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Effects of Fiscal Policy on Consumer Confidence

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Effects of Fiscal Policy on Consumer Confidence

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Introduction

It has long been debated which type of fiscal policy is most effective in a recession, a tax cut or an increase in government spending. Throughout the history of the United States, many administrations have tried to implement various forms and combinations of tax cuts and spending hikes to jump start the economy. Some were effective, and some were not. In the current era of near-zero interest rates and potential decline in monetary policy effectiveness, fiscal policy will likely become more heavily relied on to combat recessions. Thus a deeper understanding of this critical economic tool is necessary. By determining which type or combination of fiscal policy is most effective, the government can be better equipped when designing fiscal policy in the future. Consumer confidence is one relevant metric for this analysis because it is sensitive to changes in government policy, especially during a recession. Furthermore, consumer confidence indexes are often used to analyze and even predict the state of the economy. Many studies have provided evidence for these conclusions. This thesis intends to address this macro issue on a micro scale by examining the effect of different fiscal policies and fiscal policy combinations on the consumer confidence level of individuals.

Literature Review

Fiscal Policy

Fiscal policy is the government implementation of tax and spending fluctuations to change consumer and business behavior and output. The type of fiscal policy used varies throughout the business cycle. The government may try to curb periods of high inflation by increasing taxes or reducing government spending. The more common and well-known fiscal policy strategy, however, is to cut taxes and increase government spending during periods of recession. This is the aspect of fiscal policy that this thesis focuses on.

There are many studies that provide evidence that fiscal policy does, in fact, have an effect on the economy. Prior research has primarily measured this effect through output. The bigger the change in output as a result of the fiscal policy, the more effective the fiscal policy is said to be. There are also many studies that analyze the different components of a change in spending or taxation and their effectiveness in terms of output. Although analyzing output is important for understanding the relationship between fiscal policy and economic growth, it will later be discussed why focusing on this relationship alone is inadequate and why consumer confidence should be also considered. However, a discussion of the output research is necessary to better understand the aspects of fiscal policy and how the economy is affected.

Taxes

For research pertaining to taxes, output is measured through Gross Domestic Product (GDP). GDP is the value of finished goods and services within a country for a given time period. A prominent study using this method was done by Romer and Romer (2007). They examined tax policy changes throughout post-World War II United States history and the corresponding GDP data for those periods. They ultimately concluded that a 1% increase in taxes resulted in a 3% decrease in output. During times of rapid economic growth, a similar tax hike might be implemented to slow an overheating economy.

In a recession, a tax cut is implemented rather than a tax hike. However, a “tax cut” is a very broad term. There many different types of tax cuts and ways to execute them that could impact the policy’s effectiveness. These factors need to be taken into consideration when designing fiscal policy. Research suggests that a tax cut is most effective when all or most of it is spent by the consumer. This stimulates the economy and increases output. To ensure that the consumer spends the money, tax cuts should be directed at the groups of people with the highest marginal propensity to consume. If a consumer is given a dollar increase in income,

marginal propensity to consume is the percentage of that dollar that will be spent. Tax cuts directed at low-income people are generally more effective because these individuals have the highest marginal propensity to consume (Gravelle, 2009). This is because low-income individuals live on tight budgets. In a recession, they may not be able to afford to fulfill their basic needs. If given a tax cut, they will likely spend the extra money to fulfill these needs. On the other hand, a wealthy person who can fulfill their basic needs regardless of the state of the economy is more likely to save any extra money they are given. Tagkalakis (2007) confirmed this when his research revealed that liquidity restraints played a major role fiscal policy effectiveness. When a larger portion of the population is subject to liquidity restraints, fiscal policy will be more effective. A liquidity restraint is a similar concept to marginal propensity to consume. Consumers facing liquidity restraints have very limited cash available to fulfill their basic needs. Low-income people tend to be the most sensitive to a liquidity restraint. As a result, a tax cut given to low-income individuals will be the most effective.

The execution of the tax cut can impact its efficacy as well. Gravelle (2009) found that tax cuts received in small increments over time are more likely to be spent than a tax cut received once as a lump sum. Feldstein (2009) came to the same conclusion in a similar study. The overall duration of the tax cut is also important in determining its effectiveness. In accordance with permanent income theory, people's consumption patterns reflect not only their current incomes, but their expected future income as well. Therefore a permanent change in income will have a larger effect on consumption than a temporary change. Hall and Mishkin (1980) confirmed these findings. They concluded that consumption responds more strongly to permanent changes in income than temporary changes of the same magnitude. However, a temporary increase in income will still have a positive effect on consumption. Contrarily, Gravelle (2009) found that a temporary tax cut is more effective than a permanent one. He

compares this to how a temporary sale results in a larger response than a permanent decrease in price. The type of the tax cut and its execution are key factors to an effective tax fiscal policy.

Government Spending

The efficacy of government spending can also be measured by output, but a different method is typically used. The effect of government spending on the output of the economy is measured using a fiscal spending multiplier. The fiscal spending multiplier is the ratio of the increase in GDP to the amount of government spending that caused it. Research by Auerbach and Gorodnichenko (2012) showed that there was a significant impact on output as a result of government spending; specifically, Auerbach and Gorodnichenko (2012) found that the average government spending multiplier during a period of recession was between 1 and 1.5. This means that for every dollar spent by the government, up to $1.50 of output was created.

There are qualitative aspects of government spending that need to be considered as well. This includes what the money is actually spent on. Auerbach and Gorodnichenko (2012) determined that defense (military) spending results in a larger immediate increase in output than non-defense spending. Defense spending resulted in a multiplier over 1 which then gradually decreased overtime, while non-defense spending resulted in a multiplier less than 1 which then gradually rose just above 1 before falling again. In the same study, Auerbach and Gorodnichenko (2012) also divided government spending into consumption and investment spending. Government investment spending refers to the purchase of capital goods that will create long-term benefits, such as when the government builds roads and other infrastructure. Consumption spending is when the government purchases goods and services to support entities such as the military, police and fire departments, and public schools. The study found that government investment spending has much stronger multipliers than consumption spending, with the multipliers being about 2 and 0.5, respectively. In addition to the type of

government spending, the duration of the spending increase is important as well. Similar to taxes, Baxter and King (1993) found that a permanent change in government spending had a significantly greater impact on output than a temporary change. The longer the government maintains an increased level of spending, the larger the increase in output. The type and duration of a change in government spending are important factors for its effectiveness.

It is also important to note that fiscal policy, whether it be government spending or tax cuts, is more effective in a recession than during periods of expansion. As seen previously with tax cuts, Tagkalakis (2007) explains that fiscal policy is more effective in a recession because more people are subject to liquidity restraints and therefore more sensitive to tax cuts and government spending increases. Moreover, research by Parker (2011) showed that fiscal policy will only have significant and positive effects on output when slack resources are present in the economy. This implies that high unemployment and other recession characteristics are necessary for fiscal policy to be effective. In the Auerbach and Gorodnichenko (2012) study cited earlier, the average spending multiplier during periods of expansion was only 0 to 0.5 even though it was 1 to 1.5 during periods of recession. This suggests that fiscal policy is the most effective during a recession; therefore this is the phase of the economic cycle that this thesis focuses on.

