Collin Nissley

Dr. Angela Kachuyevski

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Which System Works for Capitalism?: An Analysis of Supply Side and Demand Side Economics Tax Policy

Introduction to Topic

The topic I would like to conduct my thesis on is supply side economics versus demand side economics. I want to focus on the tax policy within each economic theory and conduct an analysis as to which theory produces the results it claims and which policy provides Americans with the best financial situations. The main debate of these two theories is which should be implemented in American economic policy and which of the two theories actually work in society in doing what they claim. There would be no popular theory on tax policy if the theory itself did not claim to improve some aspect of the individual or economy as a whole. Demand-side economics claim that we need to drive the economy by spending more at the consumer level. And to do that the government needs to mobilize all income classes to spend money to drive the economy. One of the characteristics of demand side economics is the idea that the poor and lower income classes who cannot afford to spend an excessive amount of money, get government assistance or tax credits to help them pay bills they struggle to pay. When receiving this assistance, it is money that is being circulated in the economy. Conversely, supply-side economics says that the best way to stimulate the economy is to employ tax cuts on individual income and corporations. Supply side logic is also as simple in theory as demand side economics. With taxes being cut, that leaves the individual with more money in their paycheck

to spend. When corporations receive tax cuts, the function is for the saved money to be allocated to workers. The debate surrounding these two theories is that the one is trying to disprove the other.

Research Question

To what extent do demand-side and supply-side economic theory have a positive impact on economic growth? In this analysis positive would mean lowering unemployment, raising median household income, and raising gross domestic product - generally positive financial outcomes. This question is interesting because for a long time in America, we have used a generally supply side economic policy when it comes to taxes. Ever since Reagan's tax cuts in 1981, America has stayed with the supply side influence in tax policy. I will be conducting an analysis as to if the theory produces the empirical results it claims. I will also conduct the same analysis with demand side policies. After seeing the results of both theories in reality, we will have an answer to the question. In addition, this question is interesting because the answer is not necessarily binary. A mix of both economic theories can be seen in American economic policy to drive the economy and help the poor, while not overburdening the rich. The theories I am using to answer my research question are demand side economics and supply side economics.

Thesis

A balance of both demand-side and supply-side theory have influenced policy, and economic indicators are healthier than only one is employed. Deregulation can take pressure off of banks and businesses, slightly lower taxes lowers unemployment and raises GDP, and successful demand side policies such as the Earned Income Tax Credit and the Child Tax Credit mobilize spending and grow the economy.

Introduction to Literature Review

The question of to what extent these theories have a positive impact on the American economy and consumer is a puzzle that scholars have disagreed about for decades and still do today. There are two main arguments that are brought forth. The two systems under debate are supply-side economics and demand-side economics. Since Reagan, supply side economics has dominated American thought and has had many effects on the economy. To precisely understand supply side economics and the effect it has had, one must also examine demand side economics which preceded this one form of economic policy. The objective in this literature review is to lay out the theory of these two tax systems and give the arguments scholars use and ascertain how much of an impact these economic theories have on economic growth. The supply side economics theory is the more logical, fair, and efficient tax system for America to maintain because of its method of income taxation, and ideas of deregulation in a free market economy.

To understand the debate between the two tax systems, the core functions of each system must be articulated. Historically, fiscal policy in America has been dominated by a Keysnian model or demand side economic viewpoint. Not until Ronald Reagan came into office, did America adopt a supply side economics model on fiscal policy. Demand side economic fiscal policy would be a progressive tax policy, where the percentage of what a taxpayer pays, increases relative to the bracket they fall into regarding their income level. Supply side economic fiscal policy is a proportional tax model where taxpayers pay close to the percentage as those in a lower tax bracket. Since Ronald Reagan's tax cuts, America has been following a tax policy model closer to a supply-side formula for approximately forty years. Academics disagree on which model of fiscal policy is the most beneficial to the American economy and defend their viewpoints from several angles. Some academics defend the logic of supply side

economics because of how consumers reinvest their saved money on taxes back into the economy, whereas the other side of the debate supports a demand side tax policy backed by a moral defense and a refutation of the effects of tax cuts.

Background

An explanation of the simple ideas of each economic theory is required to understand the intended outcomes of each. First, supply side economics support a proportional or regressive income tax structure. In theory, the name of this idea is trickle down economics, wherein the rich receive tax cuts and the money saved goes down the chain in their businesses, being reflected on the employees and on prices in the business (Lockwood 2017). The next pillar in the supply side economic theory is lower regulations in a market economy. The free market economy is supply and demand driven. Supply and demand is a naturally driven relationship between consumers and suppliers. The results that are reflected in a supply and demand relationship must be unaffected by government interference for optimal results (McMahon 2018). The next economic theory that is popular in the United States is demand side economics. Demand side economics were the dominant economic theory employed in the United States until Reagan came into office. The goal of the demand side economics model is a fair redistribution of wealth and an even playing field of all members in a society. Demand side economics on the side of fiscal policy advocates for a progressive income tax. A progressive income tax is a marginally higher tax rate based on your earned income. Economists of this theory would also argue for higher regulations on businesses and corporations. Overall, demand-side economics fights for more social welfare, in other words, more protection from the government in exchange for a greater cost of an individual's freedom. These two tax systems are clearly different in their

perspectives of how wealth should be distributed and how the economy should operate. Scholars disagree over which of these systems work and which is more fair for the American citizen.

