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An Ignored Cost

The Effect of Yes-No Lockdown Strategy, along with Red-Blue Political Partisanship and Other Variables, on April-August Unemployment across U.S. States

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Cross-Tabulations and Raw Unemployment Numbers

Table One: Unemployment – U.S. Rate in April 2020

Variable	Coefficient (S.E)
Population	.075 (.807)
Population Density	.001 (.040)
February UE Rate	.066 (.798)
Minority Population (%)	.378 (.399)
Lockdown or No	-36.4 (16.5)*
Severity of Outbreak (DPM)	.004 (.028)

R2 = .17	
Number of Observations = 50	

This paper examines the relationship between (1) the political leadership of a U.S. state (in partisan Democrat/Republican terms) during the novel coronavirus crisis as well as (2) the lockdown behavior of that state and (3) April-August 2020 unemployment rates. To measure that relationship, I calculate the mean average unemployment rate during each of the five months that I analyze for Democratic "blue states," Republican "red states," and states corresponding to each of several measures of lockdown. Finally, I run a series of multi-variate linear regressions, with the factor variables that are contained in each model broken down in detail below, against the dependent variable(s) of U.S. unemployment in each April-August month. I find no statistically significant correlation between the blue/red political orientation of a state, but multiple significant correlations between lockdown policy implementation and increasing orientation. While this paper is written in business-brief format, I do expect to publish or present sections of it as an academic article.

The Unemployment Data

Table Two: Unemployment – U.S. Rate in May 2020

Variable	Coefficient (S.E)
Population	.510 (.737)
Population Density	.033 (.037)
February UE Rate	-.152 (.729)
Minority Population (%)	.460 (.365)
Lockdown or No	-25.3 (15.12)
Severity of Outbreak (DPM)	-.006 (.026)

R2 = .21
Number of Observations = 50

I opened my analysis simply by examining the reported rate of unemployment in each U.S. state beginning in April 2020[12]. As of April 2020, COVID-impacted unemployment rates were fairly similar across red and blue states, with the former averaging 13.2% unemployment and the latter averaging 15.2% unemployment.[3] The range of unemployment rates in the red states was between 8.7% in Minnesota and 17.6% in Ohio, while that in the blue states was between 8.3% in Connecticut and 30.1% in hard-hit Nevada – the location of shuttered Las Vegas and Reno. The gap in joblessness rates between lockdown (15.0%) and non-lockdown (10.9%) states was empirically larger than that between red and blue states, with the lockdown

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[1] The month of April was selected as a starting point because it was the first month of 2020 in which substantial COVID-related jumps in unemployment occurred. In Alabama, for example, the unemployment rate was 2.7% in January, 2.7% in February, 3.0% in March, and 13.8% in April.
[2] The District of Columbia and the U.S. Virgin Islands are also included in my analysis.
[3] All of this data was obtained from the highly regarded Covid Tracking project website, and should be vet-able in the site's archives here: https://covidtracking.com/

states varying between 8.3% and 30.1% and the non-lockdown states between 8.75% in

Nebraska and 14.7% in Oklahoma.[4]

Table Three: Unemployment – U.S. Rate in June 2020

Variable	Coefficient (S.E)
Population	.802 (.489)
Population Density	.024 (.024)
February UE Rate	.245 (.484)
Minority Population (%)	.089 (.242)
Lockdown or No	-15.04 (10.02)
Severity of Outbreak (DPM)	.028 (.017)*

R2 = .47
Number of Observations = 50

Unemployment rates for states in all categories dropped between April 2020 and May

2020. In May, the average unemployment rate for blue states fell to 13.7% from 15.2%, while

that for red states fell from 13.2% to 11.1%. Similarly, the mean rate for lockdown states

decreased from 15% to 13.1%, and that for non-lockdown states decreased from 10.9% to 9.6%.

The range of unemployment rates in red states was between 5.3% in Nebraska and 16.6% in the

atypical red state of Massachusetts, while blue "states" ranged from 8.8% in Washington DC to

25.3% in (again) Nevada. The range in lockdown states was between the 8.8% and 25.3%, while

that in blue states was between 5.3% and 12.6% in Oklahoma, where the corn is as high as an

elephant's eye, but nobody had a job. Once again, red states slightly but definitely out-performed

blue states, and states that never locked down out-performed lockdown states.

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[4] For this portion of the analysis, I coded a lockdown state simply as a state that initially chose to lock down in April 2020 – with most states continuing such lockdowns for some time - as detailed here (https://www.spiked-online.com/2020/04/22/there-is-no-empirical-evidence-for-these-lockdowns/) and a non-lockdown state as a state that did not. More complex measures of lockdown are employed later in the paper.

