to-face instruction this week until April 26, and it may go longer than that.

Finally, it is economically inefficient for people to be stupid. Stop having big parties and infecting other people! Harry Truman supposedly said “It’s a recession when your neighbor loses his job; it’s a depression when you lose your own.” It’s too bad if your neighbor gets COVID-19 and dies – it’s unbearably tragic if it’s your loved one.

Allen C. Goodman  
Professor of Economics

April 22, 2021

## How Much Longer Will We Need Masks?

Just about a year ago, your blogger (YB) and his partner received a package of 100 paper face masks from abroad. They figured that they would need them for a couple of months at most. Although since then they have both acquired multiple cloth face masks, they still have the original package, now dwindled through use by our housekeeper, as well as guests, to about half a dozen. Partner noted today that it would be a good idea to buy another package.

YB + partner have both passed the fourteen-day period post-second vaccination. The dread that followed everyone through 2020 has been replaced by a less dreadful, but nonetheless palpable, malaise related to the future, regarding the way that the rest of 2021 will unfold.

This is a health economics blog. With infectious diseases, individuals who ignore the external effects on others, and will tend to “under-vaccinate.” Early estimates that so-called herd immunity could be achieved with vaccination rates of about 70% seem to have given way to target rates closer to 90%.

We have two tools to get to the good rate. The *first tool* involves economic incentives in getting more people vaccinated. This involves promoting demand, and subsidizing supply (lowering the price). We have, figuratively speaking, picked a lot of the “low-hanging” fruit for vaccination. Those who wanted vaccinations, frustrated early in this 2021 year, are now able to get appointments for the vaccinations that they seek. This group will probably be fully vaccinated by July or August.

Does that mean that Americans will be able to throw the doors of our schools, stadiums, orchestra halls, restaurants, and houses of worship wide open to people without masks? It appears not, because there is still considerable vaccination resistance. A crowded concert, church service, or martini bar, filled with people who are close together, will provide a recipe for COVID-19 relapse unless enough people are immune. It will not take many outbreaks of COVID-19 from these gatherings to lead to new school shut-downs, and attendance rules. It is hard to imagine that traditional crowded classrooms, or college dormitories will be available (or sane) by the traditional Labor Day opening in 2021.

YB has advocated over the past year, first for testing mandates, and now for vaccine mandates, enforced through stadium-type entrances, with bar-coded ID cards. Some Universities have already announced such mandates. YB + partner look forward to their beloved Detroit Symphony Orchestra concerts, but they will not attend without assurance that the people with whom they are sandwiched into Orchestra Hall are safe. That suggests that the *second tool* remains mandates and face masks.

Allen C. Goodman  
Professor of Economics

April 30, 2021

## The Shape of the Economy – One Year Later

A year ago, today, your blogger's partner asked what YB thought was going to happen with the economy. Fifty-two weeks later, it is worth taking stock. Last year's quotes are in red. This year's observations follow.

Aggregate supply is determined by labor force, capital stock, technology, and know-how. Although we are pushing 60,000 lost lives at this writing due to COVID-19, the labor stock is fundamentally intact. We haven't lost factories, and the great technology stocks (Alphabet, Apple, Amazon, Microsoft, and Facebook) are leading the stock market recovery. They help people work from home. This is all good.

The statement about labor force, capital stock, technology, and know-how proved about right, although the number of lives lost is approaching 600,000, rather than 60,000. Our technology sector has shined. People are still working from home. If "Zoom" wasn't the word of the year, it should have been.

However, the factories will not be able to operate the way they did before – public health measures will cost billions of dollars and this will ultimately be reflected in lower output, and higher prices for the goods produced. The medical sector has seen a sea change. A sector that had pushed back on tele-medicine is now embracing it. Moreover, we will have to have planning for the next great pandemic. "Reserve" hospital wings, inventoried n95 masks and ventilators will use up productive capacity without providing much in the way of consumer goods. Think of this as we do the stockpiling of missiles, aircraft, and armaments. Important to have, but costly and hardly leading to increased consumption.

Our current output is lower, and our prices are higher. There are shortages in computer chips, in building materials, and in lots of other items, and these shortages are leading to higher prices. A fascinating [news article](#) observed that in popular warm places such as Hawaii, Arizona, Florida, and Puerto Rico vacationers were renting U-Hauls rather than rental cars, because the rental car prices were up by factors of five to ten.

We seem too busy fighting this pandemic to plan for the next one. "Reserves" seem either unnecessary or too expensive. It took one hundred years after 1918 for the "next" pandemic. From a planning standpoint, we might hope that the next one doesn't occur for another hundred years. If one occurs in 2025, it is unlikely that we will be prepared.

Aggregate demand has been decimated and it will not come back quickly. Almost any sector of the economy related to entertainment will look totally different. People will not want to go into crowded restaurants, and those restaurants which were on the financial edge when 100% full will not make it if



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25% or 50% full. Forget crowded lecture halls, concerts and sporting events ... until people can feel safe going there. Cruises, hotels, conventions, European vacations? There are no easy bounce-backs here.

Aggregate demand has soared in the housing sector, with accompanying price increases. The stock market has reached new highs. The leisure/entertainment sector (a year later) is still devastated. People are traveling more than in 2020, but they are not traveling like they did in 2019, and they are not going to downtowns and to shopping malls. Theaters and stadia, to the extent that they are open at all, are under severe capacity constraints. While everyone is waiting for the familiar crowded venues, YB remains pessimistic. Schedule a football game at the Big House in Ann Arbor, open it to capacity, and prepare for thousands of cases of COVID-19. Then what? Sports, concerts, theater, movies will look better than 2020, but they will not look like 2019.

The result, to your blogger, will be a hockey stick with a very long handle. Your blogger is not a forecaster, but the economy will almost certainly be smaller well into the end of 2020, and probably well into 2021.

This morning's *New York Times* showed that as of the first quarter of 2021, the Gross Domestic Product was still 0.9 percent less than the fourth quarter of 2019 (<https://www.nytimes.com/2021/04/29/business/economy/united-states-gdp.html>). According to the Federal Bureau of Economic Analysis (BEA) "real GDP decreased 3.5 percent in 2020 (from the 2019 annual level to the 2020 annual level), compared with an increase of 2.2 percent in 2019." (<https://www.bea.gov/news/2021/gross-domestic-product-4th-quarter-and-year-2020-advance-estimate>) Roughly speaking, the GDP was at least 5.7 percent lower than would have been expected with the previous (fairly low) growth level.

The result, as surmised last year, has been a hockey stick with a long handle that is now bending slightly upward. The first quarter growth of 1.6% annualizes roughly at an annual growth rate of about 6.4 percent for the calendar year 2021. This is good news for the economy, although it could be well into 2022 or later that we reach the levels that might have been expected pre-COVID-19. Making up for the lost output of 2020 could take longer still.

Allen C. Goodman  
Professor of Economics

May 9, 2021

## It's the Aerosols, Stupid

Few sentient residents of the United States will forget the state of ignorance that we faced when the COVID-19 pandemic landed on us in March 2020. Could we open packages, could we pump our own gas, or could we talk to neighbors across the street? Hugs, shaking hands, or even fist bumps were out. Almost none of us have touched an acquaintance outside of our immediate households in over a year.

We know more now. In a fascinating article in the *New York Times* (<https://www.nytimes.com/2021/05/07/opinion/coronavirus-airborne-transmission.html>), Dr. Zeynep Tufekci takes us through the state of the science that has not always been shared with us. Within the past week, the World Health Organization (WHO) wrote the following on its web site (<https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19-how-is-it-transmitted>)

The “Three C’s” are a useful way to think about this. They describe settings where transmission of the COVID-19 virus spreads more easily:

- **C**rowded places;
- **C**lose-contact settings, especially where people have conversations very near each other;
- **C**onfined and enclosed spaces with poor ventilation. [*emphasis added*]

The risk of COVID-19 spreading is especially high in places where these “3Cs” overlap.

Dr. Tufekci notes that for the most part these are INDOOR transmissions. We can plan golf and tennis. We take long outdoor walks. Within limits we can start to populate outdoor stadiums, and (possibly) outdoor music events.

It is all about *aerosols*. She notes that aerosols are smaller respiratory particles that can float. The virus (according to WHO) can also be transmitted “in poorly ventilated and/or crowded indoor settings,” because “aerosols remain suspended in the air or travel farther than 1 meter.”

This is a health economics blog, and your blogger (YB) is a long-time academic with a particular interest in what happens on college campuses. What can we reopen, and when? What does all of this say about crowded bars and restaurants, indoor concerts, or religious services. Bars have tens or hundreds of people in close proximity engaging in oral contact lubricated by liquids. Large lecture halls, concert halls, dormitory halls, church and synagogue chapels, or dormitory rooms are crowded, and most often not well ventilated. Singing, or playing the clarinet or trumpet, are all about aerosols. This is what singers and wind instruments do, and bands and choirs do it *en masse*. Indoor areas where these events occur are teeming with aerosols.

May 9, 2021

The answers are vaccination and/or ventilation. Detroit's venerable Orchestra Hall is close to 100 years old, and no one can ventilate it properly. During a winter's concert, one has over a thousand concert-goers in a closed hall, literally on top of each other. The answer is vaccination of the patrons (with vaccine passports the best way to verify) and the players. Ventilation can be a worthwhile alternative. It is good for its own sake, and new building should mandate appropriate ventilation, but it is expensive (billions of dollars for all of the building in the United States) and time-consuming (probably taking a decade or more).

All of this suggests that we can possibly open the Big House in Ann Arbor, but possibly not Hill Auditorium, or Crisler Arena. Large and crowded classrooms, restaurants, or dining halls, are still probably a year or more away. Cruise ships? No time soon. No one is happy about this, but we are still facing 800 to 1,000 deaths per day from COVID-19, with the current national total pushing 600,000 (in less than 14 months), depending on the data source.

YB hates to be a scold, but it's the aerosols, stupid! Let's use the science to inform our policy.

Allen C. Goodman  
Professor of Economics

May 16, 2021

## Strange CDC Decisions on Vaccine and Mask Mandates

In the early 1970s your blogger (YB) taught junior high school (ages 11 through 14) in a large Midwestern City. He had about 180 students per semester (6 classes of about 30 students each). He got coughs and colds all the time. He had had mumps, measles (he thinks) and chicken pox as a child, so he did not catch them.

The reason for the coughs and colds, of course, was exposure to children with these conditions. Some were asymptomatic. Others were not. While it was unlikely that parents knowingly sent obviously sick children to school, school did act as a form of day care, so at the margin, a child with sniffles, sneezes, or coughs might be sent to school so his or her parent could go to work. YB would get sick.

Here is the context of the exercise. This past week the Centers for Disease Control and Prevention determined that people who had had the requisite number of vaccinations for COVID-19 (2 for Pfizer or Moderna, 1 for Johnson and Johnson) could “unmask” when they were with people who had also had the requisite number of vaccinations. “Free at last!” How are we to determine whether the maskless people had had vaccinations? We are to assume that if they are maskless, then they are vaccinated.

This is a high bar. As YB often reminds readers, this is a health economics blog, and the issue here is pollution. Some pollutants, such as diesel smoke, are obvious. Others such as carbon monoxide are colorless and odorless. We are told not to use charcoal grills in the home, or leave our cars running in the garage, because the carbon monoxide will kill us. Most people adhere to these standards, although one reads periodically of carbon monoxide-related deaths.

The source of the pollution is important. Scholars who study pollution sometimes talk about *point* and *nonpoint* sources of pollution. A steel mill may be a point-source polluter. We know where it is, and we know where the pollution starts, and (generally) where it goes. Nonpoint sources of pollution can come from hundreds or thousands of places, like hundreds or thousands of people. If we do not know where it comes from, it is much harder to stop it. At a concert, one may be most in danger from an infected person who is right next to us, but if hundreds of people are together, singing, cheering, or just making noise, the resulting aerosol may impact those who are not necessarily right next to us.

We do NOT trust restaurant workers not to get tuberculosis – anyone who has worked in a restaurant is aware of the requisite TB test. Most states mandate the MMR (Measles, Mumps, Rubella) vaccines for children to enter schools. In normal times, we do not ask children to wear masks in schools.

May 16, 2021

They come to school with the MMR certification and we trust it. The system is not perfect. Within the past several years there have been measles epidemics in schools that could be traced to unvaccinated children. The spread is generally limited, because most children have been “vaxed”.

Consider an indoor concert, or a religious service, or a wedding. There are likely to be tens, if not hundreds, of people who we do not know. Do we assume that those who go maskless have been “vaxed”? Do we ask each one of them? Do they tell us the truth if we ask? Who is responsible, if we don't?

But ... aren't we safe now? Isn't COVID-19 going away? Understand that close to 20 percent of the world's population lives in India and Brazil, and those two countries are in flames with COVID-19. Recall that in March 2020, President Trump would not let the Grand Princess dock, to keep our numbers low, while returning air travelers from Europe were infecting New York and New Jersey. New strains of COVID-19 are an airliner away.

It seems almost absurdly obvious that (for now) we must have *either* a vaccine *or* a mask mandate. YB favors the vaccine mandate. We require people to have licenses to drive. We require school children to be vaxed with MMR. Until smallpox was eradicated, US travelers abroad often had to get smallpox boosters to “be sure” that they were vaccinated.

All countries with working governments require passports for people to enter from without. We require people who fly to have government issued identification, and then we submit would-be fliers to X-Ray and sometimes physical examination to prevent another 9/11. For younger readers, on September 11, 2001, nineteen hi-jackers boarded four airliners with no substantive IDs, because we trusted them to do no harm.

So ... the bottom line. We need at least a mask mandate or a vaccine mandate. They are critical to our country's health in the next six to twelve months.

Allen C. Goodman  
Professor of Economics

## Slouching Toward A Market Vaccination Solution

According to [Worldometers](#), as of this past week, the US death toll from COVID-19 has now passed 600,000. Although a lot of the numbers have become numbing, at an average value of a statistical life of \$5 million, we have suffered a loss of over \$3 trillion dollars. Your blogger has often noted that a new hospital costs about \$1 billion to build. In 14 months, since the first COVID-19 identified deaths, we have lost (in human life) capital that would be equivalent to the physical destruction of over 3,000 hospitals. We have lost over 40,000 lives per month.

As we enter Summer 2021, what is the end game? YB has advocated for a vaccination passport. Swipe the code and enter! No code – no entry? The political solution has become far messier than that. Many have piously intoned that they have the “right” not to get vaccinated, and that we don’t have the right to ask. Many politicians have agreed with them. The road to a vaccine passport, at least, within the United States, is littered with potholes. Internationally, where passports are required, there may be a vaccine bar code. Those with the “right” not to get vaccinated won’t have the right to fly to Paris, or drive to Toronto. This does not look like it will happen here.

YB sees a market solution emerging in the US with a number of features:

- Private colleges may (as many have) require all to get vaccinated.
- Elite public colleges (with long waiting lists) may also require all to be vaccinated. Those who want to exert their rights not to be vaccinated, need not attend.
- Some restaurants may not require people to be vaccinated – others will. Customers will be able to choose their restaurants based on perceived risk.
- The same with cinema and live theater venues, the same with concerts, and the same with sporting events.
- The same with retail outlets, and shopping malls where large numbers of people gather.

Customers who prefer more safety will choose safer venues. Risk-lovers will choose riskier ones.

If we are fortunate, as we slouch toward this market solution, we will find that we have largely beaten the contagious nature of the virus, and economic activities will bump along for the next many months until we have approached some form of herd immunity. If we are less fortunate, then we will have experienced a form of “market failure” where the we have taken on too much risk,

May 23, 2021

and older, as well as newer, strains of the COVID-19 virus will make a lot of people sick again. We may have to close down parts of the economy again.

COVID-19 is an unpriced negative economic externality that can lead to large number of people getting sick. In other cases of negative externalities, we accept positive levels of traffic congestion, and air and water pollution, because they don't kill too many people.

The political economy of the US is leading to a market solution where people will sort themselves into risk categories. We must hope that under this market solution, our guesses about how easily we will reach herd immunity, where not too many people will die, are right. We must also fear how badly COVID-19 will spread yet again, if we are wrong.

Allen C. Goodman  
Professor of Economics

May 31, 2021

## Reckoning

In an email sometime in the last six months, long-time friend Larry Siegel took issue with Your Blogger's characterization of a pandemic as a large tax, by arguing that it was more like a war, but without the "spoils of war." As the United States, Western Europe, and many other more economically wealthy parts of the world round out fifteen-plus months of pandemic, and enter Summer 2021 with an uncertain, but considerably brighter summer in front of them than in Summer 2020, it is worth a reckoning on this war and its costs.

Although the topic merits far more scholarly attention, according to [Wikipedia](#), the terms World War I and II date from the late 1930s (links from [Wikipedia](#)).

The term "World War I" was coined by *Time* magazine on page 28b of its June 12, 1939 issue. In the same article, on page 32, the term "World War II" was first used speculatively to describe the upcoming war. The first use for the actual war came in its issue of September 11, 1939.<sup>1</sup> One week earlier, on September 4, the day after France and the United Kingdom declared war on Germany, the Danish newspaper *Kristeligt Dagblad* used the term on its front page, saying "The Second World War broke out yesterday at 11 a.m."<sup>2</sup>

One could argue that the Spanish Flu, or the Black Death, in this context, constituted World Wars. YB will argue here that COVID-19 has similar characteristics.

