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Budget Model

Summary: We estimate that the $2.3 trillion CARES Act will dampen the fall in GDP in the second quarter of this year (2020 Q2) from an annualized rate of 37 percent to 30 percent, and will produce around 1.5 million additional jobs by the third quarter (2020 Q3).

Key Points

- Without the CARES Act, PWBM projects that U.S. GDP would have fallen at an annualized rate of 37 percent in 2020 Q2, with the unemployment rate reaching 12 percent by 2020 Q3.

- PWBM estimates that the CARES Act will dampen the short-term decline in GDP to a 30 percent annualized rate in 2020 Q2, with the unemployment rate reaching 11 percent by 2020 Q3.

- We project that the CARES Act will produce around 1.5 million additional jobs by 2020 Q3 and increase GDP by $812 billion over the next two years.

Short-Run Economic Effects of the CARES Act

Introduction

On March 27, 2020, the United States Congress passed and President Trump signed the Coronavirus Aid, Relief and Economic Security (CARES) Act. The $2.3 trillion CARES Act provides immediate relief to households and businesses in many forms, including cash payments to low- and middle-income households, enhanced unemployment benefits, and loans and grants to small businesses that maintain their payroll.

This brief pairs the PWBM short-run forecasting model with the standard "fiscal multipliers" approach to new government policy, to report the economic impact of the CARES Act. Without the CARES Act, PWBM predicts an 11 percent annualized drop in 2020 Q1 GDP followed by a 37 percent annualized drop in 2020 Q2 GDP, similar to predictions from other recent private and public sector forecasts. The unemployment rate would reach about 12 percent in 2020 Q3. We estimate that the CARES Act mitigates some of these losses, with GDP falling by 30 percent on an annualized basis in 2020 Q2 GDP and unemployment increasing to 11 percent in 2020 Q3. We estimate that the CARES Act would create about 1.5 million additional jobs by 2020 Q3.

Fiscal Multipliers

Table 1 shows a summary of ranges of so-called "fiscal multipliers"—the amount of additional output generated for each dollar of government spending—that the Congressional Budget Office used to analyze the 2009 American Reinvestment and Recovery Act (ARRA).[1] Notice that the greatest multipliers are attached to provisions that provide money for government purchases and transfers of cash into low-income and recently unemployed households. These types of programs typically get cash into the hands of households who are most likely to spend it quickly, which generates the most aggregate demand and the greatest stimulative effect. By contrast, putting money into the hands of people and institutions who are more likely to save it is not as likely to generate an immediate short-term boost to the demand for goods and services. Therefore, the range of multipliers for provisions like unemployment insurance—from 0.4 to 2.1—is higher than the range for provisions such as tax relief for higher-income households—which is estimated between 0.1 and 0.6.

Table 1. Total Output Effects of the American Recovery and Reinvestment Act by Category

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Category	Total Output Multiplier	
	Low Estimate	High Estimate
Purchases of goods and services by the federal government	0.5	2.5
Transfer payments to state and local governments for infrastructure	0.4	2.2
Transfers to persons (unemployment benefits, education transfers and food stamps)	0.4	2.1
Transfer payments to state and local governments for other purposes	0.4	1.8
One-year tax cuts for higher-income people	0.1	0.6
Business tax provisions primarily affecting cash flow	0	0.4

Source: Congressional Budget Office Working Paper 2015–02

We apply these multiplier ranges to estimate the economic effects of the CARES Act. Of course, current economic conditions differ substantially from conditions in the Great Recession. But, the multiplier values are still informative when applied to different "bases." This approach is common for short-term modeling, although multipliers will vary based on economic expectations and other conditions.

Although lower-income and recently unemployed households will spend a large share of their stimulus benefits, there are limits on the effects of the stimulus because many sectors are simply unable to meet demand due to stay-at-home orders. Therefore, for programs that deliver money directly to households that fall into categories such as *transfers to persons* and *one-year tax cuts for higher-income people*, PWBM picks multipliers that are at the bottom of the ranges shown in Table 1.

Direct government spending on goods and services, focused primarily on infrastructure and healthcare, will likely stimulate more demand in the current environment. A large fraction of this money is directed to cash-strapped state governments and healthcare facilities who will quickly spend the money. Therefore, PWBM applies fiscal multipliers that are slightly above the bottom of values shown in Table 1 for the following

categories: *purchases of goods and services by the federal government*, *transfer payments to state and local governments for infrastructure*, and *transfer payments to state and local governments for other purposes*.

