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Eschewing Supply Side to Spur Economic Growth

Why Policymakers Should Invest in Building Modern Infrastructure and Human Capital

October 18, 2021

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Eschewing Supply Side to Spur Economic Growth

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1. EXECUTIVE SUMMARY

In response to the economic challenges created by the pandemic, elected officials in both parties have expressed the desire to pursue fiscal policy initiatives that will help spur private sector growth. Historically, two very different approaches have been taken to stimulate the economy by changing fiscal policy—one focuses mostly on growing private sector demand by increasing public sector spending, while the other focuses primarily on growing private sector supply by cutting taxes.[1]

The fiscal policies taken to boost demand through enhanced spending generally involve increasing investments in core public services and infrastructure, as well as providing direct income supports to low- and middle-income families. These income supports include a number of initiatives, covering everything from enhanced unemployment compensation benefits, to targeting tax relief solely to low-and middle-income workers—precisely because those workers are likely to spend any such tax relief on purchasing consumer goods and services.[2] The International Monetary Fund ("**IMF**") has specifically found that public spending that increases the income of workers with low to moderate earnings does effectively translate to creating a faster growing economy, because it translates to greater demand though enhanced consumer spending.[3]

On the other hand, the use of tax cuts to boost the economy has typically involved providing either general tax relief to all individuals and corporations—which initially was referred to as **"Supply-Side**" economics—or targeting tax relief to primarily benefit corporations and wealthy individuals—which initially was referred to as "**Trickle-Down"** economics.[4] Interestingly, neither Supply-Side nor Trickle-Down is really an economic theory. Instead, both are concerned with how fiscal policy actions impact private sector behavior. Over time, the distinction between these two approaches has blurred, and they are now both generally referred to as "Supply-Side" economics.[5]

Currently, President Biden is attempting to stimulate the nation's economy by boosting aggregate demand through two significant public spending initiatives. The first is a capital investment program that will invest $1 trillion in everything from traditional infrastructure like roads and bridges, to housing, school buildings and even environmentally friendly technology.[6] The second is a much larger, as in $3.5 trillion, proposal to enhance investment in various healthcare, childcare, elder care, higher education, and other social and environmental programs known as the "**Build Back Better Act**".[7]

To cover some of the anticipated costs of these initiatives, Biden and Congress are considering increasing the income taxes paid by very wealthy Americans, as well as by large corporations, both of which received significant, Supply-Side styled tax breaks a few years ago under the Trump Administration's "Tax Cuts and Jobs Act" ("**TCJA"**) that passed in 2017.[8]

According to polling data, the $1 trillion infrastructure legislation is very popular, as it is supported by roughly 67 percent of all Americans.[9] Given that his Republican predecessor in the Oval Office consistently promised—but ultimately failed—to introduce a significant infrastructure bill, you'd think it would have been relatively easy to gain strong bipartisan backing for making the $1 trillion investment in infrastructure. And while 19 Senate Republicans eventually voted for that program, things did not start out well.[10] In fact, before ultimately voting for the legislation—which he did—Republican Senator Mitch McConnell dismissed what he referred to as Biden's "so-called infrastructure proposal" out of hand, excoriating it as a "Trojan Horse for massive tax hikes and other job-killing left-wing policies."[11]

While it was expected that McConnell would object to investing in many of the social, environmental, educational, and healthcare programs covered under the Build Back Better Act, it was somewhat surprising that he chose to characterize the proposal to invest in infrastructure as a "left-wing" policy, and a "job-killing" endeavor. After all, far from being left-wing, infrastructure investments have enjoyed bipartisan support over the years,[12] and with good reason. Despite the many variables which impact the value of the stimulus created when the public sector spends on infrastructure—such as the time lag associated with generating an economic benefit therefrom, as expenditure of most infrastructure funding does not occur until after projects become shovel-ready—the research clearly shows that investing in infrastructure stimulates the economy and creates job growth. For instance, Mark Zandi, the chief economist at Moody's Analytics, found that every dollar the federal government puts into infrastructure can be expected to boost the nation's GDP by $1.59.[13]

It was not at all surprising, however, that McConnell claimed tax increases kill jobs. In making that claim, Senator McConnell is just parroting what has been GOP orthodoxy on this point for decades. Ever since the Reagan Revolution in 1981, many in the Republican Party have been wedded to Supply-Side economics, and the belief that, on the one hand, cutting taxes for businesses and wealthy individuals will trickle-down to benefit everyone economically, while on the other hand tax increases always slow the economy and kill jobs.[14]

The problem with Supply-Side theory, however, is it simply has not worked as promised.[15] In fact, despite having been rendered into practice for over 40 years at both the federal and state levels in America, as well as for over 50 years in many other industrialized nations, Supply-Side has never generated the promised job or economic growth that is supposed to trickle-down to benefit everyone. Indeed, in a recent, comprehensive study of 18 OECD nations (including the U.S.) that implemented Supply-Side tax cuts over the last 50 years, the London School of Economics specifically found **that the impact on the economy of cutting taxes for the wealthy is "statistically indistinguishable from zero."**[16] The IMF reached a similar conclusion, noting that while tax cuts help the rich get richer, the benefits do not trickle-down.[17]

This mirrors the findings of the nonpartisan Congressional Research Service ("**CRS**"). The CRS analyzed how America's economy was impacted by changes made in the top rates for federal income taxes and capital gains taxes, from the end of World War II through 2010. After reviewing 65 years of data, **the CRS specifically found that cutting or raising these tax rates is not "correlated with economic growth, savings, investment or productivity growth. The top tax rates appear to have little or no relation to the size of the economic pie."**[18]

On the other hand, stimulating the demand side of the economy by making investments in core public services and goods, like education and infrastructure, and supporting the income and/or purchasing power of low- to middle- income workers, as is being proposed by the Biden Administration, can be expected to enhance long-term economic growth.[19] In fact, according to a recent poll conducted by the international news agency Reuters, just over 90 percent, or 42 of 46 economists surveyed, believed that Biden's proposal to grow demand by investing in infrastructure and supporting the incomes of low- and middle-income families will "boost the U.S. economy significantly."[20]

Stimulating the demand side of the economy works in large part because it creates enhanced consumer spending. That is effective for one, seminal reason: consumer spending accounts for roughly 67 percent of all economic activity at either the federal or state level.[21] Growing the largest segment of the economy at a faster pace than it otherwise would has a significant, positive multiplier.[22] That's obviously better than generating a "benefit" that is "statistically indistinguishable from zero," which has historically materialized from implementing Supply-Side tax cuts.[23]

2. THE CORE TENETS OF SUPPLY-SIDE THEORY

The basic premise of Supply-Side fiscal policy is easy to summarize: cutting taxes always and under all circumstances stimulates private sector economic growth and higher productivity, by creating incentives for increased work, savings, and investment.[24]

Under Supply-Side theory, spurring production through enhanced investment is the most effective way to stimulate the economy. According to this doctrine, all tax cuts drive faster job and economic growth, because all tax cuts incentivize individuals to earn, save and invest more, while enhancing after tax profitability for corporations which, among other things, encourages them to expand. The contention is these positive outcomes that are supposed to flow from Supply-Side tax cuts will increase the supply of new jobs, whilst simultaneously encouraging individuals to work more, thereby increasing the supply of labor.[25] Adherents of Supply-Side claim the combination of these promised outcomes is what will create a strong, private sector economic multiplier effect—driving growth to higher levels than what would have pertained without the tax cuts.[26]

Adherents of Supply-Side also believe that, to maximize the economic value attained from cutting taxes, the tax cuts should be focused mainly on corporations and the wealthiest members of society.[27] This is because Supply-Siders posit that corporations and folks at the top of the income ladder are the real "job creators."[28] Under the theory, focusing tax relief on them is the best way to stimulate economic growth, because it enhances both the net income of, and the rates of return on savings and investment realized by, those individuals and businesses that have the greatest incomes to begin with. And that in turn creates an incentive for them to materially boost their overall savings and investments. [29]

This, they claim, is what creates the enhanced economic lagniappes that are supposed to "trickle-down" to benefit the majority of people. Simply put, Supply-Side tax cuts are supposed to incentivize wealthy individuals to work, earn, invest, and save more, and result in wealthy individuals and corporations using their additional earnings and tax savings to invest in business expansion, all of which increases the supply of jobs.[30]

Supply-Side economics is based on the work of PhD economist Arthur Laffer. In 1974, Laffer developed the "Laffer Curve" which claims to show the relationship between cutting taxes and the impact those tax cuts would have on public sector revenue—after accounting for the stimulus to the private sector economy created by such tax cuts.[31] Although it is now discredited,[32] the Laffer Curve purported to show that Supply-Side tax cuts would so powerfully stimulate economic growth that they would "pay for themselves," and hence not worsen public sector deficits.[33]

This latter argument has been used every time Supply-Side tax cuts have been put on the table. Most recently Steven Mnuchin, Treasury Secretary under President Trump, made the argument in 2017, when he assured Americans the Supply-Side tax cuts contained in the TCJA "will pay for themselves," because they were going to be "rocket fuel" for the nation's economy.[34] Unfortunately those tax cuts most certainly have not paid for themselves, because the promised economic boom never came—as it in fact has never come each time the federal government has enacted Supply-Side tax cuts.[35]

Nationally, America began implementing Supply-Side fiscal policies with President Reagan in 1981, and continued to do so through the administration of President Donald Trump in 2017.[36] During this period of time, the federal government reduced taxes on wealthy individuals and corporations well below the levels that pertained from the end of World War II through 1980, when the top federal income tax rate for individuals varied from 92 to 70 percent, and the top rate for corporations varied from 38 to 52.8 percent.[37]

Which means Supply-Side has been rendered into practice for over four decades now—an ample test period by any standard. And yet none of the benefits promised by the adherents of Supply-Side have materialized.[38]

Supply-Side tax cuts have not generated the promised economic stimulus effects because the theory is fundamentally flawed in at least three crucial ways. To start with, Supply-Side is posited as an absolute—as in implementing these tax cuts will always result in faster growth, irrespective of whatever else is happening in the economy at the time of implementation.[39] Obviously, no one fiscal policy is the right initiative to pursue under all economic conditions.

