The high human cost and loss of life due to COVID-19 is tragic and staggering. Few people have remained untouched by the disease in one way or another, with over 20 million US cases. As of the end of 2020, the coronavirus has contributed to the death of nearly 345,000 people in the United States. While the suffering and hardships imposed by these losses are incalculable and the primary concern, the economic consequences cannot be ignored.

The Perryman Group used estimates of the lost person-years of life, information regarding the demographic characteristics of the victims, data compiled by the Centers for Disease Control and Prevention (CDC), and the firm's modeling systems to examine the resulting implications for business activity.

Although most of the fatalities have occurred among older age groups, The Perryman Group estimates that 2020 fatalities will cause a loss of about 750,000 job-years (a person working for a year) over time (using the lower range of CDC estimates). This value is fully adjusted for age, gender, ethnicity, worklife probabilities, labor force participation, and stabilized unemployment rates.

As these direct losses flow through the economy in the coming years, the cumulative effects include declines of approximately \$246 billion in gross

Long-Term Impact of Lost Employment Associated with Estimated 2020 Deaths from COVID-19 on US Business Activity

Industry Sector	Total	Gross	Personal	Job-
	Expenditures	Product	Income	Years*
Agriculture	-\$13.787 b	-\$3.944 b	-\$2.586 b	-38,098
Mining	-\$12.545 b	-\$3.071 b	-\$1.691 b	-10,230
Utilities	-\$33.357 b	-\$7.510 b	-\$3.277 b	-13,308
Construction	-\$18.775 b	-\$9.376 b	-\$7.726 b	-101,421
Manufacturing	-\$115.976 b	-\$36.202 b	-\$20.552 b	-281,362
Wholesale Trade	-\$24.438 b	-\$16.534 b	-\$9.534 b	-101,179
Retail Trade*	-\$68.399 b	-\$50.832 b	-\$29.468 b	-856,563
Transportation & Warehousing	-\$20.124 b	-\$13.517 b	-\$8.940 b	-113,854
Information	-\$14.570 b	-\$8.979 b	-\$3.833 b	-32,090
Financial Activities*	-\$108.230 b	-\$35.093 b	-\$12.782 b	-121,061
Business Services	-\$40.361 b	-\$25.600 b	-\$20.883 b	-237,426
Health Services	-\$23.956 b	-\$16.397 b	-\$13.863 b	-213,994
Other Services	-\$37.114 b	-\$19.270 b	-\$15.403 b	-341,135
Total, All Industries	-\$531.632 b	-\$246.326 b	-\$150.540 b	-2,461,719

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Monetary values given in billions of 2020 US dollars. Components may not sum due to rounding. A job-year is equivalent to one person working for one year. Retail Trade includes Restaurants, Financial Activities includes Real Estate. Fully adjusted for age, gender, ethnicity, labor force participation rate, and stabilized unemployment rate.

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domestic product, nearly \$151 billion in personal income, and 2.5 million job-years (including multiplier effects).

It should be noted that this measure does not begin to capture the full ramifications of the virus. The morbidity and lingering effects on those infected will reduce productivity over an extended period, as will the problems with forgone or delayed medical care among the rest

of the population and the mental health challenges that are posed by the ongoing crisis. In addition, there are the ongoing impacts on workers, households, and businesses the firm has been measuring and projecting on a continuing basis. The losses from fatalities are significant not only because of their magnitude, but also because they are both lingering and cannot be recouped.

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Dr. Perryman is the President and CEO of the Perryman Group and Distinguished Professor of Economic Theory and Method at the International Institute for Advanced Studies. Over the past 40 years, Dr. Perryman has helped recruit corporations providing tens of thousands of jobs through economic development work, resolved billion-dollar legal issues, and revamped public policy through impact assessments and other studies. His firm has measured economic impacts for corporate locations and expansions involving billions in investments, and his economic forecasts are used by corporations and government agencies alike.

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