

## FEDERAL RESERVE ECONOMIC DATA (FRED) AND FEDERAL BUDGETS LESSON

### FRED Activity Worksheet

#### Directions

#### Part A

1. Access the online FRED Dashboard:  
<https://research.stlouisfed.org/dashboard/14943>
2. Use the *President and Congressional* budget graphs (box 1) to calculate the budget deficit/ surplus for each budget year. Use the sliders in the timeline below the graph to display the appropriate date range.
  - a.  $\text{Total Receipts} - \text{Total Expenditures} = \text{Deficit/ Surplus}$
3. Use the data in *Total Public Debt Change from Year Ago in Millions of USD* graphs (box 2) to indicate how much the budget added to the total public debt in comparison to the previous year. Use the sliders in the timeline below the graph to display the appropriate date range.
4. Use the data you have gathered to answer questions 1-6.

#### Part B

1. Access the online FRED Dashboard:  
<https://research.stlouisfed.org/dashboard/14943>
2. Use the Gross Federal Debt in Billions of USD and as Percent of GDP 1988-2010 (box 3).
3. Use the data on the graph to answer questions 1-3.



President Ronald Reagan and Congressional Budgets: Use the data on the graph in Box 1  
1988:

Total Receipts = \$970.1 billion  
Total Expenditures= \$1,171.0 billion  
Total Deficit/Surplus= -\$200.9 billion

1989

Total Receipts = \$1,051.4 billion  
Total Expenditures= \$1,245.7 billion  
Total Deficit/Surplus= -\$194.3 billion

\*Use data on the graph in Box 2 to indicate how much the budget added to the total public debt in comparison to the previous year:

1988= \$245,943 million  
1989= \$257,366 million



President Bill Clinton and Congressional Budgets: Use the data on the graph in Box 1

1998:

Total Receipts = \$1,814.9 billion  
Total Expenditures= \$1,804.0 billion  
Total Deficit/Surplus= \$10.9 billion

1999:

Total Receipts = \$1,934.2 billion  
Total Expenditures= \$1,872.2 billion  
Total Deficit/Surplus= \$62 billion

\*Use data on the graph in Box 2 to indicate how much the budget added to the total public debt in comparison to the previous year:

1998= \$139,549 million  
1999= \$122,996 million



President George Bush and Congressional Budgets: Use the data on the graph in Box 1

1991:

Total Receipts = \$1,118.8 billion  
Total Expenditures= \$1,399.6 billion  
Total Deficit/Surplus= -\$280.8 billion

1992:

Total Receipts = \$1,165.7 billion  
Total Expenditures= \$1,524.8 billion  
Total Deficit/Surplus= -\$359.1 billion

\*Use data on the graph in Box 2 to indicate how much the budget added to the total public debt in comparison to the previous year:

1991= \$419,084 million  
1992= \$409,349 million



President Barack Obama and Congressional Budgets: Use the data on the graph in Box 1

2009:

Total Receipts = \$2,259.0  
Total Expenditures= \$3,734.7  
Total Deficit/Surplus= -\$1,475.7

2010:

Total Receipts = \$2,458.4 billion  
Total Expenditures= \$3,967.1 billion  
Total Deficit/Surplus= -\$1,508.7 billion

\*Use data on the graph in Box 2 to indicate how much the budget added to the total public debt in comparison to the previous year:

2009= \$1,809,815 million  
2010= \$1,667,090 million

1. Which year had the highest deficit? **(2010)**
2. Which year had the lowest deficit? **(1989)**
3. Which year added the most to the Total Public Debt? **(2009)**
4. Which year added the least to the Total Public Debt? **(1999)**
5. Identify and explain the costs of increasing the Total Public Debt in regards to how it affects taxes, and spending in other categories (healthcare, defense, education, etc....).  
**(Student answers may vary but may include some or all of the following: increasing the total public debt will cause the debt -to- GDP ratio to rise therefore making it harder for the government to pay off its debt. As a result, there may be budget cuts to programs such as healthcare, defense, and education. Taxes may also increase so the government can increase their revenue, by doing this incomes of households will fall, which may in turn decrease consumption)**
6. Identify and explain some of the benefits a balanced budget would have on taxes, and spending in other categories (healthcare, defense, education, etc....).  
**(Student answers may vary. A surplus could reduce taxes because the government has surplus funds which could also be used towards paying debts, increase funding of education, defense, or social security. Balanced budgets also decrease the amount of debt that is added on to the deficit)**

#### Part B:

- Words to know:
  - Gross Domestic Product: The market value of all final goods and services produced in a country in a calendar year.
  - Consumption: Spending by households on goods and services. The process of buying and using goods and services.
  - Productivity: The amount of output (goods and services) produced per unit of input (productive resources) used.
  - Investment: The purchase of capital goods (including machinery, technology or new buildings) that are used to produce goods and services.
  - Recession: A decline in the rate of national economic activity, usually measured by a decline in real GDP for at least two consecutive quarters (i.e., six months).
- The use of the debt-to- GDP ratio is a tool use in comparing a country's debt to its total output for a year. It is used to measure the capacity for a country to pay back its debts. The closer the debt is to being a percentage of GDP (according to the world bank a percentage above 77 percent can slow economic growth), the less capacity they may have to pay back the debt, and the lower the debt is to being a percentage of GDP the more capacity to pay back debt and positive outlook for growth an economy has.
- One of the most severe recessions began in 2008. The gray shaded areas on the graph (box 3) indicate a recession.
- Use the data on the graph to analyze the gross federal debt as percent of GDP during this time period. Answer the following questions using the data on the graph (box 3).

1. What is the gross federal debt as percent of GDP for the following years?
  - a. 2008= **67.87%**
  - b. 2009= **82.36 %**
  - c. 2010= **90.40 %**
  
2. Recessions are characterized by a decline in economic activity. What types of economic activity experience declines during recessions? ***(Recessions are characterized by declines in consumption, productivity and investment. It is usually a domino effect in which any of these decreasing causes declines in the other. For example a decline in consumption decreases the need for businesses to invest more in their businesses. )***
  
3. During the 2008 recession, what federally funded need based programs do you believe needed increased spending that are not mandatory programs? ***(Student answers may vary. They should be guided towards increased spending on need based programs such as unemployment benefits, supplemental nutrition assistance program, healthcare, housing subsidies, and federal education grants)***
  
4. What happens to tax revenues when there is a recession and how does this affect the gross federal debt as percent of GDP? ***(Due to the decline in economic activity there are decreased tax revenues. For example less consumption will result in less sales tax revenues, decreased productivity will result in less income (job loss) and corporate tax revenues (decreased production of goods and services). A decline in these tax revenues when the government increases their spending (deficit spending) will result in higher gross federal debt as percent of GDP.)***
  
5. During a recession the gross federal debt as percent of GDP is (***higher/lower***), due to a (n) (***increase/decrease***) in GDP. At the same time government spending was (***increasing/ decreasing***), therefore the federal budget is heading towards a larger (***deficit/surplus***).
  
6. Keeping in mind that the economy was experiencing a recession, why did the gross federal debt as percent of GDP increase so dramatically during those years? ***(As GDP declines and government spending increases at the same time the gross federal debt as percent of GDP increases due to the decreased tax revenues.)***