

Teacher Notes



Monetary Policy in the Populist Era

Activity 1 Investigating the Effects of Inflation and Deflation: Money, Money, Money

Activity at a Glance

- ◆ **Subject:** Social Studies
- ◆ **Subject Area:** U. S. History
- ◆ **Category:** The Second Industrial Age, The Gilded Age
- ◆ **Topic:** Regional Economic Conditions, Populism
- ◆ **Grade Level:** 9-11
- ◆ **Prerequisites:** Students should be familiar with inflation and deflation as well as the emerging industrial base of the cities.
- ◆ **Total Teaching Time:** 45 minutes

Materials

- ◆ TI-83 Plus graphing device
- ◆ Student data sheets: **Farmer, Laborer, Determining Monetary Policy**
- ◆ Student debriefing guide: **Money, Money, Money**
- ◆ StudyCards™ App for the TI-83 Plus
- ◆ CellSheet™ App for the TI-83 Plus
- ◆ **EconDef** StudyCards™ AppVar for the TI-83 Plus
- ◆ **Farmer** CellSheet™ AppVar for the TI-83 Plus
- ◆ **Laborer** CellSheet™ AppVar for the TI-83 Plus
- ◆ Instructions for using the TI-83 Plus

Activity Overview

In this activity, the students will explore the impact of monetary policy on two different types of workers: farmers and laborers. Half the class will investigate how inflation and deflation affects the economic well-being of farmers while the other half investigates the impact to laborers. After the students have completed their investigations, the class will then be grouped into pairs (one farmer, one laborer) to review their findings. Student review groups will also

look at how the inflation rate between 1890 and 1910 influenced U. S. monetary policy in the Populist Era.

Tip

The vocabulary reviewed in the first step of this lesson can be assigned beforehand as a homework assignment if the students are not familiar with all the terms.

Directions

Before the Activity Begins

1. Be sure that each student has a TI-83 Plus that is loaded with the StudyCards™ and CellSheet™ Apps.
2. Begin by reviewing the vocabulary in the StudyCards™ Application and the Application Variable (AppVar) titled **EconDef** to insure that all students understand the basic concepts. The teacher may wish to create an AppVar that includes all the vocabulary for the unit and use the review activity as a daily part of instruction.
3. Economic definitions:
 - ◆ Inflation
 - ◆ Deflation
 - ◆ Monetary Policy
 - ◆ Mortgage
 - ◆ Debtor
 - ◆ Profit
 - ◆ Gold Standard

The students should already have some background information about monetary policy from previous study. Begin the activity by exploring with the students how inflation and deflation affect their lives. Ask:

- ◆ Is it better for prices to go up or down?
- ◆ What groups benefit when prices go up? Down?
- ◆ Is inflation or deflation better for the country?
- ◆ How does the government control inflation and deflation?

During the Activity

1. Place students in laborers and farmers groups. Distribute handouts to the groups. Make sure students understand that they can work with other members of their groups in attempting to complete their worksheet.
2. Monitor student progress to insure that students are completing their work. It may be necessary to provide additional structure for this group activity. If

there is a wide range of ability within the groups, assign students specific tasks from the worksheet according to their ability level.

3. When students have finished their worksheets, pair them for the review/debriefing activity so that a farmer is paired with a laborer. Distribute the debriefing guide.

After the Activity

Lead a class discussion using the debriefing sheet as a guide. Inform the students in the next activity they will decide how to effect change through political parties.

Student Data Sheet

Name: _____

Money, Money, Money: Farmer

Date: _____

Farmer Scenario

You are a farmer. You grow corn and sell it to earn income. Corn prices follow the prices of other goods and services; therefore, your costs associated with growing corn move at the same rate, with one exception. One year ago, you borrowed money to buy more land and equipment. The mortgage requires you to make yearly payments of \$500 to pay off the loan. You will be looking at the effects of deflation and inflation on your ability to make money growing corn.