That it is a World War is obvious, and its toll is also apparent. As of today, May 31, 2021, over 600,000 people in the United States have died from COVID-19, exceeding (in 15 months) our total deaths from all of our wars. The world toll (which is almost certainly underestimated) is almost 3.6 million.<sup>3</sup> It is also entirely likely that the world totals are grossly undercounted. Enormous portions of the adult populations outside of the United States and Western Europe are as yet unvaccinated, implying the likelihood of millions of more deaths. International travel was largely halted in mid-2020, and remains severely limited. Global supply chains have been severely disrupted.

We have severely run down our capital stock in the United States around the world. To win World War II, the United States ran their rail stock 24/7 (certainly an anachronism) without replacement or repair. Industries and transportation routes elsewhere in the world were decimated or destroyed. The

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<sup>1</sup> [Grey Friday: TIME Reports on World War II Beginning](#)". *TIME*. September 11, 1939. Retrieved 20 October 2014. World War II began last week at 5:20 a. m. (Polish time) Friday, September 1, when a German bombing plane dropped a projectile on Puck, fishing village and airbase in the armpit of the Hel Peninsula.

<sup>2</sup> "Den anden Verdenskrig udbrød i Gaar Middags Kl. 11", *Kristeligt Dagblad*, September 4, 1939, Extra edition.

<sup>3</sup> Both the US and World totals from <https://www.worldometers.info/coronavirus/>.



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United States could rebuild in the late 1940s and early 1950s from its own resources which had largely remained intact. Our Allies needed help through the Marshall Plan and other aid. Our World War II enemies (Germany, Italy, and Japan) also got financial aid.

Without unduly straining analogies, the fifteen months of COVID-19 have had a war-time impact on the US way of living:

- 600,000 deaths at the very least as well as millions of lives threatened by COVID-19.
- The destruction of millions of person-years of human capital investment for some students who had to forego training almost entirely (including musicians or athletes) or millions of others who had to substitute online instruction for classroom participation, often to the detriment of both the students and those teaching them. *The New York Times* (<https://www.nytimes.com/2021/05/13/magazine/high-school-students-coronavirus-pandemic.html>) has a particularly poignant characterization of such economic dislocation.
- The sudden obsolescence, or at least necessary rebuilding of millions of square feet of buildings in this era of social distancing, and renewed attention on germ control, as well as the decisions by workers to leave their central offices to work at home more often or perhaps permanently.

To be sure, some do well in wartime. Our great technology companies have become greater still. Amazon, Apple, Microsoft, Netflix, and Google have prospered by catering to both consumer and worker sentiments. Others have not. Great merchandisers such as Nieman-Marcus and J.C. Penney, perhaps weakened before the pandemic, filed for bankruptcy. Thousands of small businesses, at the edge before illness and lockdowns, closed and did not reopen. At this writing, several million women have left the labor force, with the women's Labor Force Participation Rate (the percentage of the working age population that is in the workforce) hitting a 33-year low in January 2021

(<https://www.cnbc.com/2021/02/08/womens-labor-force-participation-rate-hit-33-year-low-in-january-2021.html>) .

We are also seeing at least a temporary housing boom, fueled largely by increased demand in particular location for a (short-term) constrained housing supply, and continued low interest rate. This price run-up (unlike 2005-2007) is not fueled by "liars' loans" or fraudulent assessments, but it is difficult to know how long or how high it will go.

Travel, and travel-based businesses are squeamish about the future. Will business-based travel and/or conventions return ... soon? Who will board cruise ships, without worrying about one or more infected passenger's infecting others? City downtowns, with entertainment and restaurant districts, only recently potentially fueling the rejuvenation of our great central cities, face uncertain

May 31, 2021

futures. Gambling establishments seem to be doing well, but a lot of that is fueled by online bettors who do not buy drinks at the casino. The WeWork® model of shared offices space appears to be moribund.

As this war seems to abate, at least in the United States and the wealthier countries, and at least for now, a reckoning is in order to determine how policy-makers will respond? Some believe that the bounce-back is occurring, and that future efforts to stimulate the economy and to alleviate the wreckage, are unnecessary and will lead to inflation. Others (YB included) believe that the damage is potentially more widespread and deeper, and that it requires large-scale, and continued intervention.

Perhaps an improved economic model of pandemic is necessary, which looks at the major impacts as far more than simply tax increases. This one seems to have been a war, with the human and economic destruction that war brings.

Allen C. Goodman  
Professor of Economics

June 6, 2021

## Easy and Hard Numbers

For the past year, your blogger has been calculating losses at the national scale. Some of the numbers are very large, and it is hard to put them into perspective. In this post, YB will settle on his home state of Michigan.

As of June 5, 2021, according to the Michigan [DHHS](#), as presented in [ClickonDetroit.com](#), 19,365 Michigan residents had died of COVID-19, with 1,426 dying in the last month. Valuing the lives at \$5 million per person (a mid-range estimate) gives losses of \$96.825 billion. YB has noted that it costs about a billion dollars to build a new hospital. Consider the human capital losses in the past 15 months to equal the destruction of 97 brand-new hospitals, or about half of the current hospitals in the state.

Michigan has mirrored the national economy in the labor market impacts. According to the [Bureau of Labor Statistics](#), since March 2020, the labor force has decreased by almost 217,000 workers. The number employed has declined by over 265,000, and the increase in the number unemployed is over 48,000. The biggest decrease is in the labor force, those who are looking for work. Again, this is a loss of productive capacity.

There is a silver lining. In the [initial shut-down](#) of April 2020, only Nevada (unemployment rate of 29.2%) was hit harder than Michigan (23.2%). By April 2021, Michigan's unemployment rate had improved by 18.6 percentage points (eclipsed only by Nevada's 21.5 percentage point recovery). All of these are the easy numbers to collect.

Harder numbers include days, weeks, and months lost to illness (morbidity, as opposed to mortality). Harder numbers yet include the disproportionately high impacts of COVID-19 on minorities and women. Still harder numbers include the loss of educational capital to the students in Michigan's K-12 systems, particularly high school students, who will have to make it up quickly, to get to college, or possibly not at all.

These numbers represent more than simple academic exercises. They represent damages to be repaired, and investments to be made in addressing the carnage from the worst pandemic in 100 years.

Allen C. Goodman  
Professor of Economics

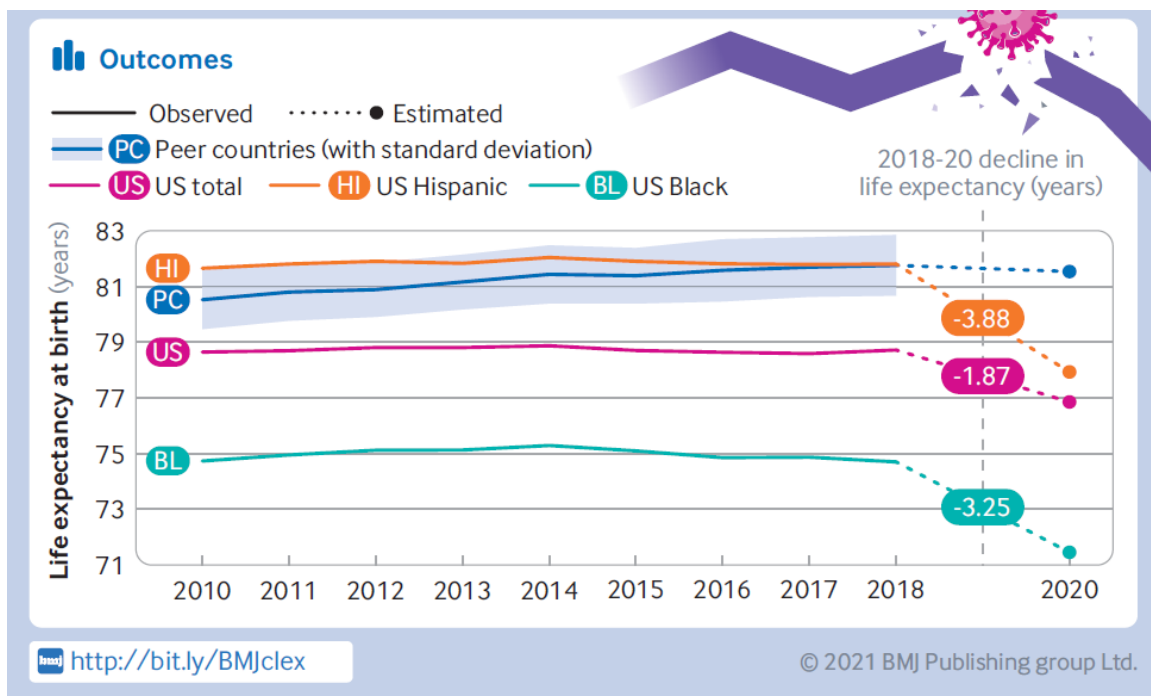
## U.S. Life Expectancies Plummeted in 2020

Americans of a certain age will remember banter between the great Johnny Carson, and his “sidekick” Ed McMahon. In response to a statement by Carson about how something wasn’t very good, McMahon would ask “how bad was it, Johnny?” Johnny would respond, “it was so bad that ...”. Laughter would generally ensue.

Well, OK, we know that 2020 was a bad year for health because of COVID-19. “How bad was it, YB?”

YB: It was so bad that life expectancies at birth fell in the United States by 1.87 years between 2018 and 2020 (see Wolf, Masters, and Aron, 2021). Exactly how bad is that? Life expectancy in the United State rose by a total of 0.08 years from 2010 to 2018. It fell by *more than 20 times* that much between 2018 and 2020.

For subgroups, it was even worse. As one can see in the graphic below, it fell by 3.88 years for US Hispanics, and by 3.25 years (from a lower base) for US Blacks. Compared with 16 “peer countries” for the same period (Austria, Belgium, Denmark, Finland, France, Israel, Netherlands, New Zealand, Norway, South Korea, Portugal, Spain, Sweden, Switzerland, Taiwan, and the United Kingdom), the US aggregate fall of 1.87 years was over eight times as large (1.87 v. 0.22 years).



Scholars of the HIV/AIDs era will remember that in many countries of sub-Saharan Africa, including South Africa, Lesotho, Botswana, and Zimbabwe, in

June 27, 2021

the 1990s and 2000s, life expectancies for those with HIV/AIDS were 15 or more years lower than for those without, and the incidence of HIV/AIDS was extraordinarily high in those countries. In economic terms, the loss of human capital was staggering, and in the early 2020s many of these countries have not yet recovered from the HIV/AIDS carnage of the last several decades.

It would not surprise health professionals that the calculated U.S. expected lifespan is three to four years lower than the peer countries. The difference is probably even more because Japan was excluded from the calculation, due to inadequate data, and Japanese longevity rates far outpace ours. The losses were worse for Black Americans, and for Hispanic Americans, whose numbers converged on the overall aggregate, after being close to three years higher for most of the decade. Men's life expectancies fell (from a lower base) more than women's life expectancies.

So, 2020 was a bad year. It was really bad for Hispanic and Black Americans. It was also particularly bad for younger Americans because the heightened death rates at older ages play out for longer. While a large number of older (over 65) Americans died of COVID-19, their deaths had a smaller impact, because they were already much closer to death. That is how the statistics work.

YB has calculated economic losses several times in the past 15 months, so he will refrain here. The losses from the loss of longevity were large, and they are lasting. 2020 was bad.

Allen C. Goodman  
Professor of Economics

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<http://dx.doi.org/10.1136/bmj.n1343>

July 5, 2021

## Normalcy

Tomorrow, almost certainly (<https://www.worldometers.info/coronavirus/>), we will pass four million deaths world-wide from COVID-19. The United States has had close to 620,000 deaths. South America (a surprise to your blogger) has close to a million. Most people who follow the numbers are aware that Brazil has had over half a million COVID-related deaths, but Peru reports nearly 200,000 deaths, Colombia over 100,000, and Argentina, almost 100,000 deaths. COVID-19 has killed lots of people everywhere that it has gone, and most experts believe that far more than four million have died.

This is a health economics blog. Multiply the lost lives by \$5 million per lost life and count the economic impact. It is staggering.

As the nations hobble towards “normalcy”, in this second half of 2021, what will “normal” look like? Let us exam a few things that have changed in the past 15 months, and ask what they will look like in the next 15 months.

Workplaces. Items still have to be made in factories, and foodstuffs harvested in the fields, requiring workers to be “at” the workplace. Following the “work at home” during COVID-19, many workers discovered that they do not want to come into the office five days per week post-COVID, irrespective of any dicta from the employers. While many negotiations continue, central offices will be nowhere as crowded as they were in July 2019 or February 2020.

Schools. As we put COVID-19 (hopefully) into the past, most parents have determined that the sooner K-12 students can be in the physical schools, the better, as have most teachers. Undergraduate and graduate education (for now) seems to be another matter. While the most selective institutions will almost certainly be full, in Fall 2021, having tasted online (and often asynchronous) education in the past year, many students (if preliminary enrollments are an indicator) have opted for online education, in preference to “in-person” class. This had been evolving for the last couple of decades, but it accelerated in the past year. Many universities have seen a substantial change in the mix between online and in-person education, with a major shift from the latter toward the former.

Stores/shopping/entertainment. Shopping malls were in trouble before COVID-19. Restaurants have not regained full capacity. We are inching toward the reopening of theaters. YB and his partner cannot wait to see the Detroit Symphony Orchestra in person, but the thought of sitting next to (almost right on top of) other patrons in a traditional concert hall is ... creepy. YB + partner are still wearing masks in large gatherings.

Travel. People are starting to travel again, although Michigan residents still cannot go to Canada. Air travel is increasing, and people are booking hotels.

July 5, 2021

YB + partner will stay away from cruise ships. For the first time in fifteen months, potential travelers can “plan to travel”.

More COVID-19. The Delta variant is coming, and it will kill more people, particularly in places that have not been highly vaccinated. Those who have been vaccinated hope that the vaccines are as good as they have been led to believe.

So ... normalcy? We hope ... cautiously.

Allen C. Goodman  
Professor of Economics

July 15, 2021

## Trillions Greater Than Billions

In an early blog during the pandemic (April 2, 2020), Your Blogger asked the question “how many ventilators is enough?” Readers will remember that New York State was asking for 40,000 ventilators to treat the enormous number of cases. There was also a shortage of hospital rooms. YB asked how we look at this kind of a “peak load” problem. He argued against massive reserves of ventilators or hospital rooms, saying that given the potential benefits, it was extraordinarily hard to procure and to maintain such reserves. In fact, New York State did not really need 40,000 ventilators, and the hospitals, although terribly stressed, turned out to be largely adequate for the treatment.

At the International Health Economics Association meetings this week, Nobel Laureate Economist Michael Kremer addressed a similar problem. He noted that even with the remarkably fast development of vaccines against COVID-19, we had profound supply shortfalls in producing the drugs (and YB would note, even more profound problems in delivering them). Recognizing that over 7 billion people in the world are at risk from COVID-19, he quoted an International Monetary Fund estimate of \$500 billion of economic losses per month due to COVID-19. Multiply that by 12 months (give or take a month), and it leads to at least \$6 TRILLION of losses per year. That is about 30% of the annual United State Gross Domestic Product (GDP).

Professor Kremer argued for increased reserve production capacity for the possibility of pandemic. Even with production ramping up, it could take a year or two or three to vaccinate everyone, with the attendant \$500 billion per month of losses. His estimated pandemic probability of 2% per year implies that we could expect one pandemic every 50 years. Unlike building highways to address local traffic congestion, this is a pollution externality that impacts the whole world. Comparing marginal benefits of capacity to the marginal costs of “having the capacity” [YB’s term], Kremer noted that “trillions [benefits] are bigger than billions [costs].” Clearly, the world needs more capacity.

This is a world-wide externality. As long as travelers can ride thousands of miles on jet planes, or traverse international borders, pandemic viruses will spread. With the exception of Draconian travel limitations into Australia and New Zealand (creating their own bubble), no country has been safe. Even then, histories of the Spanish Flu note that Australia was safe from the flu until World War I soldiers came home. Then they were smacked, with more than 12,000 deaths.

Indeed, trillions are bigger than billions. YB agrees with this. Yet, the same questions remain about procurement, and maintenance as were brought up about ventilators or hospital beds. How does one design the necessary production capacity so that we can ramp it up quickly? Who gets paid to maintain it? This is almost certainly a government responsibility, because the



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private market will not provide enough capacity to address a negative externality of the COVID-19 type.

How does one convince a public that will not pay for needed roads and bridges to provide surplus vaccine production capacity? What happens when politicians ten, twenty, or thirty years from now look at the surplus production capacity and declare that it is too expensive, and must be shut down or sold off to the private sector?

YB is convinced by the “trillions greater than billions” argument. Are the world’s decision makers similarly convinced?

Allen C. Goodman  
Professor of Economics

July 25, 2021

## Why Payments Are Better than Lotteries to Induce Vaccinations

Suppose that Marty is offered a choice between incentives for a COVID-19 vaccination:

- A lottery ticket that would pay \$1 million dollars if the number is picked.
- A \$20 bill for certain.

If Marty has a one in 100,000 chance of winning the lottery, the expected pay-out is \$10. Even if Marty likes to gamble, the \$20 certainty exceeds the “expected value” (in statistical terms) of the lottery pay-out. This is a well-known result from “risk theory”. Similar arguments explain why people are willing to pay relatively small (certain) premiums to avoid low probability but high cost adverse outcomes due to property theft, illness, or death.