Supply Side Economics - The Laffer Curve

There are a few fundamental components in each system that promote the efficiency of themselves and why they work better. I will first discuss supply side economics and the argument of the Laffer Curve in the rate of taxation on earned income. The Laffer Curve is a graph made by Arthur Laffer that correlates taxed income to government revenue. In this graph, it is established that zero percent taxation and one hundred percent taxation both yield no government revenue (Hemming 83). For the Laffer Curve to work it relies on the willingness to work after a percentage of your income has been severed off. Individuals will have incentive to work with zero percent taxation, but the government will yield no revenue. Also, if the government would tax one hundred percent of income, individuals would have no incentive to work. Tax rate changes also rely on someone's elasticity to change. An example of a way policymakers could form a policy of taxation around someones elasticity is around men and women. “Congress should impose lower tax rates on women than on men because women are more likely to leave work when their take-home pay is lower.” Reducing women’s rates will increase their work hours, while men who have little elasticity in their work efforts while they maintain their higher tax rates (McMahon 2018). The Laffer Curve and the idea of elasticity are both part of the optimal tax theory. Which tax rate is optimal for government revenue and worker incentive? This is the goal of the Laffer Curve.

Trickle-down economics/Reaganomics

The next idea of supply side economics that is frequently debated is the theory of trickle down economics. The theory of trickle down economics is that tax cuts for the rich and corporations

free up capital that can be reinvested and put back into the business, affecting the wages of workers and prices for consumers (Lockwood 2017). Scholars often debate this topic because of the difficulty to precisely target the funds being allocated. It is an allocation issue in many scholars' eyes. In reality, it cannot be realized where the saved capital is going (Lockwood 2017). The trickle down economics began in the Reagan era, commonly known as Reaganomics, as this was one of the first acts he implemented while in office. Since then, scholars debate about the successfulness of his policies. One foundational belief in trickle down economics is that all tax cuts spur economic growth (Lockwood 2017). During the tax cuts in the 1980's, workers were incentivized to engage in the economy. High marginal tax rates encourage taxpayers to stay home from work, enter the cash or barter economy, or rearrange their financial situations to avoid taxation (Feldstein 1994). On the other hand, scholars debate whether these tax cuts actually spur economic growth as claimed. It is often argued that the radical tax cuts of 1981 did not provide a good outlook on supply side thinkers, because of the high incentive for the rich to also save their money on lessening tax rates (Feldstein 1994). When workers hang on to their dollars, the income velocity of money decreases, stunting the recovery of the economy (Roberts 2003). Overall, the theory of trickle down economics is sound in a perfect world where the money saved is directly reallocated back down the pipeline to the workers, creating a perfect cycle of unregulated cash flow. But scholars debate whether the capital is actually reallocated properly. The capital could be allocated to the workers, a large purchase unrelated to workers wages, or saved by the individual. This is the debate on trickle down economics.

Free Market Economy

The next major idea of supply side economics is a free market economy. As mentioned earlier in the background, a free market economy is simply an idea of supply and demand, where prices and wages are determined by the supply of workers or the demand of consumers. In theory, supply and demand should fluctuate freely and naturally constantly maintaining an equilibrium, to avoid surplus, shortages, or externalities (McMahon 2018). While both demand side and supply side economists agree the economy is driven by supply and demand, they disagree about when the government needs to intervene. Supply side thinkers believe that the government should intervene very little in the flow of the economy. Supply side scholars believe that when the government intervenes with the economy, inefficient situations come about. I will mention later about when demand side economists believe the government should intervene. All in all, supply side thinkers believe in a free market economy, driven by supply and demand, natural cause and effect, and deregulation of policies on corporations. Supply side economic theory was groundbreaking in the Reagan era, and its roots can still be felt today. Scholars still oftenly debate the merit behind supply side theory and trickle down economics. The theory is sound and in a theoretical world, scholars agree it works, but academics disagree about the successfulness when implemented in reality.

Demand Side Economics - Progressive Taxation

The second economic theory that scholars argue for and against is demand side economics. Demand side economics relies heavily on the idea of income redistribution and tackling income inequality throughout the nation. The first major aspect of demand side economics is progressive taxation. Progressive taxation is the marginal increase of tax rates

based on earned income. This idea conflicts with supply side trickle down economics. There are many reasons scholars support and debate this theory. First-and-foremost scholars argue this system is inherently more fair because of the ability-to-pay aspect. "The ability to pay generally implies some sense of progressive taxation because those with more income spend a smaller percentage on necessities and therefore, can pay a larger percentage in taxes" (McMahon 2018). The idea of utilitarianism is another idea of demand side economics that support progressive taxation. Paying taxes rarely brings anyone any pleasure; therefore the purpose of maximizing utility in tax rates is critical. As one's income is greater each dollar brings marginally less utility. "The person who pays the most in a fair tax rate, is the one who suffers less doing so" (McMahon 2018). The ability to pay aspect of progressive taxation and the preservation of utility is one of the greatest arguments economists use when defending demand side economics. Economists also defend demand side economics from a moral standpoint. Demand side economics target social welfare in society and wealth redistribution. The purpose of implementing higher taxes on the wealthy is to fund social programs that benefit those who make less than the majority in society (Edwin 1893). Scholars argue that throughout history, world systems attempt to implement a demand side economic policy and progressive taxation but fail to do so. Also, the poor man experiences more marginal utility per dollar than the rich man. Lastly, the rich man should be providing for the less fortunate in society when he has the ability to do so (Edwin 1893). In addition, scholars have argued that the rich must pay more in taxes because the poor have enough already burdened upon their shoulders, they cannot withstand an increase in taxes (Wenz 2012). The debate around progressive taxation is often framed around an economic/statistical viewpoint, whereas some scholars argue that the basis of progressive taxation hinges on morality (Chen 2012). Demand side economics is often argued within the

context of the real world without the benefit-of-the-doubt for the rich to do as the system intends. Many scholars have critiqued supply side economics that by their high tax cuts encourage those to hang on to their dollars. In contrast, the progressive taxation system confronts this issue to force the wealth redistribution to level the playing field.

