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HAVE POSTWAR FISCAL STIMULUS POLICIES MET THE “TIMELY, TARGETED, AND TEMPORARY” PRINCIPLE?

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President Barack Obama noted that fiscal stimulus polices should follow three T’s—timely, targeted, and temporary. This paper examines the government’s fiscal response to eleven postwar recessions in light of the three T’s. We find that the record is mixed at best. On average it took 10.9 months before a recession’s start and the first major countercyclical fiscal policy action. Additionally, in half of the eight recessions in which fiscal policy was attempted, the level of real per capita government spending was nearly three times its trend level four years after the recession was over—i.e. the stimulus was not temporary. Finally, with respect to targeted, while some countercyclical policies have been designed to help sectors that were particularly harmed during a recession, we find many cases whereby recessions provided politicians an avenue in which to implement policies that were part of their long-run reform agenda rather than being carefully targeted countercyclical fiscal policy.

Introduction

John Maynard Keynes suggested that government should undertake temporary surges in deficit-financed spending when the economy falters. Once the economy returns to full employment, the government should reverse course by cutting spending and running surpluses to pay off the debt built up during the crisis. While the government must balance its budget, Keynesian theory suggests it should do so across the business cycle rather than at every point in time. This idea, which was formalized in Keynes' 1936 book, *The General Theory of Employment, Interest, and Money*, offered a major departure from the prior policy doctrine that governments should balance their budgets every year.

Few economists today would disagree that Keynes' cyclically balanced budget logic is, in theory, an improvement over the prior doctrine. Furthermore, if the government could initiate stimulus policies that were, to quote President Barack Obama in 2009, "timely, targeted, and temporary," economists would be more likely to support such actions during economic downturns. However, particularly since Robert Lucas and Thomas Sargent (1979), many economists express strong skepticism regarding Keynesian-style fiscal policy. Policy lags—such as the time it takes to recognize a recession and have Congress prepare and pass legislation addressing it—are a major reason for such skepticism. Prior to the downturn that began in 2007, Olivier Blanchard, Giovanni Dell'Ariccia, and Paolo Mauro (2010) wrote that there was a general consensus that if countercyclical policy was to be attempted at all, it should not be done by fiscal measures, but instead by central banks as embodied by principles laid out by, for instance, John Taylor (1993).

Of course Keynesian fiscal policy was employed vigorously between 2008 and 2012 when the George W. Bush and Obama Administrations passed multiple fiscal stimulus policies to combat the "Great Recession" of 2007-2009 and its aftermath. The United States ran annual deficits in excess of one trillion dollars for four straight years (2009-2012). Research by Garrett Jones and Daniel Rothschild (2011a, 2011b) and Veronique de Rugy (January 2011) argues that the $831 billion American Recovery and Reinvestment Act of 2009 (ARRA) failed in its timely and targeted mission. Andrew Young and Russell Sobel (2013, 449) likewise note that the state-level distribution of ARRA spending was not well targeted as they claim that it was driven by political factors more than economic ones and was "poorly designed countercyclical stimulus."

The purpose of this paper is to examine the extent that the federal government's responses to postwar economic downturns have in fact been timely, targeted, and temporary. We examine "timely" by looking at the amount of time that passed between each recession's official start date the first countercyclical policy attempt. For targeted, we examine the extent that countercyclical policies addressed the underlying causes of the recession or affected those sectors who were most harmed. Finally, we examine the degree that episodes of major expansions of government during emergencies were transitory—in particular the withdrawal, or lack thereof, of these government expansions once the emergency has passed. We find that fiscal policies have been slow to implement—on average 10.9 months lapsed between the start of a recession and when the first Keynesian-style fiscal stimulus was attempted. We find that rather than being targeted toward the specific causes of the downturn, stimulus policies often entail programs and policies that politicians advocated as long-standing objectives—the downturn acts as a good excuse to put such generally long run reform oriented policies into place. Finally, we find that in half of the recessions, government spending experienced a long run increase—the stimulus was not temporary. Our analysis helps explain why Douglas Elmendorf and Jason Furman (2008) find that economists have grown increasingly skeptical of countercyclical fiscal policy in the last 50 years. Were stimulus polices better able to achieve the "three T's," the economics profession would almost certainly be far more unified behind the idea of using Keynesian fiscal measures.

A Model of "Timely, Targeted, and Temporary"[1]

Elmendorf and Furman (2008) produce a modern primer of what an effective stimulus program would look like. First, they claim that stimulus spending should be properly timed to take effect while the economy is operating short of its capacity. An ill-timed stimulus program will be too late to help when needed, and additionally runs the risk of overheating an already recovering economy while wasting federal resources in the process. Recessions last 9 to 10 months on average, but how long it takes for the economy to get back to full capacity depends upon many factors. During a short and mild recession, if a stimulus policy does not arrive within a few months of its beginning, it will not be effective in the Keynesian countercyclical sense. During a long and deep recession, a stimulus policy could be enacted a year or more after the recession starts and be in time to help counteract the downturn or its aftermath. Still, needless to say, the closer to

[1] While President Obama used this "timely, targeted, and temporary" phrase, it was actually articulated earlier by one of his chief economic advisers, Lawrence Summers (2008).

the start of a recession a stimulus is enacted, the more effective that stimulus will be.

Next, Elmendorf and Furman (2008) note that stimulus spending should not be indiscriminate, but instead should target sectors that can make the best use of the spending in light of the downturn. In testimony to the Joint Economic Committee Lawrence Summers (2008) noted that targeted stimulus "requires that funds be channeled where they will be spent rapidly and where they will reach those most in need." For example, Mark Zandi (2008) argues that extending the length of time that unemployment insurance can be collected is a well-targeted policy since it directly helps those who are dramatically affected by the downturn and the multiplier for these dollars is likely higher than would be the case for indiscriminate transfers. Julie Whittaker and Katelin Isaacs (2013) provide a thorough history of unemployment benefits extensions in the postwar era while also pointing out that unemployment benefit extensions could potentially reduce incentives to look for or accept employment and hence may have a contractionary effect that could partially, or fully, offset the positive demand-stimulus.

Finally, stimulus spending should be temporary. Once an economy has sufficiently recovered from recession—or is on a healthy and self-sustaining path back to full employment—the government should remove the stimulus. If the stimulus is not temporary, risks of debt-induced high interest rates and inflation may follow. Furthermore, if the stimulus involves government spending in an area that would have otherwise (particularly in normal economic times) come from the private sector, there is a strong possibility that these resources could displace private investment. Bubbles may also form if the government over-stimulates certain industries for long periods of time. Thus, the challenge for policymakers is to meticulously track macroeconomic conditions, identify the correct sectors and methods for economic intervention, bring a properly-designed program to bear in the appropriate range of time, and terminate the program once the emergency ends.

Case Study: the Civil Works Administration

The Civil Works Administration, which was formed when the ideas behind Keynesian-style stimulus policies were still in their infancy, appears to satisfy many of the objectives policy makers seek when implementing an effective stimulus program. In the fall of 1933 it became clear that the Federal

Emergency Relief Administration (FERA) and the Public Works Administration (PWA), the two extant federal public works agencies at that time, were not able to provide relief work to as many workers as were in need. The economy, which had surged in the spring and early summer of 1933, experienced a dramatic contraction between August and October 1933 (Jason Taylor and Todd Neumann 2016) and members of the Roosevelt Administration fretted about the plight of unemployed workers in the upcoming winter months. Thus, in the waning days of October, Harry Hopkins, director of FERA, formed a plan to provide expanded work relief to millions of Americans during the winter. The new program would have the federal government itself directly hire workers and supervise projects rather than providing grants to states to hire private companies to build public works. Furthermore, the government would undertake very broad activities that would employ skilled workers like writers, architects, teachers, draftsmen, and musicians.

Before going to President Roosevelt with this idea Hopkins met with officials from the PWA—which had been authorized to spend up to $3.3 billion—to see whether the agency would be willing to provide funding. Hopkins was able to secure a promise of $400 million, which he estimated could employ 4 million people during the winter of 1933-34 (Forrest Walker 1979, 33). On November 2 Hopkins presented the idea to Roosevelt over lunch, and that evening Roosevelt formally approved of the transfer of $400 million from the PRA to Hopkins' still nameless agency. On the evening of November 4 and into the early morning of the 5th Hopkins and his staff hashed out the details of what would become the Civil Works Administration (CWA). On November 8, a press release officially announced the creation of the CWA. The new organization would undertake activities that could be done quickly and without long planning delays, thus satisfying the "timely" requirement of effective stimulus. Today, these would be coined "shovel ready" projects.