Table Four: Unemployment – U.S. Rate in July 2020

Variable	Coefficient (S.E)
Population	.641 (.422)
Population Density	.022 (.021)
February UE Rate	.546 (.417)
Minority Population (%)	.440 (.201)*
Lockdown or No	-13.5 (8.66)
Severity of Outbreak (DPM)	.018 (.015)

R^2 = .52
Number of Observations = 50

The general decline in joblessness rates, obviously tied to the early summer "great re-opening" that accompanied relaxations of COVID protocols, continued into June. In that month, blue states averaged 10.9% unemployment while red states averaged 8.9%. Lockdown states – many of which, such as California, kept critical business sectors closed[5] - averaged 10.4% unemployment, as versus 7.2% in the states never to lock down. Again, the variance among state-by-state joblessness rates remained wide, ranging from 5.3% in Utah to 17.7% in Massachusetts among red states, 4.4% in Kentucky to 16.8% in New Jersey among blue states, 4.4% to 17.7% among states to lock down, and 5.3% to 8.7% (South Carolina) among non-lockdown states. All trends documented so far, such as superior performance against the joblessness metric among red states and non-lockdown states, continued.

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[5] This rather depressing regional news piece is an excellent summary of the business restrictions which remained in place in CA in *July*: https://abc7news.com/newsom-rolls-back-reopening-california-rollback-is-schools/6217182/.

Variable	Coefficient (S.E)
Population	.328 (.371)
Population Density	-.002 (.002)
February UE Rate	.447 (.338)
Minority Population (%)	.372 (.183)*
Ordinal Lockdown Metric	6.45 (2.40)*
Severity of Outbreak (DPM)	.020 (.008)
R^2 = .48	
Number of Observations = 50	

Not much changed in July, with joblessness rates dropping by tiny percentages across all state categories: from 10.9-10.2% (-.7%) among blue states, from 8.9-8.3% among red states (-.6%), from 10.4% to 9.8% among lockdown states, and from 7.2% to 6.6% among non-lockdown states. Ranges as well remained similar to those from June 2020, with Utah (4.5%) and Massachusetts (16.2%) "repeating" as the least and most affected red states, and Kentucky (4.5%) again being the least affected blue state – although New Jersey (16.8%) was replaced by New York (16.2%) as the most affected Democratic-majority state. Unemployment rates specifically in lockdown states ranged from 4.5% to 16.2%, while those in states which never locked down ranged from 4.5% in Utah to 8.7% in South Carolina.

Finally, the month of August saw a substantial down-turn in unemployment numbers. Rates of recorded joblessness fell to 8.2% for blue states, 6.5% for red states, 8.2% for lockdown states, and 5.5% for non-lockdown states – with this latter figure representing the first time during this study that the overall mean joblessness rate for any large category of states fell below

6%. Joblessness-range figures predictably dropped as well, falling to 4.0% (Nebraska) at the low end and 11.3% (New Mexico) at the high end for red states, 5.6% (Montana) at the low end and 13.2% (Nevada, again) at the high end for blue states, 4.2% (Idaho) to 13.2% for lockdown states, and 4% to 7.4% (Arkansas) for non-lockdown states. A more complex lockdown measure also became more utile during the month of August,[6] and further reinforced the point(s) that unemployment rates overall were dropping and that non-lockdown states out-performed lockdown states against this "jobs" metric. On a 0-4 scale representing lockdown severity, states coded a "0" had an average August 2020 unemployment rate of 6.5%, those coded a "3" had an average unemployment rate of 9.9%, and those coded a "4" had an average rate of 12%.

During each round of cross-tabulation analysis, red states slightly out-performed blue states in terms of unemployment, and non-lockdown states out-performed lockdown states.

The Regression Models

After finishing arithmetical analysis of the relevant data, I moved to regression analysis, running a series of multivariate linear regression models with the dependent variables: April 2020 unemployment rate, May 2020 unemployment rate, June 2020 unemployment rate, July 2020 unemployment rate, and August 2020 unemployment rate.[7] Each of these models contained independent factor variables representing state population (in millions), state population density (in persons per square mile), severity of a state's COVID-19 outbreak (measured as the rate of deaths per million residents), the minority population percentage of the state, the pre-COVID unemployment rate in the state, and the lockdown behavior of the state – coded simply as

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[6] A lockdown metric employed in my regressions and utile here was coded as follows: states received one point for enacting a shelter-in-place (SIP) order, one point for enacting a state-wide mask mandate, and one point apiece for retaining either policy when the study period began (08/11/2020). Thus, a state that enacted both policies, and had both in place during mid-August 2020 would be coded "4," while a state that never enacted either would be coded "0."