The Flow of Money

Another aspect of demand side theory is the claim that money flows upwards. The working class do not benefit from the free market because the excess money that is generated goes up to executives and shareholders. Corporate profit in 2014 before taxes reached the highest share in the economy in at least 85 years. But the percentage of the economy going to people's wages has dropped dramatically (Reich). Demand side scholars argue that corporate tax cuts do no good to the employee, because they never see the benefits. They argue it is a waste of government revenue if the intended audience never receives the money. In 2014 the top five big oil companies received four billion dollars in tax breaks versus a net income of over fifty billion dollars (Reich). Government needs to redirect the flow of money, by implementing some rules in the system of capitalism. There are some various policies academics believe are extremely helpful to the lower classes and impoverished people. The earned income tax credit and child tax credit are two established policies in economic policy. The earned income tax credit is a tax credit for workers with low to moderate income. It is possible for your income tax credit to be higher than taxes owed, so in that case the worker receives a refund larger than taxes filed. The child tax credit is a tax credit as well, but this time is aid received to low to moderate income working families. These two policies are established examples of the redirection of money under demand side economic theory.

Government interference - Market failures

Government interference in the economy is another crucial factor in the theory of demand side economics. The question is always asked - when should the government step in to fix issues in the economy. Supply siders would say they should rarely, if ever step in, but demand siders disagree. While the idea of the free market is to let the "invisible hand" guide the economy, demand side economists realize the American economic system is not perfect. In this situation negative externalities come about. Negative externalities are situations in which an innocent, unrelated third party is affected by an action or event of a business or economy. Pollution is the most common of these externalities. In addition, the market economy can naturally create monopolies. Many economists believe that it is reasonable for the government to intervene and create policy to break up and end a monopoly (McMahon 2018). The government can address monopolies through tax policy by offering tax incentives to small companies to enter the industry to create competition. Overall, economists would generally agree that government intervention is required in the event of these negative externalities. Even supply side thinkers nowadays would agree to the need for some government intervention, but the level of intervention would still be disagreed upon. Traditional supply side economic theory supports a free market economy guided by the "invisible hand," while traditional demand side economic theory approves of government intervention at some capacity, while maintaining a semblance of a market economy. Demand-side economics has a persuasive platform of progressive taxation due to the arguments that hinge on morality, and the reliance of testing in a realistic world. Demand side economic scholars believe that progressive taxation is the most effective way to redistribute wealth (Chen 2012).

Summary and comparing supply side and demand side economics

To summarize and contrast supply side and demand side economic theory is quite simple. The first and foremost argument of scholars on either side is the thought of fiscal policy. Supply side economists want to adopt a proportional or regressive tax rate. A proportional tax can also be seen as regressive due to the fact that with each dollar saved by the rich man, he gains less utility than a dollar saved by the poor man. In contrast, demand side economists support a progressive tax system for a more effective way to redistribute wealth. Scholars argue that in a regressive tax system the wealthy hang on to their dollars, and the tax cuts fail to serve their purpose. The next area of supply side economics that scholars disagreed on was trickle-down economics. Many academics believe that this theory does not pan out in reality due to the misallocation of dollars, and it is more effective to implement higher taxes and redistribute the wealth at the government level. Lastly, the level of government interference in a market economy is a topic debated between these two types of economists. Negative externalities are natural and will occur. Demand side economists believe that the government should intervene and implement tax policy to address these issues. Supply side economists argue government interference may be necessary, but to a lesser extent than demand side economists.

Conclusion

The answer of which is healthier for the American economy does not rest in the hands of only one of these theories but in a mix of both. Supply side economic theory has a more logical sense because of the Laffer Curve idea, and the theory of trickle down economics. However, supply side economics works perfectly in theory, but misses the bar in reality when it comes to

redistributing wealth. Supply side economics has had the most influence on economic policy in recent years because of Reagan, and the effects can still be felt and seen in society today.

Analytic Framework

The first theory I am analyzing to answer my question is supply side economics. This is the economic theory that suggests deregulation and lower taxes spur economic growth. Deregulation is the process of laws and restrictions being lifted off of corporations to allow operations to flow more freely. Economic growth can be reflected by a rise in gross domestic product (GDP), rise in GDP per capita, rise in median income, and also quality of life. The various policies I will examine under this theory are various significant tax cuts by presidents since Reagan beginning with the tax cuts in 1981. I will draw evidence from theoretical data of supply side economics and see if the theoretical data matches the results of the tax cuts in various years. Next, I will examine various points of deregulation in interest rates to see if empirical data matches the results of the deregulation in action. In addition, I will examine corporate tax cuts to see if the intended result of higher wages, lower prices, and better work quality come to fruition.

After I establish the various points supply side economics have been used in tax policy I will examine the results of what has happened since their incorporation into tax policy. This will help answer my research question by proving the positive or negative consequences of the enacted policy.

The next theory I will be examining in this thesis is demand side economic theory. This is the theory that embraces wealth redistribution, progressive taxation, and regulation. Wealth redistribution is the idea that tax revenue gained from the top earners will be used in forms of policies and programs intended to aid the less fortunate financially. These policies and programs

are ones such as the Earned Income Tax Credit, the Child Tax Credit, and various other programs you can qualify for for earners under a certain wage amount.

Once I establish the times demand side policies have been used, I will look at the results of what has happened after the policies have been established. The results can be positive or negative. This will help answer my research question by telling me if the policy had done what demand side theory has claimed it will do.