On November 15 over 1,000 governors, mayors, country officials, and relief administrators from around the country gathered in Washington D.C. as Hopkins and Roosevelt explained the details of the new program. By Monday November 20, just 18 days after Hopkins' lunch with the President, the first workers began CWA projects and on November 23, 814,511 workers received a paycheck (Walker 1979, 43). On the December 21, 3,418,431 workers received a CWA paycheck and on January 11, 1934—the peak of the agency's activity—there were 4,263,120 Americans employed on CWA projects (Walker 1979, 67). The $400 million ran out so an additional $450 million was added to its appropriation.

In February 1934 the CWA began to curtail its activities and on March 31 the CWA effectively ceased operation. Thus the program was clearly temporary in nature—its purpose was to help out of work Americans make it through the difficult winter months and indeed by early spring 1934 the program was ended. During its 136 days of existence the CWA undertook 177,600 projects, from sealing abandoned coal mines to compiling and analyzing climate data from the Soviet Union. After several severe winter storms in February, the CWA even hired workers for emergency snow removal services. From the perspective of "targeted" the CWA appears to have largely hit the mark. It provided work and income for those who otherwise were unlikely to have had any during the late fall and early winter. That many of the public works projects also could have had positive long run economic effects—as increases in public capital when it is below its optimal level can increase the rate of return to private capital—was simply a bonus. From a purely Keynesian perspective only the short run objective of counteracting the business cycle matters.

This account is not intended to glorify the accomplishments of the CWA. The agency faced charges of favoritism with respect to the dispersing of work relief and the economic value attached to some of the make-work projects the CWA undertook can certainly be questioned. Additionally, many contemporaries were upset that unlike other relief programs of the day, the CWA did not use a "means test" whereby relief work was allotted to those who were most in need based on how much debt they had or how long they had been out of work—in the context of this paper, contemporaries argued that the CWA work projects were not targeted as well as they could have been. Still, that a program of its size could go from thought to practice in well under a month stands as a remarkable achievement, particularly during peacetime. That the program spent $850 million, around $15.4 billion in 2017 dollars, and put around 6 million different people on its payrolls in four months and then disappeared completely is equally extraordinary. While the CWA may not have been a perfect agency, with respect to the three "T's" of stimulus policy—timely, targeted, and temporary—it serves as an excellent model of what Keynesian policy makers have in mind.

The Employment Act of 1946 and Keynesian Policy

The Employment Act of 1946 gave the federal government statutory responsibility to "promote maximum employment, production, and purchasing power." The Act created the Council of Economic Advisors as well as the Joint Economic Committee of Congress. The Act also required the President to annually submit the *Economic Report of the President* (*ERP*), which was to provide both a forward and backward look at economic priorities, challenges, and performance. While the Act did not explicitly require the implementation of Keynesian policy, its spirit was certainly geared toward creating an environment for countercyclical policy. Thus, we confine our analysis of Keynesian stimulus policy in light of the "timely, targeted, and temporary" principle to the postwar era, after the Employment Act was in place. We examine 11 recessions that occurred between 1948 and 2009, as displayed in Table 1. Of these, eight included at least some degree of deliberate countercyclical stimulus policy.

Table 2 lists some vital statistics for each recession. The unemployment rate normally rose by approximately 2.8 percentage points between the start and end of a recession while the average peak to trough decline in real GDP was around 3.5 percent. In the five recessions prior to the 1973, within 24 months of the recession's start, the unemployment rate was generally back at or near the Natural Rate of Unemployment, thought to be between 5 and 6 percent. Unemployment has been a bit more persistently elevated after recessions since 1973. The table also shows that there is a great deal of variability in the inflation rate in the year that recessions begin.

Our objective is to examine the countercyclical actions that policymakers who presided over recessions employed. We determine whether countercyclical policies were (1) timely by examining the lag between the date that the recession began and when the initial countercyclical policy was implemented. We evaluate whether they were (2) targeted by examining the causes of the recessions and the policy responses to it. Finally we evaluate whether the actions were (3) temporary by examining the level of government spending and tax revenue in the four years after the end of a recession compared to where it would have been under a normal trend.

Table 1

Recession Dates, Presidential Administrations, and Whether Stimulus Policies Were Tried

Recession dates	**Duration (months)**	**President**	**Attempted Stimulus?**
Nov 1948 - Oct 1949	11	Truman	Yes
Jul 1953 - May 1954	10	Eisenhower	Yes
Aug 1957 - Apr 1958	8	Eisenhower	Yes
Apr 1960 - Feb 1961	10	Eisenhower/Kennedy	Yes
Dec 1969 - Nov 1970	11	Nixon	Yes
Nov 1973 - Mar 1975	16	Ford	Yes
Jan 1980 - Jul 1980	6	Carter	No
Jul 1981 - Nov 1982	16	Reagan	No
Jul 1990 - Mar 1991	8	G.H.W. Bush	No
Mar 2001 - Nov 2001	8	G.W. Bush	Yes
Dec 2007 - Jun 2009	18	G.W. Bush/Obama	Yes

Source: National Bureau of Economic Research http://www.nber.org/cycles.html

Table 2

Vital Statistics of Each Recession

NBER Recession Dates	UN Rate Month of Rec. Start	UN Rate Month Rec. Ends	UN Rate 24 months after Rec. Ends	Inflation Rate Year Rec. Begins	Real GDP decline from peak to trough
1948-49	3.8%	7.9%	3.5%	8.1%	1.7%
1953-54	2.6%	5.9%	4.3%	0.8%	2.7%
1957-58	4.1%	7.4%	5.2%	3.3%	3.7%
1960-61	5.2%	6.9%	5.9%	1.7%	3.9%
1969-70	3.5%	5.9%	5.3%	5.5%	1.5%
1973-75	4.8%	8.6%	7.4%	6.2%	4.1%
1980	6.3%	7.8%	9.8%	13.5%	5.3%
1981-82	7.4%	10.8%	7.2%	10.3%	4.8%
1990-91	5.5%	6.8%	7.0%	5.4%	1.9%
2001	4.3%	5.5%	5.8%	2.8%	1.5%
2007-09	5.0%	9.5%	9.1%	2.8%	5.0%

Sources: Unemployment Rates are from http://www.bls.gov/cps/cpsaat01.pdf. Inflation Rates are from Table 24 of http://www.bls.gov/cpi/cpid1511.pdf. Peak to trough GDP movements from http://www.princeton.edu/~mwatson/mgdp_gdi.html except 1948, 1953, and 1957 recessions are from http://fpc.state.gov/documents/organization/7962.pdf.

Since an evaluation of "temporary" requires an examination of federal fiscal accounts over time, we identify the relevant measures for assessing this outcome. For government spending we use *real federal spending per capita*, which we will henceforth abbreviate "*SPEND*." For government revenue we likewise employ *real federal receipts per capita*. Real data are in 2005 dollars. These are reported in the first two columns of Table 3 for 1946 to 2015. The third column reports the real federal net surplus per capita for each year by subtracting column 2 from column 1. The fourth column subtracts defense spending from column 1 to give real federal non-defense spending per capita, which will henceforth be referred to as "*NONDEFS*." We examine *NONDEFS* since defense spending is likely to be unrelated to countercyclical measures and thus *NONDEFS* may provide better insights into attempts to fight the business cycle than total spending. Finally, the fifth column reports net surplus as a percent of GDP. Recession years are highlighted in gray.

We employ real per capita measures to control for inflation and population growth. While the real per capita approach should be superior to the alternative of considering spending and receipts as a percent of GDP, we report the latter in the final column so that the reader can gain insight into this approach, as well. A quick look shows that, as would be expected, spending generally rises during and just after a recession and receipts generally fall during and just after recessions—as a result the net surplus generally worsens following recessions.

Specifically, *SPEND* rises by an average of 1.82 percent overall between 1948 and 2015—1.04 percent if 1952 and 1967, which were large war expenditures years in which *SPEND* rose 43.4 and 12.3 percent respectively, are excluded. If we exclude recession years and the year right after a recession (as well as 1952 and 1967), *SPEND* rises by an average of 1.02 percent per year. During recession years and the year right after a recession, however, *SPEND* rises by an average of 2.54 percent. Thus real per capita government expenditures rise two and half times faster during years when we would expect countercyclical fiscal policy to be attempted compared to otherwise. *NONDEFS* rose by an average rate of 3.69 percent overall (again excluding 1952 and 1967), but rose 5.1 percent during recessions and the year after and 1.1 percent during all other years—this implies that real per capita nondefense spending rose over four times faster than otherwise during years we would expect to see countercyclical fiscal policy.