Keynesian Economic Theory

All of the empirical evidence above seems to support the Keynesian theory of economics. The central idea behind Keynesian theory is that government intervention can affect the economy (Jahan, Mahmud, and Papageorgiou, 2014). In other words, fiscal policy actually works. The government can and should work to stabilize the economy during periods of recession by increasing spending and/or reducing taxes and during periods of expansion by reducing spending and/or increasing taxes. This is necessary because the economy is not

perfectly efficient. Prices and wages are “sticky” or slow to respond to changes in aggregate supply or demand. As a result, shortages or surpluses of labor are created (Blinder, 2008). For example, a decrease in aggregate demand may not immediately result in a decrease in prices and wages. This keeps the supply of labor higher than it should be, resulting in a labor surplus and unemployment. However, because prices and wages are rigid, the government can successfully intervene to stabilize the economy. For instance, an increase in government spending will increase aggregate demand and output, which would return the economy’s equilibrium to its previous price and wage levels.

The preceding studies show that fiscal policy does, in fact, change economic output as Keynesian economists would expect. In general, Keynesian economists would also agree with these studies that fiscal policy is more effective during a recession. The effectiveness of an increase in government spending versus a tax cut, however, is more debatable; the research demonstrates that this is dependent on certain factors of the spending or tax fiscal policy.

Shortcomings

It seems that it would be sufficient to compare studies done on government spending versus studies done on taxes to determine which fiscal policy has the largest impact on output and is therefore the most effective. However, there are many difficulties to this approach. Studies on government spending typically use complex models to determine spending multipliers. Each model is derived using different techniques and assumptions, and therefore they may not be comparable. For studies on taxes, the most common method is to analyze historical output data and draw empirical conclusions, such as in Romer and Romer (2007). This method does not necessarily have external validity that extends to today. As the overall economic and political atmosphere changes, the effectiveness of fiscal policy will change as well. Furthermore, Parker (2011) argues that the business cycle is not always taken into consideration

within these studies, which could skew the results of the data. He also argues that there is an insufficient amount of historical data to draw from because there have been very few deep recessions in United States history. This also threatens the validity of the results.

Besides technical shortcomings, there are theoretical reasons for finding alternative measures to output for analyzing fiscal policy effectiveness. The output approach simply confirms that a relationship between fiscal policy and economic output exists. It does not answer the question how or why this relationship works. In order for the government to make fiscal policy as effective as possible, those are important questions to understand. Consumer confidence may be the link between fiscal policy and output that begins to answer those questions. As the following studies will show, high consumer confidence leads to increased consumer spending, which increases economic output. This is important because consumer spending accounts for 60-70% of GDP for highly industrialized countries, including the United States (Cotsomitis & Kwan, 2006). Therefore analyzing the relationship between fiscal policy and consumer confidence is necessary for determining fiscal policy effectiveness. Having a better understanding of consumer confidence and how it is affected by fiscal policy will improve the government's ability to create effective fiscal policy.

Consumer Confidence

Consumer confidence is a measure of the level of optimism a consumer has towards the present and future state of the economy as well as their personal financial situation. It is an economic indicator used by the government, businesses, and consumers alike to assess consumer perspectives and predict future spending trends. Since it is the economic indicator most closely related to consumer behavior, it is a useful gauge as to why consumers are affected by some fiscal policies more than others.

Consumer confidence is a convenient measurement tool because it can be measured accurately and frequently. Consumer confidence is measured in the United States by two main indexes: the Consumer Confidence Index (CCI) by the Conference Board and the University of Michigan Index of Consumer Sentiment (ICS). Each index is derived from data collected via survey. The surveys of both indexes are five questions long. Two questions pertain to current economic conditions, while the other three involve future economic predictions (Bram and Ludvigson, 1998). Each question is directed at the respondent's personal financial and consumption information and is broad enough so that any person can answer the survey, regardless of his or her knowledge in economics. The questions for each index can be seen in Appendix A. The primary difference in the indexes is sample size. The CCI conducts its survey via mail and has a sample size of about 3,500. In comparison, the ICS conducts its survey via phone and has a sample size of about 500. The final indexes are then calculated using slightly different methods and are released at the end of each month. Although these calculations generally result in different numbers (a change of 1 point in the ICS is about a 2 point change in the CCI), the two indexes have an extremely high level of correlation (Bram and Ludvigson, 1998). The CCI and ICS provide the vehicles through which consumer confidence is measured.

Consumer Confidence and Consumption Spending

Consumer confidence is a powerful metric because not only does it offer insight to consumers' perspective of the current state of the economy, but many researchers believe that it can predict future consumer spending patterns as well. This is because higher consumer confidence results in less saving, which implies a higher marginal propensity to consume (Souleles, 2001). As a result, consumers increase their consumption spending and therefore also increase economic output. As evidence of this claim, a study by Bram and Ludvigson (1998) concluded that consumer confidence not only helps predict consumption, but may also act as a

catalyst for fluctuations in the economy. Fuhrer (1993) found that even though consumer confidence accounts for only about 5% of variance in consumption data for the following month, this predictive ability is still statistically significant and reliable. In a later study, Fuhrer along with Carrol and Wilcox (1994) determined that lagged ICS values alone explained 14% of the variation in personal consumption expenditure growth. Hymans (1970) and Juster and Wachel (1972) narrowed in on consumer durable spending, and found that consumer sentiment significantly improved forecasting models for consumer durable spending, especially automobiles. This is reasonable because consumers are subject to more liquidity restraints during a recession and therefore feel less inclined to spend money on illiquid durable goods. Alternatively, Ludvigson (1998) examined the predictive power of each individual consumer confidence survey question and found that the questions pertaining to the future rather than the past, especially those referring to job availability, were the most predictive of actual consumer consumption. As these studies have shown, consumer confidence not only portrays the state of the economy, but can even predict future consumption changes.

Although the empirical evidence is convincing, Graber (1982) also offers a logical explanation as to why consumer confidence affects spending and output. In some matters such as politics, people may be uninformed or have little desire to form an opinion on the matter if it does not directly affect their lives. Economics is different because people have no choice. They must form opinions on the economy because they have to make important financial decisions. As a result, most people's behavior follows their opinions on economic conditions. To some extent, people's perceptions of the economy may even become a self-fulling prophecy. Graber points out that at least up until her 1982 research, consumer sentiment had foreshadowed every significant change in the economic growth rate by up to six months. This close tie between

consumer opinion and their actual behavior make consumer confidence an essential consideration when creating fiscal policy.

Consumer Confidence and Fiscal Policy

It is evident that fiscal policy has an effect on output, and that consumer confidence can indicate changes in output. Finally, the relationship between fiscal policy and consumer confidence needs to be analyzed. Unfortunately, existing research in this area is relatively limited; this thesis hopes to expand upon the knowledge of the fiscal policy – consumer confidence relationship. The research that has already been done suggests that a relationship between fiscal policy and consumer confidence does exist.

One of the few existing studies is by Konstantinou and Tagkalakis (2011), who investigated whether or not fiscal policy can directly increase consumer confidence. Both tax and government spending fiscal policies were considered. For taxes, Konstantinou and Tagkalakis (2011) analyzed direct versus indirect taxes and their impacts on consumer confidence. A tax is considered direct when it is both imposed upon and collected from the consumer, such as an income tax. A tax is considered indirect when it is imposed upon the consumer but collected by another entity, such as sales tax collected by a store. The study found that an increase in a direct tax cut had a negative and statistically significant effect on consumer confidence, as would be expected. However, the results for an indirect tax increase were insignificant.