Method

To correctly answer my question I need to use the correct method of research to compare the data to my theories I have elaborated on. I chose Pattern Matching as my method of analysis because I need to compare the theoretical data that each economic theory states and compare it to the actual results that occur when enacted in real life. According to Robert Yin, when the empirical data matches the theoretical prediction it helps strengthen the internal validity of the case study (Yin 1994). The independent variables I examine from the pattern of theory will be compared to a set of dependent variables to assess the impact on economic growth certain theories have. The dependent variables in this thesis will be economic indicators agreed to be a solid method of determining the strength of the economy. I will outline my dependent variables after fleshing out my independent variables. The two theoretical frameworks I have chosen to analyze are supply side economics and demand side economics. The way I will answer my question is to compare the empirical data with the theoretical predicted pattern of each economic theory. I will break down my variables and patterns below.

Supply Side economics (Pattern)	What do I need to answer? (Empirical Data)
The Laffer Curve - Variable 1 - - The first variable of the pattern is the laffer curve. This is the idea that 0% taxation and 100% taxation yield no government revenue, and the rate of maximum efficiency for government revenue is somewhere in between. The income tax rates need to balance government revenue and incentivize people to work (Hemming 83).	To match the empirical data with the pattern I will need to analyze various points of income tax rates and the resulting government revenue. To prove the empirical data matches the pattern the government revenue and employment needs to be higher when taxes are lower. In the logic of the laffer curve is the idea that at some lower tax rate, worker incentives are higher, which will all-in-all increase the amount of tax collected by the government, and jobs created. If government revenue and employment is maintained or increases past the optimal tax rate indicated by the laffer curve, the pattern does not match. It can also be true that the theory is invalid if multiple optimal tax rates exist. In this case the theory is invalid, and the pattern does not match. In order to provide an accurate analysis of the effect of the certain policy, I will provide a break of approximately 2-3 years and then offer the economic indicator

	data.
Reaganomics - Variable 2 - The second variable of this pattern is Reaganomics or Trickle-down economics. This is the idea that when the rich are given tax cuts on their income, they will reinvest this capital into their businesses or invest in other businesses. The money that is invested at the top is supposed to trickle down and benefit the workers at the middle and bottom through various avenues of pay, benefits, and quality of work environment. You can also see Reaganomics in corporate tax cuts, where the added corporate revenue is trickled down (Lockwood 2017).	To match the empirical data with the pattern I will analyze various instances of tax cuts to the higher tax brackets and analyze average hourly wages and salaries, as well as quality of life, and gross domestic product. I have indicated the measurements I will use to determine if the theory matches the data. Like the previous variable I will offer a 2-3 year buffer to correctly assess the success of the policy.
Deregulation - Variable 3 - The third variable of supply side economics is deregulation. Specifically deregulation of interest rate policy. The purpose of	To match the pattern of deregulation and see if it works I will analyze data resulting from said deregulation. If interest rate policy does not improve inflation as intended, the empirical data will not match the pattern.

deregulation is for companies to act freely as they wish in order to save money and operate efficiently. Deregulation lowers the cost of operations for companies and ultimately benefits the consumers as well (McMahon 2018).	

Demand Side economics (Pattern)	What Do I need to answer? (empirical data)
Progressive Taxation - Variable 1 - Progressive Taxation is the first variable of the pattern of the theory. This is the idea that as an individual makes more money, they should be taxed at a higher rate, than those people below them. The primary argument for this taxation pattern is the ability to pay idea. This essentially means that if someone who has more income can pay more tax it is only fair and their duty to contribute more to the government. The function of	To match the empirical data with the pattern I will need to find data that proves that with a method of progressive taxation, lower classes are mobilized to spend money to accelerate the economy. I will need to find that with progressive taxation the median living wage is satisfied, unemployment is at a goal standard or is trending downwards, and other relevant indicators are measured to where they need to be.

paying more taxes with a higher income is the money collected will be used to benefit those less fortunate, and mobilize spending of the lower classes. The tax collected can also be used to fund other aspects of government policy (Edwin 1893).	
The Flow of Money - Variable 2 - The second variable of demand side economic theory is that the flow of money needs to be redirected. Scholars argue that without proper regulation from the government, workers rarely see the benefits of corporate tax cuts. It is rare for companies to reinvest saved capital into the workforce. Most of the money is used to upgrade equipment, or expand operations. Many democrats argue for certain policies to redirect the flow of money from the top with the earned income tax credit	In order for the data to match the pattern I will need to find data stating the earned income tax credit and the child tax credit assist families in their financial situation by either meeting the living wage or trending towards it in the years the policies have been in place. I will also need to find data that with tax hikes on corporations and wealthier individuals, unemployment and the living wage are met or trending towards their ideal number.

and the child tax credit. These policies were created to directly assist families and individuals who work and still struggle to pay taxes or put food on the table (Reich).	

` The measurements I will use to determine the data that match the pattern will be Gross Domestic Product (GDP), unemployment rate, inflation, and the median living wage. These economic indicators and vastly agreed to be a good way to measure the strength of the economy. The ideal amount of GDP growth is 2.5-3.5% (Barnes). The unemployment rate the federal reserve sets to aim for is 4-5% (Kagan 2021). Also, the federal reserve believes that a 2% inflation rate is acceptable. Lastly, the median living wage is roughly $67,690 (Borden). Any income far below the median is considered a poor indicator and any income at or above this rate is considered a good indicator.

Data

I intend to use government sources to find the results of the various policies I have previously mentioned. I will also use congressional records of the policies itself to get a detailed explanation of the policy and the results it expects to find. The data I need to answer my question are results from demand side and supply side policies. The results will reveal whether or not the policies have done what the makers and theory intended them to do. For example, I will see the results of tax cuts over the years, and match it to the results in reality: have wages

been increased? Has unemployment been lowered? Also, I will analyze the Earned Income Tax Credit: have poverty statistics been decreased? Is quality of life better? These are all questions I must ask because it is the claim of each theory itself.