[7] Each of these unemployment rates was calculated as the number of persons out of work per 1,000 residents of the state; an unemployment rate of 30.5% would be coded in STATA-13 as "305."

Yes/No for lockdown in the April-July models and using the August-focused ordinal metric in the August 2020 model.

Table Five: Unemployment – U.S. Rate in August 2020

Variable	Coefficient (S.E)
Population	..309 (.378)
Population Density	-.002 (.002)
Income	.092 (.295)
Minority Population (%)	.412 (.184)*
Lockdown or No	6.87 (2.43)*
Severity of Outbreak (DPM)	.020 (.008)*

R2 = .46
Number of Observations = 50

I will note specifically that the red/blue state political partisanship variable was dropped from regression analysis, because it proved to be both highly correlated with the lockdown variable and entirely insignificant as a predictor of unemployment rate when analyzed in multi-variate models that did not include the lockdown variable. Let me note also that results from these regression models will not be reported as comprehensively as the arithmetical results, because the regression tables appear throughout this paper, and because there is no reason to dwell on non-significant results. With that said, one finding does stand out.

Simply put, the decision of a state to lock down was the single biggest predictor – at least among the small number of variables I was limited to using by the medium-N nature of my data set – of increased unemployment in that state. Coefficients for the lockdown variable(s) were

substantively sizable (-36.4 in Table One) and in the expected direction in all five models,[8] and

lockdown reached standard (p = .05) levels of statistical significance as a predictor of

unemployment in Tables/models One and Five. The decision of a state not to lock down

correlated, although not always perfectly reliably, with a 1.4 to 3.6% monthly decrease in the

unemployment rate. This finding gels well with results from the arithmetic/cross-tabulational

level of analysis.

Little else was significant during my regressions, although R2 numbers were fairly robust

(.17-.51) across models. The one non-lockdown related variable to reach standard levels of

statistical significance in multiple models, which had co-efficients in the expected direction in all

models and broke the (.05) barrier in the regression tables for July and August, was the

minority/POC population percentage of a state. This was not an unexpected result – although this

short paper does not include a formal list of hypotheses – and almost certainly reflects the fact

that more people of color work in part-time or economically marginal jobs that are particularly

vulnerable to catastrophic events like COVID.[9] Severity of a state's COVID-19 outbreak,

measured in deaths, was also a significant predictor of continuing unemployment in August.

Overall, however, by far the most substantively and statistically significant prediction of a U.S.

state's joblessness rate during the "COVID Summer" of 2020 was its decision to lock down or

not.

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[8] To interpret this figure, a -3.6 coefficient for a binary variable where "1" of the 0/1 pair represents the decision not to lock down means that locking down correlated with a 3.6% increase in unemployment rate with all other state-level variables controlled for.

[9] While now a bit dated, this piece from Economic Policy Institute remains a good summary of this troubling reality: https://www.epi.org/publication/minorities_less-educated_workers_see_staggering_rates_of_underemployment/.

Appendix A: Breakdowns of Key Variables by State Type:

April Unemployment Figures:

Average for Blue states: 15.2%
Average for Red states: 13.2%
Average for lockdown states: 15.0%
Average for non-lockdown states: 10.9%

Average for "0" states on complex lockdown scale[10]: 10%
Average for "1" states: 12.9%
Average for "2" states: 17.1%
Average for "3" states: 15.1%
Average for "4" states: 15.7%

May Unemployment Figures:

Average for Blue states: 13.7%
Average for Red states: 11.1%
Average for lockdown states: 13.1%
Average for non-lockdown states: 9.6%

Average for "0" states on complex lockdown scale: 8.7%
Average for "1" states: 10.9%
Average for "2" states: 15.4%
Average for "3" states: 13.2%
Average for "4" states: 15.4%

June Unemployment Figures:

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[10] This scale was coded as follows: states received one point for enacting a shelter-in-place (SIP) order, one point for enacting a state-wide mask mandate, and one point apiece for retaining either policy when the study period began. Thus, a state that enacted both policies, and had both in place 08/11/2020 would be coded "4," while a state that never enacted either would be coded "0."

