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**COVID Government-Aid Programs
and Wealth Creation**

An Empirical Analysis

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Abstract: The purpose of this study is to investigate the impact of COVID government-aid programs on wealth creation. When the pandemic spread to the US, the economy shut down. The lockdown compelled state governments across the United States to enforce shelter-in-place policies. As a result, unemployment surged, and many government-aid programs were created to help working-class families survive through the lockdown since the economy was at a standstill. Those whose political leanings favor the Democratic Party and Progressive Movements have argued that the COVID government-aid programs contributed to creating wealth, increased GDP growth, and increased the consumers' income and consumption. Those more sympathetic to the Free-Market view argue that these relief programs did not contribute much to the creation of wealth but only increased government spending.

In testing this hypothesis, to whether know if COVID government-aid programs contributed or not to the creation of wealth, we found that the impact of these programs on wealth creation was statistically significant but only a weak percentage of the variation of these COVID government programs could explain the variation in wealth creation, which lead us to infer that the impact of COVID government-aid programs only had a very minor role in the creation of wealth. We, therefore, concluded that the COVID government-aid programs did contribute more to guarantee a safety net for the working-class rather than creating wealth from which everyone could benefit.

Keywords: *Econometrics, Economic Analysis, Statistical Modeling, Regression Analysis, Applied Economics, Multiple Regression*

1. INTRODUCTION

The Coronavirus has completely changed the world. It has generated unprecedented economic outcomes that forced every society to reconsider the functioning of their economic system. In the United States, the pandemic led to the implementation of shelter-in-place policies, which compelled Americans from every social class to stay home. Hence unemployment rate surged dramatically once the pandemic occurred from 4.4% in March 2020 to 14.8% in April 2020 before it commenced to decline in the subsequent month following the upsurge as we could see in figure 1.

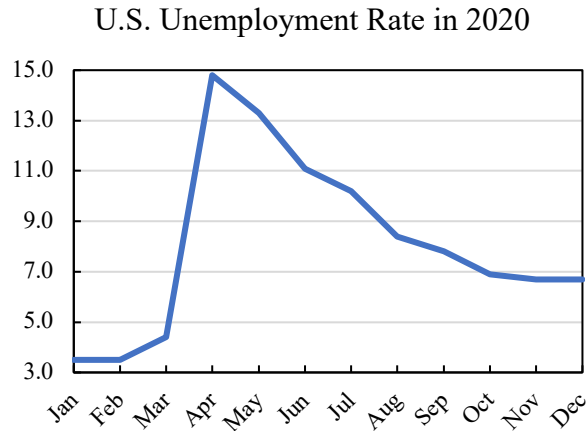


Figure 1. Source: U.S. Bureau of Labor Statistics

The high unemployment rate prompted the federal government, state governments, and local government to create programs that would assist those who have been significantly impacted by the upheavals of the pandemic. The American working-class (the lower and middle-income class) has been the most impacted by the pandemic. A study from the Pew Research Center showed that 44% of lower-income and 33% of middle-income families used money from their savings and retirement to pay bills while only 16% of upper-income used their savings and retirement to pay their bills.