Second, in part because it is premised on the notion that production, not consumption, is what drives the economy, much of the dollar value of the tax cuts provided under Supply-Side ends up going to individuals that do not use said tax relief to increase their spending on consumer goods and services. That is problematic, because consumer spending is by far and away the largest sector of the economy, accounting for 67 percent of all economic activity.[40]

Third, the tax cuts provided to corporations under Supply-Side fail to respond to the market forces that actually motivate businesses to create more jobs.[41] So, rather than stimulate the creation of new jobs, most of this corporate tax relief ends up being taken as profits or used to reward shareholders, as is happening now with the business tax cuts created under the TCJA that passed during the Trump Administration.[42]

This is not to say there are no instances in which tax relief can be expected to stimulate economic growth—there in fact are. It is just that Supply-Side tax cuts that focus most of the tax relief on wealthy individuals and corporations are poorly designed to accomplish that purpose.

3. THE EVIDENCE IS CLEAR: SUPPLY-SIDE TAX CUTS DO NOT STIMULATE LONG-TERM ECONOMIC GROWTH

3.1. Supply-Side Tax Cuts Have Failed to Promote Economic Growth in Industrialized Nations

The failure of Supply-Side to deliver as promised is not limited to the United States. A recent and thorough study of this issue conducted by the London School of Economics (the "**LSE Study**") compared the economic growth attained over the last 50 years in the 18 OECD nations (including the U.S.) that cut taxes on the wealthy and on businesses, versus those OECD nations which did not. **That study specifically found that "economic performance, as measured by real GDP growth per capita and the unemployment rate, is not significantly affected by major tax cuts for the rich."**[43]

Indeed, **the LSE Study went on to find that the impact on the economy of cutting taxes for the wealthy was "statistically indistinguishable from zero."**[44]

To eliminate any doubt on the subject, the LSE Study was quite explicit in remonstrating the efficacy of Supply-Side and Trickle-Down tax cuts. It highlighted that the research showed cutting taxes on the rich did not incentivize them to alter the amount they worked in any measurable way.[45] And because rich individuals neither worked more, longer or harder after receiving these tax cuts, nor used their tax relief to grow their businesses, there was no attendant increase in aggregate supply that could possibly lead to the type of enhanced economic growth that could "trickle-down." Moreover, even though they realized an increased rate of return on their passive investments, any growth therein did not in turn result in the corporations receiving those passive investments adding jobs—because businesses are motivated to hire additional workers only when necessary to satisfy growing demand for what they sell.[46]

Which, according to the authors of the LSE Study meant that "The rocket fuel so often promised by supporters of these tax cuts. It fizzles out time and again."[47]

In fact, far from creating the promised economic benefits that are supposed to trickle-down to low- and middle-income workers, **the LSE Study specifically concluded that "cutting taxes on the rich increases income inequality, but has no effect on economic growth or employment."[48]**

3.2. The Failure of Supply-Side at The Federal Level in the U.S.

The experience in the U.S. is no different than other OECD nations. Despite having been rendered into practice for over 40 years at the federal level in America, Supply-Side tax cuts have never generated the job or economic growth promised.[49] For proof, look no further than the comprehensive study of the relationship between federal tax policy and the American economy which the nonpartisan Congressional Research Service ("**CRS**") published in 2012, entitled "Taxes and the Economy: An Economic Analysis of the Top Tax Rates Since 1945" (the "**2012 CRS Study**").[50]

The 2012 CRS Study reviewed all changes—both reductions and increases—the federal government made in the top marginal income tax rate it imposes on wealthy individuals, as well as the top capital gains rate it assesses, over the 65 years following the end of World War II, to determine if cutting or raising those federal taxes impacted the nation's GDP or job growth. **After this extensive review, the CRS specifically found that cutting or raising these tax rates is not "correlated with economic growth, savings, investment or productivity growth. The top tax rates appear to have little or no relation to the size of the economic pie."**[51]

Even a cursory review of the data shows why the CRS reached the unequivocal finding that Supply-Side tax cuts have never delivered the promised economic stimulus. For starters, compare the top marginal income tax rates imposed on individuals during the pre- and post-Supply-Side eras. As shown in **Figure 1**, from the end of World War II through 1980 (the "**Pre-Supply-Side Era**"), the top marginal income tax rate the federal government applied to the highest level of earnings was itself quite high, varying from 92 percent to 70 percent.[52] During the Pre-Supply-Side Era, the nation's economy grew by an average of 3.74 percent per year in real, inflation-adjusted terms.[53]

Figure 1
Top Marginal Income Tax Rates for Individuals at the Federal Level

Years	Tax Rate Range
1947-1980	70%-92%
1981-2020	28%-69.13%

Source: Tax Policy Center," Historical Highest Marginal Income Tax Rates," 1913-2020-

Then came President Ronald Reagan, who implemented Supply-Side tax cuts in a big way starting in 1981, when he cut the top marginal tax rate imposed on the highest individual incomes from 70 percent in 1980, to 50 percent, and then cut it again all the way down to 28 percent by 1987.[54] Thereafter, the top federal income tax rate for individuals varied from 28 percent to 35 percent, never coming close to the 70-92 percent levels that pertained during the Pre-Supply-Side Era.[55]

Later in the Reagan Administration, Supply-Side tax cuts for corporations were also implemented at the federal level. As shown in **Figure 2**, beginning in 1987 and continuing through today, the top corporate income tax rate has been cut all the way down from its high of 52.8 percent that pertained in the late 1960s through the mid-1970s, to its current low of 21 percent.[56]

Figure 2
Top Corporate Income Tax Rate by Presidential Administration

PRESIDENT	TIMEFRAME	Range
HARRY S. TRUMAN	1947-1949	38%
HARRY S. TRUMAN	1950-1953	42-52%
DWIGHT D. EISENHOWER	1953-1961	52%
JOHN F. KENNEDY	1961-1963	52%
LYNDON B. JOHNSON	1963-1969	48-52.8%
RICHARD M. NIXON	1969-1974	48-52.8%
GERALD R. FORD	1974-1977	48%
JIMMY CARTER	1977-1981	46-48%
RONALD REAGAN	1981-1986	46%
RONALD REAGAN	1987-1989	34-40%
GEORGE BUSH	1989-1993	34-35%
WILLIAM J. CLINTON	1993-2001	35%
GEORGE W. BUSH	2001-2009	35%
BARACK OBAMA	2009-2017	35%
DONALD J. TRUMP	2017-2021	21-35%

Source: Tax Policy Center, "Marginal Corporate Tax Rates," 1942-2020

According to Trickle-Down theory, this significant tax relief for wealthy individuals and corporations should have created a powerful economic stimulus that would boost the rate of growth in investment, jobs, wages, employment, and ultimately GDP, to much higher levels than what pertained previously, when top marginal tax rates were materially higher. Recall that, according to many of the doctrine's adherents, including most recently President Trump, this trickle-down effect would be so powerful that the tax cuts for the wealthiest and corporations would "pay for themselves" and hence the federal deficit would not worsen.[57]

The data, however, tell a very different story. Indeed, rather than boost the economy as promised, the nation's performance in each of those key indicators was worse in the era following the implementation of Supply-Side tax cuts than during the era of much higher taxes that preceded it. For instance, start with investment, which, as shown in **Figure 3**, has been much slower on average after the implementation of Supply-Side tax cuts than it was during the Pre-Supply-Side Era.

Figure 3
Average Annual Non-Residential Fixed Investment Growth (nominal $)

Time Frame	Average Yearly % Growth
1947-1980	8.98%
1981-2020	5.21%

Source: CTBA analysis of U.S. Bureau of Economic Analysis, Private Nonresidential Fixed Investment [PNFI], retrieved from FRED

Similarly, on average total employment grew by 2.24 percent per year during the Pre-Supply-Side Era, and by just 1.16 percent per year after Supply-Side tax cuts were implemented, as shown in **Figure 4.**

Figure 4
Average Total Employment

Time Frame	Average Yearly % Growth
1947-1980	2.24%
1981-2020	1.16%

Source: CTBA analysis of U.S. Bureau of Labor Statistics, All Employees, Total Nonfarm [PAYEMS], retrieved from FRED

Given that the average rate of growth in annual employment has been slower ever since Supply-Side tax cuts were first implemented in the 1980s, it should come as no surprise that the average, annual unemployment rate has been greater in the post Supply-Side era than when tax rates were much higher in the Pre-Supply-Side Era, as shown in **Figure 5**.

Figure 5
Average Annual Unemployment Rate

Time Frame	Average UE Rate
1947-1980	5.21%
1981-2020	6.25%

Source: CTBA analysis of U.S. Bureau of Labor Statistics, Unemployment Rate [UNRATE], retrieved from FRED.

To summarize, on the one hand, the rates of investment and employment growth were slower in the decades after implementation of Supply-Side tax cuts beginning 1981, and on the other hand the average annual unemployment rate was higher. **Which means there have been no economic benefits available in the form of more, better paying jobs that have "trickled-down" to low- and middle-income workers, from the wealthy taxpayers and corporations who were the primary beneficiaries of these Supply-Side tax cuts.**

Consequently, wage growth for low- and middle-income workers also slowed down dramatically in the era after Supply-Side tax cuts were implemented, as compared to during the higher-tax, Pre-Supply-Side Era. In fact, as shown in **Figure 6**, wages for the bottom 90 percent of earners have grown at a rate that is over two-thirds slower in the decades following the implementation of Supply-Side tax cuts, declining from 84.3 percent over the entirety of the Pre-Supply-Side Era, to just 27 percent during the 40 odd years Supply-Side tax cuts have been implemented, while growth in wages for the top one percent ballooned from 101.8 percent during the Pre-Supply-Side Era, to 150.1 percent in the decades after Supply-Side tax cuts were implemented.

Figure 6
Change in Wages by Income Over-Time

Time Frame	Bottom 90% Aggregate Wage Growth	90-95% Aggregate Wage Growth	Top 4% Aggregate Wage Growth	Top 1% Aggregate Wage Growth
1947-1980	84.3%	111.9%	111.7%	101.8%
1981-2020	27.2%	47.4%	71.5%	150.1%

Source: CTBA analysis of Economic Policy Institute, State of Working America Data Library, "Wages for Top 1.0%, 0.1% and Bottom 90%," December 2020.