As we approach the end of July 2021, local, state, and federal officials have watched with dismay how the vaccination rate has hovered well below anyone’s most generous estimate for achieving herd immunity. Michigan’s [vaccination rate](#) of 48.6% fully vaccinated is below the national rate of 49.6%, and well below (generous) estimates of 70% or thereabouts necessary to reach some sort of herd immunity.

Simple math suggests that if \$20 is the right offer, one could achieve another 50,000 vaccinations for the \$1,000,000 offered (in Michigan’s lottery), and 250,000 vaccinations for \$5,000,000. This blog has established several times since the beginning of COVID-19 that because the disease is a negative externality (one’s COVID-19 infection adversely affects others) subsidies are essential to get to the “right amount” of vaccination. Markets alone won’t cut it.

Moreover, if one values a statistical life at \$5,000,000 (the midpoint of most estimates), if 250,000 vaccinations save more than one statistical life, the marginal benefits exceed the marginal costs. This is a criterion for beneficial economic investment.

Economists have long established that handing out cash (which can be spent any way the consumer wishes) is the cheapest way to help people. Some object that the consumers may spend it on the wrong things (liquor, cigarettes, or drugs), and that simply handing out \$20 bills incentivizes the “hander-outers” to help themselves to a few of them. All of these objectives are valid, but what about the objective of eliminating COVID-19?

The COVID-19 virus, and especially the new Delta variety, doesn’t care about bureaucratic niceties as it kills people. Why should those who are fighting the virus worry too much about such niceties, as they try to combat it?

Allen C. Goodman  
Professor of Economics

## The Elusive Herd Immunity

From the onset of the COVID-19 pandemic, the societal goal seemed to be achieving herd immunity, either by vaccination, or by natural processes. The simple idea of herd immunity is that once enough people have contracted the virus, it would run out of people to infect. The degree of infection “necessary” is related to the infectiousness of the disease, the number of people infected, and the resistance of those who have not yet been infected.

The natural processes seemed to provide a severe remedy. After all, 675,000 Americans (out of a population of about 104 million), and between 20 and 100 million people throughout the world (out of a population of about two billion) died of the Spanish flu in 1918-1919. This is a health economics blog, and your blogger has calculated the severe costs of the morbidities (illnesses) and the mortalities (deaths) due to COVID-19. Vaccination, if available, would reduce the morbidities, mortalities, and resulting costs. Operation Warp Speed delivered vaccinations at close to warp speed. By early 2021, less than a year after the virus hit, vaccines were available to address the problem.

So, it is early August 2021 and why aren't we immune? Why can't we go where we want, unmasked, and unafraid? In a March 2020 [blog](#), YB and colleagues discussed the Susceptible-Infective-Removed (SIR) model originally developed by Kermack and McKendrick and reinterpreted mathematically by Hethcote.(Hethcote 2000, Kermack and McKendrick 1927). That model relates the disease incidence to its (1) *infectiousness*, (2) *the size of the population*, and (3) *the percentage of the population that is susceptible*.  $R_0$ , or reproductive rate is the number of susceptible people that one infected person can infect. The higher the reproductive rate, the more quickly an infection can spread.(Van den Driessche and Watmough 2002)

We noted that public health disease control activities must target the three incidence factors above. We also noted that epidemic-related public health (i.e., government) interventions such as health information and guidance, quarantine policies, or vaccines can produce profound economic good. Sufficient vaccine coverage is needed to protect the population to attain “herd immunity”, which once achieved, will cause the rate of new cases to fall. The equation for vaccine coverage indicated by reproductive rate is  $1 - 1/R_0$ .(Scherer and McLean 2002). The 1918 influenza had an  $R_0$  value of about 2, implying that about 50 percent of the population would have required inoculation.

A couple of things happened on the way to the end of the COVID-19 pandemic.

1. Rather than finding a single  $R_0$ , we seem to have found a multitude of them, with the current Delta variant only the most recent. It seems that the “operative  $R_0$ ” must be interpreted as the maximum of the current  $R_0$  values. Certainly our “operative  $R_0$ ” is larger than 2 (particularly on college campuses where people work and live in very close proximity). Fifty percent vaccination rates (as of August 2021) have brought us nowhere near herd immunity.

August 4, 2021

2. Large numbers of people have simply refused to get vaccinated. While there are a multitude of reasons, members of YB's generation, who grew up with polio, MMR (measles, mumps, rubella), tetanus, or chicken pox, find it "mind-blowing" that otherwise mentally competent people would refuse (let alone actively campaign against) vaccines that can limit infection and/or save hundreds of thousands of lives.

With little appetite for hard lockdowns (particularly in the United States), it looks like herd immunity will take longer to achieve. People in the United States want their parties, their football (and football parties), their in-person weddings (and funerals), and in-person school for themselves and their children. Large numbers of red-state residents (largest numbers in Texas and Florida) and younger people (ages 18 to 39) remain unvaccinated. Many blue-state governors (such as Michigan) find new hard lockdowns and mask mandates to be politically unpalatable in facing 2022 elections.

We have the vaccines, and we know about effective mitigation procedures. Why haven't we achieved herd immunity? For the answer, look in a mirror.

Allen C. Goodman  
Professor of Economics

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August 12, 2021

## The COVID-19 Economics of Community

Your blogger (YB) and his partner took a “road trip” in the past couple of weeks to see their daughter and son-in-law. It was the first flight since January 2020, and the first “vacation” in two years. Traveling is not easy; flying in a plane requires masking, with constant reminders by the airplane crew. Airports are still a little scary, with potential infections from lots of people from lots of places.

During our stay, YB + partner + daughter/son-in-law met family and friends in carefully distanced settings. In a nutshell, people seemed gladder to see us than before. A cousin and her partner noted how “relaxing” it was to be with us. Yet another cousin expressed the same emotion, and meetings with even casual friends seemed to be more cordial than in the past. YB + partner view themselves as “nice people”, and fun to be with, but the genuine affection has suggested more. Getting together in the same room transcends Zoom®.

This is a health economics blog. Economists have found that “economic men and women” value “communities” or “clubs” of like people highly. It often involves gathering in common places such as houses of worship, health clubs, athletic events, theaters, concerts, or bars. It involves passages such as births, bar mitzvahs, communions, graduations, weddings, and funerals. We have been unable to do this since March 2020, and after a brief (and hopeful) interregnum early this summer (2021), the Delta variant is pushing us toward closing down again. Getting together has gotten more dangerous ... again. People who have made careful travel plans for get-togethers such as weddings, are reassessing their decisions.

So, a public that values community lost it in March 2020. Absence has made it more desirable and valuable. Increased vaccination by community members would lower the risk, lowering the economic “price” of community and allow us to buy more. Doesn’t this seem like a good idea, an economic bargain!

Allen C. Goodman  
Professor of Economics

August 21, 2021

## Dangerous Behavior

According to the [American Lung Association](#), in 2018 (the most recent year for which data are available), 13.7% of the adult population smoked cigarettes. This is the lowest post World War II percentage since data have been collected. When your blogger (YB) turned 18 in 1965, the rate was 42.4%.

Although data on cigarette harm had been available since the 1920s, the fight to reduce cigarette smoking was long and drawn out. The Tobacco Institute (funded by the tobacco companies) produced research purporting to show that there were no harmful effects from smoking cigarettes. Spokesmen and women repeatedly denied the harm of cigarettes. The industry fought the effects of “second hand smoke” even further into the Twentieth Century. The economies of states such as Kentucky, Virginia, and North Carolina had a considerable dependence on the tobacco industry, and YB was amazed as a high school camper in North Carolina to discover that students were allowed to smoke at the camp. We know that cigarettes kill people through lung cancer and respiratory ailments, so why don't people stop, and why on earth do they start?

The answer is that some people like to smoke. They like how it makes them look (urbane and mature), they like that it gives them oral satisfaction and helps them lose weight. They may not like every cigarette that they smoke, but they get pleasure from the habit, or else they wouldn't do it. Many, if not most of them, are addicted to the nicotine that they ingest while smoking. YB was amazed (that word again), that at a Kentucky hotel, on his trip from Florida to Michigan in 2020, during the first months of the COVID-19 pandemic, the motel manager, a woman in her thirties, who had been wearing a mask inside the motel, stepped outside, took off her mask and lit up a cigarette.

We would be surprised today if a state were to threaten a political jurisdiction with loss of funding because that jurisdiction banned smoking in theaters, supermarkets, concert venues, or schools. That debate has largely been settled. Yet it is surprising that several states (most notably Texas and Florida) have been expending major legislative (and judicial) effort to prevent states from requiring COVID-19 vaccinations or safety masks in their offices, commercial buildings, and schools.

Cigarette regulation can provide a useful simile. We have not made cigarettes illegal, but we have taken steps to protect users by having them smoke fewer cigarettes, largely by making it more expensive and inconvenient to smoke. Restaurants, concert venues, and sports venues do not permit smoking. Most employers do not allow smoking at work. Insurers charge more (and rightly so) to smokers because they get sicker and die earlier than others.

Cigarette smoking pollutes the lungs and pollutes the air. It kills the smoker, and it harms those around the smoker. COVID-19 pollutes the body and

August 21, 2021

pollutes the air. It has killed 644,807 Americans in less than 18 months (<https://www.worldometers.info/coronavirus/country/us/> ). This past week, even with the availability of vaccines, the number of people hospitalized and in ICUs is reaching levels not seen since February 2021 (<https://ourworldindata.org/grapher/current-covid-patients-hospital?country=USA> ). The numbers are soaring in Florida and in Texas.

We have effective COVID-19 vaccines, and we have effective safety behaviors (masking and quarantine). YB cannot explain why some people wish to engage themselves, their children, and their neighbors in risky behaviors, any more than he can explain why people choose to smoke, and expose their families and their neighbors to smoking. YB cannot explain why some politicians take actions that increase their supporters' risks of dying.

It is hard to imagine that some people "like" COVID-19. It has turned everyone's world upside down. Rather, those who resist public measures to fight COVID-19 do not think it affects them or their families, or the people around them, and they do not wish to be inconvenienced by rules that they do not like.

We have fought the problems brought on by cigarettes by raising the price of smoking, educating the public about the problems from smoking, and protecting others from second-hand smoke. People still smoke. Vaccines, quarantines, and mask mandates will reduce the damage from COVID-19, but like smokers, many who refuse to take these simple preventative actions will die needless deaths while we fight the pandemic.

Allen C. Goodman  
Professor of Economics

August 25, 2021

## Governor Whitmer Wants to Win Reelection

Gretchen Whitmer was one of Donald Trump's least favorite governors. She repeatedly stood up to his bullying in taking strong measures to fight a COVID-19 virus that had hit Michigan early and hard. He referred to her as "that woman from Michigan." We proudly referred to her as "Big Gretch".

So, what has happened to our brave Governor Whitmer as the summer of 2021 winds down and we are fighting the Delta variant, with the Lambda variant somewhere off in the distance. The woman who survived a nutty but quite serious kidnapping plot refuses to issue mask mandates and she refuses to issue vaccine mandates. Why has our brave Governor become ... less brave?

The simple answer is that *she wants to win reelection*. In an earlier [blog](#), YB referred to the "median voter" model. In a nutshell, politicians seek to win elections and to do this they must win in the middle or the median of the electorate. The median voter in Michigan, according to *Detroit Free Press* surveys (<https://www.freep.com/story/news/politics/2021/08/22/michigan-vaccine-mandate-mask-poll/8197047002/>) reported on August 22 is characterized as follows. Of the 600 people surveyed, 52% favored a mandate to wear masks while indoors, while 44% opposed it. However, only 33% favored a government vaccine mandate, compared with the 61% who oppose such a move. In short, the median voter slightly favors a mask mandate, and more strongly opposes a vaccine mandate.

Michigan is a "purple state" with a slight blue tinge at the state-wide level. When the Democrats vote in Michigan (2018 and 2020), they win. Governor Whitmer will win Wayne (Detroit), Washtenaw (Ann Arbor), Oakland (Detroit suburbs), Ingham (Lansing) and Genesee (Flint) Counties. These counties have been reliably Democratic in the last several elections. She also needs to win Kalamazoo and Kent (Grand Rapids) Counties, where she will have to pick off a good number of thoughtful Independent, and moderate Republican voters.

Governor Whitmer made some difficult decisions in 2020 that made a lot of people angry but saved a lot of lives. To win in 2022, she must tack back toward the median voter. Her less activist stance will not win over troglodytes like Nolan Finley (Editorial voice of the *Detroit News*) or Mike Shirkey (outgoing State Senate Majority Leader). That is not who she is seeking. Policy wonks like YB will spend the next year being disappointed by this backtracking, and will worry about the possible lives lost. Some progressives may vote against her because they feel she is not doing enough, but it is important to understand why she is doing it. She wants to win!

Allen C. Goodman  
Professor of Economics



August 30, 2021

## Negotiating the Next Stage of COVID-19

Just about 4 months ago (April 22, 2021), your blogger (YB) asked (rhetorically) how much longer we would need masks? He noted that early estimates of requisite vaccination rates for herd immunity of 70% had given way to target rates closer to 90%. He also noted that we had picked a lot of the “low-hanging” fruit for vaccination and that who wanted vaccinations, frustrated early in this 2021 year, could now able get the vaccinations that they sought. He predicted that the “vaxers” would probably be fully vaccinated by July or August. It is the end of August, and YB was about right.

It is the end of August and where do we stand?

- Apple Computer was going to bring their employees back to the offices in September, and then October ... and now January 2022.
- Despite the best efforts of Governor DeSantis of Florida to make schools normal [to him], the largest Florida school districts defied his ban on mask mandates, took him to court, and (thus far) have won.
- As the Jewish New Year approaches in early September, many synagogues that have longed to have “traditional” services, are requiring masks for those who enter, socially distancing participants, and providing “live streaming” for a second year.
- The New York Philharmonic Orchestra is reopening with these [restrictions](#):
  - All audience members will be required to show proof of vaccination against COVID-19 with a vaccine authorized by the World Health Organization or the Food and Drug Administration.
  - As of August 9, all guests attending Philharmonic performances must maintain appropriate face coverings in accordance with current CDC guidelines.
- (Very) many large universities, including those in states that have forbidden them, have enacted vaccine and mask mandates, and (very) frequent COVID-19 testing for those who are unvaccinated.
- Maureen Dowd writes ([today](#), August 30) “thanks to the insidious Delta variant, *The [New York] Times* has not set an official date for a return. I will have to wait still longer to be reunited with the part of me that I left at the office.”

August 30, 2021

Understand this, please. These are not federal mandates. These are the businesses, universities, arts associations, religious organizations, and local schools that have looked carefully at the evidence and are simply not prepared to reestablish business as usual.

Where is the “economics” in all this. Through processes of terribly messy negotiation among hundreds if not thousands of economic “agents”, we are bumping along and trying to make a set of rules to make the economy work again. For now, the rules include major use of vaccine and mask mandates.

Allen C. Goodman  
Professor of Economics

September 1, 2021

## Social Security and COVID-19

CNBC somewhat breathlessly reported [yesterday](#) that the Social Security trust fund will run out of money in 12 years, one year sooner than expected, according to an annual government report published Tuesday. This change, aggravated by the COVID-19 pandemic, may shrink retirement payments and increase health-care costs for older Americans. Should your blogger + partner (both of which in their early 70s) panic? What are the causes and what are the implications?

Social Security is a social contract under which the younger Americans take care of the older Americans. Retirees' Social Security benefits are paid for by those Americans who are working. A fund is built up over time, but the "viability" of the system depends on how much is coming into the system (from the workers), and how much is leaving the system (to the retirees).

COVID-19 has had some impacts. Since March 2020, lots of American workers did not work, and that had major impacts on the Social Security inflow; in short, it went down. Although the figures are not firm, it is also likely that at least some Americans, who might not otherwise have retired, have chosen to do so given the stress of working through a pandemic. So, the inflow decreased, and the outflow increased. Thinking of Social Security as a reservoir of water, there was less inflow, and more outflow. The reservoir level is going down, and this cannot continue indefinitely. Rather than the reservoir's going dry in thirteen years, it will only be twelve.

As was said above, Social Security is a social contract – neither YB nor anyone else has a Social Security "account." The elderly citizens depend on the youngsters to fund it, and the elderly VOTE. Politicians recognize this. It is not called the "third rail" of American politics (too dangerous to touch) for nothing. The Social Security system has run up against these kinds of problems before.

What will happen? First, as the economy improves (and assuming we don't have an indefinite number of COVID-19 variants), one can expect the inflows to increase again, and the outflows to decrease. Whether this will put another year back into the system is a question for actuaries to answer.

Second, if the fund continues to hemorrhage money, Congress will adjust the payouts. For example, at one time, Social Security income was untaxed. According to the Social Security (<https://www.ssa.gov/history/InternetMyths2.html>) web site:

The taxation of Social Security began in 1984 following passage of a set of Amendments in 1983, which were signed into law by President Reagan in April 1983. These amendments passed the Congress in 1983 on an overwhelmingly bi-partisan vote.

September 1, 2021

The basic rule put in place was that up to 50% of Social Security benefits could be added to taxable income, if the taxpayer's total income exceeded certain thresholds.

