

Teacher Notes



U. S. Federal Budget and Debt

Activity 2 Investigating the Effects of an Unbalanced Budget

Activity at a Glance

- ◆ **Subject:** Social Studies
- ◆ **Subject Area:** U. S. Government Economics
- ◆ **Category:** Federal Budget and National Debt
- ◆ **Topic:** Federal Budget
- ◆ **Grade Level:** 9-12
- ◆ **Prerequisites:** Students should be familiar with the revenues and expenditures of the federal budget.
- ◆ **Total Teaching Time:** 45 minutes

Materials

- ◆ TI-83 Plus
- ◆ Student Work Sheet: **Investigating the National Debt**

Activity Overview

Students will investigate the impact a surplus or deficit has on the national debt. In particular they will examine the growth of the debt over the last 40 years and use the data to predict the future of the debt.

Directions

Before the Activity Begins

Make sure each student has a TI-83 Plus and that the graphs are cleared. Distribute copies of the Student Work Sheet, **Investigating the National Debt**, to the students.

Warm-up Activity

To help introduce the concept, it may be helpful to discuss the concept of a budgetary surplus or shortage in terms of a personal or family budget. In addition to the concept, discussion could focus on the ramifications of a deficit – going into debt, interest charges, reducing spending or trying to earn more money – and the ramifications of a surplus – paying off debt, reducing interest on debts, spending more or taking more time off from work (earning less).

During the Activity

Monitor the student's progress and answer any questions. Students should be encouraged to check with each other if they are unsure about steps or questions.

After the Activity

Review the questions on the sheet to ensure student understanding of the deficit and surplus and growth of the national debt.

Classroom discussion should center upon whether the debt should be a concern. Issues such as the interest payments on the debt should be a factor as well as the high growth rate in the debt since 1982.

As a follow up, students should consider the following questions and use their knowledge of the federal budget to help in their answers.

1. What should the government consider doing to balance the budget?
2. Should the government go further than just balancing the budget, should it budget for surpluses to decrease the debt? If, so how? If not, why not?
3. Students could be asked to consider President Bush's tax cut plan and how it will affect expenditures and revenue, the deficit or surplus.
4. Students could be asked why they think the government went from a surplus to deficit from 2001 to 2002.

Student Work Sheet
Investigating the National Debt

Name: _____

Date: _____

In this activity you will be investigating the results of an unbalanced budget and the resulting surplus or deficit.

In the year 2002 the estimated government revenues were (in billions of dollars) \$1,946 (almost \$2 trillion or \$1,946,000,000,000).

In the year 2002 the estimated government expenditures were (in billions of dollars) \$2,052 (or \$2,052,000,000,000).

The result is that the government is spending more than it received. This is called a deficit.

1. Calculate the deficit, in billions of dollars, for 2002.
2. What options does the government have in order to solve this shortfall in funds? Think of your family's options when they are short of funds.
3. In the year 2001 the federal government's revenues were \$1,991 billion. The expenditures were \$1,864 billion. What was the result?

4. Describe what options are available to the government when it finds itself in a surplus.

5. What would you suggest caused the rise in expenditures from \$1864 billion to \$2052 billion and the decline in revenue from \$1991 billion to \$1946 billion from 2001 to 2002?

Over the years, the federal government has run successive deficits. Each year the government spent more than it received. In order to finance the expenditures, the government borrowed money and went into debt. Some economists argued that going into debt may be necessary and acceptable to pay for important items when the economy was in difficulty or in times of national emergencies. It was understood that when the economy improved and tax revenue rose that surpluses would pay off the debt.

6. Explain how a budget deficit or a budget surplus will affect the amount of debt the federal government owes.

One of the concerns with debt, as with any borrowing of money, is the interest charged on the outstanding debt. The amount paid in interest was under \$7 billion in 1962 and grew to \$178 billion in 2002.

The federal government has carried a debt from the beginning of the nation. In this activity we will examine the amount of the U.S. federal debt over the last 40 years.