Given this abject failure to generate any of the economic stimulus promised by adherents, it is no wonder that, as shown in **Figure 7**, **in real, inflation-adjusted terms, average GDP growth has been more than a full percentage point lower per year after the implementation of Supply-Side tax cuts, than it was when top income tax rates were much higher over the 1947-1980 sequence.**

Figure 7
Average Annual GDP Growth

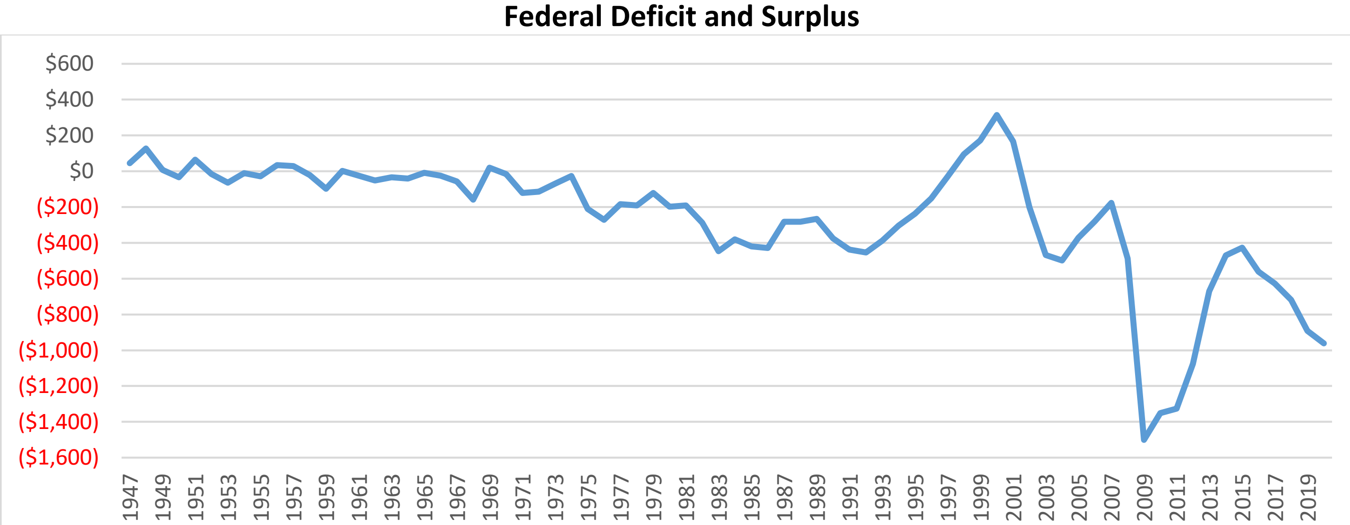
Time Frame	Average Yearly Growth
1947-1980	3.74%
1981-2020	2.56%

Source: CTBA analysis of U.S. Bureau of Economic Analysis, Real Gross Domestic Product [GDPC1], retrieved from FRED.

Of course, because every economic indicator that matters was worse after the implementation of Supply-Side tax cuts than during the Pre-Supply-Side Era, those tax cuts could not, and in fact did not, in any way "pay for themselves."

Consequently, as shown in **Figures 8 and 9,** the federal deficit has grown significantly since Supply-Side tax cuts were first implemented in the 1980s, and the average, annual federal deficit has been materially greater ever since Supply-Side were first implemented, than they were in the higher tax Pre-Supply-Side Era.[58]

Figure 8
Federal Deficit and Surplus



Source: CTBA analysis of White House Office of Management and Budget, Table 1.3 - Summary Of Receipts, Outlays, And Surpluses Or Deficits (-) In Current Dollars, Constant (FY 2012) Dollars, And As Percentages Of GDP: 1940 – 2025"

The reality that these tax cuts do not in fact pay for themselves has even been accepted by some of the original architects of the Supply-Side tax cuts passed during the Reagan Administration. For instance, before President Trump's Supply-Side tax cuts passed in 2017, he continually repeated the canard that if implemented, the tax cuts in the TCJA would generate so much economic activity they'd pay for themselves. Not so, cautioned Bruce Bartlett, who served as a policy advisor to President Reagan and actually worked on Reagan's 1981 tax cuts. According to Bartlett, "Trump is wrong, (because) tax cuts don't equal growth."[59]

A Wall Street Journal reporter got a similar response when he asked Joel Slemrod, who served as the senior tax policy advisor to President Reagan's Council of Economic Advisors, to weigh in on the matter. Slemrod responded by saying there is "no clear connection between lower rates and higher growth. Can tax cuts pay for themselves? The evidence overwhelmingly suggests that this is not the case."[60]

After being implemented, the Supply-Side tax cuts created under the TCJA pushed by President Trump in fact did fail to stimulate long-term economic growth, and failed to create sustained business investment—hence they also—like their predecessors under Presidents Reagan and George W. Bush—failed to pay for themselves.[61]

In fact, the only time the federal government has been able to balance its budget after the implementation of Supply-Side in 1981 was during the administration of President Bill Clinton—who increased the top marginal tax rate from 31 percent when he first got into office in 1993 to 39.6 percent.[62]

Figure 9
Average, Annual Federal Deficit,
Before and After Implementation of Supply-Side Tax Cuts

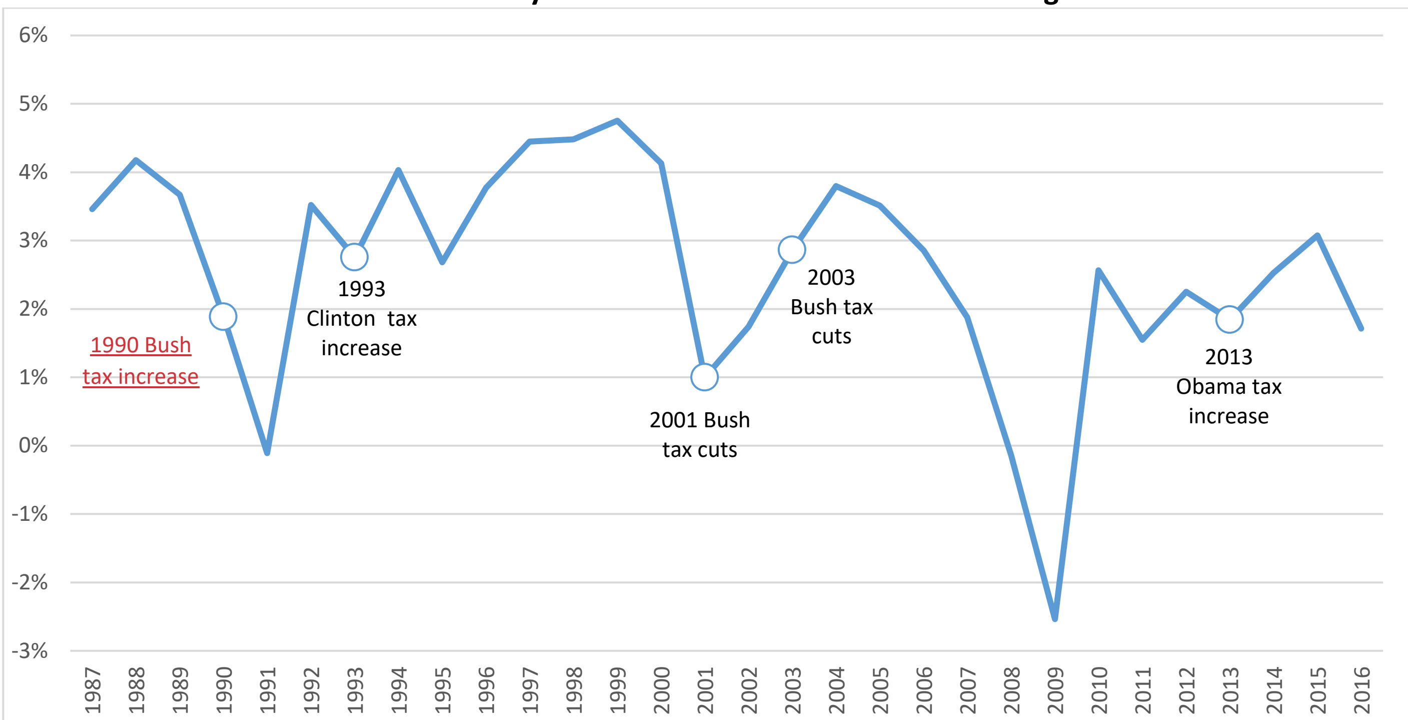
Time Frame	Average $ surplus/deficit (billions)
1945-1980	($55)
1981-2020	($442)

Source: CTBA analysis of White House Office of Management and Budget, Table 1.3 - Summary Of Receipts, Outlays, And Surpluses Or Deficits (-) In Current Dollars, Constant (FY 2012) Dollars, And As Percentages Of GDP: 1940 – 2025"

Finally, the contention of Supply-Side adherents that tax increases always harm the economy and/or result in job loss is also not supported by the evidence. Since the implementation of Supply-Side tax cuts in 1981, three presidents have actually bucked the tax cutting trend and imposed higher top income tax rates at the federal level: George H. Bush, Bill Clinton, and Barack Obama. So, if Supply-Siders are right, a significant economic slump of some sort should have followed. The data show something else entirely.

Figure 10 shows that, while the nation's GDP fell after the tax increases passed during the administration of George H. Bush, it grew following the tax increases imposed under the Administrations of Bill Clinton and Barack Obama. Interestingly, it also shows that, after an initial bump, the economy tanked shortly following the Supply-Side tax cuts implemented by President George W. Bush in 2003.

Figure 10
GDP Growth by Presidential Administration Tax Changes



Source: CTBA analysis of U.S. Bureau of Economic Analysis, Real Gross Domestic Product [GDPC1], retrieved from FRED

True, the rate of GDP growth under the Obama Administration was relatively slow, but recall that when he came into office he inherited the end of the Great Recession and associated financial crisis. His administration was also thwarted in passing a greater stimulus package by Congress. However, other aspects of the economy did quite well.