For government spending, the study divided government spending into three categories: wage, non-wage, and investment spending. Wage spending refers to the government payroll and the number of people employed by the government. Non-wage spending refers to other forms of government spending, including defense and consumption spending. Investment spending was considered to be when the government purchases capital

goods that will go towards increasing output in the long run. Konstantinou and Tagkalakis (2011) found that non-wage government spending had a large, positive statistically significant effect on consumer confidence, but wage and investment spending had a small, negative statistically significant effect on consumer confidence. This is because wage spending is viewed as increasing the size of the government, which may have long-lasting costs and is not easily reversible. Similarly, many consumers view investment spending as something that will need to be funded by future tax increases. Non-wage spending, on the other hand, may be seen as creating economic growth without increasing the size of government and is more easily reversible.

While the study by Konstantinou and Tagkalakis (2011) was important for establishing the fiscal policy – consumer confidence relationship, more work clearly needs to be done within this area. The study successfully described relationships between government spending, taxes, and consumer confidence, but it was not necessarily trying to compare the two forms of fiscal policy. By reviewing the data provided by the study, one can see that magnitude of the effect of a direct tax increase on consumer confidence was less than that of an increase in non-wage government spending. However, in order to make a direct comparison to determine fiscal policy effectiveness, the study would need to analyze a tax decrease along with a government spending increase. A tax decrease and spending increase have the same expansionary fiscal policy objective, while an increase in both taxes and spending, which was done in the study, does not. It is possible that consumers could react in different magnitudes to a tax decrease versus a tax increase. Therefore this thesis will not only seek to support the relationship between fiscal policy and consumer confidence, but will also directly compare different types of expansionary fiscal policy to determine which is more effective. In addition, the previous study used historical data, so it did not take into account demographic factors. By using a survey, this thesis will also be able to analyze how demographic factors may affect consumer confidence.

Demographic Factors

Finally, it is important to note that some research regarding the effects of demographic factors on consumers has already been done. Jacobsen, Lee, Marquering, and Zhang (2010) found that gender may cause disparity in consumer confidence results. They discovered that men are more optimistic than women in all major economic indicators, even after income, employment, wealth, education, and marital status are controlled for. This optimism also holds true for consumer confidence. According to Dominitz and Manski (2004), March 2000 was the only month since 1978 when women's consumer confidence was higher than that of men on the University of Michigan ICS. Dominitz and Manski (2004) also found other demographic factors of confidence disparity. They determined that younger people are more optimistic than older people, and they found that optimism increases with education level. Race was also analyzed. Asians were the most optimistic, followed by non-Hispanic white, Hispanic, non-Hispanic black, and finally American Indians were the least optimistic. Marital status also had an effect on optimism that was reflected by age; those who were never married tended to be young and the most optimistic, followed by those who were married, those who were divorced, and finally those who were widowed were the least optimistic and also tended to be older. Gender, age, race, and marital status have already been shown to have an effect on consumers. This thesis will go even further to look at other demographic factors, such as political affiliation, hometown, and college major, and how they relate to fiscal policy and consumer confidence.

Methodology

This study was conducted via survey. A survey was chosen in order to better incorporate demographic data, as well as gain a unique perspective by collecting primary data rather than analyzing historical data. Collecting new primary data not only provides insight to the most recent possible consumer confidence opinions, but also brings the analysis down to a more

individual, micro level. The research discussed in the literature review supported Keynesian economic theory through various macro models, but a survey can show whether or not Keynesian theory still holds true for the real, average person who may have a limited understanding of economics.

Subjects

The survey was administered to undergraduate students at Butler University. More specifically, the survey was administered to an email listserv of 400 students in the Butler University Honors Program. These students varied from First Year Students to Seniors and had a variety of majors from all of the University's colleges. The students are from every geographic region in the United States, as well as a few international students; however, the vast majority hail from the Midwest. Both male and female students were surveyed. Based on the demographics of Butler University's undergraduate population, it can be assumed that almost all of the students are aged 18-22 and unmarried.

Ideally, the survey would have liked to use a sample of the general United States adult population as subjects. This would allow for a more accurate representation of consumers in the United States and more meaningful results. A group of university students is obviously not representative of all United States consumers. In addition, more relevant demographics could be collected, such as income level, education level, age, and marital status. There was not enough diversity in the sample of Butler University students to ask these questions. Unfortunately, the limited resources of this thesis did not allow for the collection of data from a nation-wide sample. Using a service that charges a fee in exchange for finding survey respondents in the desired population sample was considered, but it was deemed to be too risky since there is no way to guarantee that the data is valid. It is possible that the individuals taking the survey through such a service are doing so hurriedly and not in good faith to collect

their commission for completing the survey, or that the service is not administering the survey to the people it said it would. There is also the possibility that the service does not adequately prevent robots from randomly completing surveys to collect commission. It was ultimately decided that administering the survey to Butler University students in a relatively controlled setting would be the safest alternative.

Survey

The survey began with a brief explanation of its purpose ("to collect data for a senior honors thesis") and a reiteration that participation was anonymous, optional, and voluntary in accordance with the Institutional Research Board (IRB). The survey first asked respondents to answer general demographic questions, including gender, year in college, college of primary major, geographic region of the United States (hometown), political affiliation, and whether or not the respondent has taken an economics course in either high school or college. The respondent was given options to choose from for each question. The purpose of the last question regarding an economics course was not to provide any explanatory value, but rather to better control the data in case respondents without a basic understanding of economics were unable to rationally answer the following survey questions. If the data collected from respondents that said they had never taken an economics course was clearly inconsistent or outlying, then it would be removed from the data set.

Next the survey asked the respondent to read a hypothetical recession scenario. The scenario was as follows:

> The unemployment rate in your hometown has recently increased from 5% to 8%. Economic growth in your hometown has recently decreased from 6% to 1%. Your family's total annual personal income has recently decreased by 6%. The federal government has decided to implement a fiscal policy during the next six months.

The percentages used were calculated by finding the average percentage change of unemployment, economic growth, and personal income during each recession period in the United States from 1970 onwards. The data used to make the calculations was accessed from the Federal Reserve Economic Data (FRED) provided by the St. Louis Federal Reserve. Percentages were used instead of dollar amounts so that each respondent could better perceive the economic change relative to their hometown. Hometown was used instead of current town in order to gain more diverse data. If current town was used, then it is likely that most of the respondents would have assumed the town was Indianapolis, Indiana, where Butler University is located. The wording "family's total personal income" instead of simply "personal income" was used because many college students do not have jobs or significant incomes; the incomes of their parents or other family members may be more relevant to consider in a recession. Six months was chosen as the time period during which the government would implement a fiscal policy because the government realistically needs some time to pass and execute a change in fiscal policy. However, the time period could not extend too far into the future in order to be able to measure consumer confidence as a direct result of the fiscal policy change.

Once the respondents read the recession scenario, the independent variable was introduced in the form of a hypothetical fiscal policy scenario. The respondents were presented with one of six fiscal policy scenarios distributed at random. The six potential scenarios a respondent could have received are:

1. The federal government will do nothing.
2. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 10% each for a year based on the current budget.
3. The federal government will decrease personal income taxes across the board by 10% for a year.

4. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 5% each for a year based on the current budget and will decrease personal income taxes across the board by 5% for a year.
5. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 7.5% each for a year based on the current budget and will decrease personal income taxes across the board by 2.5% for a year.
6. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 2.5% each for a year and will decrease personal income taxes across the board by 7.5% for a year.

The first scenario in which the federal government does nothing serves as the control group. The other five scenarios consisted of a tax cut, government spending increase, or combination of the two. 10% was chosen as the amount of the fiscal policy change because that was the calculated average increase in government spending during recession periods in the United States from 1970 onwards, based on the St. Louis FRED. A year was chosen as the duration for the fiscal policy because that was a realistic time frame for the government to begin implementing the policy and for consumers to begin seeing its effects. Again, the time frame could not be too long in order to measure consumer confidence as a direct result of the fiscal policy change. Furthermore, based on the research previously discussed, long-term taxes were generally more effective than short-term taxes, although this was not true all the time. Therefore one year, which lies right on the border between long-term and short-term, seemed to be a reasonable time frame to choose. For taxes, the wording “personal income taxes across the board” was also used because that was the most direct tax that could apply to the most people. As the research in the literature review showed, direct tax cuts were the most effective. For government spending, the wording “defense, roads and bridges, and unemployment insurance” were used in order to incorporate non-wage spending in the forms of defense,

investment, and consumption. These were the types of government spending determined to have the largest multipliers based on the previously discussed studies. Saying “roads and bridges, and unemployment insurance” instead of “investment and consumption” also made the types of government spending easier for someone without sufficient knowledge of economics to understand.

Finally, the survey concluded by collecting data on the dependent variable, consumer confidence. This was measured through six questions pertaining to consumer confidence, which were taken directly from the CCI and then modified to fit the needs of this study. The questions were taken from one of the consumer confidence indexes itself because that is the general standard of measuring consumer confidence. The CCI was chosen over the University of Michigan CSI because the questions are more direct and it is more well-known. The questions used in the survey were:

1. Six months from now, do you think economic conditions in your hometown will be (Better/The same/Worse)?
2. Six months from now, do you think there will be (More/The same/Fewer) jobs available in your hometown?
3. How would you estimate your family’s total personal income to be six months from now? (Higher/Same/Lower)
4. One year from now, do you think economic conditions in your hometown will be
(Better/The same/Worse)?
5. One year from now, do you think there will be (More/The same/Fewer) jobs available in your hometown?
6. How would you estimate your family’s total personal income to be one year from now? (Higher/Same/Lower)

Each question was asked in the context of six months and one year to be consistent with the wording used in the recession and fiscal policy scenarios. It also allows for a relatively short-term measure of consumer confidence just after the fiscal policy has been implemented and for

a relatively long-term measure of consumer confidence once the effects of the fiscal policy begin to come to fruition. The wording “family’s total personal income” and “hometown” were also used for consistency with the recession scenario. A full version of the survey can be found in Appendix B.

Data Collection

As previously explained, the survey was administered through a listserv of 400 Butler University Honors Program students. Since there were six versions of the survey (one for each fiscal policy scenario) that needed to be distributed randomly and evenly among the 400 emails, the emails from the listserv were imported into Excel, randomized, and then divided into six equal groups. Each group was then emailed one version of the survey. The email reiterated the purpose of the survey, explained why the listserv was divided into groups (due to the difficult nature of administering six different survey versions), and again emphasized that participation was anonymous, optional, voluntary, and approved by the IRB. It also noted that respondents would be given one week to fill out the survey. Finally the email provided a link to the group’s corresponding version of the survey. The link led to Survey Monkey, which was used to write the survey and collect data.

Before the survey email was sent out, the Director of the Honors Program first emailed the listserv to notify the students that they would be receiving the survey email later that day and encouraged them to take it. A few hours later, each group was sent their email with the corresponding survey link. After five days, a reminder email to each group with the same link was sent to encourage students to respond within the next two days if they had not already done so. After seven days, the data collection period ended and the data from each version of the survey was exported from Survey Monkey to Excel. Out of 400 students on the Honors Program listserv, 286 responded. The number of responses for each version of the survey varied

from 44 to 48. Unfortunately, there were some respondents who answered the demographic questions at the beginning of the survey and then chose not to respond to the consumer confidence questions. There were 34 such incidents. The number of respondents who did not complete the consumer confidence questions at the end of the survey varied across each scenario from three to nine.

Once the data was exported into Excel, an overall consumer confidence score for each respondent was calculated. Each response option of the six consumer confidence questions at the end of the survey was given a numeric value. The options “Better”, “More”, and “Higher” were allotted a value of three, the options “The same” or “Same” were allotted a value of two, and the options “Worse”, “Fewer”, and “Lower” were allotted a value of one. The values of one, two, and three were held constant across all six consumer confidence questions; there was no clear reason to weight certain questions over others. The response values for the six questions were then simply added together to determine the consumer confidence score for each respondent. Scores ranged from six to eighteen. A score obviously could not be calculated for those who did not answer the consumer confidence questions. Therefore a total of 252 scores were calculated.

Hypotheses

The first objective of this thesis is to simply determine if there is evidence of the central concept of Keynesian economic theory: government intervention in the form of fiscal policy can influence the economy. This has already been demonstrated in many studies using macro models, but the survey results will determine whether or not this still holds true for the average individual consumer who may have a limited understanding of economics. For this to be true, there would need to be a statistically significant difference in the consumer confidence scores of the fiscal policy scenarios where the government takes fiscal policy action versus the scenario

where the government does nothing. Based on the evidence provided in the literature review, it is expected that this will occur. Therefore,

> H1: If the government implements a change in fiscal policy, then consumer confidence will be significantly affected.

The second objective of this thesis is to determine which type of fiscal policy, an increase in government spending, a decrease in taxes, or some combination of the two, will result in the highest level of consumer confidence. As seen in the existing research, both taxes and government spending can influence consumer confidence, albeit in different ways. Therefore it is most likely that some combination of the two will result in the highest level of consumer confidence. In addition, the research seems to show that government spending has a slightly larger magnitude of effect than taxes. As a result,

> H2: If the government in the recession scenario implements fiscal policy scenario 5 (The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 7.5% each for a year based on the current budget and will decrease personal income taxes across the board by 2.5% for a year.), then consumer confidence will be the highest in comparison to the other scenarios.

Finally, this thesis seeks to determine how demographic factors influence consumer confidence. The literature review discussed how some demographic factors, such as age, education, gender, race, and marital status may affect optimism and consumer confidence, but research showing how demographics pertaining specifically to college students may affect consumer confidence is uncharted territory. Therefore not enough information is available to make educated hypotheses for each of the demographic factors that the survey collected data for. For example, there is no way of knowing which college of primary major will have the highest level of consumer confidence. Hopefully the results of this thesis will be able to shed

some light on if and to what extent these demographic factors contribute to consumer confidence.

Data Analysis

First the data had to be evaluated for biases between those respondents who did and did not complete the consumer confidence questions. This was to ensure that there was not an inherent demographical difference between the two groups that could affect the outcome of the data. In order to analyze the consumer confidence scores, the group of incomplete responses would necessarily have to be removed from the data set. If there was a difference in demographics between the two groups, then the following data analysis on the consumer confidence scores would be skewed in terms of this difference.