Real government receipts per capita rose by an average of 1.40 percent overall between 1948 and 2015 (excluding 1952 and 1967 to keep our numbers comparable to those above). But they grew by an average of 4.8 percent during non-recession (and year after) years and *fell* by an average of 1.7 percent during recession (and year after) years. Clearly, revenues and spending move differently depending upon the stage of the business cycle.

Some of the movements in spending and revenues in recessionary periods are driven by automatic stabilizers rather than discretionary fiscal policy. Tax revenues decline when economic activity contracts since there is less output to tax. Furthermore, government spending on unemployment insurance and other social programs like food stamps generally rises during a time of recession as more people become eligible for such benefits. While many economists (e.g. Thomas Baunsgaard and Steven Symansky, 2009 and Antonio Spilimbergo, Steve Symansky, Olivier Blanchard, and Carlo Cottarelli, 2010) have recommended the expansion of programs using automatic stabilizers so as to smooth economic fluctuations, Alisdair McKay and Ricardo Reis (2016, 183) conclude that stabilizers have in fact had "little impact on the volatility of the U.S. business cycle in the last decades." Still they claim that stabilizers can play an important role in times when monetary policy is far from optimal such as when interest rates are at the zero lower bound.[2] A Congressional Budget Office (2013) study estimates that 30 percent of the $5.1 trillion in deficit spending between 2009 and 2012 can be attributable to automatic stabilizers. When analyzing spending and revenues, we treat automatic stabilizers as part of the government's fiscal response to postwar recessions. Structurally, one would expect automatic stabilizers to do relatively well with respect to "timely, targeted, and temporary."

[2] McKay and Reis construct a model of the business-cycle that includes automatic stabilizers and calibrate it to replicate data in the United States.

Table 3: Fiscal Measures, 1946-1980 (Recession Years Highlighted)

Year	Real Outlays Per Capita *SPEND*	Real Receipts Per Capita	Net Surplus Per Capita	Real Non-Defense Outlays Per Capita *NONDEFS*	Net Surplus as percent of GDP
1946	3,912	2,784	-1,129	889	-7.00%
1947	2,096	2,340	244	1,318	1.61%
1948	1,645	2,297	652	1,142	4.29%
1949	2,136	2,168	32	1,413	0.21%
1950	2,265	2,099	-166	1,535	-1.04%
1951	2,207	2,503	296	1,064	1.76%
1952	3,166	3,095	-71	1,010	-0.41%
1953	3,475	3,179	-296	1,064	-1.67%
1954	3,155	3,104	-51	961	-0.30%
1955	3,006	2,874	-131	1,129	-0.70%
1956	3,003	3,171	168	1,195	0.88%
1957	3,095	3,233	138	1,259	0.72%
1958	3,184	3,077	-107	1,375	-0.57%
1959	3,476	2,991	-485	1,626	-2.46%
1960	3,367	3,378	11	1,609	0.06%
1961	3,475	3,356	-119	1,711	-0.59%
1962	3,703	3,456	-248	1,889	-1.18%
1963	3,754	3,594	-160	1,953	-0.74%
1964	3,891	3,697	-194	2,094	-0.86%
1965	3,773	3,728	-45	2,157	-0.19%
1966	4,126	4,012	-113	2,344	-0.45%
1967	4,634	4,379	-254	2,532	-1.00%
1968	4,981	4,277	-704	2,690	-2.67%
1969	4,822	4,907	85	2,656	0.32%
1970	4,803	4,733	-70	2,797	-0.26%
1971	4,881	4,346	-535	3,049	-1.97%
1972	5,135	4,615	-520	3,373	-1.82%
1973	5,100	4,791	-309	3,509	-1.04%
1974	4,990	4,876	-114	3,520	-0.40%
1975	5,586	4,691	-895	4,132	-3.15%
1976	5,853	4,692	-1,161	4,442	-3.93%
1977	5,988	5,203	-785	4,565	-2.57%
1978	6,174	5,377	-796	4,767	-2.51%
1979	6,025	5,538	-487	4,634	-1.55%
1980	6,164	5,394	-770	4,766	-2.58%

Table 3 Continued

Year	Real Outlays Per Capita *SPEND*	Real Receipts Per Capita	Net Surplus Per Capita	Real Non-Defense Outlays Per Capita *NONDEFS*	Net Surplus as percent of GDP
1980	6,164	5,394	-770	4,766	-2.58%
1981	6,350	5,611	-739	4,876	-2.46%
1982	6,515	5,397	-1,118	4,896	-3.83%
1983	6,780	5,037	-1,743	5,019	-5.71%
1984	6,789	5,312	-1,478	4,977	-4.59%
1985	7,219	5,600	-1,620	5,291	-4.88%
1986	7,349	5,708	-1,642	5,321	-4.82%
1987	7,124	6,062	-1,062	5,123	-3.07%
1988	7,187	6,139	-1,048	5,227	-2.95%
1989	7,298	6,324	-974	5,361	-2.70%
1990	7,505	6,181	-1,324	5,712	-3.70%
1991	7,530	5,999	-1,531	5,976	-4.36%
1992	7,541	5,956	-1,585	5,912	-4.44%
1993	7,389	6,052	-1,337	5,863	-3.71%
1994	7,400	6,371	-1,029	5,974	-2.78%
1995	7,391	6,592	-799	6,064	-2.14%
1996	7,323	6,819	-504	6,076	-1.33%
1997	7,276	7,176	-99	6,046	-0.25%
1998	7,326	7,633	307	6,137	0.76%
1999	7,316	7,856	540	6,135	1.30%
2000	7,191	8,140	950	6,007	2.30%
2001	7,209	7,705	496	6,030	1.21%
2002	7,590	6,994	-595	6,275	-1.44%
2003	7,902	6,521	-1,381	6,422	-3.28%
2004	8,096	6,639	-1,457	6,486	-3.36%
2005	8,365	7,288	-1,077	6,689	-2.43%
2006	8,620	7,814	-806	6,926	-1.79%
2007	8,532	8,030	-502	6,809	-1.11%
2008	8,897	7,529	-1,368	7,059	-3.12%
2009	10,439	6,246	-4,192	8,477	-9.80%
2010	10,009	6,262	-3,748	8,001	-8.65%
2011	10,040	6,419	-3,621	8,074	-8.37%
2012	9,584	6,639	-2,945	7,747	-6.73%
2013	9,153	7,352	-1,800	7,475	-4.07%
2014	9,070	7,816	-1,254	7,509	-2.79%
2015	9,455	8,331	-1,124	7,944	-2.43%

Notes to Table 3: Data on government receipts, total outlays, and non-defense outlays are from the "Historical Tables," Office of Management and Budget. Specifically data on total outlays and non-defense outlays are from Table 6.1 while data on receipts and net surplus are from Table 1.1. Population data are from the Bureau of the Census while CPI data are from the Bureau of Labor Statistics. Data are converted to 2005 real per capita dollars via the following equation: $(\text{Spending}_{\text{YearX}}/\text{Population}_{\text{YearX}})*(\text{CPI}_{\text{YearX}}/\text{CPI}_{2005})$.

An Analysis of Timely, Targeted, and Temporary in the Postwar Era

This section analyzes the government's fiscal response to each of the 11 postwar recessions. We focus narrowly on the three T's—timely, targeted, and temporary. To systematically measure "timely," we examine the number of months between the start of the recession and first countercyclical fiscal policy was enacted. To systematically measure "temporary" we examine our two measures of spending—which again include real per capita federal expenditures (*SPEND*) and the same measure but restricted to nondefense expenditures (*NONDEFS*)—and government revenue. Specifically we examine the percentage growth rate of these variables between the *year the recession started* and *four years after the recession's end*. Examining the growth in this variable over periods of time longer than this would often run into the problem that data are effected by a subsequent recession. We do not employ a systematic measure for "targeted," but instead focus qualitatively on the nature of the stimulus in relation to the causes of the downturn and the particular sectors most affected. We begin the discussion of each recession period by briefly outlining the vital statistics associated with the downturn as well as what were believed by policy makers to be its causes. We then address specifically the extent that the government's response reflected the "three T's."