Step One

Look at the effects of deflation on your farm.

1. Download the CellSheet™ AppVar entitled **farmer**.
2. Begin by graphing the cost of farm supplies for the first group of years labeled 1 through 5. This graph shows the costs of the things you need to farm over the course of five years of deflation (Column C).

What happened to the costs of the things you needed to buy for your farm during the period of deflation?

3. Graph your mortgage payment for the same period.

What happened to your mortgage payment over the five-year period of deflation (Column D)?

4. Putting the supplies together with the mortgage and other items gives you the total costs. Graph these over five years (Column F).

What is the general trend of the cost associated with farming during a period of deflation?

5. Graph your total income (Column G). This represents the money people are paying you for your crop.

Why is your total income changing?

6. Look at the profit column (Column H). Display this along with the mortgage column (Column D) and the total cost column (Column F).

What is happening to your profits during a period of deflation? Why?

Step Two

Now you will look at the effects of inflation on your farm.

7. Begin by graphing the cost of farm supplies for the second group of years labeled 1 through 5 (starting in Row 8.) This graph shows the costs of the things you need to farm over the course of five years of inflation (Column C).

What happened to the costs of the things you needed to buy for your farm during the period of inflation?

8. Graph your mortgage payment for the same period.

What happened to your mortgage payment over the five-year period of inflation? (Column D)

9. Putting the supplies together with the mortgage and other items gives you the total costs. Graph these over five years (Column F).

What is the general trend of the costs associated with farming during a period of inflation?

10. Graph your total income (Column G). This represents the money people are paying you for your crop.

Why is your total income changing?

11. Look at the profit column (Column H). Display this along with the mortgage column (Column D) and the total cost column (Column F).

What is happening to your profits during a period of inflation? Why?

Before you discuss these issues with a laborer, think about what you want the government to encourage — inflation or deflation.

Student Data Sheet
Money, Money, Money: Laborer

Name: _____

Date: _____

Laborer Scenario

You are a laborer. You work in a factory to earn income. The prices you pay for goods and services rise and fall during times of inflation and deflation. In contrast, since so many workers want jobs, your wages do not rise and fall with the price of goods and services. You worry about providing for your family. You cannot borrow money since you own no property such as a house to borrow against.

Step One

Look at the effects of deflation on your family.

1. Download the CellSheet™ AppVar entitled **laborer**.
2. Begin by graphing the cost of expenses for the *first* group of years labeled 1 through 5. This graph shows the costs of the things you need to live over the course of five years of deflation. Begin by graphing your rent (Column C).

What happened to the amount of rent you pay during the period of deflation?

3. Adding your other expenses to the rent you pay gives you the total costs for this period. Graph the total costs by graphing Column F.

What happened to your expenses during a period of deflation?

4. Graph your income for the same period by graphing Column G for the years of deflation.

What happened to your earnings during a period of deflation?

5. Graph your remainder (Column H). This represents the amount you have left over after your bills are paid.

Is deflation good or bad for laborers? Why?

Step Two

Now you will look at the effects of inflation on your family.

6. Begin by graphing the cost of expenses for the *second* group of years labeled 1 through 5 (starting in Row 8.) This graph shows the costs of the things you need to live over the course of five years of inflation. Begin by graphing your rent (Column C).

What happened to the amount of rent you pay during the period of inflation?

7. Adding your other expenses to the rent you pay gives you the total costs for this period. Graph the total costs by graphing Column F.

What happened to your expenses during the period of inflation?

8. Graph your income for the same period by graphing Column G for the years of inflation.

What happened to your earnings during a period of inflation?

9. Graph your remainder (Column H). This represents the amount you have left over after your bills are paid.

Is inflation good or bad for laborers? Why?

Before you discuss these issues with a farmer, think about what you want the government to encourage — inflation or deflation.