Average for Blue states: 10.9%
Average for Red states: 8.9%
Average for lockdown states: 10.4%
Average for non-lockdown states: 7.2%

Average for "0" states on complex lockdown scale: 7.4%
Average for "1" states: 8.4%
Average for "2" states: 9.2%
Average for "3" states: 10.6%
Average for "4" states: 13.3%

July Unemployment Figures:

Average for Blue states: 10.2%
Average for Red states: 8.3%
Average for lockdown states: 9.8%
Average for non-lockdown states: 6.6%

Average for "0" states on complex lockdown scale: 6.5%
Average for "1" states: 8.3%
Average for "2" states: 8.0%
Average for "3" states: 9.9%
Average for "4" states: 12.0%

August Unemployment Figures:

Average for Blue states: 8.2%
Average for Red states: 6.5%
Average for lockdown states: 8.2%
Average for non-lockdown states: 5.5%

Average for "0" states on complex lockdown scale: 5.6%
Average for "1" states: 6.2%
Average for "2" states: 6.5%
Average for "3" states: 8.5%
Average for "4" states: 9.6%

Appendix B: Regressions against Unemployment, State Partisanship Included

Table One: Unemployment – U.S. Rate in April 2020

Variable	Coefficient (S.E)
Population	.086 (.803)
Population Density	-.001 (.038)
Red or Blue State	7.82 (12.7)
Minority Population (%)	.366 (.393)
Lockdown or No	-32.6 (17.1)
Severity of Outbreak (DPM)	.002 (.027)

R2 = .18
Number of Observations = 50

Table Two: Unemployment – U.S. Rate in May 2020

Variable	Coefficient (S.E)
Population	.550 (.717)
Population Density	.036 (.034)
Red or Blue State	18.0 (11.4)
Minority Population (%)	.406 (.350)
Lockdown or No	-14.7 (15.3)
Severity of Outbreak (DPM)	-.011 (.024)

R2 = .15
Number of Observations = 50

Table Three: Unemployment – U.S. Rate in June 2020

Variable	Coefficient (S.E)
Population	.805 (.485)
Population Density	.020 (.023)
Red or Blue State	7.38 (7.69)
Minority Population (%)	.093 (.237)
Lockdown or No	-12.6 (10.4)
Severity of Outbreak (DPM)	.029 (.016)

$R2 = .48$	
Number of Observations = 50	

Table Four: Unemployment – U.S. Rate in July 2020

Variable	Coefficient (S.E)
Population	.627 (.426)
Population Density	.013 (.020)
Red or Blue State	6.12 (.6.75)
Minority Population (%)	.474 (.208)*
Lockdown or No	-13.6 (9.10)
Severity of Outbreak (DPM)	.023 (.014)

$R2 = .44$	
Number of Observations = 50	

Table Five: Unemployment – U.S. Rate in August 2020

Variable	Coefficient (S.E)
Population	.406 (.353)
Population Density	.028 (.017)
Red or Blue State	16.0 (5.60)*
Minority Population (%)	.409 (.173)*
Lockdown or No	-5.98 (7.54)
Severity of Outbreak (DPM)	.004 (.012)

$R2 = .53$	
Number of Observations = 50	

Appendix C: Regressions against Unemployment, Income Proxy Subbed for Past UE

Table One: Unemployment – U.S. Rate in April 2020

Variable	Coefficient (S.E)
Population	.099 (.803)
Population Density	.010 (.042)
Income	-.459 (.691)
Minority Population (%)	.406 (.393)
Lockdown or No	-36.7 (15.7)*
Severity of Outbreak (DPM)	.001 (.027)

R2 = .18
Number of Observations = 50

Table Two: Unemployment – U.S. Rate in May 2020

Variable	Coefficient (S.E)
Population	.493 (.735)
Population Density	.025 (.038)
Income	.401 (.623)
Minority Population (%)	.427 (.359)
Lockdown or No	-24.5 (14.4)
Severity of Outbreak (DPM)	-.004 (.025)

R2 = .22
Number of Observations = 50

Table Three: Unemployment – U.S. Rate in June 2020

Variable	Coefficient (S.E)
Population	.749 (.474)
Population Density	.001 (.025)
Income	.716 (.408)
Minority Population (%)	.074 (.232)
Lockdown or No	-16.8 (9.27)
Severity of Outbreak (DPM)	.035 (.016)*

R^2 = .51
Number of Observations = 50

Table Four: Unemployment – U.S. Rate in July 2020

Variable	Coefficient (S.E)
Population	.598 (.427)
Population Density	.005 (.022)
Income	.298 (.367)
Minority Population (%)	.472 (.209)*
Lockdown or No	-17.0 (8.36)*
Severity of Outbreak (DPM)	.026 (.014)

R^2 = .51
Number of Observations = 50

Table Five: Unemployment – U.S. Rate in August 2020

Variable	Coefficient (S.E)
Population	..309 (.378)
Population Density	-.002 (.002)
Income	.092 (.295)
Minority Population (%)	.412 (.184)*
Lockdown or No	6.87 (2.43)*
Severity of Outbreak (DPM)	.020 (.008)

R^2 = .46
Number of Observations = 50