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The Economic Value of Increasing Covid-19 Testing

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Increasing Covid-19 testing rates is vital to reopening the economy, increasing economic activity, and containing the pandemic. As we describe, the economic contraction we are experiencing are caused by the Covid-19 virus. The economy will not resume anything approximating full activity until the virus is tamped down. Because of the scale of the economic contraction generated by the pandemic, investments in addressing the pandemic are likely to be quite cost effective, reduce future federal outlays (e.g. unemployment insurance and stimulus payments), and increase future revenue (via increasing business activity, which will raise tax revenue). Absent addressing the pandemic, there will be a continued, persistent contraction in economic activity that will necessitate ongoing financial aid (e.g. unemployment insurance).

Budgetary Savings - The Costs of Financial Aid to Deal with the Economic Fallout from Covid-19

The economic contraction generated by Covid-19 has necessitated significant financial aid and stimulus. Over the last five months, the last three COVID-19 stimulus packages (The Families First Coronavirus Response Act, CARES Act, Paycheck Protection Program and Healthcare Enhancement Act) cost \$192 billion, \$1.7 trillion dollars, and \$483 billion, respectively (\$2.4 trillion total). Because the economy will continue to suffer in the absence of a solution to the health crisis, the pressure for additional and on-going financial aid packages will be immense. Absent addressing the virus, we might assume that the next five months will result in political pressure that leads to additional level of stimulus and aid similar to what has been allocated thus far. This implies another \$2 trillion in government spending, added to the deficit.

The faster we address the pandemic, the faster we can reopen the economy. The faster we reopen the economy, the less need we have for further costly stimulus and unemployment insurance. A \$200 billion investment in testing would be cost effective in purely budgetary terms if it led to a 10 percent reduction in the stimulus and aid allocated otherwise expected to be allocated over the next 5 months. Similarly, a \$200 billion investment in testing would be cost effective if it had a 20 percent chance of eliminating another trillion dollars in spending in stimulus and aid packages.

A depressed economy also depresses tax revenue. In the present circumstance, Nobel prize winner Paul Romer has calculated that for each employee subject to frequent testing, the economy can support several additional employees while maintaining a safe reopening. Total federal tax revenues are the order of \$3.5 trillion per year. If a \$200 billion testing program can increase economic activity and tax revenue by 15% over the next 5 months, then the cost of the testing program would be completely paid for by increased tax revenue generated by economic growth.

As we outline below, the case for a health-first economic recovery is strong. We believe that a combination of reduced spending and increased taxes is very likely to pay for a \$200 billion testing investment, rendering the spending at least budget neutral. This is before the other economic and health gains that we discuss.

Increasing Economic Activity - The Economic Consequences of the Covid-19 Pandemic and the Potential Gains from Reducing Its Severity

The International Monetary Fund estimates that there was a 37 percent contraction in US GDP in the second quarter of 2020 (April through June). This resulted in daily losses of \$22 billion and monthly losses of \$670 billion.

The economic contraction was driven by the pandemic. Goolsbee and Syverson (2020) analyze changes in consumer traffic as a result of the pandemic. They estimate a nearly 60 percent reduction in consumer traffic; only approximately 10 percent of that reduction was driven by legal restrictions, with the rest driven by fear of the virus Kahn (2020) illustrates that the labor market contracted significantly when Covid took hold. The labor market contracted at similar rates in states with and without shutdown orders, again indicating that the economic problem is the virus itself.

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Based on the contraction the US experienced in April, May, and June of 2020, another quarter with the pandemic unchecked would cost the US economy approximately \$2 trillion in reduced output. Likewise, the US could expect losses of approximately \$3 trillion for the remainder of 2020.

A \$200 billion investment in testing would be cost effective in purely economic terms if it led to a 6 percent increase in economic activity during the remainder of 2020. A \$200 billion investment in testing would be cost effective purely in terms of economic activity if it had only a 20 percent chance of recouping a third of the economic losses that we will experience in the remainder of 2020 if the pandemic is left unchecked.

Reducing Mortality - The Economic Costs of the Loss of Human Life From Covid-19

The Centers for Disease Control estimates that Covid-19 has led to approximately 145,000 deaths. While these estimates do not capture the full harm of the loss of life we have experienced, the US Department of Transportation puts the value of a statistical life at \$10.4 million. This suggests that in purely monetary terms, the value of the loss of life that has resulted from the pandemic is approximately \$1.5 trillion.

In purely economic terms, the savings from forgoing future deaths is substantial.

- Averting 10,000 deaths has, in purely economic terms, a value of \$104 billion
- Averting 20,000 deaths has, in purely economic terms, a value of \$208 billion
- Averting 30,000 deaths has, in purely economic terms, a value of \$312 billion
- Averting 40,000 deaths has, in purely economic terms, a value of \$416 billion
- Averting 50,000 deaths has, in purely economic terms, a value of \$520 billion
- Averting 100,000 deaths has, in purely economic terms, a value of more than \$1 trillion

A \$200 billion investment in testing would be cost effective in purely economic terms if it eliminated 20,000 future deaths. A \$200 billion investment in testing would be cost effective if it had a 20 percent chance of eliminating another 100,000 deaths.

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