Analysis

After clarifying the method I am using to conduct my analysis, I will share my research and outcomes of the data I have collected. The variables of my method are the logic used behind these various major tax acts from presidents throughout history. Major policy changes I will cover in this analysis include The Economic Recovery Tax Act of 1981, Tax Equity and Fiscal Responsibility Act of 1982, Garn-St. Germain Depository Institutions Act, the Earned Income Tax Credit, the Child Tax Credit, the Tax Reform Act of 1993, the Taxpayer Relief Act of 1997, Economic Growth and Tax Relief and Reconciliation Act of 2001.

The first policy I analyzed was the Economic Recovery Tax Act of 1981. This act was a tax policy signed by President Reagan in an attempt to spur the economy by the “trickle-down” effect, initiated by tax cuts on the wealthy, and increased disposable income of the middle class. This policy was crafted using the logic and argument of the Laffer Curve, that lower taxes increase government revenue by increasing employment and maintaining a level of sustainable growth in government revenue. Also, these forms of tax cuts coined the name “Reaganomics,” with the central argument that tax cuts on corporations and the wealthy create benefits that flow down to the middle class and working class.

Figure 1: Predicted outcome of the ERTA 1981

Provision	**Long-Run Change in GDP**	**Static Change in Annual Revenue (billions of 1981 dollars)**
Introduce deduction for low-earning spouses	0.17%	-$0.46
Move from ADR to ACRS for depreciation schedules	2.69%	-$10.34
Increase the investment tax credit	0.52%	-$2.75
Reduce marginal individual income tax rates across the board	4.62%	-$69.50
TOTAL	**8.00%**	**-$83.06**
Source: Tax Foundation *Taxes and Growth* Model		

While the total income received by the federal government is lower, the function of the tax cuts was to mobilize spending and grow the economy. The bill was meant to grow the gross domestic product by 8%, and shrink the size of the federal government by reducing the income of it (Kenton 2022).

The main components of this act were that the highest tax bracket tax rate decreased from 70% to 50%, the bottom tax bracket felt a decrease of 3% in income tax from 14% to 11%, capital-gains taxes decreased from 28% to 20%, and deductions for estate tax increased (Kenton 2022).

The federal deficit was a driving factor in the creation of this act, as officials noticed the deficit growing. In 1981 the federal deficit was approximately 79 billion dollars. Only a year after the enactment of the ERTA, the federal deficit monsooned to 128 billion dollars in 1982, and to 208 billion dollars in 1983 (Amadeo 2022). The data is rather limited to form a detailed answer about how successful this policy matched the supply side theory results, but given the increase of the federal deficit, it is clear that this line of tax cuts did not initially do as intended and did not match the pattern.

In response to the growing federal deficit and the massive tax cuts a year prior, President Reagan implements the next main tax policy I research in this analysis. The next set of tax policy implemented by President Reagan was the Tax Equity and Fiscal Responsibility Act of 1982. This act was "designed to reduce the federal budget deficit through a combination of tax increases, spending cuts, and tax reform measures … TEFRA was meant to raise more revenue by closing loopholes in the tax system, introducing stricter compliance and tax-collection measures, increasing excise taxes on cigarettes and telephone services, and increasing corporate taxes (Kenton 2022)." Another main goal of this act was to eliminate the so-called "tax-gap." This is the idea that one-in-five dollars does not make it to the federal government because of deductions and unreported income (Kenton 2022).

The provisions of the act are as follows: an increased enforcement of unreported tips by waiters and other professions in which they receive tips, "a requirement for an automatic 10% tax withholding on dividends and interest paid to individuals, and a requirement for tax withholding on payments of pensions and annuities (Kenton 2022)."

President Reagan stressed that the federal government would decrease spending in exchange for the increase of taxes. The bill was said to raise $98 billion and the federal

government would cut spending by $280 billion at the same time. According to the heritage foundation, that statement is found to be false. The Heritage foundation claimed that spending would increase by 21 cents for every dollar the tax bill brought in (Berry 2022).

Figure 2: Percentage Growth of GDP per quarter of TEFRA

Year/Quarter	**Percentage Growth of GDP**
1982/III	-1.50%
1982/IV	0.40%
1983/I	5.00%
1983/II	9.30%
1983/III	8.10%
1983/IV	8.40%
1984/I	8.10%
1984/II	7.10%

In order to successfully analyze the impact of the tax increase, there needs to be a 2-3 year buffer to notice the effects of the policy. As I mentioned before, the elements I am using to judge the success of a tax policy are typical economic indicators such as median household income, unemployment, inflation, GDP, and the federal deficit. I will first mention the indicators in 1982.

In 1982 the median household income was $23,430 (Census), unemployment was 10.8% (around a 3% increase from 1981)(Bureau of Labor Statistics), inflation was 6.16% from 1981-1982 (officaldata.org), GDP was -1.8% from 1981 (Amadeo 2022), and the federal deficit was $128 billion (Amadeo 2022).

Now I will present the economic indicators from 1984-1986.

Figure 3: Median Household Income

Year	MHI	Margin of change from 1982	Value adjusted for inflation today
1984	$26,430	+$3,000	~$72,000
1985	$23,620	+$190 (with inflation is worth less than 1982)	~$62,280
1986	$29,460	+$6,030	~$76,000

Source: National Census

Figure 4: Unemployment

Year	Unemployment Rate	Change from 1982
1984	7.1%	-3.7%
1985	7.3%	-3.5%
1986	6.6%	-4.2%

Source: Bureau of Labor Statistics

Figure 5: Inflation

Year	Inflation Rate	Percent change from previous year	Percent change from 1982 (6.16%)
1984	4.3%	+1%	-1.86%
1985	3.96%	-0.34%	-2.2%
1986	2.68%	-1.28%	-3.48%

Source: officialdata.org and inflation.eu

Figure 6: Gross Domestic Product

Year	GDP (in Trillions of dollars)	GDP Rate	Percent change from previous year	Percent change from 1982 (6.8 trillion, -1.8%)
1984	$7.6	7.2%	+$0.5 +3.6%	+$0.8 +9%