Recession of 1948-49

Between November 1948 and October 1949, the US economy receded and the unemployment rate increased from 3.8 percent to 7.8 percent. The sharp rise in joblessness brought fears that the economy would return to Depression-era conditions and thus this was viewed as an initial test to see how the government would act with respect to new task that the Employment Act of 1946 had created for it. With respect to the policy goals emphasized at the time, Benjamin Caplan (1956), Raburn Williams (1994) and Richard Vedder and Lowell Gallaway (1993) note that both the Harry Truman Administration and the Federal Reserve were focused much more heavily on the potential problem of high inflation from an economy that was stretched "tight as a drum" in 1948 (Caplan 1956, 38) than they were an economic slowdown. As Table 2 shows, the inflation rate in 1948 was over 8 percent. Table 3 shows that 1948 also saw a record budget surplus, which reached 4.3 percent of GDP and rose to $692 per capita. In fact Truman was pushing for a tax increase designed to slow inflation as late as June 1949, even though the economy was several months into recession. Contemporaries blamed the recession on tight monetary policy enacted in response to the high inflation rate.

Timely. Caplan (1956, 35) notes that the administration failed to diagnose the downturn until the recession was more than half a year old. In his mid-year Economic Report of July 1949—eight months after the recession began Truman noted "a moderate downward trend" but said that the situation did not call for an "immediate and sweeping expansion in public works."[3] Rather, the President recommended the federal government extending modest loans to state and local governments so that they could engage in public works. Three months later, in October 1949, Congress authorized $25 million for the fiscal year 1950.[4] This policy, 11 months after the start of the recession, was the first enacted countercyclical fiscal policy specifically geared toward fighting the downturn. The implementation of this additional spending did not occur right away, but instead it was dispersed throughout the 1950 fiscal year. In his January 1950 Economic Report, Truman noted that recovery was underway and would continue and thus no more stimulus measures were recommended. Indeed by May 1950 the index of industrial production was above its prior peak. A. E. Holmans (1961, p. 131) concludes that "The Truman Administration handled the recession with great caution …. The idea that [it] took quick and drastic (or even hasty) action to deal with the recession of 1949 is without any foundation in fact."

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[3] A. E, Holmans (1961, 113)

[4] The Housing Act of 1949, passed on July 15, renewed the authority of the Federal Housing Agency to insure mortgages, but Holmans (1961, 131) notes that this was long planned and "was a result of the 1948 elections rather than the recession" and hence we are not treating this as deliberate fiscal policy in terms of our timely variable.

Targeted. The $25 million expansion in public works spending was not narrowly targeted. But in fairness, the Administration allowed automatic stabilizers to be the primary drivers of countercyclical policy. In fact 7 million Americans claimed unemployment insurance, with benefits amounting to $1.7 billion in 1949—a number twice as high as that in 1948 (Gordon Wagenet 1960, 53). Incidentally, unemployment insurance time limits, which in all but five states were 16 weeks (generally 20 in the others), were not extended in response to this downturn. The extension of unemployment insurance in light of a recession has been a regular occurrence since the downturn of 1957-58.

Temporary. Table 3 shows that federal spending, particularly non-defense spending, increased in 1949 and 1950 over its prerecession levels, and then came back down in 1951, before rising again with escalating US involvement in the Korean War. Real receipts per capita in 1951 were also above their prerecession level. The fiscal expansion from automatic stabilizers and modest stimulus was minimal—and it was temporary.

The Recession of 1953-54

In September 1953—two months into the recession of 1953-54—Dwight Eisenhower's Chairman of the Council of Economic Advisors, Arthur Burns, warned that a "readjustment" may be on the way, although he also cited positive factors and did not recommend any fiscal stimulus actions at that time (Wilfred Lewis 1962, 145). The January 1954 *ERP* expressed fears that the nation may be facing a potential downturn—one which hindsight shows had begun six months prior—and blamed on the demobilization from the end of the Korea War. The report said should a downturn occur, the federal government "would not hesitate to use any or all [policy] weapons as the situation may require" (*ERP* 1954, iv).

Timely. The earliest countercyclical action was a $1 billion excise tax reduction, which was signed into law on March 31, 1954, over nine months after the recession began. A second major action was the August passage of the Housing Act of 1954, which authorized the FHA to insure mortgages with smaller down payments and longer terms. Holmans (1961, 226) notes that the number of housing starts financed by government insured mortgages rose from 408,600 in 1953 to 583,300 in 1954 and he suggests that "the housing boom of 1954-5 was the result of the measures taken to stimulate the economy." More than just a short-term stimulus, however, Richard Flanagan (1997, 265) calls the Housing Act of 1954 "a historic turn in national urban policy" as the act emphasized urban renewal projects through commercial redevelopment rather than constructing public housing. In a third countercyclical action, on September 1, 1954, 15 months after the recession had begun and four months after it had ended, Congress permanently expanded unemployment insurance to cover federal civilian workers (Department of Labor, 1954). The reform, which meant 3.9 million workers were newly eligible for unemployment insurance, also provided federal loans to states to help pay for the expansion. Lewis (1962, 153) notes that this was a long standing policy goal which "had been considered for several years in the Labor Department and elsewhere."

The Joint Economic Committee considered New Deal-style public works projects as a countercyclical tool in 1954, however, Lewis (1962, 160) notes that the committee concluded that such a policy could not be timely because it would depend on prompt action by Congress to authorize specific projects. There were also discussions of various tax reductions. In his concluding thoughts about the effectiveness of fiscal policy in the recession of 1953-54, Lewis (1962, 186) notes that there was extremely "vigorous" debate about whether fiscal actions were required, but the "vigor of that debate casts doubt upon the speed with which tax proposals made purely for stabilization purposes" could work.

Targeted and Temporary. The expansion of unemployment insurance to federal civilian workers after a large retrenchment in government spending following the Korean War seems to be a well-targeted policy. The Housing Act and the cut in excise taxes are less surgically targeted. With respect to "temporary," the policy actions that were undertaken in response to the 1953-54 recession—unemployment, housing, and tax reform—were permanent statutory changes that had long been called for. The recession appears to have provided a nudge to get these three programs passed into law. In terms of the real per capita spending data, *SPEND* actually fell in 1954, 1955, and 1956, in response to the end of the Korean War, however, when the data are broken down into defense and non-defense, there was clearly a sharp increase in "butter" that accompanied the decline in "guns." *NONDEFS* jumped 17.5 percent in 1955, but this was not enough to offset the decline in defense spending. Four years after the end of the recession of 1953-54, *NONDEFS* was 29.3 percent higher than it had been in 1953. While the Korean War spending of the early 1950s complicates the analysis, it does not appear that we can give very high marks to the government's response to the recession of 1953-54 with respect to "temporary."

Recession of 1957-58

Between August 1957 and April 1958, the economy experienced the sharpest recession since the 1930s, with GDP falling 3.7 percent from peak to trough. As early as September 1957, there was talk of a recession linked to a slowdown in defense spending, however, the Eisenhower Administration was more worried about inflation which had been in excess of 3 percent over the prior two years. On October 30, 1957, Eisenhower said the economy was "taking a breather" but he did not think countercyclical fiscal policy was needed (Lewis 1962, 197). The January 1958 State of the Union Address and *ERP* acknowledged that the economy was experiencing a recession, but Eisenhower said that he believed the decline would not last long that "growth can be resumed without extended interruption" (*ERP* 1958, 50).

Timely. While the Eisenhower Administration seemed content to wait the recession out, Congress entered heated debate in the first three months of 1958 as many Democrats and Republicans called for action. In March of 1958 Eisenhower agreed to a $186 million public works expansion by bringing forward into fiscal year 1958 some projects for which funds were already allocated for 1959 (Holmans 1961, 280). Thus the first countercyclical policy was approved eight months after the recession's start. One month later, Congress passed three more major stimulus measures. First it authorized $820 million appropriated for 1959 government purchases on projects such as hospitals, airports, and water-resource be moved up to 1958 (ibid., 281). Second, Congress passed the Emergency Housing Act, which reduced minimum deposits on FHA mortgages and provided an expansion of government loans to housing starts of $50 million in 1958, and $150 million in 1959 and 1960. Third, Congress passed the Highway Act, which provided an additional $200 million in fiscal year 1959 and $300 million in fiscal years 1960 and 1961 for the Interstate highway system, as well as an additional $400 million in 1959 for non-interstate, federally-aided, highway construction. In June 1958 the time in which unemployment benefits could be collected was temporarily extended by 50 percent (Lewis 1962, 211). By the summer of 1958, however, it was clear that recovery—which officially began in April—was underway and policy makers' concerns turned to deficit reduction.