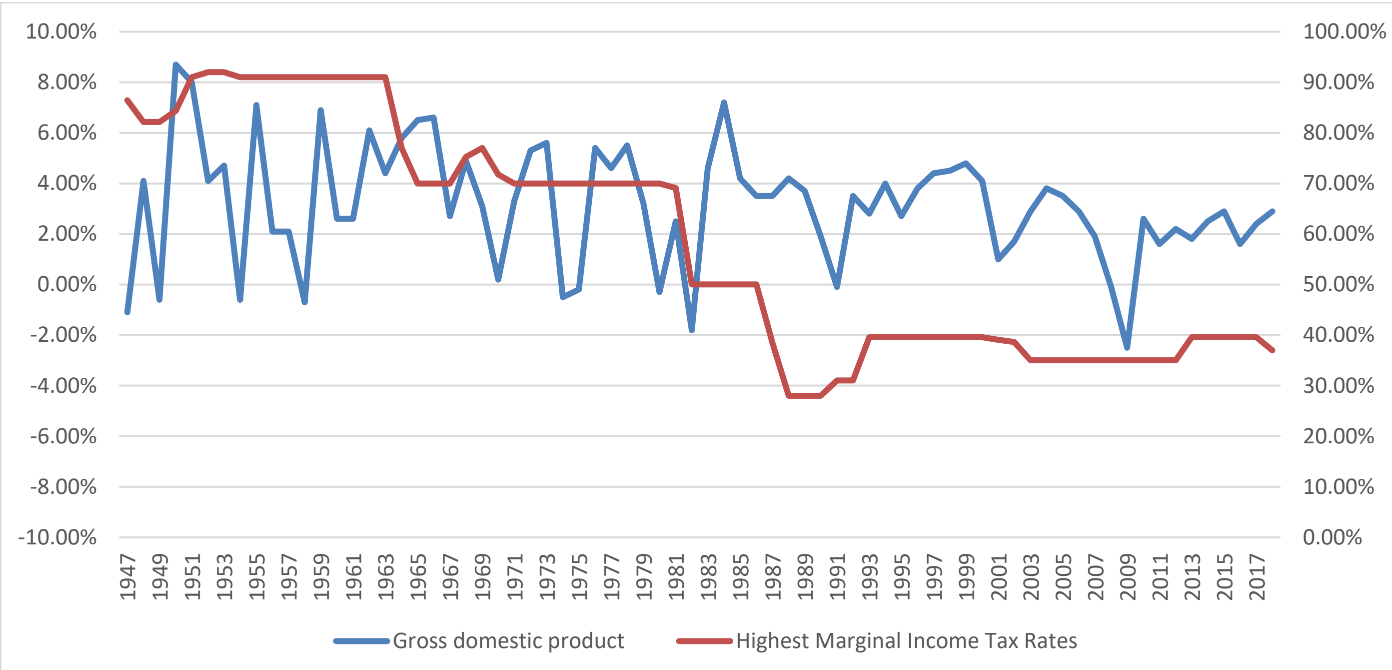
For instance, far from being a "job killer," the economy added 5.4 million jobs over the 2014-2015 sequence, after President Obama's tax increases.[63] That was the best two-year job growth period since the late 1990s—which happened during the period that followed the implementation of tax increases under the Administration of President Bill Clinton.[64] It was also much better than any two-year period of job growth under President George W. Bush, who passed significant Supply-Side tax cuts.[65] Moreover, after the Obama tax increases, "income for the typical household jumped by the most since the Census Bureau began tracking it in 1967.[66]

In fact, a study of the economy in the Obama era conducted by PhD economist Emmanuel Saez specifically found that the tax increases implemented during President Obama's Administration had no discernable negative effect on the economy generally, nor on the incomes of the wealthiest one percent of earners specifically.[67] This, despite the fact that when taken collectively, the tax increases implemented under Obama were some of the largest on the wealthy since the 1950s.[68]

Saez's research concluded that this outcome disproves one of the core pillars of Supply-Side theory: that reductions in tax rates on affluent individuals will encourage them to work more, while increases in those rates will incentivize them to work less. According to Saez, after implementation of the Obama tax increases, "wealthier Americans did not respond to the higher taxes by working less."[69]

Saez's conclusions are substantially similar to those set forth in the LSE Study referenced earlier, which found that tax cuts for the wealthy "do not lead individuals to significantly alter the amount they work," and that the research compiled to make the LSE Study provided "evidence against supply-side theories."[70] Taking the longer view, **the data demonstrate that, contrary to the core principles of Supply-Side economics, there is no statistically meaningful correlation between changes made in the top federal income tax rate imposed on the wealthiest Americans, and changes in the rate of our nation's GDP growth going all the way back to the end of World War II,** as shown in **Figure 11.**

Figure 11
U.S. GDP % Change from Prior Year and Highest Marginal Income Tax Rate



Source: CTBA analysis of BEA Historical GDP data and Tax Policy Center - Urban Institute and Brooking Historical Highest Marginal Tax Rates

The bottom line is clear: under Supply-Side doctrine, tax cuts are always supposed to cause the economy to grow faster, while tax increases are always supposed to harm it. The evidence shows that neither of these core tenets of the theory are supported by the historical data.

3.3. What About the Reagan Era?

President Regan began the implementation of Supply-Side tax cuts when he secured passage of the "Economic Recovery Tax Act" of 1981 (**"ERTA"**—which was also known as the "**Kemp-Roth Tax Cut**"). Under ERTA, the top federal income tax rate was cut from 70 percent down to 50 percent over a three-year period, and then cut again all the way down to 28 percent by 1987.[71] After a brief recession, the economy did improve following these tax cuts, with real GDP growth averaging 3.5 percent per year during the Reagan Administration, as compared to 3.12 percent annually over the duration of his predecessor President Jimmy Carter's Administration.[72]

And while the champions of Supply-Side economics pointed to those tax cuts as the cause of this improvement, it is not entirely clear they were mainly responsible for the economic rebound during Reagan's Administration, as it was "just as likely massive government spending ended the recession."[73] The data reveal that under Reagan, federal spending did in fact increase significantly. It jumped from $678.2 billion in the last budget year of President Carter's Administration, to $1.437 trillion in the last budget year of President Reagan's Administration, an increase of 112 percent.[74]

Moreover, the rate of growth in the national economy was actually slower under President Reagan than it was when the top federal income tax rates were much higher during the Pre-Supply-Side Era. As noted previously, real, inflation-adjusted GDP growth during the seven years Reagan was in office averaged 3.5 percent per year. However, real GDP grew by an average of 3.74 percent per year from the end of WW II through 1981, when top marginal tax rates ranged from 92 to 70 percent.[75] If the core tenet of Supply-Side theory were valid—i.e., that reducing income tax rates always stimulates faster economic growth—this outcome would not be possible.

Then there is job growth. Here, the record of the Reagan Administration is good. The U.S. economy added 16.5 million new jobs during Reagan's seven years in office, which ranks as the second-best total number of new jobs created under any presidential administration.[76] Of course, that job growth could have been a by-product of the increased federal spending that occurred under Reagan, rather than the tax cuts.

Of more interest, however, is this: the only administration that saw the creation of more jobs than Reagan, was that of President Bill Clinton. During the Clinton Administration, the U.S. economy added 18.6 million new jobs.[77] That is interesting, because rather than cut taxes, Clinton increased the top federal income tax rate from 31 percent to 39.6 percent.[78] In fact, after his tax increases, real GDP grew by 3.9 percent per year on average throughout Clinton's Administration, which is better than the 3.5 percent realized during the Reagan Era.[79] Again, those outcomes would not be possible if the Supply-Side theory that all tax increases killed job growth and slowed economic growth were valid.

This is not to say the tax increases made during the Clinton Administration were the reason the economy prospered—there were a number of policies and macro-economic stimulates that contributed—it is just to highlight the fact that increasing taxes on corporations and the highest earners obviously did not hamper robust job and economic growth as Supply-Side theory posits it would.

3.4. Supply-Side and Trickle-Down Tax Cuts for Corporations Do Not Stimulate Job or Economic Growth

Another core tenet of Supply-Side economics is that cutting taxes on corporations will increase the supply of available jobs, because doing so increases the after-tax rate of return corporations realize on their profits, and since corporations seek to maximize profit, this higher rate of return will incentivize expansion and lead to the creation of said new jobs.[80]

At first blush, that proposition may sound reasonable. However, it completely falls apart when analyzed in context of: (i) the historical record of what has actually happened after corporations receive Supply-Side tax cuts; (ii) what the data show about whether corporations actually need tax relief to develop the capacity to hire additional workers; and (iii) most importantly, the market factors that motivate a business to hire more workers.

Start with the record. Supply-Side tax cuts for corporations, whether implemented at the state or federal level, have not been an effective means of stimulating either job growth specifically or economic growth generally.[81] The research showing the lack of a meaningful correlation between business (and/or individual) income taxes on the one hand, and economic growth, hiring incentives or small business/entrepreneurial growth on the other, is abundant, compelling and spans the ideological spectrum.[82] **Indeed, the Congressional Budget Office**

("CBO") specifically found that changes in federal income tax rates—whether for corporations or individuals—do not play any statistically meaningful role in encouraging businesses to hire additional employees.[83]

Then there is the research done by Noah Berger and Peter Fisher for the Economic Analysis and Research Network ("**EARN**"). They conducted a review of the actual outcomes state governments realized after implementing income tax cuts to generate an economic stimulus. They specifically found that "the preponderance of evidence has shown simply reducing corporate or individual taxes—and paying for those tax reductions with service cuts—has been both "inefficient and ineffective at stimulating growth" in the long run.[84]

One compelling reason that helps explain why cutting corporate income taxes at the state level is so ineffective at stimulating economic growth, is that the dollar value of the income taxes corporations actually pay to state governments represents a very small fraction of their overall profitability. **Figure 12** shows how much corporations paid in state-level income taxes to all 44 states that impose such a tax nationally, in both dollars and as a percentage of their aggregate net income before taxes.