The data was evaluated for such biases by performing t-tests on each of the demographic factors comparing the means of those who did and did not complete the consumer confidence questions. First an f-test was performed to determine whether the two groups had equal or unequal variances. If the variances were equal, then only the Excel t-test assuming equal variances was used. If the variances were unequal, then both the Excel t-test assuming equal variances and the t-test assuming unequal variances were used. This guaranteed that any differences in the t-tests as a result of unequal variances would be accounted for. The complete f-tests and t-tests can be found in Appendix C. It was ultimately determined that there were no statistically significant differences in the means amongst any of the demographic factors between those who did and did not complete the consumer confidence questions. There was, however, a statistically significant difference in the means for the question of whether or not the respondent had taken an economics course in either high school or college. Those who completed the consumer confidence questions were more likely to have taken an economics course than those who did not complete the consumer confidence questions. This makes

intuitive sense; people who have less understanding of economics may feel less inclined to complete a survey focused on the subject. As a result, the data was biased only in the sense that those who received a consumer confidence score were more likely to have taken an economics course. Since none of the demographic variables themselves were biased and there did not seem to be any outliers amongst those who have or have not taken an economics course, no adjustments were made before proceeding onto the next stages of data analysis.

Besides having taken an economics course, the average respondent who received a consumer confidence score was most likely to be a female Junior Liberal Arts major from the Midwest who identifies politically as a Republican. These were the modes for each demographic variable. The average respondent who did not complete the consumer confidence questions differed by identifying as a Democrat; however, this difference was not statistically significant. The average respondent for the two groups combined matched that of the average respondent who received a consumer confidence score. The modes for each demographic variable across the three groups of respondents can be seen in Appendix D.

The data analysis that yielded the primary results of this thesis was twofold. First, a single factor ANOVA followed by additional t-tests were done between the six fiscal policy scenarios to determine if there were statistically significant differences between each scenario's average consumer confidence score. This offered insight as to what extent the scores of the six scenarios differed by and validated which scenarios had the highest and lowest consumer confidence scores. Second, an ordinary least squares (OLS) regression using all of the demographic factors and fiscal policy scenarios as cross-sectional variables was executed in SAS to evaluate the causality of the consumer confidence scores. The regression showed to what extent each demographic factor and fiscal policy scenario contributed to the consumer confidence scores.

Results

ANOVA and t-tests

The single factor ANOVA between the mean scores of the six fiscal policy scenarios (Appendix E) conveyed that there was a statistically significant difference between at least two of the scenarios' means. In order to determine which scenarios this applied to, additional t-tests had to be performed between every scenario. Just as in the previous analysis for bias, an f-test was performed first to distinguish between equal and unequal variances. Then the appropriate Excel t-test assuming equal or unequal variances was applied. The complete f-tests and t-tests tests can be seen in Appendix F. For the first scenario, where the federal government takes no fiscal policy action, the average consumer confidence score was 9.61 out of 18 possible points. This was the lowest average score of the six scenarios. There was also a statistically significant difference between the first scenario and all of the other scenarios. The second scenario, in which the government increases spending by 10%, had an average consumer confidence score of 11.63. This also varied in a statistically significant manner from all of the other scenarios. The consumer confidence score of the third scenario, where the government decreased taxes by 10%, was 13.45. This was statistically significantly different from scenarios one and two only. Scenario four, which involved a 5% spending increase and 5% tax decrease had an average consumer confidence score of 14.02. This was the highest average score of the six scenarios. This scenario also differed in a statistically significant manner with scenarios one and two only. The average consumer confidence score of the fifth scenario, where the government increases spending by 7.5% and decreases taxes by 2.5%, was 13.66. Again there was a statistically significant difference between this scenario and scenarios one and two only. Finally, scenario six, in which the government increases spending by 2.5% and decreases taxes by 7.5%, had an

average consumer confidence score of 13.72. This scenario only differed in a statistically significant manner from scenarios one and two as well. Appendix G summarizes these results.

Implications

At the most basic level, these results show that some form of federal government fiscal policy action during a recession will lead to greater levels of consumer confidence than if the government does nothing. The first scenario of government inaction had the lowest average consumer confidence score, and the differences between this average and those of all the other scenarios were statistically significant. This affirms the first hypothesis; government intervention can change consumer confidence and therefore the economy. As a result, the Keynesian economic theory as discussed in the literature review is upheld even for the average consumer.

Another conclusion from these results is that incorporating a decrease in personal income taxes into a fiscal policy plan leads to higher consumer confidence than a fiscal policy plan without it. All of the fiscal policy scenarios involving a tax decrease (scenarios three through six) had higher average consumer confidence scores than the scenarios without a tax decrease (scenarios one and two). The differences between the scenarios without a tax decrease and the scenarios with a tax decrease were all statistically significant. Moreover, the magnitude of the tax decrease does not seem to make much of a difference; none of the mean consumer confidence scores for the scenarios involving tax decreases were statistically significantly different from each other. The results therefore show that as long as a tax cut is incorporated into the fiscal policy plan to some extent, consumer confidence will rise significantly.

Additionally, all of the scenarios including a tax decrease that also included a government spending increase had a higher average consumer confidence score than the scenario with a tax decrease only. In fact, the scenario with the highest average consumer confidence score was evenly split between a decrease in taxes and an increase in spending. This

negates the second hypothesis, which proposed that scenario five (7.5% spending increase and 2.5% tax decrease) would have the highest level of consumer confidence. This also seems to contradict the Konstatntinou and Tagkalakis (2011) study showing changes in government spending to have a greater effect on consumer confidence than taxes. Nevertheless, this is a relatively weak inference to make since the differences between the means of the tax decrease only scenario and the tax decrease – spending increase combination scenarios were not statistically significant.

Although these results are encouraging for proponents of fiscal policy, they are still incomplete at this point. The t-tests allow for comparing the scenarios by analyzing the means, but they do not imply the causation of these means. It could be that other variables, such as the demographic factors, are heavily contributing to the consumer confidence scores. A regression comparing these variables with the different scenarios is therefore necessary to determine whether consumer confidence is actually affected by the government's fiscal policy actions or something else.

OLS Regression

A regression was created and executed in SAS to delineate the contribution that the fiscal policy scenarios and demographic factors each make to consumer confidence. The regression was a basic ordinary least squares model, and the variables were arranged as cross sectional data using zero and one to indicate the presence of a scenario or demographic factor. For the six scenarios and each set of cross-sectional demographic factors with more than two options, one element had to be removed as a basis for comparison. The first scenario was removed from the six because that is the scenario in which the government takes no action; thus it functions as a control group. The College of Business was removed from College of Primary Major because business students at Butler University are required to take three

economics courses and therefore may not have as much variance in their responses. In the first regression that was created, International was removed from Geographic Region of the United States and Other was removed from Political Affiliation. However, the results of the original regression hinted that there could be multicollinearity between these two factors. The statistical significance of the Geographic Region of the United States variables were strong while the statistical significance of the Political Affiliation variables were weak. It would make sense that there would be multicollinearity between these two factors because people in the South and Midwest tend to identify as Republicans, and people in the Northeast and West may more frequently identify as Democrats. Furthermore, since only a few respondents identified as International and Other, it was decided that it would be best to simply remove those two categories from the data set altogether. Midwest was then removed for comparison from Geographic Region of the United States in place of International because most students at Butler University are from the Midwest. Independent was removed for comparison in place of Other for Political Affiliation to better compare the two main political parties, Democrat and Republican. Correlation coefficients between the six scenarios, the Geographic Region of the United States variables, and the Political Affiliation variables were then calculated to ensure that multicollinearity was no longer a problem (Appendix H). None of the correlation metrics indicated high levels of correlation between any of those variables.