Many of the CARES Act fiscal programs designed to help businesses offer tax benefits that might not affect businesses' current investment decisions. Nonetheless, if the tax abatement is the difference between a business closing and staying open, the effect on demand is considerably larger. Therefore, PWBM uses multipliers that are in the middle of CBO's estimated ranges for provisions described as *business tax provisions primarily affecting cash flow*.

The CARES Act

In Table 2, we list the major spending provisions in CARES, estimates of the effects based on CBO's range of fiscal multipliers, and PWBM's estimate of the effects on output adjusted for current economic circumstances.

Table 2: Major Spending Categories for the Coronavirus Aid, Relief and Economic Security Act

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| | | Total Effect on Output | | |
Category	Outlay	Estimate Using Low Multipliers	Estimate Using High Multipliers	PWBM Estimate
Unemployment Benefits: $600 per week unemployment benefit increase; Pandemic Unemployment Assistance; 13-week extension of benefits	$260	$111	$553	$111
One-time Checks: Direct payments of $1,200 per adult and $500 per child to middle- and low-income families	$290	$123	$616	$123
Income Support: Increases in SNAP, child nutrition, housing support, and child and family services	$42	$18	$89	$18
Small-Business Loans and Grants: Loans of up to $10 million to small businesses with forgiveness provisions for funds used to meet payroll, mortgages, rent and utility obligations; emergency grants for small businesses	$377	$107	$584	$132
Loan Programs for Large Businesses & Governments: Loans to directly support airlines, transportation, national security, the U.S. Post Office. Funding a $4.5 trillion lending facility with the Federal Reserve available to businesses and state and local government.	$510	$0	$22	$11

Category	Outlay	Total Effect on Output		
		Estimate Using Low Multipliers	Estimate Using High Multipliers	PWBM Estimate
Transportation Support: Infrastructure grants to local governments, support to transportation providers to avoid employment and wage reductions, suspension of related taxes and fees.	$72	$25	$131	$38
Direct Aid to State and Local Governments: Minimum of $1.25 billion to each state.	$150	$53	$263	$105
Health and Disaster Spending: Spending directed toward hospitals, other healthcare providers, preparedness, FEMA's disaster relief program, veterans and defense health, and other federal agencies. [2]	$225	$87	$435	$174
Education [3]	$32	$12	$59	$20
Individual Taxes: Penalties waived for COVID-19-related early retirement withdrawals, required minimum distribution suspension, other additional provisions.	$20	$3	$12	$3
Business Taxes: Payroll tax credits for employers keeping employees at a loss, relaxing interest deduction and operating loss caps, defer employer payroll tax payments for 2020. [4]	$280	$23	$207	$68
Other Spending	$25	$9	$45	$9
Total	**$2,283**	**$570**	**$3,016**	**$812**

Sources: For expedience, estimates follow JCT and category classifications follow CRFB.
Notes: Outlays from various provisions may be repaid to the federal government in future years.

Unemployment Benefits: The largest component of this provision is a $600 weekly, four-month increase in benefits, which should reach eligible claimants very quickly. Other parts of this policy include several programs to extend benefits. All of the parts of this program fall in the *transfers to persons* category for multipliers. Based on this categorization, PWBM estimates that this $260 billion program will generate a total $111 billion increase in GDP over the next two years (2020-2021).

One-time Checks: This provision directs checks of $1,200 per adult and $500 per child to low- and middle-income families. As with the increase in unemployment benefits, this stimulus is most closely related to the *transfers to persons* category used to analyze ARRA. PWBM estimates that this $290 billion program will lead to a $123 billion increase in GDP over the next two years.

Income Support: The Supplemental Nutrition Assistance Program, housing support, and other programs receive higher funding under the CARES Act. As with the unemployment benefits, these provisions are directed toward low-income households, and fall into the *transfers to persons* category for multipliers. PWBM estimates that the $42 billion allocated to these programs will increase GDP by $18 billion over the next two years.

Small-Business Loans and Grants: This program includes $366 billion in loans to small businesses, but with generous forgiveness programs, particularly for firms that maintain employment. Although some of these funds will likely directly benefit the business, a significant share of these funds will go directly to households in lieu of unemployment insurance, which falls in the *transfers to persons*. Therefore, PWBM estimates that this program will increase GDP by $132 billion over the next two years.