Note that in 2020, the last year for which there is data, the total dollar value of all state-level income taxes paid by all corporations, represented just 3.5 percent of their aggregate taxable incomes.[85]

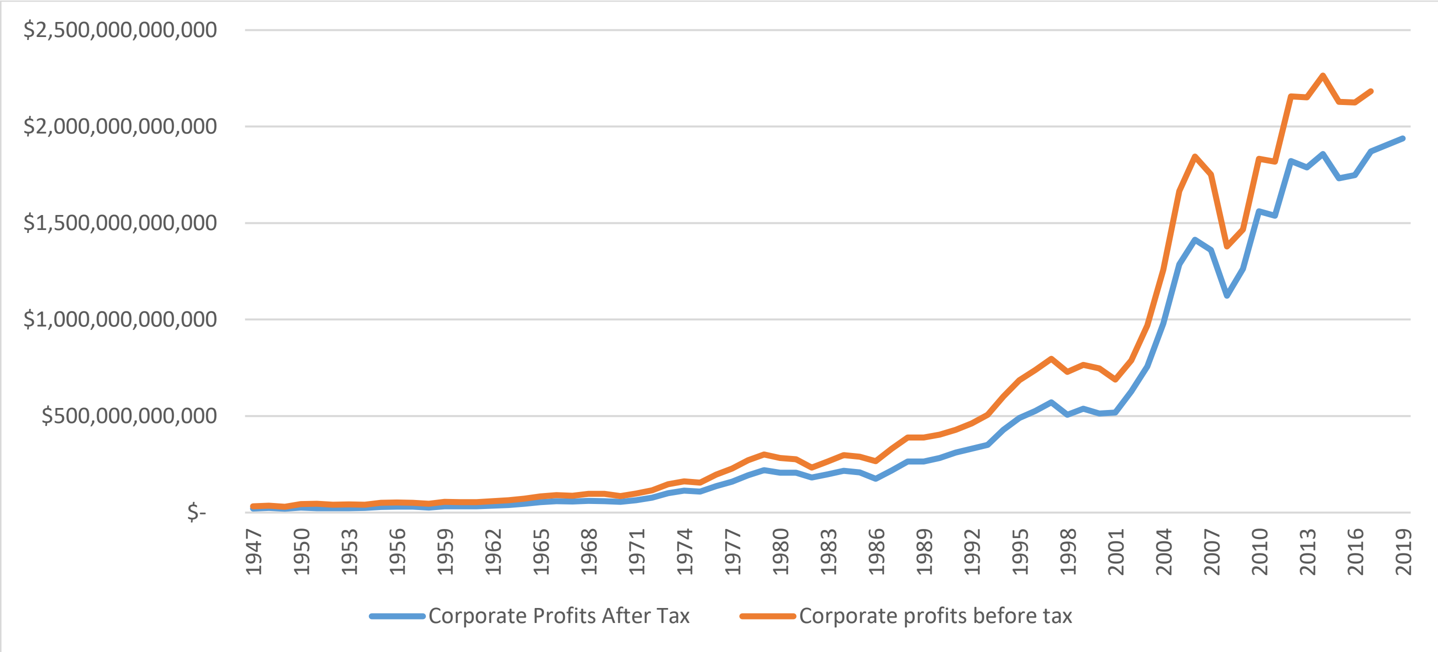
Figure 12
Aggregate State-Level Income Tax Liability for All Corporations as a % of Aggregate Corporate Taxable Income ($ Millions)

	1998	2003	2007	2009	2017	2020
Total state corporate income taxes paid nationwide*	$34,934	$33,997	$57,879	$44,509	$54,198	$75,754
Taxable Income (before payment of income taxes) of corporations nationwide**	$728,077	$970,121	$1,751,944	$1,467,492	$2,183,206	$2,159,982
Effective Total State Income Tax Rate***	4.80%	3.50%	3.30%	3.00%	2.50%	3.50%

Sources: U.S. Bureau of Economic Analysis, State and local government current tax receipts: Taxes on corporate income]; U.S. Bureau of Economic Analysis, National income: Corporate profits before tax (without IVA and CCAdj). retrieved from FRED

It is simply not reasonable to expect that reducing such a small cost factor would generate enough new corporate revenue in the form of a higher rate of return that it would pay for the creation of a significant number of new jobs. That is especially the case when one factors in the growth in corporate profitability over time. As shown in **Figure 13**, since the era of Supply-Side tax cuts began in 1981, corporate profits have ballooned, both before and after taxes.

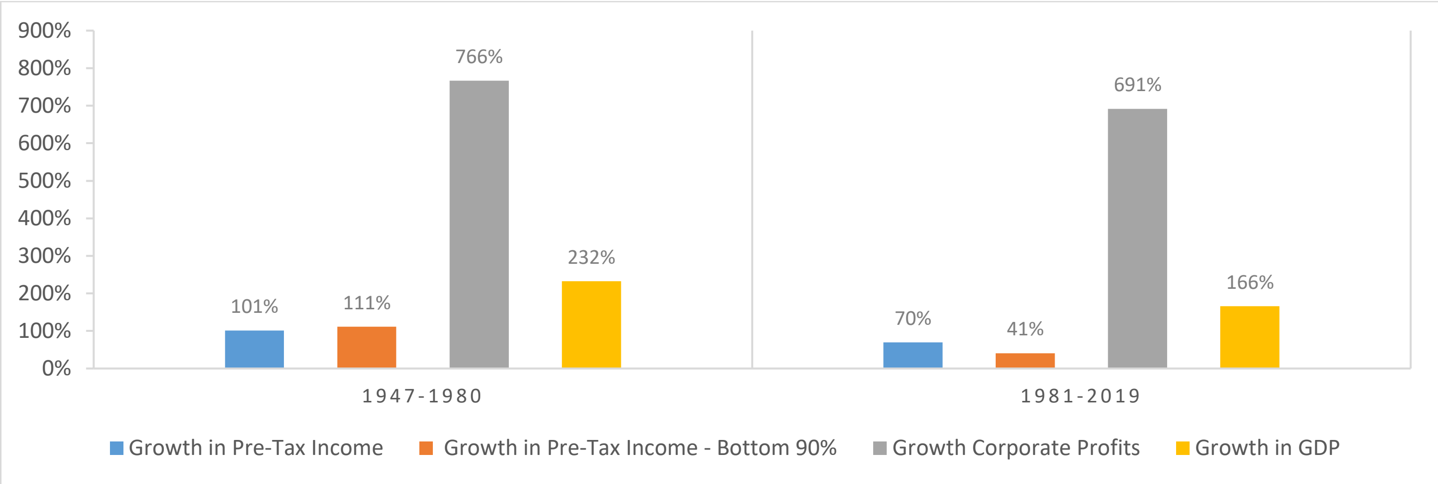
Figure 13
Corporate Profits, Before and After Tax, in nominal dollars



Source: CTBA analysis of U.S. Bureau of Economic Analysis, Corporate Profits Before/After Tax (without IVA and CCAdj) [CP], retrieved from FRED

In fact, as shown in **Figure 14**, since the beginning of the Supply-Side/Trickle-Down era in 1981, the rate of growth in corporate profits has vastly outstripped the rate of growth in both gross domestic product (“**GDP”**) and wages.

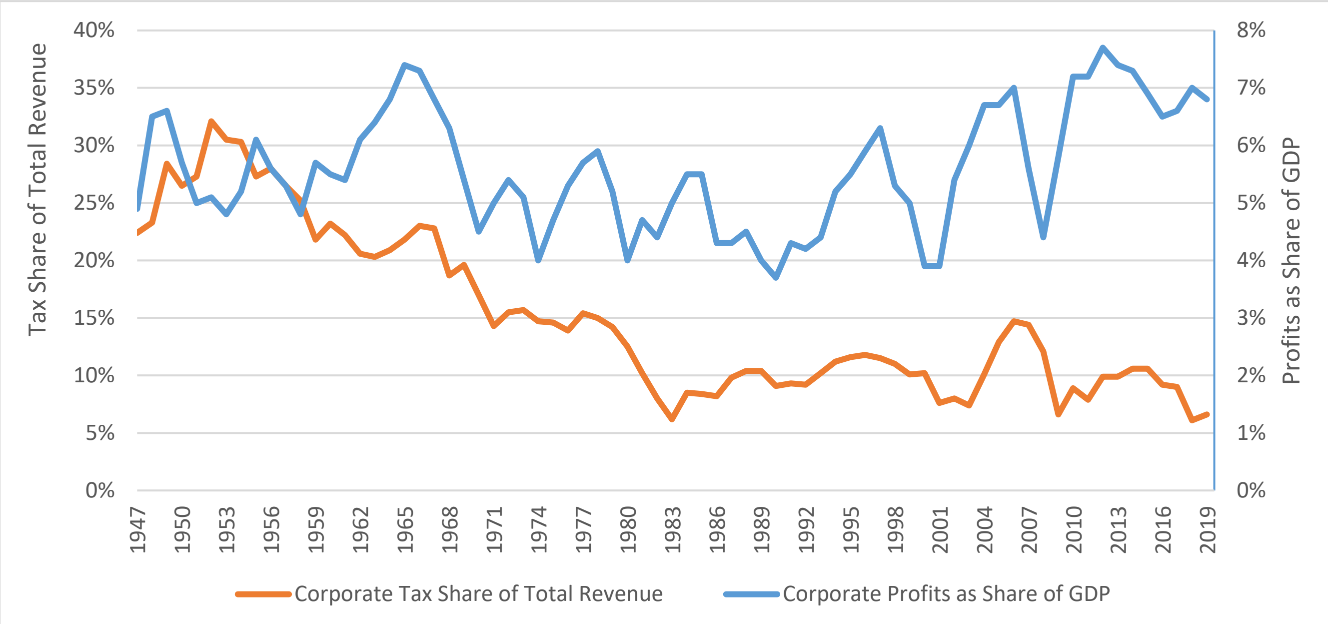
Figure 14
Percentage GDP, Profit and Income Growth, 1947-1980 & 1981-2019



Source: CTBA analysis of FRED Real GDP data; Picketty, Saez, and Zucman Average pre-tax income by pre-tax income group data; and FRED Corporate Profit pre-tax data

Meanwhile, corporate profits as a share of the nation’s total GDP is approaching an all-time high. On the flip side, the share of federal taxes paid by businesses is approaching an all-time low, as shown in **Figure 15**.

Figure 15
U.S. Corporate Profits v. Tax Revenue Collected



Source: Federal Reserve, Historical Tables: Receipts by Source 1934-2018; White House Office of Management and Budget, "Table 2.2—Percentage Composition of Receipts by Source: 1934–2025"

Obviously, because of the substantial growth in corporate profits over this sequence of time, businesses had the financial capacity to hire additional workers if they wanted—or more appropriately needed—to do so. Which means cutting their taxes simply cannot be expected to create any material incentive to expand operations or hire more workers.

Perhaps **the most persuasive reason Supply-Side tax cuts for corporations fail to incentivize job creation, however, is that they bear no relationship to the market factors that actually compel businesses to hire more workers**. As it turns out, **the data show that a business only hires significantly more workers when private sector demand for the products or services it sells increases to the point it needs additional capacity to satisfy that demand**.[86] Which, when you think about it, makes all the sense in the world—and aligns pretty well with any Micro-Economics 101 course.

It also explains why Supply-Side tax cuts for corporations do not move the needle on job growth. In an environment where corporations are already highly profitable, they for the most part have the financial wherewithal to hire adequate staff to meet demand for the products or services they sell. If their taxes are cut, their profits go up, but if there is no increase in demand for whatever it is they sell, there is no legitimate business reason for using that tax relief to hire additional workers. Why waste profits on building unneeded excess capacity?