The complete results of the regression are located in Appendix I; additional descriptive statistics for each variable in the regression are located in Appendix J. The results of the regression showed that only one of the demographic variables, the South Geographic Region of the United States, played a statistically significant role in determining the consumer confidence scores. This would imply that people from the South may be more optimistic; being from the South added about 2.11 points onto a person's consumer confidence. However, this is only

slightly statistically significant. The p-value was 0.0493, just slightly less than 0.05. In comparison, each of the five scenarios represented in the regression were very statistically significant. The largest p-value of 0.0140 was for scenario two, which only contributed about 0.83 points to a person's consumer confidence. The other scenarios had p-values of less than 0.0001. Scenario three contributed about 3.64 points to a person's consumer confidence, scenario four contributed 4.19 points, scenario five contributed 3.81 points, and scenario six contributed 4.00 points. Scenario four, the scenario with the highest average consumer confidence score, contributed the most to consumer confidence out of any other scenario. This reinforces the conclusions from the t-tests regarding the second hypothesis. It is scenario four, not scenario five, that has the highest overall level of consumer confidence.

The fact that the scenarios are so statistically significant while the demographic factors are not is an important result of this regression. It implies that the fiscal policy actions of the government and not the individual demographics of the person determine consumer confidence. This affirms the first hypothesis and upholds Keynesian economic theory. On the other hand, it is also important to note that the R-squared value is only 0.2782. This means that only about 28% of the consumer confidence score can be explained by the variables in the regression. Although this seems deterring, it is actually not unusually low for a cross-sectional data analysis. There are myriad other factors that could contribute to a person's consumer confidence at a specific point in time that cannot be easily measured within the survey or regression model. For example, the mood the person is in while they take the survey could affect their optimism and consumer confidence. Regardless, the two main conclusions from this thesis are valuable steps forward in the research on fiscal policy and consumer confidence: fiscal policy does in fact increase consumer confidence levels, and a tax decrease combined with a government spending increase leads to the highest level of consumer confidence.

Limitations

The most prominent limitation of this thesis is the narrow scope of survey respondents. A sample of undergraduate Honors students from one small Midwestern university is not an accurate sample of United States consumers as a whole. The data is uncontrollably biased towards the demographics of these students. In addition, data on many demographic factors that could contribute to consumer confidence could not be collected because they would not have enough variance among undergrad college students. For example, education level, income level, and marital status would likely be similar for most of the students surveyed. Therefore there were many relevant variables that could have partially explained the consumer confidence scores in addition to the scenarios and being from the South that were not accounted for in the OLS regression. Nevertheless, the statistical significance of the thesis results still renders the results valuable.

Other factors that could have affected the results include the current state of the economy. To keep the survey simple, clear, and easy to apply to the respondent's own life, no economic data was given beyond what was provided in the recession scenario. While the respondent was asked to envision the recession scenario described, it is possible that the respondent was still biased by the present economic and political conditions. If the survey was re-administered during a different phase of the economic cycle or election cycle, the results may have been different. For instance, consumer confidence scores may have been lower if the survey was administered during an actual recession or higher if the survey was administered after the presidential election when political uncertainty would be lower.

As in any survey, there is always the risk that the wording of the survey will be unclear to the respondents. Although great amounts of detail and scrutiny went into the design of the survey, there is still the possibility that the people actually taking the survey found something

confusing or interpreted the language in a way that was not intended. Perhaps some of the 34 people who did not complete the consumer confidence questions chose not to because the questions were unclear or they did not understand the recession or fiscal policy scenarios. However, this is just speculation and there are myriad possibilities as to why people chose not to participate.

A final limitation of this thesis is the multicollinearity issue that was discussed in the data analysis. The problem was alleviated in the most reasonable way given the situation, but the results could have been different if the Political Affiliation or Geographic Region of the United States categories were removed altogether. For example, South, which was only slightly statistically significant, may not have been statistically significant at all if Political Affiliation was removed. In addition, it is likely that the six scenarios themselves captured at least some of the Political Affiliation data. Republicans, for instance, may respond with higher consumer confidence towards a tax decrease and with lower consumer confidence towards a government spending increase. The opposite would be true for Democrats. On the other hand, as previously noted, correlation coefficients were calculated for each variable in the regression and none indicated any further multicollinearity problems.

Opportunities for Further Research

The first step to expand upon this research would be to extend the sample from university students to the general United States adult population. As previously explained, this would provide more meaningful results for United States consumers as a whole. Other relevant demographic factors, such as age, income, and education level, could also be analyzed. The sample size could also be dramatically increased, which would yield more solid results.

Another interesting area for further research would be to replicate the method used in this study to analyze the effects of monetary policy on consumer confidence. There is already an

extensive amount of research pertaining to monetary policy, but there is probably little research on the relationship between monetary policy and consumer confidence. Monetary policy is often less well-known and understood by the average consumer in comparison to fiscal policy, so it would be interesting to see if monetary policy can significantly influence consumer confidence and have Keynesian effects. If so, how does its impact compare to that of fiscal policy? A comparison of the effects of fiscal policy and monetary policy on consumer confidence would be pragmatic for designing future economic policy, especially today. Given the current near-zero interest rate environment, there are some who believe that monetary policy may no longer be as effective in influencing the economy because there is limited room to lower interest rates (Bernanke, Reinhart, and Sack, 2004). Research comparing the effectiveness of fiscal policy versus monetary policy as it pertains to consumer confidence may be valuable in persuading the government to either take a stronger fiscal policy approach or reform the current monetary policy situation.

Finally, this study could be altered to include government debt levels and financing methods, such as borrowing from other governments or future tax increases, for the fiscal policy change. Keynesian theory would argue that the government's debt is not important because as Keynes famously said, "In the long run we are all dead" (Jahan, Mahmud, and Papageorgiou, 2014). In reality, however, many consumers are concerned about government debt and take it into consideration when a change in fiscal policy is announced. Perotti (1999) found that an increase in government spending had Keynesian effects, or increased economic output, at low levels of debt and non-Keynesian effects at high levels of debt. Perotti explained that these results are likely because consumers are concerned about the fiscal responsibility of their government and whether or not they will have to bear the costs of high government debt in the future. Tanner (1979) came to similar conclusions for taxes; a decrease in taxes had little effect

on aggregated demand if consumers perceived that high levels of government debt would result in higher taxes in the future. Including debt and financing methods was considered for this thesis, but the number of independent variables would have increased exponentially if various government debt levels or financing methods were included for each fiscal policy scenario. This was determined to be beyond the scope of this thesis and therefore was not included, but it is a topic for future consideration.