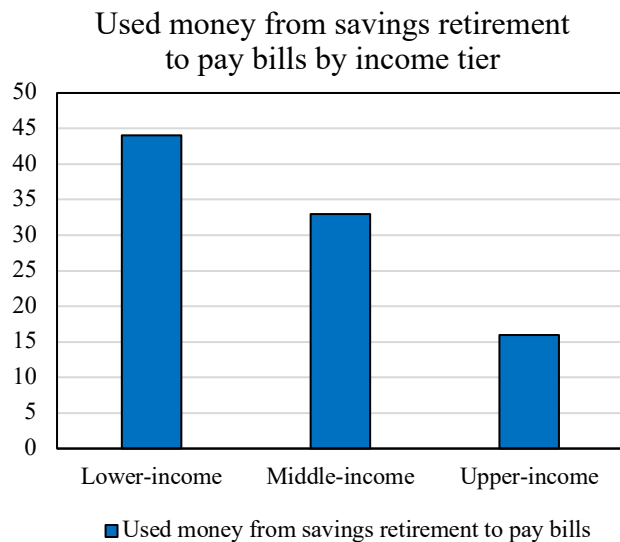


Figure 2. Pew Research Center

One major program that has been ensconced to remedy to economic fallout of the country was the CARES Act, which stands for the Coronavirus Aid, Relief, and Economic Security Act. It is a \$2.2 trillion economic stimulus bill passed by the 116th U.S. Congress and signed into law by President Donald Trump on March 27th, 2020.¹ These \$2.2 trillion were designed to allocated across all 50 U.S. states where state and local governments would redistribute these funds to families and businesses in economic distress.²

The CARES Act had two specific objectives. The first objective was more explicit. It was to provide financial assistance to families and businesses. This financial assistance would permit working-class families to survive and maintain their living standard slightly above the level of subsistence, and it would help businesses increase consumer demand. The second objective, however, was more implicit. These programs were also created to contribute to the creation of wealth.

One of the main characteristics of the CARES Act is to effectuate direct payments to individuals (households), and these payments are overtly aimed at increasing their purchasing power to increase consumer spending. By increasing consumer spending, businesses will be required to produce more goods and services, and the production of these goods and services would increase the wealth of the country. The CARES Act contains more than 22 major COVID relief programs such as Economic Impact Payments, Federal Pandemic Unemployment Compensation, Pandemic Emergency Unemployment Compensation, Paycheck Protection Program, Coronavirus Relief Fund...etc.³ Since each of these 22-plus programs redistribute money households, though on theoretical grounds this redistribution should contribute to expand consumers purchasing power which will then drive demand, and this demand will reinvigorate the economy through wealth creation.⁴

In this paper, we argued that the CARES Act played a major role in maintaining a safety net for working-class families and businesses, but it did not significantly contribute to create wealth in the United States. The objective of this analysis is to statistically test the impact of the CARES Act on wealth creation during and after COVID and verify if our hypothesis is consistent or inconsistent with the data.

2. THE MODEL

2.1. Model Selection

To test our hypothesis, we decide to use a regression model where the dependent variable will only depend on one variable of interest. We also added two control variables to prevent any potential bias from the model. These control variables are held constant. Hence the model could be written as the following:

$$\text{GDPpC} = \beta_0 + \beta_1 \text{CARESACT} + \beta_2 \text{GOVSPEND} + \beta_3 \text{TAXREV} + \varepsilon$$

¹ Hulse, Carl; Cochrane, Emily. (March 26, 2020). "As Coronavirus Spread, Largest Stimulus in History United a Polarized Senate." *The New York Times*.

² Sauter, Michael. (February 15, 2021). "Coronavirus stimulus check: Here's how many people will get \$1,200 in every state." *USA Today*.

³ Analysts. (2021). "Spending to Date for 22 major COVID-19 Programs." *Department of the U.S. Treasury*.

⁴ Wealth creation refers to one's basket of assets; cash, land property, gold, shares, bonds all added together. For investors, wealth is created by buying or investing in these assets with an expectation that the price will move higher.

2.2. Variable Selection

GDPpC = GDP per Capita (dependent variable). GDP per capita has been selected as our dependent variable because it is a reliable indicator to observe variations in individuals' income. Hence, the creation of wealth is a significant factor in the expansion of economic activities. The more wealth a country has, the higher becomes its living standard because the people can afford having more resources. The living standard of a society is measured by the average income earned per person in that society. A country with a high income per capita is a country with a high living standard, therefore a country with more wealth. This variable is measured in the dollar unit.