Congress might also change the inflation indexing so as to adjust (i.e. reduce) outflow relative to inflow. Another visit to the Social Security web site indicates that prior to 1975, Social Security (OASDI) and Supplemental Security Income (SSI) benefit increases were determined only by periodic Congressional action. In other words, recipients had to depend on Congress for annual or periodic increases. The “right index” to use is an open and complex question, but modest tweaks to the index would serve to lengthen the amount of time until the system runs out of money. It has been done before, and it would likely occur again. Members of Congress cannot afford to have millions of angry elderly people voting against them if they let Social Security lapse ... and they won't.

A long-lasting pandemic could have longer-lasting impacts, and to the extent that COVID-19 has destroyed productive human capital, and potentially diverted resources into less productive investments, Social Security fund revenue growth rates may lag their previous potentials. Analysts should conduct such studies carefully. For now, however, while there has been a jolt, there is a recovery going on, and adjustments can be made to keep Social Security viable.

Allen C. Goodman  
Professor of Economics

## Controlled and Natural Experiments

Some number of years ago, your blogger participated in a regular (a couple of times per month) poker game with some folks from the National Institute of Health (NIH). On a really good (bad) day, a player could win (lose) forty or fifty dollars. Most often it was far less than that.

One day, YB got into an animated discussion with an NIH statistician in which the statistician insisted that one could get no useful information other than from a controlled “double-blind” also known as “double-masked” study. In the vernacular, a double-blind test occurs when neither the researcher administering the treatment nor the treatment recipient knows whether he/she is getting the treatment. Along with randomization, where both the placebo and control groups are theoretically the same (age, gender, socioeconomic status) this helps to prevent confounding and bias thus creating the gold standard of a randomized controlled trial or RCT. The randomization prevents confounding and the double-blinding prevents bias. This is the study design that researchers have sought to use in trials to develop the various COVID-19 vaccines. YB knows a few people who participated in such trials. One has had four COVID-19 shots, in part because he was subsequently informed that his first dose in the trial was of an inactive “placebo” test.

This is a health economics blog, and economists seldom have the luxury of RCTs. When economists look at demand for housing, for example, prices, incomes, and interest rates all vary, as well as housing market conditions across the country. They call these “natural experiments.” Depending on the question at hand, empirical economists must employ complex, sometimes multiple equation models, that recognize that various processes are occurring at the same time.

In the early days of 2021, when the COVID-19 vaccinations were first available, hopes soared that the vaccines would deliver a “knockout” punch to the coronavirus. People would get the vaccines and the virus would end! As we finish the summer, and as COVID-19 deaths edge over the 1,000 per day level again, it is helpful to examine what the double-blind models have missed, and what will have to be examined with messier, “unblinded” methods.

It has become clear that to understand the aggregate impact of COVID-19 on society, researchers must “model” the following behaviors:

1. Vaccine hesitancy – What are the characteristics and numbers of how many people reject the vaccine? Is vaccine hesitancy more common among certain social groups, related to race/ethnicity, age, or geographic location?
2. Infectiousness of those who are vaccine hesitant – See item 1.

September 5, 2021

3. Behaviors of those who are vaccine hesitant – Who, and how many people do those who are vaccine hesitant interact with? Were they masking? Were they “social distancing?” What kinds of groups are they in? Were they outside or inside?
4. Behaviors of those who have been vaccinated – See item 3.
5. Whether vaccination leads to “riskier” behaviors that have led to “breakthrough” cases of COVID-19?
6. Community transmission of the COVID-19 virus, given items 1 – 5.

The types of models to be used must account for the fact that some people “select themselves” into vaccine hesitancy – this is not random. Different groups interact differently. This, too, is not random. This induces selection bias and counteracts the idea of randomizing groups to avoid confounding. We know who is indeed vaccinated, which eliminates the double-blind aspect. Community transmission and spread takes all of these behaviors, and distills them in a decidedly nonrandom way. The percentage and absolute number of COVID-19 cases is a function of the vaccine efficacy, and ALL SIX of the behaviors listed above.

So, a double-blind RCT is the gold standard. The real world is a messier place than the laboratory, requiring complicated models to explain the far messier natural experiments that are going on.

Allen C. Goodman\*  
Professor of Economics

\* Your blogger is grateful to Sara Goodman MPH for important clarifications in the characterization of double-blind experiments.

## *Simchat* Again!

Your blogger went to a wedding this past weekend and danced the *hora*. In the Jewish culture, a happy event is a *simcha* (hard *ch*), with the plural being *simchat* (again hard *ch*). There have not been a lot of in-person *simchat* in the past eighteen months since the onset of COVID-19. Are things getting better? Have we turned the corner?

Well, it depends. In the past week, the aggregate number of US COVID-19 deaths per day has climbed back well over 1,000 ([https://covid.cdc.gov/covid-data-tracker/#trends\\_dailydeaths](https://covid.cdc.gov/covid-data-tracker/#trends_dailydeaths)). This is the highest since early March 2021. Similarly, total cases are approaching their March 2021 values. People are still getting sick and dying from COVID-19.

This is a health economics blog, and YB has overused the “disease as a tax” argument since he started writing in March 2020. Taxes make activities more expensive, and people adapt their behavior to avoid (or at least to pay fewer) taxes. A “prohibitive” tax would make an activity SO expensive that someone would choose not to do it. YB + partner did make the trip, but the trip illustrates how the taxes have piled up since the pandemic start.

1. This wedding was postponed at least once from 2020 (and maybe more times that were unknown to YB).
2. All of the guests had to present vaccination status, and children under age 12 were tested for COVID-19.
3. The flight was fully masked. YB supports this, but it has made an already uncomfortable experience (as it happens, he was flying on 9/11) even more so.
4. Hotel services are stretched. YB + partner were informed that no one from the hotel would enter the room during our stay, so they used same towels and bed linen for the weekend (this is admittedly petty).
5. Food was served family-style to avoid contact (again, admittedly petty) with (and danger to) wait staff.
6. A compact rental car cost over \$200 for two days, the result of rental car companies depleting their fleets over the COVID-19 pandemic.

Without question, it was joyful to celebrate again with family members. The pandemic limitations on celebrations of “hatchings, matchings, and dispatchings” (births, weddings, funerals) have taken a major toll on events that characterize almost all groups and religions. People have started to flock again to athletic events, and, a little less again, to restaurants and theaters. Concerts are starting up again, with smaller crowds and bigger distances. In-person attendance at many Universities, including where YB teaches, is much lower than Fall 2019, the last full pre-pandemic term.

September 17, 2021

So, it is appropriate to celebrate the *simchat*, and to try to get back to the way things used to be. For now, however, these activities are carrying significant taxes, and we are all paying them.

Allen C. Goodman  
Professor of Economics



## Convention - 2021

This past week your blogger went to his first “in person” COVID-era professional meeting since January 2020. It was a two-plus hour car ride, and a stay at a nice hotel. The convention organizers did a stellar job of attempting to protect the health of the attendees. They made special arrangements to find a room for YB to give a scheduled class lecture via Zoom, for which he is most grateful. All that said, in-person conventions are very different than they were pre-COVID.

- According to attendees of previous conferences, attendance was down at least 50 percent from pre-pandemic levels. Lots of people are obviously uncomfortable traveling and/or staying at hotels and/or mingling with large numbers of other people.
- Attendees were asked to “attest” to their level of vaccination prior to arriving. Those who had not done so were reminded to do so on arrival. It was a health-related conference, so one would presume that the number of unvaccinated people was very low.
- Attendees were asked to mask except when eating and drinking. It is hard to drink a Pepsi with a mask on.
- Attendees were given badges with bar-codes which were scanned when entering and when exiting sessions. YB presumes that this scanning will allow contact tracing if one or more session attendees report to them that they have come down with COVID-19. There were holes in the net, however. Badges were not scanned in restaurants or at private functions.



- Attendees were given colorful wristbands to indicate preferred level of contact. Several chose to wear them around their name-tag lanyard. This was clever and YB would like to see the custom proliferate, at least for the next year or so. By the way, YB chose the yellow wristband.

September 29, 2021

Conferences have always existed to get people together for presentations and interviews. Skype® and Zoom® had replaced at least the first round of in-person interviews for many purposes, even before COVID-19. Major associations are uncertain what to do with their in-person meetings. The American Public Health Association (APHA) is meeting in Denver in late October. At this writing, they still plan to meet in person. YB's daughter plans to attend, and YB will be interested in how APHA handles safety issues.

The American Economic Association (AEA) has converted its entire January 2022 meeting (originally scheduled for Boston) to virtual mode. They argued that the logistics of gathering large groups of people, as well as the problems with domestic and international travel, dictated their decision. These conferences are scheduled years in advance, and there are significant financial risks regarding hotel and Convention Center rentals. Economists are fully capable of understanding financial losses.

Clearly, neither conference travel nor attendance have “snapped back” to pre-COVID levels. At the meetings, there is less hand shaking, back-slapping and hugging. There is a certain wariness in meeting new people. Attendees stand further away from each other, and speak more loudly.

YB achieved his objectives by going to the meetings, and feels they were successful for him. They are just so very different from the past, and it is hard to know when, or if, things will return to “normal” any time soon.

Allen C. Goodman  
Professor of Economics

October 9, 2021

## Supply Chain Woes

Possibly the most surprising event coinciding with the COVID-19 pandemic is the serious weakening of the global supply chain. Perhaps the only similar circumstances in your blogger's economic life related to the gasoline shortages of the late 1970s, in which there were lines of cars waiting at empty pumps. Economists had an explanation. There were numerous piece-meal restrictions on gasoline prices around the nation and the world. If Maryland, for example, regulated gasoline prices, gasoline suppliers sent their wares elsewhere. With the deregulation of gasoline prices, these lines disappeared. Even in the Great Recession of 2007 – 2009, where central banks had to bail out bad loans, the goods suppliers were able to keep their supply chains connected. Careful "just-in-time" inventory processes, and sophisticated supply algorithms provided consumers with the goods they wanted, on time.

With the March 2020 COVID-19 shock, the first casualties seemed to be toilet paper, yeast, and chicken. Toilet paper is not surprising. When YB and his partner lived in Maryland, every imminent snow storm led to a run on toilet paper at the local Giant market. If stranded, consumers wanted to remain comfortable. COVID-19 certainly qualified as a "snow storm", snarling commerce. Toilet paper could be explained.

Why yeast? Apparently, households under lockdown decided to bake a lot of bread. One needed flour and yeast, and the yeast disappeared from the stores. YB and his partner found themselves trying to find yeast at various stores, and for a while could only buy one packet at a time. Yeast could be explained, and eventually the shortages disappeared.

In early May 2020, YB was at the local market in Florida, and went to buy chicken, but there was no chicken. No chicken? YB asked the store employee, and was told they weren't sure when the next shipment would be in, and that the last two truckloads had consisted of backs and necks. News coming out of the middle of the country indicated that there had been major COVID-19 outbreaks in the meat-packing and poultry industries. Prices of beef went up, and chicken consumers made do with backs and necks.

The economy is now over a year past the "toilet paper, yeast, chicken" phase, and yet there are stories about tens of thousands of new vehicles awaiting computer chips for completion. Orders are backed up for months, and the prices of used cars have rocketed up, because the supply of used cars (when someone buys a new car, the trade-in enters the used car market) has fallen dramatically relative to the demand (many people buy used cars from dealers). Supply of used cars also falls if would-be sellers hold on to their clunkers because they can't trade them in for new ones.

October 9, 2021

In the late 1940s, economist Wassily Leontief pioneered *input-output analysis*, in which output from one industrial sector becomes an input to another industrial sector. Written in matrix form, this analysis shows how each sector is dependent on every other sector, both as a customer of outputs from other sectors and as a supplier of inputs. So, if there are problems in the computer chip sector, they feed into the automobile sector. Shortages of chips lead to shortages of cars. The results can be quantified, and impacts of economic shocks can be predicted.

Input-output analysis does not say why supply chains should be strained, and shortages occur. Your blogger traces the problems to breakdowns in the international supply chain during COVID-19. Although the current trade frictions with China predate the COVID-19 shock, they certainly exacerbated the shock. Moreover, the general reaction to COVID-19 was country-specific, protecting one's borders from interlopers that might bring COVID-19 with them. These policies effectively placed massive constraints on trade, effectively increasing transportation costs, and limiting shipments. Trade occurs with other economies because it lowers costs. Reducing trade limits production and raises costs, and therefore raises prices.

COVID-19 has not destroyed factories and machinery, but through worker illness, and appropriate distancing procedures, COVID has gummed up the production lines and the transportation lanes. As of mid-October 2021, it has reduced the labor force both in the United States and elsewhere, it has reduced trade, and it has led to port and transportation bottlenecks, and to shortages. These shortages are predicted to last well into 2022. Garth Friesen, in [Forbes \(September 3, 2021\)](#) views “no end in sight” relating the problems to high consumer demand, COVID outbreaks’ continuing “to shut shipping hubs around the world, and extreme weather [battering] individual links in the chain”, leading to expectations of continued disruption.

Was COVID-19 alone in creating this mess? It is likely that the strained China relations and the trade problems relating to Brexit and the European Union had important roles. To mix metaphors, one might term the COVID-19 the “yeast” in the rising of the supply chain woes. It is still killing several thousand people around the world each day (including close to 2,000 per day in the United States alone), and the supply chain woes persist.

Allen C. Goodman  
Professor of Economics

October 20, 2021

## How Good Are the Vaccines?

Retired General Colin Powell died this past week of COVID-19. He had been fully vaccinated, but he had multiple myeloma (suppressing the body's immune response) and Parkinson's Disease. *Yahoo News* wrote:

According to the Centers for Disease Control and Prevention, [almost 190 million](#) people in the United States have been fully vaccinated against the coronavirus. Of those people, 1,074 under the age of 65 [have died](#) from COVID-19. There have been 6,104 COVID-19 deaths of people 65 or older who had been vaccinated. Among the breakthrough coronavirus deaths tracked by the CDC were 951 people who did not show symptoms of COVID-19 and appear to have died from another cause. (<https://news.yahoo.com/colin-powells-death-doesnt-challenge-efficacy-of-coronavirus-vaccines-173102331.html>)

Without going into detail, your blogger qualified for a booster dose of the Pfizer, and he took it. Immune responses are necessary, and YB needed his to be boosted.

The whole possibility of vaccines that don't necessarily "work" is troubling to Americans who are used to vaccines' working. Get a polio vaccine, and you don't get polio. Get an MMR (measles, mumps, rubella) vaccine, and you don't get MMR. One can go on. Whether the CDC or the Biden administration meant it or not, Americans who chose to get vaccinated expected not to get sick. Some are getting sick and some are dying.

Understand that the percentage of so-called "breakthrough cases" is minuscule. The quote above indicates a death rate of less than four-tenths of one percent of those vaccinated. This is larger than zero, but it is small.

Moreover, vaccination keeps the morbidity (illness) rate down, at least among those who were vaccinated. An October 18 release from Acting Pennsylvania Physician General Denise Johnson indicated that 74% of the almost 5,000 hospitalizations in the past months were for those who were unvaccinated. Her statement continued that fully vaccinated people had a greater than three times better chance of staying out of the hospital due to COVID-19 (<https://www.health.pa.gov/topics/disease/coronavirus/Pages/Post-Vaccination-Data.aspx>).

However, as of October 13, according to the Kaiser Family Foundation (<https://www.healthsystemtracker.org/brief/covid19-and-other-leading-causes-of-death-in-the-us/>), over 50 million American adults remain unvaccinated. The average daily number of deaths due to COVID-19 was 1,899, second only to heart diseases. As of today, October 20, 2021, between close to 750,000 Americans (depending on one's source) have died of COVID-19 since March 2020. A total of 800,000 deaths is entirely likely by the end of 2021, and the figure of one

October 20, 2021

million COVID-19 related deaths by the time this is all over is entirely “thinkable”. The US appears nowhere close to a level of disease that will yield herd immunity.

This is a health economics blog, and economists seek to compare marginal benefits with marginal costs. The number of lives we continue to lose suggest that the marginal benefits of continued vaccination still far exceed the marginal costs. COVID-19 is like air pollution, and the marginal benefits of vaccination impact others positively because those vaccinated will be less likely to infect others. Vaccination is no more an “individual decision” than is the decision to run one’s car without an effective exhaust system, or the decision to pour raw sewage into a river that others are using. People who argue otherwise are either disingenuous or stupid.

In conclusion, the vaccines seem to work, but not one hundred percent. Heroes like General Powell will die before their time, and so will some number of others who are less obviously heroic. Continued mass vaccination will reduce deaths from COVID-19, but it seems that some deaths will continue. COVID-19 drives a hard bargain.

Allen C. Goodman  
Professor of Economics

## Rising Prices Do Not Necessarily Mean Inflation

Instructors in economics principles courses delight in providing examples where the demand for apples rises relative to oranges, hence increasing the price of apples. The rising apple prices eventually elicit more production of apples, putting downward pressure on apple prices. Similar responses occur in the orange market. This is “price theory in action” with prices and production adjusting according to market signals. How quickly prices and production change, depends on the ease of bringing new resources into the market (often from other uses). Economists term this responsiveness as “elasticity”, and this peculiar terminology may be one of the major reasons why non-majors hate economics courses.