Conclusion

As one of the federal government's main economic tools during a recession, fiscal policy is a crucial area for further research. This is especially true today in the wake of the 2008 Financial Crisis and the near-zero interest rate environment. As Keynesian economic theory suggests, fiscal policy can alter the overall direction of the economy. This has already been seen in the extensive research done on the relationship between fiscal policy and GDP. Within this overarching relationship, however, there are other sub-relationships that can help explain why this occurs. In general, an effective fiscal policy plan will increase consumer confidence, which will increase consumer spending, and finally in turn increase GDP. Much research has already been done on the elements of this relationship chain, but the key link between fiscal policy and consumer confidence is still missing. Little research has been done in this area even though it can help explain why certain fiscal policy strategies are more effective than others. This thesis not only validated this relationship between fiscal policy and consumer confidence, but also more specifically determined that a tax decrease combined with a government spending increase is the fiscal policy plan that increases consumer confidence the most. In addition, this thesis found that many demographic factors do not significantly contribute to consumer confidence, which further solidifies the causal relationship between fiscal policy and consumer

confidence. The relationship between fiscal policy and consumer confidence will be a research area of increasing importance into the future.

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Appendix A

Conference Board Consumer Confidence Index Questions:

1. How would you rate present general business conditions in your area? (good/normal/bad)
2. What would you say about available jobs in your area right now? (plentiful/not so many/hard to get)
3. Six months from now, do you think business conditions in your area will be (better/the same/worse)?
4. Six months from now, do you think there will be (more/same/fewer/) jobs available in your area?
5. How would you guess your total family income to be six months from now? (higher/same/lower)

University of Michigan Consumer Sentiment Index Questions:

1. Do you think now is a good or bad time for people to buy major household items? (good time to buy/uncertain, depends/bad time to buy)
2. Would you say that you (and your family living there) are better off or worse off financially than you were a year ago? (better/same/worse)
3. Now turning to business conditions in the country as a whole – do you think that during the next twelve months we'll have good times financially or bad times or what? (good times/uncertain/bad times)
4. Looking ahead, which would you say is more likely – that in the country as a whole we'll have continuous good times during the next five years or so or that we'll have periods of widespread unemployment or depression, or what? (good times/uncertain/bad times)
5. Now looking ahead – do you think that a year from now, you (and your family living there) will be better off financially, or worse off, or just about the same as now? (better/same/worse)

Source: Bram, J., & Ludvigson, S. (1998). Does Consumer Confidence Forecast Household Expenditure? *FRBNY Economic Policy Review, June,* 61, Box A.

Appendix B

Example of Survey:

Fiscal Policy Survey

The purpose of this survey is to collect data for a college senior research thesis. Your individual response will be anonymous. Your participation is optional and voluntary.

Demographic Information:

Please circle the response that best describes you.

Gender: Male, Female

Year in College: First Year Student, Sophomore, Junior, Senior

College of Primary Major: Liberal Arts and Sciences, Business, Pharmacy and Health Sciences, Fine Arts, Communication, Education

Geographic Region of the United States (Hometown): Northeast, South, Midwest, West, International

Political Affiliation: Republican, Democrat, Independent, Other

Have you taken an economics course in high school or college? Yes, No

Recession Scenario:

Please read the following scenario.

The unemployment rate in your hometown has recently increased from 5% to 8%. Economic growth in your hometown has recently decreased from 6% to 1%. Your family's total annual personal income has recently decreased by 6%. The federal government has decided to implement a fiscal policy during the next six months.

Fiscal Policy Scenario:

The federal government has decided to implement the following fiscal policy during the next six months.
Each respondent will be presented with only one of the following scenarios. The scenarios will be randomly distributed.

1. The federal government will do nothing.
2. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 10% each for a year based on the current budget.
3. The federal government will decrease personal income taxes across the board by 10% for a year.
4. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 5% each for a year based on the current budget and will decrease personal income taxes across the board by 5% for a year.
5. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 7.5% each for a year based on the current budget and will decrease personal income taxes across the board by 2.5% for a year.
6. The federal government will increase spending on defense, roads and bridges, and unemployment insurance by 2.5% each for a year and will decrease personal income taxes across the board by 7.5% for a year.

Consumer Confidence

Please circle your response to the following questions.

1. Six months from now, do you think economic conditions in your hometown will be (Better/The same/Worse)?
2. Six months from now, do you think there will be (More/The same/Fewer) jobs available in your hometown?
3. How would you estimate your family's total personal income to be six months from now? (Higher/Same/Lower)
4. One year from now, do you think economic conditions in your hometown will be (Better/The same/Worse)?
5. One year from now, do you think there will be (More/The same/Fewer) jobs available in your hometown?
6. How would you estimate your family's total personal income to be one year from now? (Higher/Same/Lower)

Thank you for participating in this survey.

Appendix C

Analysis for Demographic Variable Bias:

Demographic Variable	**F-test Result**	**t-test Equal Variance Result**	**t-test Unequal Variance Result**
Gender	Unequal Variances	Not Statistically Significant	Not Statistically Significant
Year in College	Unequal Variances	Not Statistically Significant	Not Statistically Significant
College of Primary Major	Unequal Variances	Not Statistically Significant	Not Statistically Significant
Geographic Region of the United States	Unequal Variances	Statistically Significant in One-tail Test Only	Not Statistically Significant
Political Affiliation	Equal Variances	Not Statistically Significant	
Economics Course in High School or College	Unequal Variances	Statistically Significant	Statistically Significant

Appendix D

Modes of Demographic Variables:

Data Group	Gender	College of Major	Geographic Region of the US	Political Affiliation	Taken an Economics Course
Respondent who Received Consumer Confidence Score	Female	Liberal Arts and Sciences	Midwest	Republican	Yes
Respondent who did not Complete Consumer Confidence Questions	Female	Liberal Arts and Sciences	Midwest	Democrat	No
All Respondents	Female	Liberal Arts and Sciences	Midwest	Republican	Yes

Appendix E

ANOVA of the Fiscal Policy Scenarios:

ANOVA	**F:** 14.28911	**F Critical:** 2.251492	**P-Value:** 2.98E-12

Fiscal Policy Scenario	Average	Variance
1	9.609756	11.4439
2	11.62791	10.04873
3	13.45238	5.570848
4	14.02439	9.42439
5	13.65789	6.177098
6	13.7381	8.929733

Appendix F

Fiscal Policy Scenario F-test and t-test Results:

Fiscal Policy Scenario Comparison	F-test Result	t-test Equal Variance Result	t-test Unequal Result
1 vs. 2	Equal Variance	Statistically Significant	
1 vs. 3	Unequal Variance	Statistically Significant	Statistically Significant
1 vs. 4	Equal Variance	Statistically Significant	
1 vs. 5	Unequal Variance	Statistically Significant	Statistically Significant
1 vs. 6	Equal Variance	Statistically Significant	
2 vs. 3	Unequal Variance	Statistically Significant	Statistically Significant
2 vs. 4	Equal Variance	Statistically Significant	
2 vs. 5	Equal Variance	Statistically Significant	
2 vs. 6	Equal Variance	Statistically Significant	
3 vs. 4	Equal Variance	Not Statistically Significant	
3 vs. 5	Unequal Variance	Not Statistically Significant	Not Statistically Significant
3 vs. 6	Unequal Variance	Not Statistically Significant	Not Statistically Significant
4 vs. 5	Equal Variance	Not Statistically Significant	
4 vs. 6	Equal Variance	Not Statistically Significant	
5 vs. 6	Unequal Variance	Not Statistically Significant	Not Statistically Significant

Appendix G

Summary of the Means of the Fiscal Policy Scenarios:

Fiscal Policy Scenario	Mean Consumer Confidence Score
1	9.60976
2	11.6279
3	13.4524
4	14.0244
5	13.6579
6	13.7381

Is there a statistically significant difference between the scenario means?