Targeted and Temporary. Congress's actions against this recession were clearly much stronger than the first two postwar recessions—and this seems appropriate since this recession was the sharpest of the three in terms of magnitude. Lewis is skeptical that housing reforms and the bringing forward of future scheduled expenditures into 1958 fiscal year had any major effect on recovery, but he argues that the temporary extension of unemployment benefits was well targeted as it had a "prompt and sizeable economic impact during recovery." The pulling forward future expenditures and temporarily increasing unemployment expenditures would seem to be highly compatible with the temporary aspects of stimulus. Still, the Highway Act and the Housing Act both created increased appropriations not just for 1958 and 1959, but also into the early 1960s, when the recession would be expected to be long over. In terms of our fiscal measures, Table 3 shows that spending rose significantly in the year after the recession. Specifically, *SPEND* rose 9.2 percent in 1959 *while NONDEFS* rose twice as quickly by 18.3 percent. Furthermore, spending remained at this new higher level in both cases rather than falling back toward the prerecession level. Four years after the recession's end, *NONDEFS* was 50 percent higher than it was in 1957. Certainly we cannot say that this dramatic jump is fully attributable to stimulus actions, but they certainly appear to have contributed to the long-term expansion. Real receipts per capita were below their prerecession levels in 1959, but by 1960 they were back to a postwar high.

The Recession of 1960-61

The expansion that began in April 1958 was short-lived as the economy entered recession again in April 1960 and hit its trough in February 1961. Coming so close to the heels of the prior downturn, the recession raised the specter of "secular stagnation" (Lewis 1962, 236). In terms of causes, the Federal Reserve increased interest rates between April 1958 and May 1959 in an attempt to stave off a large outflow of gold that began in late 1957 (Williams 1994, 306-306). Furthermore, the Eisenhower administration was worried about high deficits and inflation and hence moved the federal budget from a $12.8 billion deficit in 1959 to a small revenue-driven surplus in 1960. In Eisenhower's final budget message of January 1961, the president conceded a "leveling out" of the economy in late 1960, but forecast a heady expansion in

1961 (Lewis 1962, 244). Eisenhower did not pursue or enact any countercyclical stimulus measures to fight this downturn.

Timely. John F. Kennedy took office in January 1961, the recession's final month, and put forth several measures that he called "The Program to Restore Momentum to the American Economy."[5] This program contained both short-term stimulus and long-term reform measures. Amongst these were: increases in Social Security payments, nearly $5 billion in new outlays related to the Housing Act of 1961, which included money toward new housing construction, urban renewal, and public transportation, and a temporary extension of unemployment benefits.[6] The stimulus also included around $400 million in new funding to the Area Redevelopment Act, which had the goal of stimulating urban and rural areas with persistently high unemployment. The first of this legislative volley was passed in April 1961, 13 months after the recession had begun.

Targeted. Kennedy's program was largely geared toward long-term objectives—giving the economy long term momentum—such as urban renewal. Still, the expansion in the duration of unemployment benefits was clearly well targeted policy as outlined by Zandi (2008). Expansions in Social Security payments would also put money into the hands of people who would quickly spend it—which is in line with the model of targeted stimulus outlined by Summers (2008).

Temporary. *NONDEFS* rose by 6.3 and 10.4 percentage points in 1961 and 1962 respectively while *SPEND* rose 3.2 and 6.6 percent respectively during these years. Again these new higher levels of real per capita spending persisted in the years that followed. Four years after the recession ended *NONDEFS* was 34.1 percent above its 1960 level. Furthermore, while the economy recovered and grew smartly between 1963 and 1968—aided by the Kennedy Tax Cuts of 1964, *NONDEFS* spending grew by an average of 6 percent per year (*SPEND* rose by an average of 5.2 percent). Real per capital government revenues fell very slightly in 1961 but were back to a postwar high by 1962.

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[5] http://www.presidency.ucsb.edu/ws/?pid=8621

[6] http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/Legislative-Summary-Main-Page/Housing.aspx

The Recession of 1969-70

The recession of December 1969 to November 1970 ended nearly nine years of vigorous expansion. Richard Nixon, who took office in January 1969, blamed the downturn on what he viewed as overly-expansionary fiscal policies enacted under the Kennedy Administration, and even more so the Administration of Lyndon Johnson. Johnson's "Great Society" programs, which focused largely on human capital initiatives such as the Economic Opportunity Act of 1964 were clearly not meant to be countercyclical as unemployment was below four percent between 1966 and 1969. Despite the low unemployment, *NONDEFS* grew by an average of 6 percent per year (*SPEND* rose by an average of 5.2 percent) between 1963 and 1968. This increase in spending helped push inflation, which had been around 1 percent in the early to mid-1960s, to 5.5 percent by the end of the decade, although the inflation was also caused by an expansive monetary policy which was used to keep down unemployment (William Poole 2005). Of course, high inflation is a danger of a poorly-timed and/or non-temporary stimulus policy.

While Nixon proposed structural reforms to the nation's welfare and manpower programs, he took little or no countercyclical policy measures in response to the downturn of 1969-70. Table 3 confirms that our key spending measures remained relatively constant, actually falling slightly, while our measure of receipts actually rose in 1969 and 1970 above its prerecession level. Nixon signed the Economic Stabilization Act of 1970 into law on August 15. Despite its name, however, this act was clearly less concerned with stabilizing the business cycle than it was with stabilizing prices as it authorized the President to put a freeze on wages, prices, rents, interest rates.

Timely. On July 12, 1971—20 months after the start of the recession and eight months after its end—Nixon signed the Emergency Employment Act (EEA), which Sar Levitan and Robert Taggart (1972, 3) call "the first large-scale public employment effort since the New Deal." This program, which was the first clear stimulus enacted in light of the downturn, provided $1 billion in the first year for state and local governments to hire workers for government public works. This could fund the hiring of approximately 140,000 workers, which Levitan and Taggart note would only have the potential to directly reduce the unemployment rate by only 0.2 percentage points. Unemployment benefits were temporarily extended beginning in January 1972, fully two years after the recession began. In December 1973, Nixon signed the

Comprehensive Employment and Training Act (CETA) into law, which expanded and made more permanent the goals of the EEA.[7]

Targeted and Temporary. Nixon's countercyclical stimulus does not score well from the perspective of timely, but with respect to targeted, one could argue that programs like the Emergency Employment Act, CETA, and the extension of unemployment benefits, did better. With respect to temporary, CETA was designed to essentially make the "emergency" employment goals of the first act into a permanent part of the economic landscape. Government spending grew significantly faster than both inflation and population in the years after the recession—though again it is not clear how much of this increase is attributable to countercyclical policies versus other spending increases.

The Recession of 1973-1975

The recession of 1973-75 was caused by several factors that led to a precipitous drop in consumer and business confidence. The Arab oil embargo from October 1973 to March 1974, undertaken in response to the United States' involvement in the Yom Kipper War, caused the price of oil to quadruple. Gasoline was rationed and many American consumers had to wait in long lines to purchase gasoline. The stock market fell 45 percent between its high in early 1973 and the end of 1974. The unemployment rate, which was 4.8 percent in the spring of 1974, jumped to over 7 percent by the end of that year and peaked at 9 percent in May 1975. The economy was experiencing what was, at that time, the sharpest recession of the postwar era.

Timely. The recession officially began in November 1973, but it was not until March 1975, 16 months after the recession began, that President Gerald Ford proposed a countercyclical stimulus measure. Given how sharp the downturn was, it may seem surprising that countercyclical policies were not pursued earlier. As Table 3 shows, real per person spending was actually lower and receipts were higher in 1974 than they were in 1973—suggesting

[7] In August 1971, nine months after the recession had ended, Nixon announced his "New Economic Policy" which, among other things, suspended convertibility of the dollar into gold and froze prices, wages, and rents. Robert Higgs (2009) claims that politics rather than countercyclical economics drove Nixon's actions.

that even the automatic stabilizers were not effective. However, the Watergate scandal and Nixon’s resignation—as well as the resignation of vice president Spiro Agnew as a result of charges of tax evasion and accepting bribes—in the spring, summer, and fall of 1974 provided major political distractions. Additionally, inflation was still considered a major problem—itself reaching 11 percent in 1974 and 9 percent in 1975—and policy makers were hesitant to jump into simulative policies that could further raise inflation. Unemployment benefits were given a 13 week federally funded extension beginning in January 1975, but aside from this action, there was no federal response to the downturn prior to March 1975, the month that the recession officially ended. However, frenetic activity ensued in the time that followed.