For proof, look no further than how businesses utilized the tax relief they received from the significant Supply-Side corporate tax cuts included in the TCJA of 2017. Under that legislation, the corporate income tax rate was reduced from 35 to 21 percent.[87] When pushing the TCJA, President Trump averred that the bill's corporate tax cuts would lead to a boom in business investment.[88] They did not.

In fact, two years after passage of the TCJA, business investment was actually declining.[89] A study by the IMF found that 80 percent of the corporate tax relief received by Fortune 500 companies was used for things like stock buy-backs and dividends, not investment.[90] Far from trickling-down, this utilization of the Supply-Side corporate tax relief created under the TCJA primarily benefited wealthy individuals and foreign investors.[91] That outcome was predictable, however, when viewed in context of what really motivates businesses to expand and hire more workers—a growth in demand that requires additional capacity to satisfy.

The bottom line here is clear. Considering all the aforesaid factors together, it is simply not reasonable to believe that Supply-Side tax cuts which allow corporations to keep more of their profits will stimulate job growth at this juncture in time, given that: (i) corporate profits are already high enough that businesses have the financial capacity to hire all the workers they need; and (ii) the market factor that primarily motivates a business to hire more workers is growing demand for that business's products or services—not tax policy.

4. SUPPLY-SIDE TAX CUTS WORSENS INCOME INEQUALITY

4.1. Income Inequality Worsens Because No Economic Benefits Have Been Created to Trickle-Down

Under Supply-Side theory, the tax cuts for corporations and wealthy individuals that have been implemented nationally since 1981 should have resulted in income gains for all workers, including those at the bottom and middle of the income distribution. However, the enhanced job and GDP growth that were promised have failed to materialize.[92] In fact, as outlined previously, **the U.S. economy has performed worse in every key economic indicator ever since Supply-Side tax cuts were first implemented in 1981, than it did during the Pre-Supply-Side Era, when federal income taxes were much higher.**

Which means tax cuts targeted to wealthy individuals have not in fact created any economic benefits to "trickle-down."[93] They have, however, helped the rich get richer, while making income inequality worse than it was during the much higher tax Pre-Supply-Side Era that pertained from the end of WW II through 1980.[94] So much so that after America began implementing Supply-Side tax cuts for wealthy individuals and corporations in 1981, "instead of trickling down, it appears prosperity trickled up,"[95] and income inequality became significantly worse.[96]

4.2. The Data Demonstrate Income Inequality Worsened After Supply-Side Tax Cuts Were Implemented in 1981

The data demonstrate the only demographic that actually benefited from Supply-Side tax cuts where the wealthy individuals and corporations who received them. For instance, following the implementation of Supply-side tax cuts in 1981, the aggregate wage growth of the wealthiest one percent of earners increased at a rate that vastly outpaced the Pre-Supply-Side Era. Meanwhile, as shown in **Figure 16**, the rate of growth in wages for the vast majority of Americans who comprise the bottom 99 percent of earners declined precipitously after the implementation of Supply-Side tax cuts in the period following 1981.

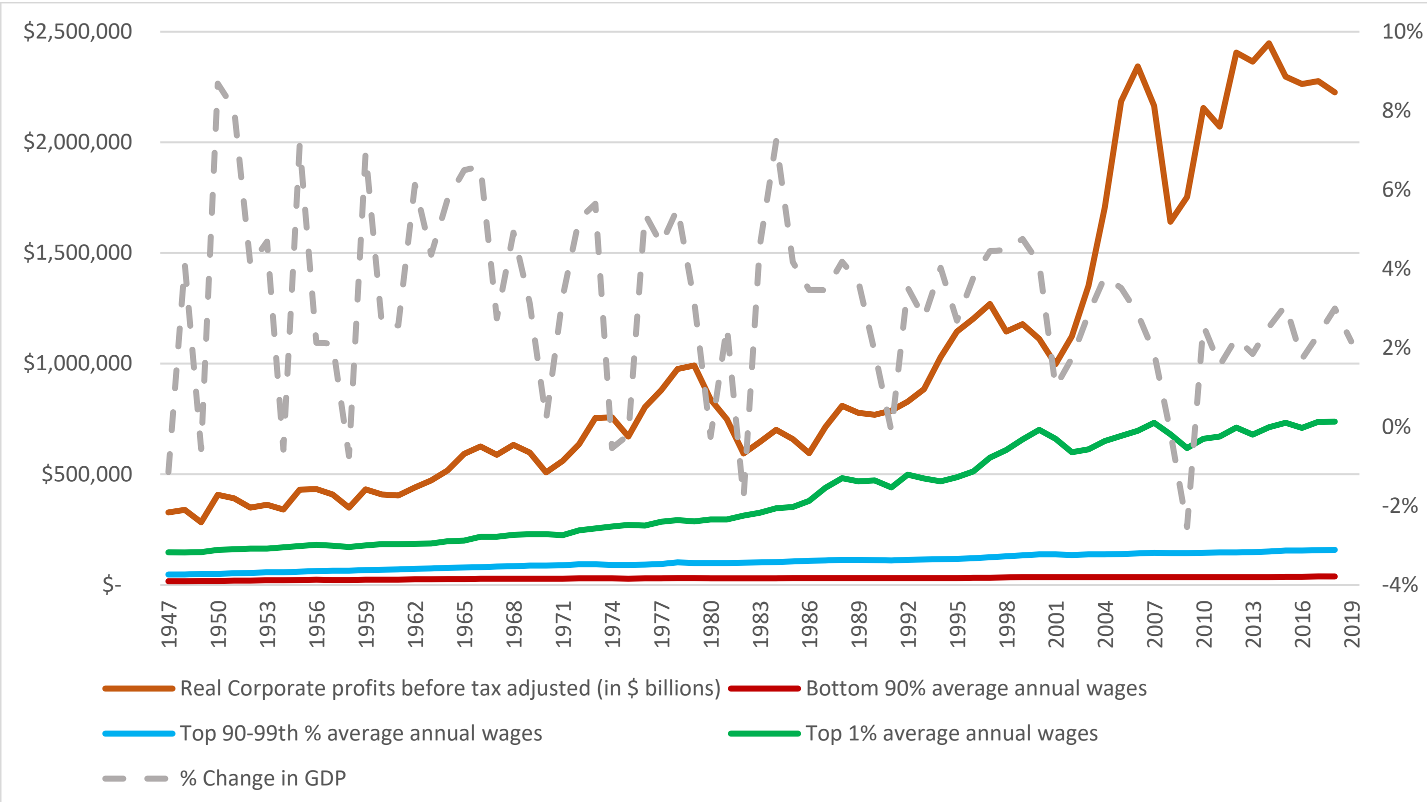
Figure 16
Aggregate Wage Growth - Pre-Tax (Real, 2019 Dollars)

Time Period	Bottom 90%	Top 90-99%	Top 1%
1947-1980	84%	112%	102%
1981-2019	27%	60%	150%
Percentage Change	**-67.9%**	**-46.4%**	**47.1%**

Source: CTBA analysis of Economic Policy Institute, State of Working America Data Library, "Wages for Top 1.0%, 0.1% and Bottom 90%," December 2020

In fact, ever since Supply-Side tax cuts for wealthy individuals and corporations have been implemented in 1981, the rates of growth in both wages for the wealthiest one percent and corporate profits have materially outstripped the rate of growth in wages for everyone else in America, as well as the rate of growth in the nation's GDP, as shown in **Figure 17**.

Figure 17
Inflation-Adjusted Growth in GDP, Wages and Corporate Profits, 1947-2019 (2019 Dollars)



Source: CTBA analysis of Economic Policy Institute, State of Working America Data Library, "Wages for Top 1.0%, 0.1% and Bottom 90%," December 2020

In an effort to explain the dramatic differential in wage growth that occurred post implementation of Trickle-Down tax cuts, the authors of the LSE Study found that, instead of encouraging wealthy individuals to work harder as the theory posits, Trickle-Down tax cuts encouraged them "to bargain more forcefully to increase their own compensation, at the direct expense of those lower down the income distribution."[97]

Of course, change in wages over time does not tell the full story. A more comprehensive indicator is total personal income, which includes items such as dividend income and publicly funded income supports in addition to wages.[98] Not surprisingly, however, changes in aggregate income over time follow a similar pattern to changes in wages.

As shown in **Figure 18**, total income growth for the bottom 90 percent of earners has been significantly slower since Supply-Side tax cuts were first implemented in 1981 than during the Pre-Supply-Side Era, while aggregate income growth for everyone in the top 10 percent has been much faster, particularly those individuals fortunate enough to rank in the wealthiest five percent or above. Of course, this phenomenon has been caused by numerous factors, including globalization, technology, corporate concentration, the decline of unions, and an inadequate minimum wage, as well as Supply-Side tax policy.

Figure 18
Aggregate Income Growth Over-Time

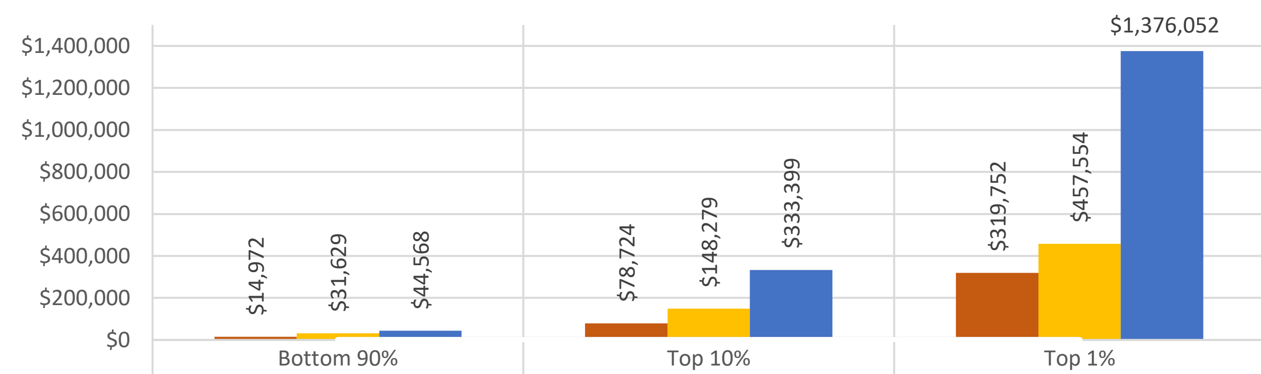
Aggregate Income Growth	Bottom 90%	Top 10%	Top 5%	Top 1%	Top 0.5%
1947-1980	111%	84%	66%	39%	37%
1981-2019	70%	125%	144%	201%	230%
Percentage Change	-36.9%	48.8%	118.2%	415.4%	521.6%

Source: CTBA analysis of T. Piketty, E. Saez, G. Zucman, "Tables II: distributional series," September 2020 series

The trend towards growing income inequality post implementation of Supply-Side tax cuts in 1981 also appears in Bureau of Economic Analysis ("**BEA**") and Federal Reserve data.[99] **Figure 19** shows how average income changed for the wealthiest one percent of earners versus everyone else on a real, inflation-adjusted basis, both from the end of WW II through 1980, and from 1981 through 2019.