Since March 2020, the COVID-19 pandemic put unusual pressure on the normal market mechanisms. New car sales plummeted which led to a dearth of used car trade-ins, so used car prices soared. Stuck in their own homes, but (in many cases) with money to spend, large numbers of consumers planned home improvement so lumber prices soared. Fueled by continuing low interest rates, many put bids in on new homes. In many cases (again) prices soared. All of these have largely been “goods events,” and as supplies adjust, they can be expected either to level or fall.

In contrast, services took a big hit. People stopped getting haircuts (leading to lots of long hair and dark roots), going to restaurants (take-out yet still), and to dentists, and doctors. Dry cleaners, theaters, cinemas, and concerts (all services) saw their markets dry up. Even into Fall 2021, there has not been upward pressure on service prices. The prices of goods have risen relative to those of services. Relative prices change. This is not necessarily inflation.

Because Americans buy so much from abroad, the waterborne port services have been hard put to keep up with all of the imports. Loading and unloading containers from cargo ships is a labor-intensive endeavor. More ships, more labor, and observers are seeing more ships waiting to use ports since the second oil price crisis of the late 1970s, when coal carrying ships (or “colliers”) were sitting outside the ports of Baltimore and Norfolk, waiting to be loaded. Again, the responsiveness has been slow (small elasticity), and delivery has been slow as well.

Where does COVID-19 come in? These bottlenecks and price run-ups were not occurring during an economy with less than 4 percent unemployment in early 2020. Fewer people are working and consumers in the United States have seen resulting supply chain issues including limited variety and slow delivery. One might expect these issues to decrease if and when COVID-19 has been brought down to low levels.

October 27, 2021

Inflation is measured with a “market basket” of thousands of goods. Updated monthly, if a market basket cost \$1,000 (denominator) on November 1, 2020 and \$1,040 (numerator) on November 1, 2021, this would indicate an inflation rate of 4 percent. Because our 2020 price level was depressed due to the pandemic, “last year’s denominator” (from 2020) was depressed, leading to recent “year over year” inflation rates over 5 percent. An inflation rate of 5 percent implies that all goods went up by 5 percent. The discussion above suggests that such was not the case.

Other aggregate measures yet (still) do not reflect large amounts of expected inflation. Ten-year interest rates (as of October 27) are at 1.52 percent, and [housing market participants](#) can borrow money for 30-year fixed rate mortgages at a rate of about 3 percent. These interest rates do not reflect heavy inflation expectations. Your blogger’s first 30-year mortgage in 1978 was 10 percent. His last one (paid off in 2013) was over 6 percent. Rates of 3 percent do not reflect high inflationary expectations.

We have seen major economic shocks since March 2020 that rivaled if not exceeded those of the Great Recession (2007 – 2009). They have led to over 750,000 deaths in the United States, an uprooting of the education system, and a serious public health dilemma in terms of providing the necessary curative and palliative goods, and convincing the population to use them. Inflation is a potential issue but at least at this time, not as important as the others.

Allen C. Goodman  
Professor of Economics



November 7, 2021

## COVID-19 Era Education: Long-Term Impacts

COVID-19 slammed into the world in mid-March 2020, so most of the world is in its third academic year of adjustment. Your blogger (YB) can characterize the three years in this way:

Year 1 (2019-2020) – Get through the last three months (March, April, May) somehow. This generally led to instructors' reading their class lectures on-line, struggling to learn Zoom<sup>®</sup>, and hoping fervently that the year starting in August 2020 would be better.

Year 2 (2020-2021) – Prepare two types of lesson plans, one for on-line, and one for in-person. At YB's University, there was fervent hope that we could be in-person, and this (for the most part) did not occur. Teachers from pre-K to K-12 to College all grappled with the problem. It is hard to measure exactly how seriously quality was compromised, but it is almost certainly was.

Year 3 (2021-2022) – Hope that Year 2 uncertainties have passed. They have not. At YB's home Universities, lecturers and students must wear masks. Even though more in-person classes have been scheduled, (very) large numbers of students are not taking them. Consider hypothetical Student Z who plans to take four courses, and finds that two of them are on-line. Experience shows that Z will almost certainly seek to find another two on-line courses, so that he or she does not have to travel down to the University, pay for parking, and walk between classes. Curiously, Universities until now have been pushing "on-line degrees" have more recently been pushing more in-person classes.

YB has hoped that younger students could make up education deficits. If Student Z hasn't learned about "carrying" or "borrowing" in third or fourth grade arithmetic, there is time, YB has hoped, for him or her to catch up. Catching-up time decreases the further along the student is in school. Fine athletes or musicians in their teens may find their adult careers to be in jeopardy because they could not progress, while their younger colleagues catch up with them.

In August 2021, YB visited with dissertation adviser Eric Hanushek in California. Rick Hanushek, a world expert in the economics of education, was much less sanguine about catching up than YB. He referred to some work that he had done with colleague Ludger Woessmann (<http://hanushek.stanford.edu/publications/economic-impacts-learning-losses>), which had assumed that schools would re-open "as normal" in Fall 2020. They did not do so.

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In a follow-up email to YB Hanushek's 2021 observed that according to his calculations:

- The loss of education for the current school-aged cohort would reduce the subsequent lifetime earnings of the average student by between 6 and 9 percent.
- There would be an approximately 3-4 percent of average GDP loss per year for the remainder of the 21<sup>st</sup> century.

Disadvantaged students may fare even worse. These numbers are staggering, and they are staggering even if they are 50% too high.

These findings lead to two economic questions. First, were there offsetting benefits to these costs? Almost certainly the shutdowns and on-line instruction have led to less COVID-19, fewer deaths, and less morbidity, and these benefits should be compared to the (enormous) costs of foregone future wages and economic growth. Whether the incremental benefits exceeded the (enormous) costs is a matter for further analysis.

Second, who is to blame? Educators, both administrators and teachers, were tasked to choose the best path through COVID-19. Parents have been alarmed and have blamed teachers, teachers' unions, public health officials, school boards, and governors for the diminished schooling that has occurred over the last twenty months.

YB "has a dog in this fight." He has been an educator for fifty years, and a health economist for over thirty. The uncertainty of the COVID-19 virus, and its impacts on students, and on YB and his partner, have had an impact on his teaching decisions. As Director of Graduate Studies for a PhD program, he had students take exams on his front porch to maintain social distancing, and student safety, in August 2020. These front porch exams were replaced by Zoom monitoring in January and again in May of 2021 (it is cold on front porches in Detroit in January). Education, and potentially the quality of the education, had changed.

The blame should be laid at the right place – on COVID-19. It was like a massive hurricane, impacting everything in its path. The world's students (and teachers) did not suddenly become lazy. Trying to affix blame at this point is a waste of time.

Hanushek and Woessmann note that "just returning schools to where they were in 2019 will not avoid such losses. Only making them better can." They offer many suggestions including matching the skills of the teaching force to the new range of tasks and activities. Looking carefully at the likely increase in variations in learning levels within individual classrooms, they also argue that

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“pivoting to more individualized instruction could leave all students better off as schools resume.”

COVID-19 caused serious damage to the educational capital stock of the world’s students. This damage is large and potentially permanent. Economic and educational policies over the next several decades should be addressed toward mitigating the damage and making it less permanent.

Allen C. Goodman  
Professor of Economics

## The Pandemic as a War

The phrase “making war” is used in political campaigns, in sports competitions, in family tiffs, and in all other manner of contests. Your blogger was born in the late 1940s, experienced (as a child) the Korean War, the Viet Nam War, and various other engagements of the United States military. YB has written of conversations with friend Larry Siegel about the COVID-19 pandemic as a big tax, wherein Larry has argued that it was like a war, but without the spoils of war. As the United States approaches 800,000 deaths from COVID-19, which will happen late in November or early in December, it is wise to examine the terms analytically.

The “pandemic as tax” model argues that an epidemic is like a big tax, in which activities become more expensive. If the tax becomes large enough, some activities (trade, travel) actually stop. It is a good analogy for a (relatively) small event. Communal facilities had lockdowns long before COVID-19. YB’s mother was in a “life care community” for several years. At one point an influenza epidemic in the community led to a lockdown. After a couple of weeks, the epidemic had run its course, and the community reopened. It had been inconvenient and costly to families, but it was over. This was a pandemic as a tax.

More serious was the HIV/AIDS epidemic starting in the 1980s and going on in some countries well into the 21<sup>st</sup> Century. Kaiser Family Foundation documents indicate that in 2007 approximately 350,000 South Africans died of HIV/AIDS (<https://www.kff.org/wp-content/uploads/2013/01/7365-065.pdf>) while about 5.7 million people were living with it. This was an enormous wealth tax on South Africa (Swaziland, Botswana, and Lesotho had even higher rates, but smaller populations). Prevention and treatment have limited HIV/AIDS deaths, although there are still large costs in many places.

Economists know how to analyze taxes. Taxes fall most heavily on those who are unable to avoid them (*inelastic responses*, in economic parlance). Figuring out exactly who pays them can be difficult (*tax incidence*), but economists know how to do it.

COVID-19 seems to be more than this. Think of the attributes of a wartime footing:

1. It affects everyone;
2. Mandated service; in this case in the health care sector;
3. Nationwide restrictions on freedom to engage in commerce or to travel;
4. Mandated prevention activities (now, at last, vaccinations);
5. Supply chain breakdowns;
6. Loss of productive capacity;

Touching briefly on each, there has been nowhere to run and hide during COVID-19. Even those who deny the seriousness of the disease have seen themselves or family members fall ill and sometimes die.

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Second, although there has not been a mandatory draft, there has been serious pressure on medical professionals and essential workers to serve. The results have fallen unequally on lower income and minority groups.

Third, people have faced severe restrictions on commerce and travel. No one was planning ocean cruises or family reunions during World War II. COVID-19 has imposed similar constraints.

Fourth, although the federal and state governments hoped to do the right thing by gentle persuasion, the persuasion has become less gentle. Under President Trump, the federal government left the hard work of treatment and vaccination to the states. Under President Biden, the federal government has provided political cover for the states and businesses to mandate large-scale vaccinations. Privately, at least, the states and the businesses are glad to have had the decisions taken out of their hands.

Fifth, COVID-19 has led to supply chain issues that YB has only seen in the 1970s when oil price controls led to gas lines. To get to the larger problem, most Americans (again) would have to go back to World War II. No one at this time has seriously proposed rationing, although many stores have imposed quantity limits (most often affecting paper goods). Economists do not have really good models for the recent supply chain issues, but they must have something to do with a lack of people to unload ships, and drive trucks. Losing 800,000 people, and seeing the families' disruptions probably has something to do with it.

Sixth is the loss of productive capacity. The US was busy making bombs, fighter planes, battleships, armaments, and all sorts of wartime materiel during World War II. Even during the Viet Nam War, with an overheated economy, there were not shortages of computers (there were not computer chips either), there were not food shortages, and there were not paper shortages. Again, in the present, the loss of life, and the disruption of family activities (no one could foresee the family time impacts of large-scale forced online education) have severely impacted productive capacity.

The "war model" not a complete economic model, but it provides some substance that is lacking in the "tax model". When taxes are imposed, economic life "goes on", subject to the constraints of the taxes. In a war, economic life undergoes major changes, and runs into major losses of life and productive capacity, and major changes and bottlenecks in activities. One could argue that our current war started in March 2020. With well over 1,000 people per day yet/still dying of COVID-19 (as of November 2021), it has not yet ended.

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November 21, 2021

## Lockdowns Again: Legislating COVID

The *New York Times* reported today that Austria was locking down. Indicating that a “menacing” fourth wave of the coronavirus was enveloping Europe, the *Times* noted that Austria may not be the only European country to impose a nationwide lockdown. Starting Monday, November 22, public life will halt, with people allowed to leave their homes only to go to work or to buy groceries or medicines.

It is not Austria alone. The *Times* reported:

Austria, where 66 percent of the population is fully vaccinated, reported more than 14,000 new cases of the virus within 24 hours on Sunday. Over the past week the Netherlands has been averaging more than 20,000, while Germany has seen roughly double that number.

(<https://www.nytimes.com/2021/11/21/world/europe/austria-covid-lockdown-vaccine-mandates.html> )

This is a health economics blog. Your blogger has written a lot in the past twenty months about how COVID-19 is air pollution; the more activity, the more pollution. When the incremental costs of the pollution (infection, illness, and death) exceed the benefits of the activity, governments have difficult decisions to make about imposing lockdowns. Some governments are acting; many others are not.

Michigan’s Governor Whitmer has thrown in the towel (metaphorically speaking). She is leaving decisions up to the localities. Whether they want to lock down, or impose mandates makes little difference. There will be impact nonetheless. The Detroit Schools announced this week that they are shifting to online learning on Fridays in December for mental health relief amid rising COVID-19 cases. Superintendent Nikolai Viti announced districtwide instruction on Dec. 3, Dec. 10, and Dec. 17 (all Fridays) will be shifted to online learning. Later in the week they announced that the district will be closed all Thanksgiving week for “deep cleaning.” (<https://detroit.chalkbeat.org/2021/11/19/22792548/detroit-school-closed-thanksgiving-week-covid-deep-cleaning-dpscd-michigan> ). Other local municipalities have been forced to go virtual as well for extended periods this fall.

We have learned in the past twenty months that we cannot “legislate COVID.” The restaurant and entertainment sectors have tanked economically not because of legislative lockdowns, but because customers are reluctant to patronize them. Non-manufacturing businesses have remained remote because of serious blowback from workers who are concerned about crowded offices during a continuing COVID pandemic.

Apple Computer recently pushed back its “return” from early January to early February (<https://www.nbcnews.com/tech/tech-news/apple-pushes-back-return-office-plan-february->

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[rcna6026](#) ), in what will be a “hybrid work plan.” At that time, workers will have been out of the office for almost twenty-three months.

Conventions and group meetings have remained shadows of their former selves because participants do not want to travel or to be exposed to strangers of unknown vaccination status from who knows where. The Allied Social Sciences Association (umbrella organization for Economics meetings), met virtually in January 2021 (originally set for Chicago), and will meet again virtually in January 2022 (rather than the original site, Boston).

COVID-19 deaths in the United States spiked a year ago to 4,000 per day after the travel, entertaining, and other economic activity at the Thanksgiving and Christmas holidays. We have vaccines now, and there is every reason to believe that the impact will be lessened. Still the lockdowns abroad, and the potential economic impacts here in the United States portend a grimmer end-of-year holiday period than any would have expected with the vaccine roll-out at the beginning of the year.

It bears repeating. We cannot legislate COVID.

Allen C. Goodman  
Professor of Economics

November 28, 2021

## Nursing Homes Open Doors Wide to Visitors

The *New York Times* reported yesterday that to the cheering of families, and to the concern of doctors, nursing homes have opened their doors to families and visitors (<https://www.nytimes.com/2021/11/27/health/coronavirus-nursing-homes.html>). Many of the existing restrictions were based on rules, known as “guidance,” mandated by the Centers for Medicare and Medicaid Services (CMS). CMS closed facilities to visitors in March 2020.

On November 12, however, CMS removed virtually all of them and advised the country’s nursing homes to allow visitation “for all residents at all times.” Federal policy, writes author [Paula Span](#), “still encouraged vaccination and emphasized infection control measures, including masks and distancing policies established by the Centers for Disease Control and Prevention.” The update removes all limits on the frequency, time, duration, location or number of visitors. Observers believe that these changes will soon be applied to other forms of assisted living.

Your blogger has spent the last decade thinking about and writing about congregate housing for the elderly. He has met scores of people who earnestly swear that they would “never” put Mom or Dad in a facility. While everyone wants to take care of elderly relatives “at home”, the economic cost of doing so is about \$250,000 per year. Yes ... \$250,000 per year.

How can it be so high? Suppose that Pat and Mike are taking care of parent Tony at home. Even if Pat and Mike are home 24/7, there is a cost to doing this. YB has used the figure of \$25/hour to pay an agency to bring someone in (a colleague tells me that she recently spent \$33/hour). Twenty-five dollars per hour is \$600 per day, leading to total costs of \$219,000 per year. This is for unskilled care. Adding skilled care adds money. Hence \$250,000 per year. Whether Pat and Mike write checks, or do it themselves, they are providing individualized care, instead of doing something else.

People who have taken care of elderly relatives in situ during the pandemic have put their lives on hold, quarantining themselves and their loved ones for months, at enormous costs. Those who cannot or could not do so in their own homes, or who live at distance from elderly relatives, used facilities.

Using a facility can also be costly. Assisted living may cost \$5,000 to \$6,000 per month (or more), and skilled nursing facilities \$10,000 per month (or more), or \$120,000 per year. These are steep costs, but they are less than doing it themselves, and the care is sometimes worse, but also sometimes better. It also costs far less than home care, and it is sometimes the only option for those whose family cannot or will not take care of their elderly relatives.



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As of November 27, CMS reported (<https://data.cms.gov/covid-19/covid-19-nursing-home-data> ) 726,304 total resident COVID-19 confirmed cases, with 140,055 total resident COVID-19 deaths. They also reported 677,173 total staff COVID-19 confirmed cases with 2,152 total staff COVID-19 deaths. With close to 800,000 total COVID-19 deaths in the United States since mid-March 2020, this means that about 17.5% (over one in six) of all COVID-19 deaths occurred in skilled nursing facilities. This number is staggering, but hardly surprising. Older people tend to be more at risk for life-threatening conditions. The staff who care for them are also at risk.