On March 29 Congress passed the Tax Reduction Act of 1975, which gave individuals a 10 percent tax refund on their 1974 payments (up to $200) as well as a $30 per person tax credit. Social Security recipients also received a one-time $50 check. In the end, around $8.1 billion went out in lump-sum payments to individuals—note that while they are called tax refunds, as was the case with President George W. Bush’s stimuli in 2001 and 2008—to be discussed later—they were accomplished with government checks going to individuals, and hence are reflected in the data as government spending. The government also reduced withholding taxes by over $8 billion in 1975 and firms received tax credits of $5.1 billion in the hope of boosting business investment spending.[8] In total, the Tax Reduction Act of 1975 provided $21.3 billion in stimulus measures, or the equivalent of around $96.1 billion in 2017 dollars.[9] Table 3 shows that receipts were down 3.7 percent in 1975, which when coupled with the aforementioned large increases in spending meant a dramatic fiscal stimulus. The real per capita deficit rose to $895 in 1975, by far its highest level since the end of World War II.

The recession may have ended in March 1975, but in its aftermath the economy remained below full employment for years. In May 1977 President Jimmy Carter signed the $20.1 billion ($80.6 billion in 2017 dollars) Economic Stimulus Appropriations Act of 1977 which was targeted toward government

[8] Note that tax cuts would not show up in *SPEND*, thus reducing its power as an indicator of stimulus efforts.

[9] “Summary of Tax Reduction Act of 1975, H.R. 2166, as Passed by the House” https://www.jct.gov/publications.html?func=startdown&id=4152

employment programs. Much of the Act's funding was used to dramatically expand the Nixon-era CETA, which, like the 1930's New Deal programs, put unemployed Americans to work directly on "public service" jobs such as working in libraries and senior citizen centers. By 1978, the peak enrollment of the Act's existence, 725,000 Americans were enrolled in the program (Walter Shapiro 2009). Notably, this was three years after the recession had ended and hence this was poorly timed in the Keynesian sense—while unemployment had peaked at 9 percent in May 1975, it was around 6 percent, which economists estimated as being close to the natural rate at that time, throughout 1978.

Targeted. The $50 checks sent to Social Security recipients could be argued as being well targeted in the sense of Summers (2008) if we assume that recipients of the program have a marginal propensity to consumer near 1. But it is less clear that the general tax rebate program would hit the stimulative mark. Milton Friedman's (1957) "permanent income hypothesis" suggests that such one-time windfalls will be saved since they do not add to permanent income. This behavior has been confirmed by studies of more recent tax rebate programs by Matthew Shapiro and Joel Slemrod (2003). On the whole, the stimulus polices that were pursued to combat the aftermath of the recession of 1973-75 were targeted broadly rather than toward affected sectors like the automobile sector—harmed by the oil crisis—or the financial sector which had been hurt by the large drop in financial markets.

Temporary. The year 1975 saw the largest peacetime growth in *SPEND* since the Great Depression—an 11.95 percent surge.[10] Broken down into its component parts, *NONDEFS* spending rose an astounding 17.4 percent, while real defense spending per capita fell 1.1 percent. Although the economy grew between 1976 and 1981, *SPEND* did not retreat back toward its 1974 pre-stimulus levels, but instead continued to rise rapidly by 3.4 percent per year. Expansion of CETA was also clearly not just a temporary response to the downturn. A Congressional Budget Office (1982) report shows that the agency's spending continued to accelerate even after the recession ended in 1975, growing from $2.9 billion in 1975 to $9.5 billion in 1978. Spending on

[10] The year 1967 saw total per capital spending rise 12.3 percent, driven largely by the 17.9 percent jump in defense spending in relation to the Vietnam War.

the program slightly dropped off to $7.7 billion by 1981, but remained well above its pre-recession of 1973-75 level with $4.4 billion in outlays by 1982. By 1979, *NONDEFS* was 32 percent higher than its pre-recession level. Federal spending as a percent of GDP also rose from 18.7 percent to 21.7 percent between these years. It appears that the countercyclical measures of 1975 failed in the realm of "temporary."

The Double Dip Recession: 1980 and 1981-82

Between January and July 1980 the economy underwent a severe recession, which is generally blamed on the Federal Reserve's tightening of the money supply. The economy contracted almost 10 percent (at an annual rate) in the second quarter of 1980. The Fed reversed course and expanded the money supply between May and November at a 16 percent annual rate and the economy grew steadily over the next year (Williams 1994, 412). The recession of 1980 happened so quickly that no countercyclical fiscal policy was attempted.

A second recession occurred between July 1981 and November 1982. The unemployment rate, which was already at an elevated rate of 7.4 percent when the recession began, reached 10.8 at recession's end. President Ronald Reagan was highly critical of Keynesian-style demand management policies and indicated broad concern at the growth of federal spending that had occurred over the prior two decades. The Omnibus Reconciliation Act of 1981 and the Economic Recovery Act of 1981 both reduced government spending and reduced the tax burden on Americans. Still, the tax cuts should not be viewed as a deliberate countercyclical policy as the debate leading to their August 1981 passage occurred when the economy was growing strongly. The time limit to receive unemployment benefits were temporary extended by 8 to 16 weeks (depending upon the state's unemployment rate) between September 1982 and June 1985, but aside from this extension, no other federal countercyclical policies were attempted, thus we classify the double dip recession of the early 1980s as having no Keynesian-style response to discuss in the context of the three T's.

The Recession of 1990-91

The economy grew rapidly during the rest of the 1980s—average annual growth was 3.3 percent between the fourth quarter of 1982 and the 3rd quarter of 1990. However, between July 1990 and March 1991, the economy receded again. Carl Walsh (1993) uses a structural VAR analysis to show that the downturn was caused by a combination of factors including a loss in consumer and business confidence, an oil price shock from Iraq invading Kuwait, and contractionary monetary policy. President George H. W. Bush declined to use fiscal stimulus. In fact, the 1992 *ERP* argued that an increase in fiscal expenditures or a reduction in taxes might hamper the economy’s recovery by creating deficits. The only countercyclical policy that was implemented was a temporary extension of unemployment benefits—something that had by this point become a standard operating procedure during recessions. Even this action was not taken until November 1991, eight months after the recession had officially ended. Hence, again, we classify this as a recession in which Keynesians-style policy was not attempted and thus do not evaluate it in the context of the three T’s.

The Recession of 2001

While countercyclical fiscal policy took a two-decade hiatus, the recession of 2001, which followed on the heels of the popping of a bubble in the technology sector (and the stock market more broadly) as well as the terrorist attacks of September 11, 2001, brought a policy shift. During President George W. Bush’s two terms, the federal government grew both in size and scope, after falling sharply during the prior decade. Some of this may have been due to policies in response to the recession, but the so-called “War on Terror” and other non-countercyclical measures appear to have been the largest contributors to this change in trend.

Timely. Fortuitously from the perspective of Keynesian countercyclical policy, Bush had centered his 2000 campaign upon a major tax cut, and the Economic Growth and Tax Relief Reconciliation Act of 2001 was passed in June. While it was not part of the original bill, by late spring there were worries that the economy may be slowing down and hence the final bill included a “tax rebate” plan whereby checks of up to $300 per tax payer were sent out between July and September of 2001 as an advance on the cut in the lowest marginal bracket to 10 percent. This was well-timed policy. The recession officially began in March 2001 and stimulus checks were being received by households just 4 months later. Unemployment insurance limits were also extended via a bill passed in March 2002.

Targeted. The recession of 2001 was relatively mild, despite the strong events—the stock market collapse and the terror attacks that came near the end of the recession—that contributed to it. Since a major cause of the downturn was a decline in confidence as well as a negative wealth effect from the decline in equities prices, the tax rebate program could be argued to have been well targeted if the checks in the mail provided psychological reassurance. Still Shapiro and Slemrod (2003) show that in terms of economic impact, the tax rebate stimulus had little direct economic effect as over three quarters of recipients said that they intended to simply save the rebate—in other words the government took money that would have potentially gone into the banking system and gave it to people who largely did deposit it into the banking system.