Fiscal Policy Scenario	1	2	3	4	5	6
1		Yes	Yes	Yes	Yes	Yes
2	Yes		Yes	Yes	Yes	Yes
3	Yes	Yes		No	No	No
4	Yes	Yes	No		No	No
5	Yes	Yes	No	No		No
6	Yes	Yes	No	No	No	

Appendix H

Correlations of the Fiscal Policy Scenarios, Political Affiliation, and Geographic Region of the United States:

Correlations	Geographic Region			Political Affiliation		Fiscal Policy Scenario				
	North	South	West	Rep.	Dem.	2	3	4	5	6
North	1	-0.047	-0.035	-0.057	0.056	-0.065	-0.064	0.105	-0.021	0.060
South	-0.047	1	-0.029	-0.046	0.081	-0.042	-0.041	0.007	0.106	-0.091
West	-0.035	-0.029	1	-0.066	0.045	0.063	0.065	-0.066	-0.066	-0.001
Rep.	-0.057	-0.046	-0.066	1	-0.582	0.049	0.057	-0.060	-0.099	0.107
Dem.	0.056	0.081	0.045	-0.582	1	0.041	-0.011	0.008	0.028	-0.097
2	-0.065	-0.042	0.063	0.049	0.041	1	-0.203	-0.203	-0.203	-0.206
3	-0.064	-0.041	0.065	0.057	-0.011	-0.203	1	-0.200	-0.200	-0.203
4	0.105	0.007	-0.066	-0.060	0.008	-0.203	-0.200	1	-0.200	-0.203
5	-0.021	0.106	-0.066	-0.099	0.028	-0.203	-0.200	-0.200	1	-0.203
6	0.060	-0.091	-0.001	0.107	-0.097	-0.206	-0.203	-0.203	-0.203	1

Appendix I

OLS Regression Results:

Dependent Variable Mean	12.67206
Coefficient Variance	23.05423
R-Squared	0.2783
Adjusted R-Squared	0.2214

Variable	Parameter Estimate	Standard Error	t-Value	P-Value
Intercept	9.89288	0.90528	10.93	<.0001
Gender	-0.6809	0.44394	-1.53	0.1265
Year in College	0.00416	0.17893	0.02	0.9815
College of Liberal Arts and Sciences	-0.20404	0.60626	-0.34	0.7368
College of Pharmacy and Health Sciences	-0.33688	0.66798	-0.5	0.6145
Jordan College of the Arts	0.13301	0.92202	0.14	0.8854
College of Communication	-0.37707	0.87345	-0.43	0.6664
College of Education	1.30976	0.98037	1.34	0.1829
Northeast	0.87181	0.94037	0.93	0.3549
South	2.11875	1.07198	1.98	0.0493
West	-1.24337	1.52627	-0.81	0.4161
Republican	0.85552	0.49854	1.72	0.0875
Democrat	0.39699	0.5081	0.78	0.4354
Economics Course	-0.29989	0.47282	-0.63	0.5265
Scenario 2	0.83139	0.33571	2.48	0.014
Scenario 3	3.63628	0.65884	5.52	<.0001
Scenario 4	4.18645	0.66383	6.31	<.0001
Scenario 5	3.80609	0.68202	5.58	<.0001
Scenario 6	3.99534	0.6538	6.11	<.0001

Appendix J

Descriptive Statistics for Gender:

Key: Male = 0, Female = 1

Mean	0.711744
Mode	1.000000
Standard Deviation	0.45376
Variance	0.20590

Year in School:

Key: First Year = 1, Sophomore = 2, Junior = 3, Senior = 4

Mean	2.523132
Mode	3.000000
Standard Deviation	1.07587
Variance	1.15750

College of Primary Major (Liberal Arts and Sciences):

Key: Not College of Liberal Arts = 0, College of Liberal Arts = 1

Mean	0.412811
Mode	0.000000
Standard Deviation	0.49322
Variance	0.24326

College of Primary Major (Pharmacy and Health Sciences):

Key: Not College of Pharmacy and Health Sciences = 0, College of Pharmacy and Health Sciences = 1

Mean	0.224199
Mode	0.000000
Standard Deviation	0.41780
Variance	0.17456

College of Primary Major (Fine Arts):

Key: Not College of Fine Arts = 0, College of Fine Arts = 1

Mean	0.081851
Mode	0.000000
Standard Deviation	0.27463
Variance	0.07542

College of Primary Major (Communication):

Key: Not College of Communication = 0, College of Communication = 1

Mean	0.096085
Mode	0.000000
Standard Deviation	0.29523
Variance	0.08716

College of Primary Major (Education):

Key: Not College of Education = 0, College of Education = 1

Mean	0.049822
Mode	0.000000
Standard Deviation	0.21797
Variance	0.04751

Geographic Region of the United States (Northeast)

Key: Not Northeast = 0, Northeast = 1

Mean	0.053381
Mode	0.000000
Standard Deviation	0.22519
Variance	0.05071

Geographic Region of the United States (South):

Key: Not South = 0, South = 1

Mean	0.039146
Mode	0.000000
Standard Deviation	0.19429
Variance	0.03775

Geographic Region of the United States (West):

Key: Not West = 0, West = 1

Mean	0.021352
Mode	0.000000
Standard Deviation	0.14481
Variance	0.02097

Political Affiliation (Republican):

Key: Not Republican = 0, Republican = 1

Mean	0.384342
Mode	0.000000
Standard Deviation	0.48731
Variance	0.23747

Political Affiliation (Democrat):

Key: Not Democrat = 0, Democrat = 1

Mean	0.352313
Mode	0.000000
Standard Deviation	0.47854
Variance	0.22900

Economics Course in High School or College:

Key: Has not taken class = 0, Has taken class = 1

Mean	0.274021
Mode	0.000000
Standard Deviation	0.44682
Variance	0.19964

Fiscal Policy Scenario 2:

Key: Not Scenario 2 = 0, Scenario 2 = 1

Mean	0.341637
Mode	0.000000
Standard Deviation	0.75404
Variance	0.56858

Fiscal Policy Scenario 3:

Key: Not Scenario 3 = 0, Scenario 3 = 1

Mean	0.167260
Mode	0.000000
Standard Deviation	0.37387
Variance	0.13978

Fiscal Policy Scenario 4:

Key: Not Scenario 4 = 0, Scenario 4 = 1

Mean	0.167260
Mode	0.000000
Standard Deviation	0.37387
Variance	0.13978

Fiscal Policy Scenario 5:

Key: Not Scenario 5 = 0, Scenario 5 = 1

Mean	0.167260
Mode	0.000000
Standard Deviation	0.37387
Variance	0.13978139

Fiscal Policy Scenario 6:

Key: Not Scenario 6 = 0, Scenario 6 = 1

Mean	0.170819
Mode	0.000000
Standard Deviation	0.37702
Variance	0.14215

Consumer Confidence Score:

Mean	12.67206
Median	13.00000
Mode	15.00000
Minimum	6.00000
Maximum	18.00000
Range	12.00000
Standard Deviation	3.31076
Variance	10.96113