Without consistent federal guidance at the beginning of the pandemic on what to do with hospitalized COVID-19 cases, states were left to make their own decisions, which often required (New York) or incentivized (Michigan) (source: <https://www.clickondetroit.com/news/local/2021/03/11/michigan-gov-whitmer-stands-by-covid-nursing-home-policy-amid-threats-of-legal-action/> ) facilities to take in residents with COVID-19. Such policies may have increased the number of nursing home COVID-19 deaths, although it is not clear what the impacts of alternative placements would have been. There might have been fewer deaths, or the deaths might have occurred elsewhere.

Understand, please, that facilities had lockdowns before COVID. YB and family were informed of lockdowns in his parents' community due to influenza, years before COVID-19. These were obviously not the length or the severity of the COVID-19 lockdowns, but such restrictions on visiting and on care are not new.

Without question, facility residents suffered from losing the closeness of contact with their families or their social supporters due to lockdowns and quarantines. Many of the perceived failures in care were (again, regrettably) nothing new. Confusion, falls, and bedsores all too commonly occur in understaffed and badly administered facilities, COVID-19 or not.

As we approach the Chanukah and Christmas season of 2021, families want to be together, making up the lost time from last year, and providing a loving sense of community to their older friends and relatives. The new guidance from CMS will make this easier. We can only hope that it will be safe.

Allen C. Goodman  
Professor of Economics

## Post-COVID Syndrome

*Poliomyelitis* or *polio* was a scary event in Your Blogger's childhood. Even into the 1950s, parents were frightened by polio epidemics. Although the number of annual deaths never came close to COVID-19 numbers, polio could kill or paralyze the victim. Parents were thrilled by the Salk (mid-1950s) and Sabin (early 1960s) that relegated polio to the sidelines.

From the CDC website:

In the immediate prevaccine era, during the first half of the 20th century, improved sanitation resulted in less frequent exposure and increased the age of primary infection, resulting in large epidemics with high numbers of deaths. The incidence dramatically decreased after the introduction of inactivated polio vaccine (IPV) in 1955 and continued to decline following oral polio vaccine (OPV) introduction in 1961. From the more than 21,000 paralytic cases reported in 1952, only 2,525 cases were reported in 1960 and 61 cases in 1965.

(<https://www.cdc.gov/vaccines/pubs/pinkbook/polio.html> )

While these number do not seem big in comparison with the case numbers of COVID-19, there were few families without a member or a close relative that had not been touched by polio. YB did not lose family members to polio, but at least one cousin had it as a child, and maybe others.

By the 1970s and 1980s, according to the Mayo Clinic, doctors discovered that thirty to forty years after the initial polio illness, many survivors encountered some of the following symptoms: (1) progressive muscle and joint weakness and pain; (2) general fatigue and exhaustion with minimal activity; (3) muscle atrophy; (4) breathing or swallowing problems; (5) sleep-related breathing disorders, such as sleep apnea; (6) decreased tolerance of cold temperatures.

(<https://www.mayoclinic.org/diseases-conditions/post-polio-syndrom/symptoms-causes/syc-20355669> ).

Factors that could increase risk of developing post-polio syndrome include severity of the initial polio infection, age at onset (adults fared worse), extent of the recovery (the "greater" the recovery, the larger the problem), and excessive physical activity. In short, recovery from polio came with accompanying problems down the road. Having had polio seemed like walking every day with five-pound weight around one's ankles. Eventually it wore out the survivors.

This is a health economics blog, and health economists look at the human body as a capital good (a machine, as it were) that needs maintenance and repair, and that can depreciate. Polio would damage the machine; even if repaired, it may not function as well or as long. It had long-term impacts on peoples' health capital.

Scientists are still trying to figure out the long-term impacts of COVID-19; after all it has been around for no more than two years. There may be serious

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fatigue issues, as well as respiratory issues. Long-term impacts are just those; they take a long time to find.

There will also be mental illness issues, in terms of constant fear, and apprehension. Large numbers of children have had their educations at least temporarily, and more likely permanently, altered. Some adults have had major adjustment issues. YB lost a beloved colleague in September 2020. COVID-19 didn't kill him ... but he died because of COVID-19. It will take a while to count up all of the deaths and life-years lost due to illness that COVID-19 has caused.

Post-COVID Syndrome. It will be a companion for life.

Allen C. Goodman  
Professor of Economics

December 14, 2021

## News of the Week

Your blogger takes a lot of items from the newspapers, but this week there were three articles that touched on content that YB has discussed repeatedly over the past twenty-one months.

The first article looked nursing homes and the nursing home inspection process (<https://www.nytimes.com/2021/12/09/business/nursing-home-abuse-inspection.html>). The article explained how hard it is to measure nursing home quality. Moreover, it appears, in many cases, that the inspectors view the homes as *partners* rather than as “arm’s length” evaluators. While this is not explicitly COVID-related, in the context of the large number of COVID-related deaths in skilled nursing facilities, over 140,000 people have died in facilities since March 2020 (<https://data.cms.gov/covid-19/covid-19-nursing-home-data>). Running the facilities is difficult in easy times, and the past twenty-one months have not been easy. However, nursing home residents and their families deserve competent and aggressive evaluation of standards.

The second article (<https://www.nytimes.com/2021/12/11/business/return-to-office-2022.html>) looked at “return to the office.” YB touched on this as early as March 28, 2020, in the context of manufacturing ([\BlogManufacturingThroughCOVID.pdf](#)). When, he asked, should the workers be asked to come back, and under what conditions? Universities are not “back” yet (today, Cornell University went virtual for the rest of the semester). Offices are not back yet. Apple Computing will have been virtual for twenty-three months if they come back as planned in early February. Lyft announced that the earliest that workers would be required to return to the office is 2023.

Many manufacturers sought to treat office workers the same as the factory workers. General Motors tried to bring many of its technical people back in mid-2021, to achieve parity with the factory workers. Many got COVID-19 and many protested. GM quickly walked back that policy.

The NON-return to the office is making many businesses rethink their models. Does everyone have to be in everyday? If so, when? If not, what will happen? If the businesses are as productive under the Non-return as they were before, what does that mean? If they are not, what does that mean?

On December 13, the *New York Times* reported (<https://www.nytimes.com/2021/12/13/us/covid-deaths-elderly-americans.html>) that one in one-hundred elderly Americans has died of COVID-19. About 600,000 of the nearly 800,000 who have perished so far have been 65 or older. This article was chilling, because YB is 74 years old.

Some of the older people would have died anyhow, Taken another way, according to [data from the CDC](#), noted in the *Times* article, 18% more older

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people died of all causes in 2020 than would have died in an ordinary year, Applied to the 600,000 figure, this computes to over 92,000 excess deaths. Elderly Americans have had the highest vaccination percentages, and most have had boosters. Yet, many have fallen ill and died. We had hoped for better, with the vaccines, but the circumstances almost certainly would have been far worse without all of the public health measures that have been attempted since March 2020.

Your blogger has wondered when it would be time to stop the blog because COVID-19 was no longer a problem. The continuing unresolved issues, and the rate of COVID-19 deaths that has once again risen over 1,000 per day, suggest that time has not yet arrived.

Allen C. Goodman  
Professor of Economics

## Fully Vaccinated?

So ... what does it take to be fully vaccinated? As 2021 comes to a close, this is an operative question. Obviously the unvaccinated are not vaccinated, but what about those who have had two shots, but not a booster? The New York Times quotes Dr. Rochelle P. Walensky, the C.D.C. director as saying “There really isn’t debate here in what people should do,” ... C.D.C. is crystal-clear on what people should do: If they’re eligible for a boost, they should get boosted.” (<https://www.nytimes.com/2021/12/29/health/covid-vaccinations-boosters.html>).

This is a health economics blog, and health economists deal with marginal benefits and marginal costs. Your blogger has often noted that we could save 30,000-plus lives per year by putting in a nationwide 15 mile per hour speed limit, or putting stop signs at every corner. No government of a large industrial country does this because the billions of dollars of saved lives are not worth the trillions of dollars of lost time. In short, the marginal costs dwarf the marginal benefits, and some people die.

The vaccines were not “supposed” to work this way. There were numerous national lockdowns in March and April 2020, and then gradual reopenings. The vaccine was “supposed” to prevent COVID-19 the way the smallpox vaccine prevented smallpox, or the polio vaccine prevented polio. Nobody was told about “breakthrough” cases.

It is time to think about output rather than inputs. One output is *deaths from COVID-19, or mortality*; if they are too large, then by definition the marginal benefits of further mitigation will exceed the marginal costs. A second output is *loss of well-being from the disease itself or morbidity*. When COVID-19 does not kill people, it may cause them to miss work, to be less productive when they do work, and/or to feel awful irrespective of whether they work or not. Ameliorating such impacts leads to economic benefits.

The Omicron variant of COVID-19 is causing unprecedented numbers of new infections, although hospitalization rates seem lower than before. Before COVID-19, one talked about common colds. Everyone got them, some more often than others, and they caused absence, loss of productivity, and sometimes death. Apparently, the cost of creating a common cold vaccine far exceeded the benefits, because we never got a common cold vaccine. Like the number of traffic deaths (above), there was an optimum number of annual deaths, and that number exceeded zero. Some people died from complications brought on through common colds

YB emphatically rejects the arguments of many politicians and anti-vaxers that the COVID-19 “family of infections” is no worse than the annual flu. Over 800,000 Americans have died of it since March 2020. This is a national tragedy.

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However, current policy cannot be ruled by the 800,000 deaths that have already happened.

YB lives most of the year in Michigan. In 2020, Michigan's Governor Whitmer implemented policies that seemed to be very effective in reducing mortality and morbidity. She earned considerable credit, and considerable opprobrium (some idiots contemplated kidnapping, trying, and executing her). Since 2020, Governor Whitmer has backed off on implementing strong *vaccination/masking/lockdown* policies, almost certainly calculating the incremental benefits and costs to her of being re-elected in 2022. Good politics is not always the same as good health policy.

YB is currently in Florida for the winter. Florida's Governor DeSantis has fought most of the COVID-19 restrictions since March 2020, going so far as seeking to deny aid to jurisdictions that implement them. Governor DeSantis is almost certainly calculating the incremental benefits and costs of being re-elected in 2022, and some feel that his ambitions go beyond that. As before, good politics is not always the same as good health policy.

So, the operative question as we finish 2021 is "Will incremental *vaccination/masking/lockdown* policies toward COVID-19 provide incremental benefits that exceed the incremental costs of the policies?" If incremental boosters, incremental masking, or incremental lockdowns provide net positive incremental benefits, the answer is obvious. If they do not, that answer is also obvious.

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January 9, 2022

## Delta, and then Omicron

Many Americans have become experts in Greek letters. Your blogger uses them in the equations that he writes for professional papers. He uses *delta* a lot, but seldom *omicron*, because *omicron* looks like the number zero, which can be confusing in mathematical models.

The *omicron* variant of the COVID-19 virus seems to be much more contagious than even the recent *delta* variant. In the past several days, according to CDC ([https://covid.cdc.gov/covid-data-tracker/#trends\\_dailycases](https://covid.cdc.gov/covid-data-tracker/#trends_dailycases)), we have had more than half a million new cases per day. Is this the variant that is going to bring us herd immunity? Is this the variant that will end the COVID-19 pandemic?

[Megan Leonhardt](#), writing in *Fortune*, reports expert opinion that Omicron may bring “a level of herd immunity”—but not for long and likely at a terrible cost. Herd immunity with COVID-19, it seems, is time sensitive. As long as COVID-19 can mutate, it may be able to “end run” the herd immunity built up against previous versions.

Take influenza, for example, commonly known as the flu. We see seasonal outbreaks, but flu shots (developed each year to address the particular strains of flu) can mitigate the worst of the effects. Before each flu season, scientists try to predict the dominant strains and then develop the vaccine to match the prediction. Some years are more accurate matches than other years. The scientists do the best they can, and some protection is better than no protection. It is a big respiratory virus that still sees seasonal outbreaks, but flu shots help to mitigate the worst of the effects. Dr. Gregory Poland, head of the Mayo Clinic's Vaccine Research Group says “That's what slowly seems to be happening with coronaviruses. It will change and become endemic.”

YB's daughter was born in 1989. As recently as the early 1990s, some parents would deliberately expose their children during so-called “chicken pox” parties because there was no vaccine available, and it was “better” that they get the disease early (a cousin in her twenties got chicken pox and was sick for weeks). Having had chicken pox, one could not get it again (no *delta* or *omicron* variants) however one could develop shingles later in life.

YB's daughter reached the age of seven without getting chicken pox. At that time, a vaccine became available. The family physician recommended it, and YB's partner asked if the physician would give it to his own daughter. The physician's affirmative response led to the vaccination, and no chicken pox.



January 9, 2022

This is a health economics blog, and health economists look for economic efficiency. Efficiency is defined as the least cost way of achieving a goal. Vaccinating and boosting is economically efficient. Working through the *delta*, *omicron*, and who knows what additional Greek letters, is not.

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January 24, 2022

## The Nursing Shortage During COVID-19

Reporter Andrew Jacobs writes of the severe shortage of qualified nursing staff in Mississippi hospitals in the January 23 *New York Times* (<https://www.nytimes.com/2022/01/23/health/covid-mississippi-nurses.html>). Small, nonprofit safety-net hospitals like Singing River Health System have been unable to match the salaries offered by travel nurse agencies and large health systems. Travel nurses, reports Jacobs, can make more than \$200 per hour, which far exceeds the \$30 per hour earned by most staff nurses in Mississippi.

At Pascagoula Hospital, that city's only acute-care health facility, there are 80 unfilled openings for registered nurses, forcing administrators to mothball a third of its beds. Throughout the report, administrators speak of only a trickle of applications coming in for advertised and unfilled positions.

This is a health economics blog. The supply of nurses, like other labor supplies, responds positively to higher wages and better working conditions. The wages in the Mississippi hospitals are low, and the working conditions seem to be difficult. The rate of unvaccinated population is high. The impact of a shortage is not just limited to COVID-19 cases that are untreated, but also people to take care of heart attacks, strokes or car accidents.

Like many other skilled labor markets, nursing requires years of education, on-the-job training, and state licensure. One cannot "turn on the spigot" and get more nurses. Foreign-trained nurses are also in short supply, as immigration has fallen dramatically since 2017 and international travel and migration have plummeted since the onset of COVID-19 in March 2020.

Politics also plays a part. Mississippi is among a handful of states that have refused to expand Medicaid through Obamacare (thirty-eight states plus DC do participate), claiming that it cannot afford to do so, despite a [report to the contrary](#) by their state economist. One state's decision will not necessarily affect a national labor market for nurses, but expanding Medicaid would allow Mississippi to compete more effectively with other states that have more resources.

Like many other health labor problems, the nursing shortage is most acute in rural and poor areas of the country. To the extent that poverty and racism affect health and health care, the shortage of trained personnel tends to exacerbate such problems. COVID-19 did not initiate shortages of trained personnel. However, it has made them more immediate, more lasting, and more dangerous.

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## Finishing the Second Year

The COVID-19 pandemic broke in mid-March 2020, so as your blogger writes this piece, the United States is closing in on its second year. Worldometer (<https://www.worldometers.info/coronavirus/country/us/>) indicates that over 915,000 people in the United States have died of COVID-19. On February 1 (<https://www.nytimes.com/interactive/2022/02/01/science/covid-deaths-united-states.html>), Benjamin Mueller and Eleanor Lutz of *The New York Times* reported that, of the high-income countries, the United States now has the highest level of cumulative deaths per 100,000 people throughout the entire pandemic, and the highest cumulative deaths per 100,000, due to the Omicron variant.

They referenced a study in the *Lancet*, appearing on February 1, 2022, that reported the factors that explained the most variation in cumulative rates of SARS-CoV-2 infection between January 1, 2020, and September 30, 2021 included the proportion of the population living below 100 meters (5.4% of the variation), GDP per capita (4.2% of the variation), and the proportion of infections attributable to seasonality (2.1% of the variation). Most cross-country variation in cumulative infection rates could not be explained, and much of the variation is impervious to policy intervention.

Looking across countries, the factors that explained the most variation in COVID-19 infection-fatality ratio (IFR) over the same period were the age profile of the country (46.7% of the variation), GDP per capita (3.1%), and national mean Body Mass Index (1.1%). Over forty-four percent of cross-national variation in IFR could not be explained, and again, much of the variation is impervious to policy intervention.

Although the authors professed difficulty in determining country-specific vaccination rates for the study, they related the vaccine effectiveness to trust in the government, and they concluded that:

an increase in trust of governments such that all countries had societies that attained at least the amount of trust in government or interpersonal trust measured in Denmark, which is in the 75<sup>th</sup> percentile across these spectrums, might have reduced global infections by 12.9% ( [confidence interval of] 5.7–17.8) for government trust and 40.3% (24.3–51.4) for interpersonal trust. Similarly, if all countries had a national BMI equal to or less than that of the 25<sup>th</sup> percentile, our analysis suggests global standardised IFR would be reduced by 11.1%.

Where does all that leave the United States? The share of the population not fully vaccinated is 36%, compared to 28% in Britain and 20% in Canada. The share of the population age 65 and over (at 17%) trails Japan (28%) and several other advanced countries. The share of obese adults (BMI greater than 30) is 36%, again the highest among the comparison nations. The US population thus

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has several risk factors that suggest higher rates of COVID-19 infections and deaths. In the recent weeks the death toll has been about 2,500 per day, or 75,000 per month. It is almost certain that the number of COVID-19 deaths will pass one million by the end of March 2022, 24 months after the pandemic reached the United States.