Temporary. Between 2001 and 2008, real per capita defense spending increased 6.5 percent per year while *NONDEFS* increased more modestly by 2.3 percent a year. Most of the increase in the federal government's size was related to the War on Terror and long-term domestic programs (e.g. No Child Left Behind and Medicare Part D) rather than the countercyclical policies in light of the recession of 2001. The two primary stimuli—the tax rebate program of 2001, and the extension of unemployment benefits in 2002—were temporary and hence we conclude that the government's response met the temporary criteria. Incidentally, the Bush tax cuts themselves were clearly a long-run reform rather than countercyclical fiscal policy.

The Recession of 2007-2009

The financial crisis and recession of December 2007 to June 2009 brought extreme fiscal stimulus measures by both Presidents Bush and Obama. The response was the largest stimulus program in the postwar era. The consensus view of the recession's cause is the popping of the housing bubble. The subsequent fall in housing prices and the rise in mortgage defaults dramatically weakened the financial standing of banks, which were holding large amounts of mortgage backed securities. A credit crunch ensued in which lending slowed dramatically as banks attempted to rebuild their balance sheets. The recession accelerated sharply in September 2008 after the failure of Lehman Brothers created a major financial panic. The Dow Jones Industrial Average fell around 30 percent in the following two months and hit bottom in March of 2009 at less than half its prerecession level.

Timely. The Bush Administration's Economic Stimulus Act of 2008 became law on February 13. The Act injected $152 billion into the economy, the majority of which came through "tax rebate" checks. The government sent payments of up to $600 per tax payer ($1,200 for married couples) and $300 per dependent child out to every taxpayer between May and June of 2008. From the perspective of timely, this was solid as checks were received just 6 months after the downturn began. In the wake of the deepening financial crisis in September, Congress passed the Economic Stabilization Act and Troubled Asset Relief Program (TARP) on October 3, 2008. TARP was an unprecedented expansion in government scope which authorized up to $700 billion in spending by the Treasury Department to inject capital into floundering banks and financial institutions. From the perspective of timely, it could be argued that it was a very rapid response to the financial crisis which had begun 19 days before with the failure of Lehman Brothers. Others may argue that the timing was too late—that had TARP been passed earlier in the year when it was clear that financial institutions were in major trouble, the financial panic could have been avoided as companies like Lehman Brothers could have been saved.

In February 2009, President Obama signed the American Recovery and Reinvestment Act (ARRA), an $831 billion stimulus that included a combination of tax rebate checks, infrastructure spending, and smaller amounts of spending on health, renewable energy, education, and other categories. According to the ARRA's final report (Council of Economic Advisors 2014), the Act, among other things, initiated over 15,000 transportation projects affecting 42,000 miles of road and 2,700 bridges and funded alternative energy projects that grew the nation's capacity of wind and solar energy by 150 and 300 percent respectively between 2008 and 2012. Around a quarter of ARRA's stimulus allocation went to tax cuts rather than government spending. In 2009, ARRA accounted for $180 billion in outlays and tax reductions and this increased to $386 billion in 2010. In 2011, $150 billion of stimulus was administered and this fell to $51 and $37 billion in 2012 and 2013 (Council of Economic Advisors 2014, 9). From the perspective of timely, ARRA, was clearly passed in time to help counter the recession and subsequent recovery. However, many expressed frustration that stimulus dollars were not allocated more quickly after ARRA's February 2009 passage. As noted above, only around 20 percent of the allocated dollars were spent in

2009. Even President Obama noted with disappointment in June of 2011 that with regards to the public works aspects of the program, “Shovel ready was not as shovel ready as we expected.”[11]

Between July and August 2009 the “Car Allowance Rebate System” (CARS), a program more commonly known as “Cash for Clunkers,” was in effect. Through CARS, the federal government purchased and scrapped American’s used cars if they purchased a new, more fuel-efficient vehicle. The government purchased 3 billion worth of “clunkers” during these two months. Atif Mian and Amir Sufi (2012) report that the program boosted automobile sales during the two months that it was in place; however, because consumers decreased vehicle purchases by roughly the same amount in the 10 months following the program, the net economic effect over a one year period was basically zero. Still, from the perspective of “timely” it could be argued that moving purchases ahead in time is good stimulus.

The Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010 obligated another $916.8 billion in fiscal stimulus by prolonging the Bush tax cuts, cutting payroll taxes, and extending unemployment coverage. While the recession was technically over, unemployment remained elevated and growth was weak as the economy was slowly recovery from the worst crisis since the Great Depression. Thus the timing of this additional round of stimulus could be argued to be appropriate. All told, the major and minor stimulus legislation from 2008 to 2012 amounted to over $2 trillion in new federal spending and tax cuts.[12]

Targeted. TARP was certainly a well targeted stimulus program. Financial entities were in trouble because they held “troubled assets” such as mortgage backed securities on their balance sheets. Through TARP the federal government purchased these troubled assets so as to remove the cause of the panic. However, there were questions about how well targeted ARRA was. Critics such as de Rugy (2011), Jones and Rothschild (2011a, 2011b), and Young and Sobel (2013) claim that it funneled too many dollars toward long term progressive causes such as alternative energy, high-speed rails, and clean water rather than toward industries and sectors that were hardest hit by the

[11] http://www.realclearpolitics.com/video/2011/06/13/obama_jokes_shovel-ready_was_not_as_shovel-ready_as_we_expected.html

[12] Calculations from Thomas Friey (2012).

downturn such as construction and automobiles. On the other hand, the "Cash for Clunkers" program of summer 2009 appears to be on solid ground with respected to "targeted" stimulus. The program was designed to stimulate purchases of new vehicles and thus help automobile producers—a group that was very hard hit hard by the economic downturn. Still, some may argue that the fuel-efficiency requirements that came with the program, with the goal of long run environmental objectives, detracted from the policy being well targeted toward economic recovery.

Temporary. The CARS the program was also extremely temporary, lasting for only a few weeks. TARP spending was likewise confined to a fairly short time period—while the Treasury was authorized to spend up to $700 billion, only around $425 billion was used to buy troubled assets and over half of this was allocated in the last three months of 2008. In the end, the government was able to recoup nearly all the expenses of TARP and essentially break even on the program. In terms of the impact of these stimulus polices on federal spending, in 2009 *SPEND* rose 17.3 percent from $8,897 to $10,439. But in the five years that followed *SPEND* fell steadily. The drop was particularly pronounced after enactment of the Budget Control Act (BCA) of 2011. Better known as the "Sequester," the BCA mandated small across-the-board cuts to growth rates in discretionary spending beginning in March of 2013. Because of the BCA nominal federal spending fell in 2012 and 2013, the first time government spending fell in consecutive years since the 1950s. When viewed in real per capita terms, the decline were even more prominent, falling 5.4 percent between 2012 and 2014. Real per capita revenues remained below their 2007 level until 2015, largely because the economy remained short of full employment.

Summarizing the Three T's in Response to Postwar Recessions

This section summarizes the detailed historical analysis of the 11 postwar recessions presented above. Table 4 lists the postwar recessions and the column "Timely" reports the number of months between the official start date of the recession and when the first countercyclical polices were employed. On average, it took 10.9 months before any countercyclical action was taken. The recession of 2001 provided the quickest response as "tax rebate" checks were in the mail just four months after the recession began. The slowest response was in reaction to the recession of 1969-70 whereby countercyclical action was not taken until 20 months after the recession began. In terms of trends over time, it appears that the government is getting better at responding more quickly, as the two 21st century recessions have seen response times of 4 and 6 months.

With regards to temporary, the third column of Table 4 reports the difference between our key fiscal variables from the year the recession began to four years after its conclusion. To better evaluate these growth rates it is useful to know what the trend suggests would have occurred in absence of any recessions. The average annual growth rate in SPEND was 1.03 percent between 1948 and 2015 when recession years and the year following a recession (when the narrative evidence presented earlier suggest much of the countercyclical spending actually occurs), as well as two major war build up years 1952 and 1967 are excluded. Similarly, for *NONDEFS* the trend growth rate is 1.08 percent per year. Compounded out five years, i.e. the typical time from a recession's start to four years after its end, the trend in *SPEND* in non-recession years would be 5.3 percent while the trend for *NONDEFS* would be 5.5 percent.[13] Thus, a number higher than around 16 percent in the *SPEND* or *NONDEFS* columns suggests an increase in these measures that is over three times as large as the trend—clearly representing a non-temporary bump in spending.