CARESACT = CARES Act (variable of interest, also known as our independent variable). This variable represents all the 22-plus COVID programs created to tame the economic fallout, and to help create wealth for working-class families. This variable is measured by the total spending per capita of all major COVID programs, which the unit of dollar.

GOVSPEND = Government spending (Control variable). This control variable was added because government spending is used as an instrument to create consumer demand which will stimulate consumption. It is also for public investment, which is considered to increase the wealth of a country. This variable is measured in billions of dollars.

TAXREV = Tax revenue (Control variable). This control variable was added because tax revenues are also another instrument which is used to create public investments for the government. As previously stated, public investments are considered a means to increase the wealth of country. This variable is also measured in billions of dollars.

3. THE DATA

We built a cross-sectional dataset of 51 observations ($n = 51$) to test our hypothesis since the CARES Act was allocated in all 50 U.S. states and the District of Columbia. Consequently, the whole set of observations is based on the U.S. states and the District of Columbia for the year 2021. The data collected for each variable was provided by many different sources.

Gathered historical data

Variables	Source
GDPpC	U.S. Bureau of Economic Analysis
CARESACT	U.S. Department of Treasury
GOVSPEND	Usaspending.gov & FRED (Federal Reserve Economic Data)
TAXREV	Statista & FRED (Federal Reserve Economic Data)

Table 1

4. SUMMARY STATISTICS

Descriptive Statistics of the variables

Variables	Obs.	Mean	Median	Std. Dev.	Min.	Max.
GDPpC	51	86002.1569	81233	15677.1137	62835	143389
CARESACT	51	11696.2745	11136	2338.48726	8747	21046
GOVSPEND	51	91.6641961	67.933	91.736993	7.189	480.311
TAXREV	51	20.9037255	12.04	27.4328887	1.32	171.96

Table 2

Our dataset contains a lot of high numbers that are unevenly distributed. This uneven distribution creates skewness in our model, which could lead to misleading results. To remedy this problem, we applied the log transformation on each variable to ensure that all their values fit in the data.

5. EMPIRICAL RESULTS AND ANALYSIS

5.1. Empirical Results

<i>Dependent Variable</i>	R ²	Adjusted R ²	P-Value	F-Statistics	Obs.
GDPpC (Log)	0.48792036	0.45523442	5.854E-07***	14.9275328	51
<i>Variable of Interest</i>					
CARESACT (Log)	0.36847495	0.35558669	2.2642E-07***	28.589955	51
<i>Control Variables</i>					
GOVSPEND (Log)	0.03507214	0.01537973	0.18819536	1.78099805	51
TAXREV (Log)	0.06895653	0.04995565	0.06265442	3.62912179	51

Table 3

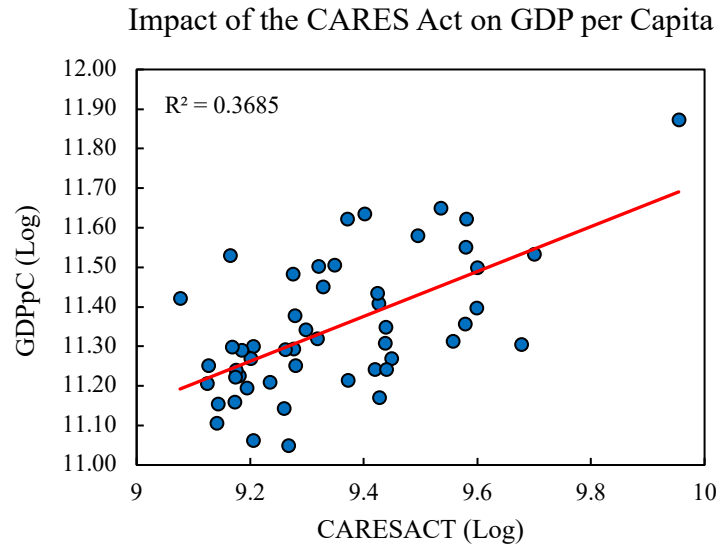
Level of statistical significance:

$p > 0.05$ = not significant

$p \leq 0.05^*$ (5%) = significant

$p \leq 0.01^{**}$ (1%) = very significant

$p \leq 0.001^{***}$ (0.1%) = highly significant



5.2. Analysis

The results of our regression show that the relationship between the dependent variable (GDPpC) and the variable of interest (CARESACT) is statistically significant to a high degree. However, only 36.85%, so nearly 37% ($R^2 = 0.3685$) of the variation of variable of interest can explain the variation of the dependent variable. This means that the correlation between CARES Act and GDP per capita is overall weak. Therefore, we can imply that the CARES Act only had a minor effect on the creation of wealth during and after the pandemic. However, there is no statistical relationship between the dependent variable and the control variables. Both control variables (government spending and tax revenue) have a p-value above 5%, as seen in table 3, which indicates that observations fail to reject the null hypothesis.

6. CONSEQUENCES AND RAMIFICATIONS

Indeed, the Coronavirus programs did not significantly contribute to build or create new wealth in the United States. However, the money provided did give working families, those primarily hit by lockdowns, a safety net to help pay for necessities. These lessons are especially important to note, as the idea of maintaining a government-provided income for the general populous is gaining more and more support with the American Public. In a poll conducted by the Pew Research Center in late 2020, overall support for a Universal Basic Income program was overall weak, but with a growing favorability.⁵ Support lied strongest with the younger generation of Americans, with 67% of those aged 18-29 stating that they would support such a program. Opinions in the older

⁵ Gilberstadt, Hannah. "More Americans Oppose than Favor the Government Providing a Universal Basic Income for All Adult Citizens." Pew Research Center, 19 Aug. 2020, www.pewresearch.org/fact-tank/2020/08/19/more-americans-oppose-than-favor-the-government-providing-a-universal-basic-income-for-all-adult-citizens/

generations is also growing, with almost half of those aged 30-49 showing support for said program.⁶

As the discussion of having these programs stay indefinitely grows louder, we must look at the effects of government-disbursed remittances in the long term. For the sake of this example, we will compare the disbursement of government-provided income to remittances that expats send back to their home countries, as the impacts on the micro-level are extremely similar. In a study published by the IZA World of Labor, results found that while remittances were excellent in the short term, by helping households alleviate credit constraints and the stress of bills, the long-term effects were harmful to the overall potential of an economy.⁷

As stated in the study “Remittances can reduce labor supply and create a culture of dependency that inhibits economic growth”. This is especially exhibited by the fact that most of the money received from remittances is spent on the consumption of goods rather than re-investment into the economy to create wealth. As elaborated on in the cited study, “...remittances change consumption patterns among receiving family members, often resulting in the purchase of nonessential goods manufactured outside of the local communities...”⁸ As seen through the observations of this study, and further examples regarding remittances, the effects of unconditional income on the microeconomic level are often short sighted, and not fit for continued operation in an economy that relies on wealth creation.

7. CONCLUSION

The intrinsic purpose of this analysis was to empirically verify the relationship between wealth creation during and after the pandemic and the level of aid disbursed to individuals in need. In our analysis, we took data regarding the payments directly from government sources but used other public databases for the data regarding the two control variables. Our findings show that much of the money disbursed was not used to create further wealth. Instead, the money was almost exclusively used for consumption, particularly for necessities such as bills and food. These findings fail to reject the null hypothesis provided, and in turn help prove that the aid provided did not result in wealth creation.

The results of our analysis also help paint a much larger picture; direct unconditional aid for long periods of time has negative effects on both potential economic growth and the on the microeconomic level. The data analysis was done using data from the United States, and thus is mostly applicable to similar countries. This analysis invites other researchers, statisticians, econometricians, and economists interested in the effects of government-disbursed income in their respective countries to perform the same analysis.

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