1985	$7.9	4.2%	+$0.3 -3.0%	+$1.1 +6%
1986	$8.2	3.5%	+0.3 -0.7%	+$1.4 +5.3%

Source: thebalance.com

Figure 7: Federal Deficit

Year	FD (in billions)	Change from previous year	Change from 1982 ($128 billion)
1984	$185	-$23	+$57
1985	$212	+$27	+$84
1986	$221	+$9	+$93

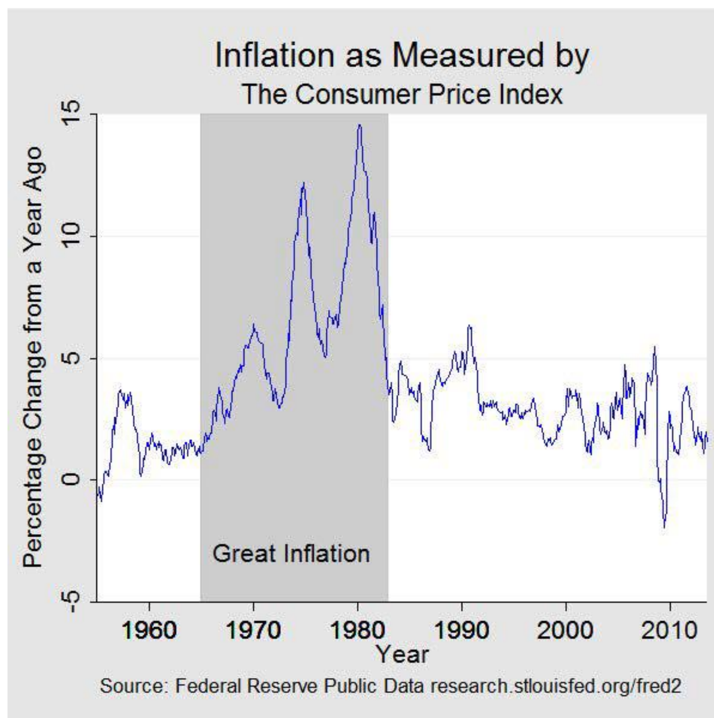
Source: thebalance.com

All of the indicators except for the deficit were trending in the right direction. The growth in the deficit can be explained by the high spending of the Reagan administration, despite the federal income. Based on the data collected, allowing for a two year break in between implementation and results, the changes can definitely be seen. These tax increases by Reagan to shrink the federal deficit would fit under the demand-side economic thinking. Based on the figures provided the indicators are trending towards the optimal direction for the well-being of the nation and the economy. Based on the pattern of demand-side theory and the variables given, and the intended results, this set of tax increases (TEFRA) matches the pattern of demand side theory.

The next policy Ronald Reagan implemented was an act of deregulation aimed at decreasing pressure on banks hurt by inflation and high interest rates. The act is called the Garn-St. Germain Depository Institutions Act of 1982. In the early 1970's unemployment was dropping and the economy appeared to be booming. Inflation was dramatically rising; the value of the dollar was decreasing. To combat inflation, the federal reserve raised interest rates in an

effort to slow inflation and create sustainable growth. Banks got caught in the middle as they paid higher prices for their deposits now then they were making from mortgage loans made years prior on lower interest rates. The main part of this act was to phase out interest rate ceilings on depository bank loans. Banks received less pressure on loans by the allowance of variable interest rates on long term loans (Garcia 2016). "Inflation in the United States had spiked significantly in the mid-1970s after the last links between the U.S. dollar and gold were severed under the Nixon administration, and again in the late 1970s, breaking above 10% by early 1980. After the Federal Reserve, under Chairman Paul Volcker aggressively began raising rates into the 1980s the trend finally reversed, with inflation hovering between 2.5-5.0% for most of the 1980s (Kenton 2022)."

<u>Figure 8: Inflation Chart</u>



As you can see in Figure 8 of inflation, inflation was rising at a higher rate than ever seen before. After the Garn-St. Germain Depository Institutions Act, you can see that inflation dropped more than what was seen in the last ten years. I will lay out inflation data in figure 9.

Figure 9: Inflation Years 1984-1986

Year	**Inflation Rate**	**Change from previous year**	**Change from 1980 (14%)**
1984	4.3%	+1.1%	-9.7%
1985	3.96%	-0.34%	-10.04%
1986	2.68%	-1.38%	-11.32%

Source: inflation.eu and officialdata.org

The effect of the deregulation of banks allowing for more flexibility when offering interest rates had the intended result as Reagan intended. This act was formed in the idea of supply side theory, specifically in the principle of deregulation. Allowing more freedom for banks to offer variable interest rates keeps them in good financial standing. This policy matches the pattern of predicted results based on supply side theory.

It is also noteworthy that along with the tax rate changes, this policy in tandem had contributing factors to median household income I mentioned earlier.

Next, I would like to discuss the Earned Income Tax Credit and the Child Tax Credit. I will discuss the Earned Income Tax Credit first. The EITC is a policy implemented in 1975, signed by President Ford. The EITC was created to ease pressure on lower income taxpayers by giving a credit back to assist them in paying for their income taxes, and to help pay their other

necessities. This policy fits in with demand side theory and the principle of changing the flow of money. I will discuss briefly why this policy and the Child Tax Credit are vital to the foundation of demand side economics in America. Demand side economics means to drive the economy by motivating people to spend money to drive the economy. Both of these credits mobilize low-income earners who will spend the money when they absolutely need it. "The EITC was enacted during the Ford administration by the Tax Reduction Act of 1975. Originally, the EITC was supposed to be a temporary refundable tax credit for lower-income workers to offset the Social Security payroll tax and rising food and energy prices. The credit was made permanent by the Revenue Act of 1978. The EITC was considered both an anti-poverty program and an alternative to welfare because it incentivized work (Hungerford 2013)." To understand who qualifies as recipients of this credit, I will show a table from the IRS showing the qualifying incomes.