After adjusting for inflation, from 1947 through to 1980, the average, annual income before taxes reported by the wealthiest one percent in America grew by 39 percent in real terms. After the implementation of Supply-Side tax cuts, however, it grew by a total of 201 percent—or more than five times faster than before Supply-Side. Meanwhile, the average, annual income before taxes for the bottom 90 percent grew by 111 percent in real terms during the Pre-Supply-Side Era, but by just 41 percent after Supply-Side tax cuts were implemented in 1981.

Figure 19
Average Annual Incomes of Top 1%, Top 10% and Bottom 90% in U.S., in 2018 Dollars, 1947,1981 & 2019



	Bottom 90%	Top 10%	Top 1%
1947	$14,972	$78,724	$319,752
1981	$31,629	$148,279	$457,554
2019	$44,568	$333,399	$1,376,052
% Growth (1947-1980)	111%	84%	39%
% Growth (1981-2019)	41%	125%	201%

■ 1947 ■ 1981 ■ 2019

Source: CTBA analysis of T. Piketty, E. Saez, G. Zucman, "Tables II: distributional series," September 2020 series

As aggregate wage and income growth shifted dramatically in favor of wealthy individuals after Supply-Side tax cuts were implemented, so too did overall share of total national income. As shown in **Figure 20,** the share of total income held by the bottom 90 percent of earners in America declined from 64.4 percent on average during the Pre-Supply-Side Era, to 58.8 percent on average after Supply-Side tax cuts were implemented in 1981.

Figure 20
National Income Shares, Pretax

	Average Share of National Income for Bottom 90%	Average Share of National Income for Top 10%
1947-1980	64.4%	35.6%
1981-2019	58.8%	41.2%
Change in Average Share of Total Income 1981-2019	**-5.6%**	**5.6%**

Source: CTBA analysis of T. Piketty, E. Saez, G. Zucman, "Tables II: distributional series," September 2020 series

Meanwhile, the share of total income held on average by the top 10 percent increased from 35.6 percent during the Pre-Supply-Side Era, to 41.2 percent after Supply-Side tax cuts were implemented in 1981. It should be noted that the U.S. experience with growing income inequality post implementation of Supply-Side tax cuts is not unique, but is a common thread among industrialized nations that implemented such tax cuts around the world.[100]

4.3. The Consequences of Supply-Side Tax Cuts are Particularly Bad For Low- and Middle-Income Workers

When all the evidence is considered, it becomes clear that the implementation of Supply-Side tax cuts creates a "quadruple whammy" of bad consequences for low- to middle-income workers. First, low- and middle-income workers share in very little of the tax relief provided under Supply-Side tax cuts, the vast majority of which goes to affluent individuals and corporations.[101]

Second, because these tax cuts have failed to generate the promised economic stimulus, low- and middle-income workers do not realize any "trickle-down" economic benefits in the form of wage and/or job growth.[102] Moreover, precisely because these tax cuts do not stimulate faster/better economic growth, they also fail to "pay for themselves," which contributes to growing deficits.

Third, to add insult to injury, low- and middle-income workers effectively end up paying for the Supply-Side tax cuts that primarily benefit wealthy individuals and corporations, when public sector spending on core services they rely on is cut to offset some of the revenue loss which the Supply-Side tax cuts caused in the first place.

Fourth, the portion of rising income inequality attributable to Supply-Side tax cuts harms the future economic prospects of low- and middle-income workers, precisely because most of the dollar value of these tax cuts ends up in the hands of wealthy people who have a low propensity to spend it. Given that consumer spending drives most economic activity, this transfer of wealth from the bottom and middle to the top effectively dampens consumer spending, slowing long-term growth.

Dr. Hope, one of the researchers who conducted the LSE Study, said it best when he emphasized that the: "research shows the economic case for keeping taxes on the rich low is weak. Major tax cuts for the rich since 1980 have increased income inequality, with all the problems that brings, without any offsetting gains in economic performance."[103]

5. FISCAL POLICIES THAT ACTUALLY DO STIMULATE JOB AND ECONOMIC GROWTH INVOLVE GROWING DEMAND BY INVESTING IN HUMAN CAPITAL AND INFRASTRUCTURE

5.1. The Research Confirms Using Fiscal Policy to Enhance Demand Effectively Stimulates The Economy

The data make it clear Supply-Side styled tax cuts have not been effective at stimulating private sector economic growth over the long-term. So, what does the evidence say about using fiscal policy to drive demand? When done right, the research shows that enhanced public sector investments in income and other supports for low- and moderate-earning families, and as well as in core services like education, and core public goods like infrastructure, effectively stimulate private sector economic growth.[104]

For instance, consider the importance of infrastructure investments to spurring economic growth. "[E]conomists have long recognized the value of infrastructure. Roads, bridges, airports, and canals are conduits through which goods are exchanged."[105] According to a Wesleyan University study, "The argument is simple. Infrastructure is a public good that produces positive externalities for production. The provision of adequate infrastructure is a necessary condition for private firms to be productive."[106]

Next, consider what the research shows about the relationship between the private sector economy at the state level and enhanced public sector spending on core services like education. According to a study by the Economic Policy Institute, the evidence shows funding a high quality public education is more likely to "strengthen the overall state economy than anything else".[107] This finding was echoed in a University of Massachusetts study, which concluded that education spending has been found to raise state GDP, increase employment in metropolitan areas, and raise personal income at the state level.[108]

The reasons for this are simple enough to understand. Higher levels of educational attainment strongly correlate to lower levels of unemployment and higher wages.[109] In essence, a quality public education helps build a labor force that has the numeracy and literacy skills required for good jobs in the modern economy.

From a small business perspective, a quality K-12 system is especially crucial, since the local labor force is the primary pool from which most small businesses tend to hire. From an individual's viewpoint, while having a high quality K-12 education may not guarantee a bright economic future, not receiving a quality K-12 education almost certainly guarantees long-term economic struggles, from both wage and employability perspectives.[110] Hence, it is no wonder a study which analyzed state economic competitiveness from 1963-1997 found a statistically meaningful correlation between increasing real, inflation-adjusted funding of public education and enhanced personal income growth at the state level.[111]

It should be noted that the benefits of investing in the delivery of a high-quality education are not limited to state-level economies. One study found that if our nation's public education system improved to the point where the achievement gap between white students on the one hand and Black and Latinx students on the other were eliminated, some $50 trillion (in net present value) would be added to America's economy over the next 70 years.[112]

And it is not just spending on education that boosts the economy by enhancing demand. Increased spending on other core services, like healthcare and human services, and improving income and other supports for low- to moderate-earning individuals through initiatives such as unemployment insurance, aid for back rent, food assistance and the like also work.[113] According to Nobel Prize winning economist Joseph Stiglitz and his colleague Kitty Richards at the Roosevelt Institute of Columbia University, public sector spending can have a positive impact on the private sector economy of up to $1.50 for each additional dollar of public spending.[114]

Similarly, Mark Zandi, the chief economist of Moody's Analytics, reviewed how fiscal actions covering everything from increased spending on core services and supports for low- and moderate-income workers, as well as tax cuts, have actually impacted the private sector economy. He then identified multipliers that show how a particular fiscal policy change could be expected to boost or harm the economy. As it turns out, many public expenditures create an economic multiplier that actually generate more than a dollar-for-dollar benefit as those public expenditures move through the economy.[115]

An economic multiplier, as defined by textbooks such as Dornbusch and Fischer's Macroeconomics, is "the amount by which output changes when autonomous aggregate demand increases by one unit."[116] What does that mean? The definition may sound arcane, but what happens is very straightforward. Say the public sector invests in infrastructure by constructing a new bridge. Initially, the economy is stimulated when the public sector makes a direct payment to contractors, construction workers, etc. for work and economic activity that otherwise would not take place. As the individuals who receive these payments then spend some of that money on other purchases in the economy, such as food, clothing or car repairs, a portion of the initial public investment made on construction becomes additional purchases in various areas of the private sector economy. In other words, one person's spending becomes another individual's income, who in turn spends that income again on other purchases in the local economy, and so on.

Of course, when the government spends on infrastructure or services, it is also technically increasing the supply of jobs—but not through tax cuts as Supply-Siders argue. Moreover, the big economic boost comes from the growth of demand that ensues when the public or private sector workers who gain such jobs spend their earnings, which in turn becomes the income for other private sector workers in the local economy.

For instance, Zandi found that historically, every dollar spent to fund core public services like education or healthcare, generates a positive multiplier of 1.34.[117] That simply means for every dollar spent on these core services by the public sector, the private sector economy gets an economic benefit of $1.34 from the increase in demand such spending generates. Similarly, Zandi found that income supports targeted to individuals with low to moderate earnings, like supplemental unemployment insurance, generated a multiplier of roughly 1.49.[118] **Figure 21** contains a summary of the multipliers Zandi identified as accruing to various fiscal actions taken by the public sector.

Figure 21
Various Multipliers Associated with Different Fiscal Policy Actions Identified by Mark Zandi of Moody's Analytics

Fiscal Action by Public Sector	Private Sector Multiplier
Supplemental Nutrition Assistance Program (SNAP)	1.61
Supplemental Unemployment Insurance	1.49
Work-Share Unemployment Insurance	1.37
Aid to State and Local Government	1.34
Low Income Home Energy Assistance Program (LIHEAP)	1.31
Transportation Infrastructure Spending	1.29
Defense Spending	1.24
Childcare (Universal Child Care Act)	1.19
Universal Pre-K (3- and 4-yr-olds)	1.17
Elder Care	1.15
Earned Income Tax Credit	1.27
Child Tax Credit	1.25
Economic Impact Checks	1.09
Payroll Tax Holiday for Employees	1.07
Payroll Tax Holiday for Employers	0.95
Nonrefundable Lump-Sum Tax Rebate	0.93
Personal Income Tax Rate	0.88
Housing Tax Credit	0.8
Student Loan Debt Forgiveness	0.65
Dividend and Capital Gains Tax Rate	0.38
Corporate Tax Rate	0.32
Accelerated Depreciation	0.27
Net Operating Losses	0.24

Source: Moody's Analytics, "The Biden Fiscal Rescue Package: Light on the Horizon," 2021.