In the *Times* article, Anne Sosin, a policy analyst who studies health equity at Dartmouth, notes that “We’ve normalized a very high death toll in the U.S., ...if we want to declare the end of the pandemic right now, what we’re doing is normalizing a very high rate of death.”

YB has ventured into this territory before. Early in the pandemic (and repeatedly in this blog), he wrote that the United States has routinely accepted the loss of over 35,000 lives per year due to traffic accidents throughout the last century, despite current technology (smarter cars) and available policies (lower speed limits) that could reduce these fatalities significantly. (Curiously, in 2020, the number of fatalities rose by 7.2%, even though people drove 13% fewer miles (<https://www.reuters.com/world/us/us-traffic-deaths-jump-105-early-2021-2021-09-02>)) – people drove less, but less carefully.) The reason that we accept these 35,000 deaths is that it is not WORTH IT to us in terms of increased travel time and travel cost, to save the lives.

Will 75,000 COVID-19 deaths per month become the new normal ... and will the US public accept it? Are 75,000 deaths per month “worth it”? This is an important question as Year 2 of COVID-19 draws to a close.

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February 11, 2022

## Rewriting Pandemic Economics

Your blogger co-authors one of the leading texts in health economics. *The Economics of Health and Health Care* (written with Sherman Folland z”l and Miron Stano) has had eight editions. For the third through the seventh editions, the authors included a chapter on “Economic Epidemiology”, with a focus on HIV/AIDS. With the development of treatments for HIV/AIDS, and a seemingly reduced interest in epidemics, the authors, with the agreement of the publisher, dropped the chapter for the eighth edition, which appeared in 2017.

Well, times have changed. With new co-author Shooshan Danagoulian, the authors are preparing a new edition, with a new chapter on pandemic economics. Your blogger has primary responsibility for the chapter, although all co-authors will participate. In preparation, he pulled out the text from the seventh edition, appearing in 2013, to see if anything could be salvaged.

In a couple of words, *not much*. Emphatically ... *not much*. Economists still view an epidemic or a pandemic as an economic “bad”, with externalities that defy market solutions. However, the previous models said nothing about lockdowns, nothing about supply chain problems, nothing about numbers of deaths that in the United States alone will top one million by mid-March 2022, only two years after the first one was recorded. Nothing about macroeconomic effects including unemployment and inflation, and nothing about breakdowns in world trade. YB has a lot of re-writing to do.

This is a health economics blog. Economists work with two kinds of models, *partial equilibrium* and *general equilibrium*. Please forbear the jargon. If, for example, a blight hits the crop of carrots, economists can look at the expected price and output in the carrot market *alone*, without paying too much attention to the carrot market’s impact on the celery market, much less the car market, or the housing market. For a lot of analyses, partial equilibrium, looking at a single market, works fine. It enables economists to produce useful and interesting analyses relatively quickly, and the results of the analysis (in the case above, a higher price and lower quantity of carrots) are sensible.

Even the world’s most recent epidemic, HIV/AIDS was generally considered in partial equilibrium analyses. There was enormous loss in the sub-Saharan Africa, but the economies there are relatively small compared to the rest of the world. There was a significant loss of life in the United States, particularly in the arts community (deaths of Rudolf Nureyev, Rock Hudson, Anthony Perkins, Freddie Mercury and others), but again, other than the significant loss of immensely talented artists, there was not a massive impact on overall artistic output or prices.

COVID-19 has proven to be a general equilibrium problem. It is so big that the markets are obviously related. Millions of deaths have led to changes in

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labor markets, which have reduced participation and raised wages. Measures to prevent economic collapse have led to (at least temporary) inflation. The demand for new cars collapsed, leading to a collapse in the supply of used cars, and increases in their prices. Decreased labor forces have led to undersupplies of computer chips, at any price, as well as (on occasion) yeast, chicken, and toilet paper.

No partial equilibrium model would have foreseen the massive impacts on the educational system, and those impacts will have far-reaching effects on economic output, and economic growth. No partial equilibrium model would have foreseen the massive change in work and commuting behavior in the United States and elsewhere. Understanding such impacts requires complicated modeling of multiple markets. The economics profession will spend years trying to explain the impacts.

The last time this happened, in the Spanish flu epidemic of 1918-1920, both economics and epidemiology were in their infancy. There are few comprehensive economic analyses of the impact of the Spanish flu. There are now more economists, and there is now more information, available. Economists must learn to learn economic epidemiology better, and to teach economic epidemiology better.

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February 24, 2022

## Is it Over?

Today, almost two years into the pandemic, Worldometer® (<https://www.worldometers.info/coronavirus/country/us/>) showed 969,602 US deaths from COVID-19. About 2,000 people per day are still dying from the disease, so by the end of March the US death toll will be (un)comfortably over one million.

Yet in most places, mask mandates are expiring, vaccination mandates are facing increasingly high hurdles, and most normal activities are occurring somewhat normally. We still need to show proof of vaccination to go to the theater and to the opera. Your Blogger's university still requires the Campus Daily Screener to come on campus. Still, the university would like for professors to teach in person, and employers, according to journalists' reports, are longing for people to come back to work at the "workplace", like the good old days. This is happening around the world. Has the pandemic ended?

It would seem not. There are millions of unvaccinated people in the United States and billions world-wide. Two close acquaintances and their families who were "max-vaxxed" have come down with COVID-19 in the past month. Then ... there are those 2,000 daily deaths that refuse to go away.

This is a health economics blog, and the economics say that COVID-19 is an "externality". One's right not to get vaccinated, is like one's right to smoke in a crowded restaurant. The market does not price air and aerosol droplets very well. In fact, it provides a price of zero, and elementary economics shows that people overuse goods with "zero prices." The "un-vaxxed" person overuses YB's air, which is why YB + partner still wear masks in public places.

Observers hoped that the pandemic was ending after the awful January 2021 when over 100,000 Americans died. Then came Delta, and then came Omicron. It's not clear which Greek letter will be used next. Over 400,000 Americans have died in the past twelve months from COVID-19.

John Barry's outstanding *The Great Influenza* notes that Australia was spared the Spanish flu until the victorious soldiers came home on boats from World War I. Remember that some of the earliest COVID-19 outbreaks occurred in international ports of entry such as Detroit (from the Far East) and New York (from Europe). As long as infectious people can get on airplanes, or until we reach the elusive herd immunity, the pandemic will continue.

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### *Reference*

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March 13, 2022

## Two Years of Pandemic: An Accounting

On March 11, 2020, COVID-19 was declared a pandemic. It is two years to the day (plus two) since then, and according to [Worldometer](#), 993,710 Americans have died of COVID. The number will almost certainly pass one million this week. Over six million have died world-wide, and the US and world totals are both almost certainly underestimated.

Using a conservative value of a statistical life of \$7.5 million, this has led to a loss of \$7.5 trillion. For perspective, the Gross Domestic Product (GDP) of the United States in 2021 was \$22.9 trillion, so the loss of life is equivalent to almost one-third of the annual GDP. This staggering loss would have been unimaginable two years ago, and slightly less unimaginable a year ago.

The loss of life is hardly the only loss brought about by COVID-19. A whole generation of children who started K-12 school between 2009 and 2020 will have lost a staggering amount of education, and the accompanying human capital, from lost and interrupted school years. It will be years before the appropriate studies can be mounted and interpreted, but one may want to compare the outcomes for students who graduated from high school (or college) in 2019, the last full year before the pandemic, and 2020 (or later). Alternatively, one will compare economic outcomes of those who started school in 2022 (assuming that schools are “whole” again at that time) with those who started in earlier years.

In an earlier blog, Your Blogger referred to research by Eric Hanushek (<http://hanushek.stanford.edu/publications/economic-impacts-learning-losses>) with colleague Ludger Woessmann, which had assumed that schools would re-open “as normal” in Fall 2020. They did not do so.

In a follow-up late 2021 email to YB Hanushek calculated that:

- The loss of education for the current school-aged cohort would reduce the subsequent lifetime earnings of the average student by between 6 and 9 percent.
- There would be an approximately 3-4 percent of average GDP loss per year for the remainder of the 21<sup>st</sup> century.

By most accounts, disadvantaged students likely fared even worse.

What we consume has changed. Business that depended on face-to-face contact have been severely damaged. Restaurants, theaters, and concert venues all lost billions of dollars, as consumer changed their buying habits. In contrast technology companies such as Apple, Microsoft, Alphabet, Meta (formerly Facebook), and Google have earned billions of dollars. The Amazon



March 13, 2022

truck replaced the Wells Fargo wagon of “Music Man” fame, as the deliverer of needs and wishes. Mall retailers, who had endured one body punch after the next during the 2010s, saw things go from bad to worse during the pandemic.

We have inflation again. In order to keep the economy from burning down, the Federal Reserve and the Federal Government flooded it with money. It worked. A repeat of the economic carnage of 2007-2008 was largely avoided. However, a combination of supply chain issues (cost problems) and a traditional demand pull (that “flood of money” chasing too few goods) have led to inflation rates for 2022 that are running at about 7.5 percent per year. Without indulging in hyperbole, this IS the highest rate since the early 1980s. Savvy investors, as well as those who depend on Social Security (which is indexed to the Consumer Price Index) are largely able to protect themselves. Others, who depend on fixed dollars of income, may be hurt badly. Is all of this related to COVID-19? Absolutely! Inflation had been in check until 2020. Policy-makers promise a soft landing (ending inflation without too many dislocations), but YB has seen this before, in the 1970s. Interest rates will have to be raised, and a decrease in economic activity will almost certainly occur.

The world’s citizenry years to return to “business as usual” after two years of deaths, illnesses and economic losses. However, millions of Americans and billions of world residents have not been vaccinated. Even those who have been “max-vaxxed” have gotten sick, although the resulting illnesses are not as bad as before-vaccination infections. Yet, over one thousand people per day are still dying from COVID-19, a rate of 30,000 per month.

This is an accounting rather than a policy prescription. One fervently hopes that it will be the last such annual accounting.

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## One Million Deaths

According to Worldometer (<https://www.worldometers.info/coronavirus/country/us/>) today, 1,001,175 residents of the United States have died from COVID-19. This was going to come eventually, as even now the United States has settled on a death rate of about 1,000 per day. Moreover, cases are spiking again in Europe (Germany has been reporting 200 to 300 thousand new cases per day), and over the past two years the European infections have typically found their way to the United States.

This is a health economics blog. What are some of the economic surprises that came ... and stayed in the two plus years?

1. One million deaths! No longer is the Spanish Flu of 1918-19 (where approximately 675,000 Americans died) a historical footnote. Most current observers could not conceive of something like that in the 2020-22 period, and laughed nervously when experts like Dr. Lena Wen predicted one to two million deaths. The loss in terms of human life is in the trillions of dollars in the United States alone.
2. The vanishing physical workplace! Workers at some of America's great corporations have not worked at the office in over two years. Great office complexes remain half-filled, if that. Central cities developed because they were the cheapest way (through in-bound commuting) to gather large workforces that were necessary to make the country prosper. Workers are trickling back, but it is not clear when or if the central workplaces will repopulate.
3. Schools! A whole generation of students from age 4 to 25 has seen its schooling interrupted and changed. Members of this cohort have learned less, and developed fewer skills. Economic history suggests that they will suffer for it in the marketplace.
4. Supply chains! COVID-19 has demonstrated the fragility of world supply chains. Two years into the pandemic, there are chip shortages, paper shortages, lumber shortages, truck driver shortages. Economists use the term "elasticity" to describe responsiveness to changes. Many of our responses have been far less "elastic" than expected.
5. Social processes! Restaurants are still suffering, and cinemas are still suffering. People are eating at home, and streaming movies. Churches and synagogues are online. Compared with 2020, Americans are doing more "planning", but the plans are fraught with "what ifs".
6. Inflation! Inflation has returned at levels not seen in forty years, in large part due to generous payments to keep family finances stable. Policy-makers did not want a repeat of 2007-2008 where the financial institutions survived (for the most part) and millions of households lost their houses.

March 23, 2022

Was this current policy a good trade-off? Your blogger thinks “Yes!” but there are others who disagree.

Has COVID-19 run its course? The science suggests “no.” A relatively tranquil summer of 2021 was followed by Delta and Omicron viruses that led to hundreds of thousands of cases (and two to three thousand deaths) per day in January 2022, only two months ago.

One million deaths. Fewer hugs and fewer handshakes. More timorous planning, or non-planning. Even as it shrinks in size, the COVID-19 pandemic has taken and continues to take a major toll on the population and the economy.

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## Risk and Uncertainty Once Again

About two years ago (May 3, 2020) Your Blogger (YB) wrote a [piece](#) on risk and uncertainty. Economists often use the two terms interchangeably. At the time, we did not know how COVID-19 was being transmitted, much less what the “odds” of getting it were. YB argued that we were seeing uncertainty rather than risk, with no good odds as to the probabilities of contracting COVID or living through it.

Two years later, with over one million Americans dead from COVID-19, epidemiologists are still grappling with risk. In a carefully nuanced article, journalist [Benjamin Mueller](#) writes “Like it or not, the choose-your-own-adventure period of the pandemic is upon us.”

Epidemiologists measure probability of dying with micromorts, where one micromort represents an estimated one-in-a-million chance of dying. The table below provides a set of comparisons to the probability of dying from driving for a year, which is 100 parts per million. Driving 250 miles in one trip is one percent as likely. Using heroin is 197 times as likely.

### Comparative Risk of Dying

<b>Risk of dying from activity</b>	<b>Micromorts</b>	<b>Ratio Compared to Driving One Year</b>
Flying commercial 7,500 miles	1	0.01
Driving 250 miles	1	0.01
Motorcycling 25 miles	4	0.04
Scuba diving	5	0.05
Running a marathon	7	0.07
Skydiving	10	0.10
Anesthesia	10	0.10
<b>Driving one year</b>	<b>100</b>	<b>1.00</b>
Giving birth	210	2.10
Base jumping	430	4.30
Commercial fishing	1,020	10.20
Active service in Afghanistan, 2011	5,000	50.00
Baby's first year of life	6,600	66.00
Climbing Mt. Everest	12,000	120.00
Using heroin for one year	19,700	197.00

From The *New York Times* | Sources: The Norm Chronicles, by Michael Blastland; Estimating Everyday Risk, by Hannah A.D. Keage and Tobias Loetscher

Source: <https://www.nytimes.com/2022/04/17/science/covid-risks.html>

April 18, 2022

Not surprisingly, the odds vary according to personal circumstances. Younger and healthier people have lower odds. Older and immunocompromised people have higher ones. Those with good access to good healthcare do well. Others, without such access, do not do as well.

The major problem with current measurements is that (yet and still) we do not really know how much “bad stuff” is out in the air. Think of a lake into which bad chemicals run off from hundreds or thousands of sources. If we are not measuring how much is running off, and seldom measuring how much bad stuff is in the lake, people could get sick from swimming or drinking water that looks to be safe, and those who are immuno-compromised could get sicker or die.

This seems to be happening with COVID-19. Mueller reports that as of late February, 7 percent more Americans were dying than would have been expected based on previous years — a contrast with Western European nations like Britain, where overall deaths have lately been lower than expected. So, unlike two years ago, we know the risk factors, but we don’t know how high they really are. This is not run-of-the-mill flu. Biostatistician Lucy D’Agostino McGowan of Wake Forest University states, “We’ve never seen flu prevalence — how much of it there is in the community — in the numbers we’ve seen with COVID.”

This is a health economics blog, so where is the economics? We have the right to make ourselves sick. This, in a perverse way, is what economists call “consumer sovereignty.” The virus is an externality, affecting others. We should be informed, and prevented, from making others sick, which (to continue the metaphor) *is* perverse, and harmful. YB and partner were on four airplanes this past weekend. We were fully masked, as was just about everyone else (from the four corners of the earth) in the planes and in O’Hare (Chicago) and Atlanta Airports. We felt reasonably safe. Today a federal judge threw out mask requirements. YB and partner (who are in their 70s) may be re-evaluating future air travel plans. We already avoid shopping malls, cinemas, and most restaurants.

So, we are doing better with risk, and we have a better handle on the odds. We do not know (yet and still) the base, the amount of infectious stuff that is out there. If it is growing, as it appears to be, then another wave of COVID-19 is around the corner.

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May 3, 2022

This is the way the COVID ends ... not with a bang but a whimper

A federal judge in Florida struck down the mask mandate for airliners and people in airports. Fliers “ripped off their masks” in mid-flight. The number of daily deaths by most counts has fallen below five hundred, about where they were in June 2020 and in June 2021. After over one million deaths in the United States, has COVID ended?

- We are more vaccinated, and the vaccines seem to be working in preventing deaths, and reducing the severity of the disease, among those vaccinated. Large segments of the population have had initial vaccinations, and many have had a first, and then a second, booster.
- Businesses are trying to bring their workers back to the offices, although on a far more limited scale than pre-pandemic.
- Sports venues seem to be better attended, and some restaurants as well. Reading the trade publications suggests that in-theater cinema is searching for new models to market their films. People have not really flocked back to the movies.
- Many have changed their behaviors. Your blogger plus partner are wearing masks in large groups. Many continue to avoid crowded theaters and crowded offices. Proof of vaccination and/or negative test is still required to enter many venues.