With respect to growth in tax revenues, the average growth in federal revenue per capita in non-recession years (and one year post) is 4.8 percent, which compounds to a total of 26.4 percent growth over 5 years. We are far less enthusiastic about the 4.8 percent growth in revenues being a viable counterfactual than we are the growth in the associated spending measures as revenues were clearly driven heavily by automatic stabilizers as the economy recovered. Nevertheless the column can tell us something about the extent that revenues grew relative to spending in the between the start of the recession and 4 years after its conclusion. Generally speaking, revenues grew far more slowly in the years following a recession than otherwise.

[13] Note that for the 1973-75 and 2007-09 recessions there are six years in this window so a movement of around 6.3 percent for *SPEND*, 6.7 percent for *NONDEFS*.

Table 4

Summary of Degree that Stimulus Policies were Timely and Temporary in 11 Postwar Recessions

NBER Rec. Dates	Timely	Temporary: *SPEND* Growth 4 years After Recession End	Temporary: *NONDEFS* Growth 4 years After Recession End	Temporary: Real Revenue Growth 4 years After Recession End
1948-49	11 Months	111.3%	-6.8%	38.4%
1953-54	9 Months	-8.4%	29.3%	-3.2%
1957-58	8 Months	19.7%	50.0%	6.9%
1960-61	13 Months	12.1%	34.1%	10.4%
1969-70	20 Months	3.5%	32.5%	-0.6%
1973-75	16 Months	18.1%	32.1%	15.6%
1980	Not Attempted	10.1%	4.4%	-1.5%
1981-82	Not Attempted	15.7%	9.1%	1.7%
1990-91	Not Attempted	-1.5%	6.2%	6.6%
2001	4 Months	16.0%	10.9%	-15.4%
2007-2009	6 Months	7.3%	9.8 %	-8.4%

Notes: The 1948-49 and 1953-54 *SPEND* observations are dramatically impacted by spending on the Korean War of 1950-53 and hence are not comparable to those of the rest of the table. The Temporary columns measure the growth in real federal spending per capita and real federal non-defense spending per capita between each recession's starting year and four years after the recession's conclusion. For example, with respect to the 1960-61 recession, *SPEND* was $3,367 in 1960 and was $3,773 in 1965 (four years after recession's end in 1961). Thus the reported percentage increase is (3,773 - 3,367)/3,367 = 0.121, which is 12.1 percent.

It is important to note that the *SPEND* data reported for the 1948-49 and 1953-54 recessions are severely distorted by the Korean War. Total real federal spending per person *more than doubled* between the start of the recession of 1948-49 and 1953, but this was clearly not related solely to countercyclical policy enacted to combat the recession. In fact, our discussion of the 1953-54 recession suggested that few spending measures were enacted in response to this downturn. The observations beginning from 1957-58 recessions are far less distorted by wartime spending—one notable exception is the 1969-70 recession as total spending growth between 1969 and 1974 was quite low (3.5 percent) because of a 32 percent drop in defense spending from a scaling down of the war in Vietnam. Since spending programs designed to combat economic downturns tend to be (though not exclusively) non-defense expenditures, we will focus our discussion on the *NONDEFS* column.

There were clearly large non-defense spending ratchets in the wakes of the recessions of 1957-58, 1960-61, 1969-70, and 1973-1975. In each case *NONDEFS* was more than 30 percent higher four years after the recession began than it was at the recession's beginning—over five times the non-recession year trend growth. Although the evidence is not conclusive, this suggests that the countercyclical fiscal policy did not generally meet the "temporary" criteria of successful policy between World War II and 1980. In the post-1980 era, countercyclical policies were only attempted twice. Total spending rose 16 percent in the four years after 2001. While this is around three times the normal non-recession year trend, the increases in spending from the wars in Iraq and Afghanistan as well as other defense programs related to the broader War on Terror appear to be the cause of this jump in spending rather than the modest fiscal stimulus of 2001 and 2002.

Interestingly, expenditure levels four years after the end of the 2007-2009 recession were every close to where the trend level of spending suggests they would have been in absence of the recession. Given the size of the dramatic stimulus policies between 2008 and 2010, the decline in spending that followed is quite remarkable. This episode is a major outlier compared to the others in the table. This suggest that the Sequester was a game-changer that helped achieve the "temporary" aspect of the stimulus policies. Finally, it is noteworthy (though certainly not surprising) that with just two exceptions—the recessions of 1953-54 and 1990-91—the growth in *SPEND* exceeded the growth in real federal revenues per capita between the year the recession began and four years after the recession's end. This suggests that the non-temporary nature of spending associated with recessions may have contributed to the long term trend of higher budget deficits and debt over time.

With respect to targeted, as mentioned earlier, Summers (2008) defines a such a stimulus as one whereby "funds [are] channeled where they will be spent rapidly and where they will reach those most in need." We have discussed in the narrative of the prior section the extent that policies were targeted, but quantifying this is challenging. The right column of Table 5 reports the alleged causes of the downturns. The middle column lists the specific actions taken in the name of countercyclical policy—the Table essentially summarizes the issues covered in the narrative discussion from the prior section with respect to targeted. All in all, there were some clear successes and some clear failures from this perspective.

Table 5

Targeted Summary: Actions Taken and Alleged Causes of Recessions

Recession Dates	Countercyclical Actions	Macroeconomic Factors Allegedly Causing Recession
1948-49	$25 million in public works spending.	Tight monetary policy in light of inflation fears.
1953-54	Excise tax cut. Expand UN Insurance to Federal Employees. Housing Act of 1954 (urban renewal provisions).	Reduced defense spending.
1957-58	Brought forward public works spending from future years. Emergency Housing Act. Highway Act.	Reduced defense spending.
1960-61	Housing Act of 1961. Increase in Social Security payments. Area Redevelopment Act (urban renewal provisions).	Fiscal and monetary tightening.
1969-70	Emergency Employment Act. Comprehensive Employment and Training Act (CETA) of 1973.	Fiscal and monetary tightening.
1973-75	Tax refund for all taxpayers. $50 check to all Social Security recipients. Expansion of CETA.	Arab oil crisis and price shock. Decline in confidence, decline in the stock market.
1980	None.	Contractionary Fed Policy.
1981-82	None.	Contractionary Fed Policy.
1990-91	None.	Price shock. Gulf War. Contractionary Fed Policy.
2001	Tax rebate checks to all taxpayers.	Popping of tech. sector and stock market bubble.
2007-09	Tax rebate checks. TARP. ARRA (tax cuts, infrastructure, alternative energy). CARS. Temporary payroll tax cut.	Subprime mortgage housing bubble burst creating a systemic financial crisis.

Source: See text as this table summarizes the narrative discussion in the text.

Conclusion

In 2009 President Barack Obama noted that successful stimulus policies should meet three criteria—"timely, targeted, and temporary." This paper explores 11 postwar recessions with the objective of seeing how well postwar countercyclical policy has done with respect to meeting these "three T's." Keynesian-style countercyclical policy was attempted in eight of the 11 postwar recessions and thus we confine our analysis to these eight episodes. With respect to timely, it took an average of 10.9 months between when a recession began and when the first countercyclical fiscal policy was enacted. This is a fairly substantial lag. However, we do find that government has done a far better job with respect to timely in more recessions. The lag averaged nearly 13 months for the 6 recessions between 1948 and 1975, but it has average only 5 months in the two 21st century downturns.

The extent that polices are well targeted is difficult to quantify. In every recession since 1958, the length of time that citizens can collect unemployment insurance has been extended and this can be argued to be well targeted. Additionally, there have been some cases whereby programs have attempted to target sectors that were particularly hard hit, such as the TARP program of 2008 and the CARS program in 2009. Still, we find many cases whereby recessions provided politicians an avenue in which to implement policies that were part of their long-run reform agenda, rather than being policies carefully targeted to the current need.

Finally, with respect to temporary, we find that the government's response to recessions has generally resulted in a permanent ratcheting up of real per capital government spending. The growth rate in the level of spending between the year a recession began and four years after its end generally far exceeds the growth rate across a similar time period for non-recession years. It is interesting to note, however, that the recession of 2007-2009 is a major outlier in this regard as it is the only case whereby the spending level four years after the recession's conclusion was not higher than the trend suggests it would have been otherwise. It appears that the Budget Control Act of 2011, better known as the Sequester, was a game-changer in this respect.

If stimulus polices were better able to achieve the "three T's," the economics profession would almost certainly be far more unified behind the idea of using Keynesian fiscal measures. Our analysis suggests that the federal government's stimulus policies have generally struggled to achieve the three T's in the postwar era. This can help explain why Elmendorf and Furman (2008) find that economists have become increasingly skeptical regarding the efficacy of countercyclical fiscal policy over time.

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