Loan Programs for Large Businesses & Governments: This $510 billion program has $56 billion for direct loans to transportation-related firms and the U.S. Post Office. The remaining $454 billion is used to insure the Federal Reserve against losses in its loan facilities. As we do not know how much takeup there will be in this program or what the losses might be, we exclude this component from the analysis. PWBM estimates that the $56 billion in direct loans, however, will generate about $11 billion in additional GDP over the next two years.

Transportation Support: The CARES Act supports transportation with direct grants to states for infrastructure, aid to providers to avoid furloughs and job cuts, and a reduction in transportation-related taxes. These programs span the four categories: *transfer payments to state and local governments for infrastructure*, *transfers to persons*, *business tax provisions primarily affecting cash flow*, and a *one-year tax cut for higher-income people*. PWBM estimates that this $72 billion program will increase GDP by $38 billion over the next two years.

Direct Aid to State and Local Governments: Aid to state governments will increase spending from state governments scrambling to mount a fiscal response to coronavirus outbreaks. Using the multipliers associated with the *transfer payments to state and local governments for other purposes* category, PWBM estimates that this $150 billion in spending will increase GDP by $105 billion over the next two years.

Health and Disaster Spending: Healthcare and disaster spending covers $55 billion for FEMA's disaster relief and other federal agency spending; the other $170 billion is allocated to healthcare providers, Medicare, and preparedness. This spending is related to two ARRA categories: *purchases of goods and services by the federal government* and *transfer payments to state and local governments for other purposes*. PWBM projects that the $225 billion in spending in this category will raise GDP by $174 billion over the next two years.

Education: Most of the $32 billion dedicated toward education goes toward a fund to support all levels of education. There is also a provision that $7 billion of the funds are allocated toward student aid. The closest categories for these expenditures are *transfer payments to state and local governments for other purposes* and *transfers to persons*; therefore, PWBM projects that this program will increase GDP by $20 billion over the next two years.

Individual Taxes: Most of these provisions, which include a suspension of the required minimum distribution for retirement accounts, suspension of penalties for COVID-19 related early withdrawals, and charitable deductions, benefit higher-income households. The ARRA category *one-year tax cuts for higher-income people* describes these provisions. Therefore, PWBM projects that this $20 billion program will generate an additional $3 billion in GDP over the next two years.

Business Taxes: This category includes a $55 billion tax credit for businesses that keep employees at a loss. This provision will likely work in lieu of unemployment insurance, therefore it is categorized as *transfers to persons*. The remaining $225 billion are various tax credits, some of which will be repaid in the future, and are most closely related to the ARRA category of *business tax provisions primarily affecting cash flow*. Together, PWBM projects this $280 billion program to generate $68 billion in additional GDP over the next two years.

Other Spending: Other, non-categorized spending is estimated to have an average multiplier of all of the other categories. PWBM projects this $25 billion in other spending to increase GDP by $9 billion over the next two years.

Total Effect on GDP

Of course, changes in GDP do not capture the total benefit of the CARES Act. The CARES Act provides for a more-robustly funded healthcare system and provides substantial relief for people who may need help with their living expenses. In addition to these direct effects, however, we project that the GDP effects will be substantial.

PWBM estimates that the CARES Act will increase GDP by $812 billion over the next two years. In 2020 Q2, we expect that GDP will decline by 30 percent annualized compared to 37 percent annualized in the baseline economy (i.e., absent fiscal stimulus). Although the increase hardly covers the GDP lost from the pandemic, the effects on jobs will be substantial. PWBM estimates that this increase in GDP will lower the unemployment rate from about 12 percent to 11 percent in 2020 Q3, producing around additional 1.5 million jobs by 2020 Q3.

PWBM will analyze further stimulus as Congress considers additional initiatives to fight the pandemic and stabilize the U.S. economy.

This analysis was produced by Alexander Arnon, Zheli He, and Jon Huntley.

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1. Congressional Budget Office, 2011. "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from July 2011 Through September 2011." Charles J. Whalen and Felix Reichling, 2015. "The Fiscal Multiplier and Economic Policy Analysis in the United States: Working Paper 2015-02." ↩

2. The outlays for certain Medicare provisions and federal health-related agencies are uncertain. ↩

3. The outlays for student-aid and student loan provisions were not estimated. ↩

4. The outlays for certain small business tax write-offs were not estimated. ↩