This is a health economics blog. Initial efforts to fight the disease involved reducing in-person production and consumption activities, to avoid the spread. The analyses are still trickling in, but most feel that in the United States several hundred thousand lives were saved. Similar measures have recently returned in China (see below)

These benefits have come at the considerable cost of reduced production, reduced consumption (at the beginning), and disruption to our education system. Most students are back in some more normal educational setting, although there have been millions of student-years of lost education, and a major reduction of in-person education, particularly, but not exclusively, at the college level.

Have the costs incurred to fight the pandemic exceeded the benefits? Your blogger believes not, but he and other sober analysts are waiting for more sober analyses.

Can we declare the pandemic over? It is not over in China where Shanghai has been locked down for weeks, and where Beijing faces potential lockdowns as well. Cases are spiking in Europe and Australia. Several billion people may have achieved some level of natural immunity by getting mild (or

May 3, 2022

severe) forms of the disease, but most have not been vaccinated. Another pandemic is no further than a transoceanic flight or a loaded cruise ship from an infected location. This, after all, was how it reached the United States in 2020.

Is the pandemic over in the United States simply because people are tired of it? Given the phases apparent over the past two years, it is essential to see what happens in Fall 2022, when it gets cold again. In both 2020, and 2021, COVID-19 cases rose in the fall and spiked in the following winters. It is sobering (that word again!) to remember that over 100,000 Americans died in January 2021, and 70,000 more in January 2022.

Or ... has it has largely ended. To paraphrase T.S. Eliot in [\*The Hollow Men\*](#) (1925):

This is the way the COVID ends  
Not with a bang but a whimper.

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May 14, 2020

## Is This Time Different?

In December 2018, Your Blogger was responding to a “Request for Proposal” which is what funders issue when they want some work done. Often there are many proposals, and none, one, or several might be funded. As it happened a group of three Universities was planning to respond as a consortium, and we needed to meet.

“I can set up a Skype meeting,” YB intoned. “We have Zoom” responded a colleague at another institution. “It’s better than Skype”, he said. The rest, as they say, is history, as *Zoom* became a noun, verb, adjective and sometimes a curse. When COVID-19 hit, in late February 2020, the whole world was quickly on Zoom. And, as it happened, the consortium sent in a proposal, which was subsequently funded for a five-year period.

With the arrival of COVID-19, the Zoom and other technology and streaming stocks took off like rockets. The “tech-heavy” NASDAQ index, comprised of many of these stocks, followed suit. After an initial downward jolt following the initial COVID lockdowns, the NASDAQ rose from 6898 on March 15, 2020, to 16057 on November 14, 2021. This was an increase of 133%. Was it sustainable?

YB, with the perspective of having seen the semi-conductor stock price boom (as a boy) of the 1960s, and the Dot.com boom of the late 1990s, was skeptical. He and partner did NOT rush into these stocks, although some of their mutual funds might have (it is hard to monitor all of the activity). Was this time different? After some negative news from Netflix, among others, in April and early May 2022, the NASDAQ settled on May 13, 2022, at 11805, down 27% from its November 2021 peak.

So, is this time different? What will happen to the technology stocks from here? The development of computers in the 1970s and the 1980s built on the 1960s advances in electronics? The prominence of the Internet, after 2000, built on the establishment of tens of thousands of “dot.com” web sites. The economy moved forward at these times, largely as it had been moving forward previously.

In contrast, two years plus into COVID, in-person businesses are working at fractions of their 2019 capacities. Workers are reluctant to come in five days (or even three days) per week. The numbers of virtual meetings via Zoom, Teams, or other software stand at levels that would have been unthinkable in early 2020.

Movie theaters and restaurants are still trying to grasp the new realities of 2022 commerce. There are some movie blockbusters to be sure, but there are far more theaters closing than opening. Some restaurants have gone back (largely) to in-person dining, but many have transitioned to “take-out” or “pop up”.



May 14, 2020

Many of these new ways of doing business represent not a continuation of the trend that got briefly interrupted by COVID-19, but rather a “new business model.”

YB has recently retired as a full-time University faculty member, but he observes that COVID-19 did for online education what years of advertising could not. Universities pushed online education for years, because they thought it was inexpensive to do, and bring a flood of new students at a very low incremental cost (it appears to be inexpensive to bring the 301<sup>st</sup> student into an online lecture set up for 300 people).

COVID-19 put everyone on line and millions of students are apparently demanding that it continue. This means more Zoom, more online platforms, and many other messaging, and conference apps. Most universities want the students back on campus, but there is considerable resistance.

Theaters want people back too, but millions in the United States and elsewhere still use Netflix, Amazon, Apple+, and other tech high fliers. Will these tech companies continue to survive and prosper? Will their stocks maintain their prices and will the companies prosper as they have recently?

It is wise to be cautious. In the mid-1970s YB interviewed for a position in Rochester, New York. Rochester, he was told, was virtually recession-proof because their anchor companies were Eastman Kodak, and Xerox. Both companies were strong and well-managed, and produced products that everyone wanted. History, of course, proved them wrong.

The relation of the stock market to COVID-19 depends on the long-term impacts of COVID-19 on the health of the population, and on the organization of its economic activities. By Gross Domestic Product terms, the economy has bounced back, and perhaps even overheated. But the longer-term organization of activities suggest that we will be meeting virtually, and streaming electronically, far more than one would have expected even two years ago. Analysts will continue to debate how these trends will factor into the stock market pricing of company assets.

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May 20, 2022

## Deaths of the Elderly

Since the advent of the COVID-19 pandemic, your blogger has been surprised often enough that he thought he would not be surprised much more. He was surprised by the lockdowns, and surprised by the sudden halt in 2020 economic activity. He was surprised by the speed at which the vaccines were developed, and even more surprised by the resistance to the vaccines among some of those whose lives could have been saved. He was surprised at the “totality” of the pandemic. Were there more surprises?

This week he was surprised yet again, by some numbers that should not have surprised him. From a variety of government sources, he discovered that (at the time), of the 993,000 deaths from COVID, 740,000 (74.4%) of them were age 65 and over. Almost 2.4 per hundred people age 75 and over, and almost 4.3 per hundred people age 85 and over died of COVID-19.

What is the economic loss from these deaths? Most of those ages 65 and over have retired, and certainly almost all of those ages 85 and over are no longer working. Yet, family and friends have lost large numbers of loved ones and companions, members of the churches and synagogues, and people’s golfing and movie buddies. These are economic losses just as surely as foregone production.

This is a health economics blog, and one must acknowledge that total deaths are “gross measures” – undoubtedly many of these people would have died from something else. For example, the number of deaths in 2020, 3.4 million, represented an 18.75% increase from 2019. The numbers did not bounce back either in 2021. The 2021 deaths in represented a 0.82% increase from 2020, or 19.72% higher than 2019 (<https://www.census.gov/library/stories/2022/03/united-states-deaths-spiked-as-covid-19-continued.html> ).

Deaths are easy to measure, but measuring the longer-term impacts will be trickier. Older people who have been weakened, but recovered from COVID-19, may die sooner from something else. Scholars and journalists have been writing about “Long COVID”, the long-term impacts of the coronavirus. It will be years before analysts will have much definitive information on these impacts.

YB and his partner are health care professionals, and Partner has been dogmatic about their getting boosters when available, masking when out and about, wiping off surfaces, and generally “acting safely”. YB’s complaints aside, the data show that Partner has been right. YB is grateful.

Allen C. Goodman  
Professor of Economics

## A Pause, for Now

When your blogger started this compendium in March 2020, he had no clue that the pandemic would still be going on twenty-seven months later. He had no idea that there would be over one hundred (actually 125) topics to cover. COVID has not ended quickly, and many of the impacts are decidedly long-term in nature.

Several items show the state of things in June 2022.

- YB's University is still requiring "Campus Daily Screeners" for entering and staying on campus. On-campus events are sparsely attended. At a recent retirement event, twenty percent of those who had promised to be there begged off because of COVID exposure.
- Even though the economy has come "roaring back", with low aggregate unemployment, and accompanying inflation, the roar has been selective. The restaurant, hospitality, and entertainment sectors have not roared back.
- Cities that depend on wage or income taxes from commuters from the suburbs are taking major hits in their revenue wallets. Analysts are creating new economic models to figure out the size (large) and the permanence (unknown) of the losses.

The long-term impacts are massive:

- Over one million deaths in the United States – This number would have been unthinkable in 2020. The economic losses have been in the trillions of dollars.
- Long COVID – No one knows how long the COVID vaccines will work, or whether the next variant will be only minor, or the worst one yet. No one knows what the long-term effects of COVID will be.
- Education – Almost every child from pre-K to Graduate School will have had his or her education impacted negatively by COVID. They will be at an economic disadvantage compared to those cohorts younger and older than themselves.
- Public health awareness – While vaccine skeptics were once relegated to the lunatic fringe, the questioning of public health interventions has been scary. One wonders whether campaigns to remove seatbelts from cars, or to increase cigarette smoking will be next.

June 4, 2022

The amount of knowledge about COVID has been growing exponentially, and yet anything published today is almost instantly obsolete. Academic articles about COVID that appear now make little reference to the *delta* or *omicron* variants. A comprehensive study about short-, medium-, and long-term impacts is probably a decade down the road.

Your blogger has a major writing assignment ahead, a ninth edition of *The Economics of Health and Health Care*, with Shooshan Danagoulian and Miron Stano. It has been six years since the last one, and today's health economy has changed drastically from that of 2016. YB is working on the "pandemic economics" chapter, and sometime soon (for his sanity) he will have to stop reading new material, so he can write.

As a result, there will be fewer COVID blog posts, unless something really big (or really bad) comes to pass. This is a pause ... for now. Thank you for reading.

Allen C. Goodman  
Professor of Economics

June 23, 2022

## Now, It's Personal

Your blogger has been writing on COVID-19 since March 2020. He has looked at others' COVID-related behaviors, and he has evaluated policies toward COVID as a detached observer. On Tuesday, YB and his partner both tested positive for COVID for the first time. They have started quarantining. They started taking Paxlovid® yesterday. COVID-19 has suddenly become very personal to them.

Today's personal excursion into COVID offers a negative and then a positive. The negative relates to exposure to COVID, and the reluctance of the business community to address it. The positive relates to the new-found "nimbleness" of pharmaceutical policies to provide drugs quickly and safely.

*First, the negative.* This is a health economics blog, and the purpose of this post is to evaluate public policies. In the past two weeks, YB plus partner returned by plane from California, and went to a funeral. They wore masks throughout the return trip, and during the funeral proceedings. Almost no one was masked in the airport, on the airplanes, or at the funeral, and YB's partner (masked) sat on the plane next to a crying, sneezing child for three hours.

Yet it is incongruous that the airlines, and airline staff have crowed almost triumphantly that the mask mandate has been overturned and we are free to fly unmasked. If one wants to wear masks, fine, but they will not require it. Imagine if a Florida judge had declared the airline seatbelt mandate unconstitutional. Would the airlines gleefully make the same announcement?

Airports and airplanes gather large numbers of people into the same place, in close proximity. Some may be ill, and others may not have been vaccinated. Travelers may not wish to wear masks ... but they will remain at high risk for infection. YB and partner have plans to travel again this summer and they will travel masked – possibly double-masked.

*The positive?* Getting prescriptions for, and buying, Paxlovid® was easy. YB plus partner called up the provider early in the morning. They were asked to "fax" a picture of the positive test to the provider, and the provider would contact the correct pharmacy. They (YB + partner) did, and they (provider) did. Four hours after the initial call, the prescriptions were ready at Walgreen's. They were provided at zero cash cost.

Surprising? To YB and partner, it was. YB had been prepared to wait a day or two, before the drugs would be available. Many consumers have become accustomed to a gargantuan amount of paperwork in making or filling prescriptions. There was a larger public purpose to getting out COVID-19 treatment quickly to those who need it. YB and partner are grateful.

June 23, 2022

For now, the COVID-19 symptoms are manageable. YB is sluggish, and his partner has a fever and a cough. Neither has trouble breathing, and both are sleeping OK. They have joined 320 thousand Oakland County Cases (thus far) and the 2.6 million cases in the State of Michigan.

Now, it's personal.

Allen C. Goodman  
Professor of Economics

August 23, 2022

## Endemic Wasn't Supposed to Be this Way

When COVID-19 swept the globe in early 2020, many scientists argued that like all other types of flu, it would eventually become *endemic*. Your blogger had to look it up. According to a National Cancer Institute (<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/endemic>) definition:

[Endemic] In medicine, describes a disease that is constantly present in a certain geographic area or in a certain group of people. For example, endemic Burkitt lymphoma (a type of non-Hodgkin lymphoma) is seen at constant levels in certain parts of Africa.

In other words, it would be around, and we would get used to it. “Herd immunity” would play a part, in that enough people would have had it to limit the spread and the damage.

Well, thirty months, and with over 589 million Coronavirus Cases and over 6.4 million deaths (1.06 million in the US) (<https://www.worldometers.info/coronavirus/>), it doesn't seem to be endemic quite yet. Unless endemic's meaning has changed.

YB and his partner flew from Detroit to the “left coast” for his partner's professional convention. The plane was packed, and about half of the passengers were masked. This was an increase in the masking rate over a previous set of flights in mid-June in which YB and his partner both contracted COVID.

August 2022 is the first time that this convention has met in person since 2019. The association's leaders desperately wanted to meet in person, and they severely limited the number of virtual sessions. Here is what “meeting in person” means in August 2022.

- Masked presenters
- Masked attendees
- Requirements that attendees be vaccinated, boosted, and willing to show proof of vaccination.

The result was decidedly mixed. Attendees cannot recognize each other, speak clearly to each other, or hear each other through masks. Attendance is way down from pre-COVID meetings. Hardly a session occurred without one or more would-be presenters “no-showing”. Professional job market matching had been eliminated and recruitment activities will be conducted by virtual means later in the academic year (in fairness, the increasing use of Zoom and Skype had been leading to this for some years, even pre-COVID).

August 23, 2022

YB plus partner went on to a wedding later in the trip. Guests had to present negative COVID tests before entering the wedding venue. This wedding had already been postponed by a year or more. Everyone wanted to celebrate, but everyone had to be cautious. It was a joyous affair. It is good to be together again.

This is a health economics blog. In early blogs starting in March 2020, YB used the analytical device of a pandemic as an economic tax, a tax that raises the costs, and reduces economic activities.

It could be that this COVID tax will be permanent in the long-haul. Twenty-one years later we are still paying the “9/11/2001” tax at airports. At a cost of billions of dollars in TSA guards, airport alterations, screening equipment, and lost time, we have prevented another 9/11. “9/11” is now endemic.

COVID seems not yet endemic. We have a way to go.

Allen C. Goodman  
Professor of Economics



## Epilogue

This posting puts a formal ending to this blog of COVID-19 writings. It started with two to three postings per week in March 2020. It settled down to about two posts per month after a year, and fewer after that.

Some anthropologists and sociologists view this activity as a “journaling” exercise. At the beginning, everyone was guessing what would happen. As the information got better, the analyses got better. One could do a content analysis of how your blogger’s information and analyses changed.

There have been almost 6.9 million COVID-19 deaths since the late 2019 beginning, with almost 1.2 million in the United States – and these numbers are almost certainly underestimated. As recently as early January 2023, according to the CDC, close to 4,000 deaths per week were attributed to COVID, and more recently the death rates have leveled at about 1,000 per week. On May 11, the Biden administration allowed the emergency declaration to expire. From here on, the government will treat Covid-19 like any other respiratory ailment. We are back to normal.

YB is a health economist. Yet he and his colleagues were “blindsided” by COVID-19. In a set of bullets:

- Previous teaching and policy models implicitly focused on “small” outbreaks.
- The last pandemic the size of COVID-19 occurred over a century ago.
- Most of the extant models (by early 2020) were (loosely) “partial equilibrium.” Even the HIV/AIDs epidemic was treated in partial terms. Nothing had prepared us for a “total” global immersion of COVID-19.
- No earlier model would have predicted widespread and long-standing interruptions in education to the population ages 5 – 20. Their impacts could be permanent
- No earlier model would have predicted supply-chain interruptions. As of 2023, they have abated, but we have not returned to the global supply chains of 2019, nor are we likely to return any time soon.
- No earlier model would have predicted loss of life of at least 1.2 million in the US and over 6.9 million around the world. These are losses in the trillions of dollars. They, too, are permanent

Analyses of the pandemic have been necessarily incomplete. It will probably take five years to estimate short term impacts, and ten years to estimate longer term ones. Applied health economists will have a lot of work to do. We can only hope that we are not interrupted by another global pandemic.

June 6, 2023

YB and his coauthors had written seven editions of their text by 2012. They had created an “Economic Epidemiology” chapter in the fourth edition in 2004. When planning the eighth edition (coming out in 2016) they dropped the chapter on pandemics. HIV/AIDS had seemingly been brought under control and they wanted to move on to other things. In the forthcoming text, [\*The Economics of Health and Health Care, 9<sup>th</sup> Edition\*](#), they have rewritten a pandemic chapter (Chapter 9) from front to back; very little of the analysis from earlier editions remains. Many of the ideas and analyses will be familiar to readers of this blog. The text will be available in November 2023.

This has been a long, circuitous, and “never dull” journey. Thank you for joining it.

Allen C. Goodman  
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