Figure 10: EITC Qualifying Rules (2022)

Children or Relatives Claimed	**Maximum AGI (filing as Single, Head of Household, Widowed or Married Filing Separately*)**	**Maximum AGI (filing as Married Filing Jointly)**
Zero	$21,430	$27,380
One	$42,158	$48,108

Two	$47,915	$53,865
Three	$51,464	$57,414

Source: IRS

There were other brief rules to qualify. You must have a job and earn less than $57,414, have an income investment less than $10,000 in the last fiscal year, have a valid social security number, be a United States citizen or legal resident for at least one year, and not have filed a form 2555 (IRS).

Here is an example of the system of the credit recipients receive with the EITC.

Figure 11: EITC Credit in 2012

	No Children	**One Child**	**Two Children**	**Three Children**
Max Credit	$475	$3,169	$5,236	$5,891
Credit Rate	7.65%	34%	40%	45%
Phase-out rate	7.65%	15.98%	21.06%	21.06%
(Income where EITC=0)				
Single	$13,980	$36,920	$41,952	$45,060
Married	$19,190	$42,130	$47,162	$50,270

This policy is work-oriented in the fact that you only qualify if you work, and the income you use to qualify can only be earned from employment, and not anything from interest or dividends. "The amount of the credit first increases as earnings increase, reaches a plateau, and then falls as earnings increase" (Hungerford 2017). This policy is powerful in the fact it mobilizes the lower income earners to spend this credit given, or work more to receive less from the government. The next policy aimed at incentivizing work and having children is the Child Tax Credit. I will discuss the data on both policies after giving an overview of the Child Tax Credit, since these policies are often grouped together.

The Child Tax credit was created in 1997, signed by President Clinton. The Child Tax Credit was originally established in 1997 as part of the Taxpayer Relief Act. Like the EITC, the CTC is an amount subtracted from taxes owed to the federal government. "Originally, the tax credit was $400 per child under age 17 and nonrefundable for most families. In 1998, the tax credit was increased to $500 per child under age 17. The tax credit amount increased again and was made refundable in 2001 to coordinate with the Earned Income Tax Credit. The refundable portion is called the Additional Child Tax Credit (National 2022)." The qualifications currently for the Child Tax Credit are as follows: Maximum income of $150,000 if you are married or filing a joint return, or are a widow or widower, $112,500 if you are filing as a head of household, and $75,000 if you are single or married and filing separately (IRS). I will provide a table of the credit amount for the most recent fiscal year.

Figure 12: CTC Credit Amount

Age	Amount
Under 6 years old	$3,600 per child

6-17 years old	$3,000 per child

Source: whitehouse.gov

To begin I will go over median household income and unemployment to ascertain the success of the EITC, and the CTC. In 1974 the median household income was $11,100 and unemployment was 7.2%. In 1996 the median household income was $35,492 and unemployment was 5.4% (Amadeo 2022). I will show the data of the same indicators to determine the success of the policies.

Figure 13: Median Household Income 1977-1979 and 1999-2001

Year	Income
1977	$13,570
1978	$15,060
1979	$16,530
1999	$42,000
2000	$42,148
2001	$42,228

Source: census.gov

Figure 14: Unemployment 1977-1979 and 1999-2001

Year	Unemployment Rate
1977	6.4%
1978	6.0%
1979	6.0%

1999	4.0%
2000	3.9%
2001	5.7% (9/11)

Source: thebalance.com

Based on the data of median household income and unemployment there is a clear trend upwards in income and a decrease in unemployment in the next few years after the implementation of the Earned Income Tax Credit and the Child Tax Credit. The exception in the trend is unemployment in 2001. This spike in unemployment after 2000 can be attributed to the awful attacks on 9/11. Unemployment in the years of the establishment of the Earned Income tax credit did not drive employment through the roof, but it kept the unemployment rate at a manageable level and not a cause for concern. The biggest impact can be seen in the median household income. With the implementation of both of these policies we can see as the amount of credit increases and the salary cap rises, household income rises as well. It is clear that these programs designed to mobilize the lower income earners works and matches the pattern of the intended result of theory.

The next policy I will review in this analysis is the Tax Reform Act of 1993 by President Bill Clinton. This act contained several major components that affected taxpayers. The main provisions of this act are the creation of a 36% and 39.6% marginal tax bracket for filers, got rid of the tax cap on Medicare taxes, increased taxes on Social Security benefits, and raised taxes on gasoline by 4.3 cents per gallon. It also raised the corporate tax rate to 35% (Peters 2021). I will provide the predicted result of this act below.

Figure 15: Predicted Outcome of the Tax Reform Act of 1993

Provision	**Long-Run Change in GDP**	**Static Change in Annual Revenue (billions of 1993 dollars)**
Increase AMT rates to 26% and 28% while raising the exempt amount	-0.04%	$1.12
Expand asset lives for nonresidential structures to 39 years	-0.17%	$1.12
Create two new top income brackets of 36% and 39.6%	-0.78%	$18.12
Raise the corporate tax rate from 34% to 35%	-0.17%	$3.63
Increase taxation of Social Security benefits	-0.13%	$3.15
Subject all wages to Medicare payroll taxes	-0.06%	$6.33
Increase the excise tax on gasoline by 4.3 cents per gallon	-0.12%	$7.37
TOTAL	**-1.47%**	**$40.84**

Source: taxfoundation.org

It may seem odd that the act was already predicted to decrease the gross domestic product, but the decrease in production can be offset by the increase in federal revenue from the rise of

marginal taxes. I will share GDP growth, unemployment, median household income, and federal revenue as indicators of the success of this policy.