As **Figure 21** illustrates, the largest economic 'bang for the buck' comes from spending increases that stimulate demand, not tax cuts. In fact, tax relief that is not targeted to low- and middle-income families generally has a multiplier of less than one dollar for one dollar—and Supply-Side tax relief for corporations generates only about 32 cents on the dollar.

As it turns out, leaders in the business community agree with the research about what really matters to promote private sector growth. For instance, when a survey of entrepreneurs who founded some of the fastest growing companies in the U.S. asked them to identify what really mattered when they chose a facility's location, low tax rates were rarely important in their site-selection decision making.[119] Instead, the entrepreneurs surveyed responded that the determinative factors in choosing a site were, first and foremost, access to a talented local employee pool.[120] And creating such a pool is very much dependent on the quality of the local K-12 public education system.[121]

One of the best summaries of what really matters to businesses came from Eric Spiegel, president and CEO of the German-based engineering company, Siemens AG. When explaining Siemens' decision to build a new manufacturing facility in the U.S. rather than overseas, Spiegel made it clear that public sector investments were paramount. According to Spiegel, "A lot of things that were offshored in the past were offshored because of lower-cost labor, but that's no longer the most important factor. The reasons you bring a plant like this to the United States are higher-skilled labor, access to the world's best research and development, and good, sound infrastructure. All those things together make the U.S. a good place to invest."[122]

Given the high, greater than a dollar-for-dollar multipliers associated with the fiscal policy initiatives President Biden has proposed, they are well tailored to stimulate the economy.[123] If implemented as initially proposed, estimates were that Biden's mix of investments in infrastructure and human capital would have stimulated demand to the point they'd have created some 7.5 million jobs in 2021, and another 2.5 million jobs in 2022, thereby replacing all "the jobs lost since the pre-pandemic peak," and doubling the nations projected real GDP growth over current projections thereof if Biden's initial proposals were not implemented.[124]

5.2. The Role of Marginal Propensity to Consume

So why do fiscal policies that boost demand actually work to stimulate the economy, and why do Trickle-Down tax cuts that purportedly boost supply by reducing tax burden on wealthy individuals and corporations fail? The answers have everything to do with consumer spending.

For starters, roughly 68 percent of all economic activity nationally is consumer spending.[125] So when consumer spending increases, jobs are created, and the economy expands. The nation's best consumers are workers in the lower and middle wage quintiles, because they tend to spend rather than save most of their earnings. In economic terms, this means they have a high "**Marginal Propensity to Consume**," or "**MPC.**"[126] That simply means they are much more likely to spend rather than save every additional dollar they take in, whether in the form of increased wages or public sector supports. So, if tax relief is targeted solely to low- and middle-income workers, that relief will be spent "very quickly" in the consumer economy.[127]

The reason low- and middle-income workers are likely to spend every additional dollar they receive is not hard to understand—as noted previously in this Report, the share of aggregate income held by the bottom 90 percent of earners has declined in real, inflation-adjusted terms ever since Supply-Side and Trickle-Down tax cuts were first implemented beginning in 1981.[128] The bottom line: because low- and moderate-wage workers have had flat to declining earnings in the 40 year plus period that has followed the implementation of Supply-Side tax cuts in 1981, whenever their earnings do grow, they tend to use that growth in income on increased consumer spending, largely in the local economy.[129]

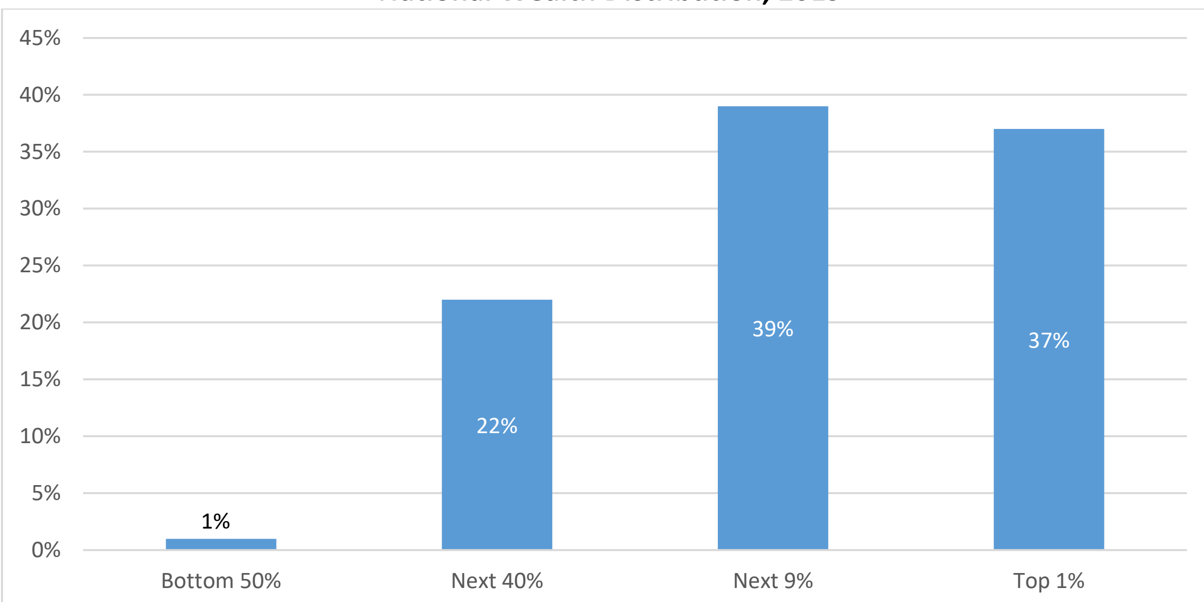
Which is why fiscal policies that increase demand by supporting low- and middle-income families work. The vast majority of additional income they receive through public transfers ends up becoming increased spending in the consumer economy. And increasing consumer spending, the largest sector of the economy, in turn creates jobs.[130]

MPC also helps explain why enhanced public sector spending on core services creates high multipliers that are greater than a dollar-for-dollar. Most spending on services is used to cover the wages of the teachers, social workers, healthcare professionals, correctional officers, and other public employees who provide services to the public. These people also happen to be low- to middle-wage workers, with high MPCs. Hence the vast majority of the wages they receive from the public sector become consumer spending in the local communities in which they live, which generates a concomitant positive private sector economic multiplier.

This in turn stimulates job creation, and hence helps mitigate economic downturns like the one caused by COVID-19.[131]

More affluent individuals, however, have a low MPC. That just means when their incomes are increased or decreased, that change in income does not generally result in much of a corresponding change in their consumption patterns. This should not be surprising, given that, after inflation, the wealthiest one percent of households in America have seen their average annual income jump from $457,554 in 1981 to $1,376,052 by 2019, a whopping increase of 201 percent.[132] Indeed, the growth in income for high-end earners has been so substantial over the last four decades that, as things stand today, the wealthiest 10 percent of households in America own 76 percent of total national wealth, as shown in **Figure 22**.

Figure 22
National Wealth Distribution, 2019



Source: Federal Reserve Board, Survey of Consumer Finances

Which means MPC also helps explain why Supply-Side tax cuts received by wealthy individuals do not effectively stimulate the economy. The incomes of the wealthiest in America have grown so significantly over the last four decades that they have very low marginal propensities to consume. Hence, reducing their income tax liability does not significantly increase their consumer spending. Since the evidence also shows that such tax relief does not motivate them to work more or longer, Supply-Side tax cuts that primarily benefit wealthy individuals do not create, and should not be expected to create, any measurable economic stimulus of any kind.[133] On the other hand, in large part because of their high MPCs, the IMF found that "increasing the income share of the poor and middle class actually increases [economic] growth."[134]

5.3. Proposals to Increase Taxes on Wealthy Individuals and Corporations to Pay for Enhanced Public Sector Spending Will Not Harm the Economy

To cover some of the anticipated costs of the legislation designed to boost federal spending on infrastructure, as well as the investments in human capital identified in the Build Back Better Act, President Biden and Congress are considering increasing the taxes paid by very wealthy Americans, as well as by large corporations, both of which received significant, Supply-Side styled tax breaks a few years ago under the

Trump Administration's TCJA that passed in 2017.[135] This has met with stern opposition from the GOP. Indeed, Republican Senator Mitch McConnell initially dismissed President Biden's tax increase proposals as "job-killing left-wing policies."[136]

However, increasing taxes on corporations and the wealthiest individuals cannot be expected to harm the economy. Start with corporations, as shown previously in **Figure 15,** corporate profits are approaching an all-time high, whilst corporate tax burden is approaching an all-time low. Increasing corporate taxes in this environment cannot be expected to incentivize a reduction in hiring, given business profits will remain at near historic highs even after the tax increase is implemented.

Similarly, because wealthy individuals have realized such a significant growth in real income over the last forty plus years, their MPCs are incredibly low. Which means increasing their tax burden moderately as President Biden and Congress propose to do, should not diminish their consumption patterns. And because wealthy individuals do not respond to changes in income tax rates by increasing or decreasing their work patterns,[137] and any enhanced savings or investments they make with their tax relief has not translated into job or economic growth, it is highly unlikely increasing their federal income taxes as Biden proposes will harm the economy.[138] That is especially the case given how well the U.S. economy fared after President Clinton increased taxes in the mid-1990s.[139]

In fact, Stiglitz and Richards found that during a downturn it actually makes economic sense to increase tax revenue in a progressive manner focused primarily on very high income households, and utilize that revenue to avert cutting spending on public services.[140] Stiglitz and Richards reached these findings based on the actual impact which making such progressive tax increases and maintaining spending on core services had on the private sector economies of state governments which did so in response to the Great Recession.[141]

As it turns out, Stiglitz's findings fall in line with the vast majority of both the evidence and research in this area. Consider the evidence first. Most states that raised taxes since 2000, particularly on the wealthiest and millionaires, saw job growth thereafter that was as strong, if not stronger, than their neighboring states that did not implement such a tax increase.[142] The reason: those tax increases in fact enabled the states implementing them to increase investments in core services like education and social services, which in effect became the salaries of the teachers, social workers and other public sector workers—who, because of their high MPCs, in turn spent their salaries in local economies—and that enhanced consumer spending generated economic growth.[143]

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