Texas has recently seen a sharp upswing in COVID-19 cases, hospitalizations, and deaths. This spike has caused substantial disruptions and hardships to families across the state (including many children), compromised safety as schools seek to reopen and address the massive educational gap that has surfaced during the pandemic, and added further strain to an already fragile healthcare complex. Despite these concerns, there has been massive resistance by policymakers to sensible and basic protective measures, such as appropriate masking requirements and measures to encourage higher vaccination rates. In addition to these obvious consequences, this approach is also resulting in preventable losses to the economy through reduced employment and decreases in productivity. The Perryman Group (TPG) has recently quantified these adverse effects.

Based on an analysis of outcomes with and without an effective policy response (as sum-

marized on page 2), The Perryman Group estimates that preventable decreases in output (gross state product) due to the inadequate reaction to COVID-19 total \$13.4 billion on an annualized basis. Employment losses were found to reach almost 72,000 jobs.

Although the amounts differ markedly by industry, the typical worker who is unable to return to work due to the current situation results in a loss of  $\frac{66,552}{186,755}$  in output for their employer and  $\frac{186,755}{186,755}$  to the overall state economy on an annualized basis.

Economic activity generates tax receipts, and the failure to implement meaningful measures leads to notable losses in State revenues of \$339.1 million on an annualized basis.

In addition to the tragic human costs in terms of illness and loss of life and compelling social ramifications, inadequate responses to the recent surge in COVID-19 cases also causes quantifiable harms to the Texas economy.

# The Losses to the Texas Economy Stemming from Preventable Decreases in Employment and Productivity Associated with Inadequate Protective Measures for COVID-19

	Total Expenditures	Gross Product	Personal Income	Employment
Agriculture	-\$0.199 b	-\$0.079 b	-\$0.042 b	-426
Mining	-\$2.137 b	-\$0.883 b	-\$0.362 b	-1,184
Utilities	-\$1.055 b	-\$0.221 b	-\$0.103 b	-291
Construction	-\$1.270 b	-\$0.691 b	-\$0.539 b	-4,173
Manufacturing	-\$5.598 b	-\$1.860 b	-\$1.158 b	-5,137
Wholesale Trade	-\$1.366 b	-\$1.086 b	-\$0.637 b	-3,362
Retail Trade (includes Restaurants)	-\$1.234 b	-\$0.996 b	-\$0.588 b	-12,707
Transportation & Warehousing	-\$0.765 b	-\$0.477 b	-\$0.310 b	-2,947
Information	-\$0.500 b	-\$0.356 b	-\$0.161 b	-745
Finance, Insurance, & Real Estate	-\$5.698 b	-\$2.263 b	-\$0.811 b	-4,642
Business Services	-\$2.240 b	-\$1.673 b	-\$1.471 b	-10,250
Health Services	-\$0.922 b	-\$0.782 b	-\$0.645 b	-7,086
Other Services	-\$1.029 b	-\$0.570 b	-\$0.456 b	-7,195
Government	-\$1.979 b	-\$1.478 b	-\$1.299 b	-11,694
Total, All Industries	-\$25.994 b	-\$13.416 b	-\$8.581 b	-71,838

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

Notes: Based on The Perryman Group's estimates of preventable direct employment and productivity losses associated with inadequate protections for COVID-19; for additional information, see page 2. Monetary values given in billions of 2021 US dollars on an annualized basis. Components may not sum due to rounding.

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## **METHODOLOGY**

The preventable economic losses associated with not implementing reasonable measures to curb the recent spread of new variants of the coronavirus stem primarily from (1) the reduction in overall productivity and resulting inefficiencies generated by uncertainty, delayed activity, and similar phenomena and (2) the employment losses as workers are unable to return due to factors such as safety concerns for themselves and their families and logistical challenges. In order to estimate the productivity effects, TPG implemented an approach similar to that recently used by the National Bureau of Economic Research to examine CO-VID-19 impacts on labor productivity in the United Kingdom. This analysis makes use of information obtained from the Decision Maker Panel (DMP) which has been maintained since 2016 by the Bank of England in conjunction with Stanford University and the University of Nottingham.1 This survey is regularly used, with appropriate adjustments, to measure economic effects and responses in advanced economies.

TPG adjusted this modeling process to fully reflect incidence and vaccination rates in Texas as well as the detailed industrial structure and composition of the state economy and relevant performance patterns. This aspect of the evaluation made use of the detailed sectoral database from the Texas submodel of the US Multi-Regional Impact Assessment System. A scenario was created and simulated which examines the differential between (1) the productivity patterns that were observed earlier this year as the virus began to abate significantly in response to vaccine availability and behavioral modifications and (2) the current situation (based on periods with similar levels of cases).

The employment losses caused by an inadequate response were estimated using a simulation of the Texas submodel of the US Multi-Regional Econometric Model which compared labor market performance during the period of improvement earlier this year with the more recent patterns which have surfaced as cases spiked within the state. Because the estimates are derived from a

large-scale, simultaneous equation system, it effectively controls for other intervening factors which can influence future state activity (such as oil prices, interest rates, and fiscal policy measures).

Because the two channels of primary impact have some degree of overlap in their origins and outcomes, they are simulated simultaneously to assure that no double counting occurs. Moreover, because the underlying derivations of the requisite input information each occurred in a manner that incorporates overall economic effects and comprehensively compares two states of the economy, it was neither necessary nor appropriate to compute any additional downstream or multiplier effects. Results are expressed on an annualized basis and monetary values are expressed in 2021 dollars to adjust for inflation.

'Bloom, Nicholas, Philip Bunn, Paul Mizen, Pawel Smietanka, and Gregory Thwaites, "The Impact of COVID-19 on Productivity," National Bureau of Economic Research, http://www.nber.org/papers/w28233, December 2020. See https://decisionmakerpanel.co.uk/ for additional information.

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