Figure 16: GDP growth in 1993 and 1995-1999

Year	GDP Rate	Change from previous year
1993	4.4%	—-
1995	2.7%	-1.7%
1996	3.8%	+1.1%
1997	4.4%	+0.6%
1998	4.4%	+0.0%
1999	4.0%	-0.4%

Source: thebalance.com

Figure 17: Unemployment in 1993 and 1995-1999

Year	Unemployment	Change from previous year
1993	2.8%	—-
1995	2.7%	-0.1%
1996	3.8%	+1.1%
1997	4.4%	+0.6%
1998	4.5%	+0.1%
1999	4.8%	+0.3%

Source: thebalance.com

Figure 18: Median Household Income in 1993 and 1995-1999

Year	Median Household Income
1993	$30,439
1995	$34,076
1996	$35,492
1997	$37,005
1998	$38,885
1999	$42,000

Source: census.gov

Figure 19: Federal Revenue in 1993 and 1995-1999

Year	Tax Revenue (in millions)
1993	$1,154,335.00
1995	$1,351,790.00
1996	$1,453,053.00
1997	$1,579,232.00
1998	$1,721,728.00
1999	$1,827,452.00

Source: taxfoundation.org

Overall, given all the data on the tax reform act of 1993, all of the indicators trend in the right direction. The GDP rate shrunk less than what was predicted at the passing of the act. The unemployment rate did not make a massive shift, but was still at an overwhelmingly positive rate. The median income and the growth in the federal government revenue reveal that this policy matches the pattern of demand side theory predictions.

The last policy I am discussing in this analysis is the economic growth and tax relief reconciliation act of 2001. This act was a promise by President Bush to lower taxes for all U.S. households, because of projections of a large federal budget surplus. In general, EGTRRA

focused almost exclusively on reducing individual income taxes, without many other supplemental provisions. This act substantially lowered the top four individual income tax rates, reducing the top rate from 39.6% to 35%. For low income households, this act increased the standard deduction, created a new 10% income tax bracket, and expanded the child tax credit and earned income tax credit (Kagan 2020). Given the following provisions, I will outline the predicted results of this act.

Figure 20: Predicted Outcomes of EGTRRA

Provision	**Long-Run Change in GDP**	**Static Change in Annual Revenue (billions of 2001 dollars)**
Increase the AMT exempt amount	-0.01%	-$0.81
Expand the child tax credit and EITC	0.01%	-$20.70
Expand the standard deduction for joint filers	0.05%	-$6.02
Create 10% bracket and lower rates on top four brackets	1.70%	-$102.96
Eliminate phaseout of exemptions and deductions	0.52%	-$30.75

TOTAL	2.27%	-$161.24
Source: Tax Foundation *Taxes and Growth* Model		

Now that I have established the predicted result of the act, I will use the GDP, unemployment, the median household income, and federal revenue to reveal the effectiveness of the tax cuts. I will show data in 2001 and 2003-2004. In 2005 there were another set of tax increases, but I will not go into that policy in this analysis. The numbers will stop in 2004 because of the tax increases that followed in 2005.

Figure 21: GDP in 2001 and 2003-2004

Year	GDP Rate	Change from previous year
2001	1.0%	—
2003	2.8%	+1.8%
2004	3.9%	+1.1%

Source: thebalance.com

Figure 22: Unemployment in 2001 and 2003-2004

Year	Unemployment Rate	Change from previous year
2001	5.7%	—
2003	5.7%	+0.0%
2004	5.4%	-0.3%

Source: thebalance.com

Figure 23: Median Household Income in 2001 and 2003-2004

Year	Median Income
2001	$42,228
2003	$43,318
2004	$44,334

Source: census.gov

Figure 24: Federal Individual Income Revenue in 2001 and 2003-2004

Year	Income Revenue (in millions)
2001	$ 994,339.00
2003	$ 793,699.00
2004	$ 808,959.00

Source: taxfoundation.org

Overall, the tax cuts did what President Bush intended and the GDP did grow as Bush had intended almost exactly as predicted. The increase in income and the stabilization of the unemployment rate does not compensate for the large loss of income revenue. Supply side economics stress a smaller federal government, so the loss of income is not a large deal in the eyes of supply siders. However, compared to the tax cuts by President Clinton in 1993, you do not need to cut taxes to raise income.

All in all, the demand-side economic policies match the pattern of the economic theory more than large tax cuts under supply side theory. President Reagan and his tax cuts in 1981 alarmingly raised the federal deficit, and therefore needed an adjustment. The demand side theory policies like the Earned Income Tax Credit, the Child Tax Credit, and the tax increases help individuals and the well-being of the economy greater than the supply-side policies.

Conclusion

Overall, to answer the question of to what extent supply-side and demand-side theory impact economic growth, it can be seen that both theories play a role in affecting economic indicators. Supply-side economic policy can be seen to grow the GDP and shrink unemployment, but the federal revenue and the federal deficit do not improve greatly. Demand-side economic policies grow federal revenue and increase wages in some cases, especially because of the tax credits, but a balance of both is needed. The answer does not lie in one theory alone because there will be certain indicators that will be severely affected. As we have seen throughout the history of tax policy changes, the policy changes to what the economy needs at the time.

When starting my research I had initially thought that supply-side economics would have a greater impact on economic growth than demand-side economics. Maybe it is because I like keeping more in my paycheck, but what I did not know is the effect tax cuts have on the deficit, and how slightly higher taxes do not have the negative effects many supply-siders argue. Tax policy will change with which President is in office, and will hopefully reflect what the economy needs the most. What I have found is that both theories have influenced policy, and economic indicators are healthier than when only one theory dominates policy.

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