Student Debriefing Guide
Money, Money, Money

Name: _____

Date: _____

Farmer's Name: _____

Laborer's Name: _____

You and your partner should discuss the following questions and be ready to share your answers with the class. Remember that you are a farmer or a laborer in 1896. Your answers should be appropriate for the conditions of the time.

1. Should the government help U.S. farmers? If so, what type of assistance should the government provide? If not, how will farmers survive periods of inflation and deflation? Support your answers by using the data from your activity.

2. Should the government help U.S. laborers? If so, what type of assistance should the government provide? If not, how will laborers survive periods of inflation and deflation? Support your answers by using the data from your activity.

3. Should the government implement a monetary policy that limits inflation or deflation? What types of policies could the U.S. government create to affect inflation or deflation?

4. How will you influence the government to do what you want?

Instructions for the TI-83 Plus Graphing Device**Transferring the StudyCards™ Collection from the Teacher's TI-83 Plus**

1. Connect the devices using the unit-to-unit cable. Press the cable firmly into the port at the base of each device.
2. Prepare the student device to receive data.
 - a. Turn the device on.
 - b. Press **2nd** **[LINK]** to prepare the TI-83 Plus to receive data.

```
SEND RECEIVE
1:All+...
2:All-...
3:Pr9m...
4>List...
5:Lists to TI82...
6:GDB...
7↓Pic...
```

- c. Highlight **RECEIVE** by pressing **▸**.

```
SEND RECEIVE
1:Receive
```

- d. Press **ENTER**. **Waiting...** is displayed on the device.

```
WAITING...
```

3. Prepare the teacher's device to send data.
 - a. Turn the device on.
 - b. Press **2nd** **[LINK]** to prepare the device for linking.

```
SEND RECEIVE
1:All+...
2:All-...
3:Pr9m...
4>List...
5:Lists to TI82...
6:GDB...
7↓Pic...
```

- c. Press \uparrow or \downarrow until **D:AppVars...** is highlighted.

```

RECEIVE
B:String...
C:Apps...
D:AppVars...
E:Group...
F:SendId
G:SendSW
H:Back Up...
    
```

- d. Press **ENTER** to view the AppVars. Move the cursor to **ECONDEF**, and press **ENTER**.

```

TRANSMIT
*Address AVAR
*ECONDEF AVAR
*ORGINFO AVAR
*SAMPLEST AVAR
*Schedule AVAR
*TIINFO AVAR
TISCRSLT AVAR
    
```

- e. Press \rightarrow to highlight **TRANSMIT**. Press **ENTER** to start data transfer.

```

SELECT TRANSMIT
Transmit
    
```

4. If the transfer is successful, then the sending and receiving devices will display the following on their screens. Download the AppVar to other students using the same method. Substitute your device for the teacher's device when using the instructions.

```

ECONDEF AVAR
Done
    
```

Teacher TI-83 Plus

```

Receiving...
ECONDEF AVAR
Done
    
```

Student TI-83 Plus

5. Repeat this process to download the **FARMER** and **LABORER** AppVars.

Accessing ECONDEF

1. Open the StudyCards™ App.

- a. Press **[APPS]**, then use the **[↑]** or **[↓]** keys to highlight **StudyCrd**.



- b. Press **[ENTER]** to begin the StudyCards™ App.



- c. Press **[ENTER]** (or any key) to move past the information screen.



2. Select **CHOOSE NEW STACK** by pressing the number that corresponds to the option.

3. Select the **EconDef StudyCards™** stack by pressing **[↑]** or **[↓]** keys to highlight it. Press **[ENTER]** to open the stack.