The table shows the national debt from 1962 to 2002 in 5-year intervals.

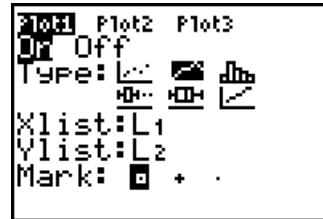
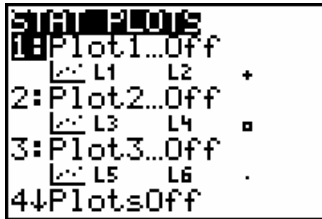
Year	Debt (\$ billions)
1962	303
1967	340
1972	436
1977	706
1982	1137
1987	2346
1992	4002
1997	5370
2002	6137

1. Turn your device on. Clear any data in the lists before entering the new data. To do this place the cursor on the list name and press **CLEAR** then **ENTER**.

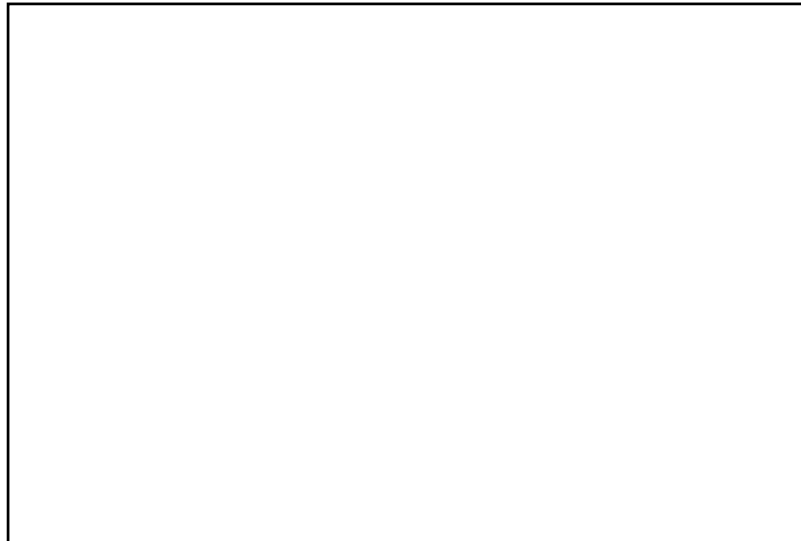
L1	L2	L3	1
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L1 =			

2. Enter the data from the above table into the TI-83 using the List Editor. Use L1 for the Year and L2 for the Debt. Press **STAT** then select **1:Edit** by either highlighting **1:Edit** and pressing **ENTER** or by pressing the number **1**.

- To create a scatter plot of the data, press $\boxed{2nd}$ $\boxed{Y=}$ [STAT PLOT]. For the first plot, press **1**. Turn the plot On by highlighting **On** and pressing \boxed{ENTER} . Select a broken line graph as shown on the screen below. The Xlist should be L1. This is a pre-named list and is found by pressing $\boxed{2nd}$ **1**. The Ylist should be L2 (press $\boxed{2nd}$ **2**). This will set up a graph of the National Debt in billions of dollars (vertical axis) versus Year (horizontal axis).



- To display the graph, press \boxed{ZOOM} and select **9:Stat**. This automatically establishes an appropriate scale for the graph.
- Sketch a copy of the graph. Use the \boxed{TRACE} key and cursor left or right to see specific values.



- Using the graph, describe the growth of the debt from 1962 to 1982.

7. Using the graph, describe the growth of the debt from 1982 to 1997.

8. Use the graph to estimate the amount of national debt in the next 5 years if it continues to increase at the same rate as shown on the graph.

9. The national debt is estimated to be at \$7,803 billion by 2007. Plot this on your graph and compare it with your estimate. Does the government appear to be slowing the growth of the debt?

10. What will also continue to increase in the expenditures of the government's budget as the debt increases?