4. Press **[ENTER]** (or any key) to move past the title card.

5. FLIP a card over by pressing **[TRACE]**.

6. Read the entire contents of a card by pressing the cursor keys (**[↑]** **[↓]**).

7. Move from card-to-card by pressing the cursor keys (**[←]** **[→]**).

Accessing the Farmer or Laborer CellSheet™ Application

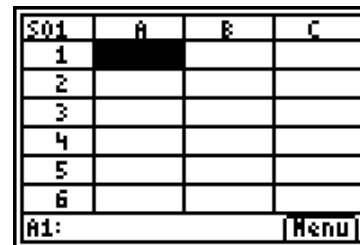
1. Press **[APPS]** to view the application menu. Use the **▲** or **▼** keys to highlight **CellSheet**. Press **[ENTER]** to start the CellSheet™ Application.



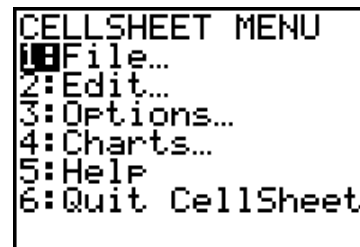
2. Press **[ENTER]** (or any key) to continue past the information screen.



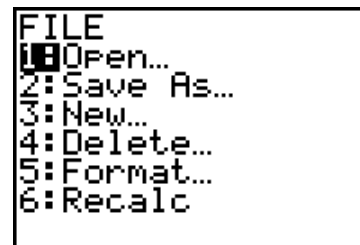
3. Press **[ENTER]** (or any key) to continue past the CellSheet™ Help screen.



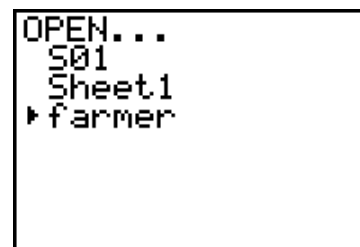
4. Press **[GRAPH]** to display the CellSheet™ Menu.



5. Select **1:File...** by pressing **1** or **[ENTER]**.



6. Select **1:Open...** by pressing **1**.



- Highlight either **Farmer** or **Laborer**, and press **[ENTER]**. The appropriate CellSheet™ for the selection is displayed.

Note: Farmer is shown to the right.

Farm	A	B	C
1		EXPENSES	
2	YEAR	PERSON	FARMS
3	1	250	300
4	2	225	275
5	3	200	250
6	4	175	225
A1:			[Menu]

Graphing in the CellSheet™ Application

- Press **[GRAPH]** to display the CellSheet™ Menu.

```

CELLSHEET MENU
1:File...
2:Edit...
3:Options...
4:Charts...
5:Help
6:Quit CellSheet
    
```

- Highlight **4:Charts** and press **[ENTER]**.

```

CHARTS
1:Scatter...
2:Scatter Window
3:Line...
4:Line Window...
5:Bar...
6:Bar Window...
7:Pie...
    
```

- Highlight **3:Line** and press **[ENTER]**. In Xrange:, type **A3:A7** for deflation or **A8:A12** for inflation.

Note: This example shows deflation data entries.

In YRange1:, type the range for the variable. For example, **B3:B7** will show the costs of personal items during a period of deflation.

Note: If you specify additional columns in YRange2: and YRange3:, you can see the interplay between the information on one graph. An example of this graph is shown in step 5.

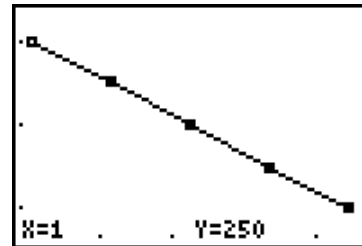
Complete the YRange entries. The Title: field is optional.

```

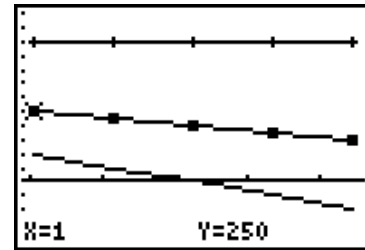
LINE CHART
XRange:A3:A7
YRange1:B3:B7
YRange2:
YRange3:
Title:
AxesOn AxesOff
DrawFit Draw
    
```

- Press **[ENTER]** until the graph is displayed.

Note: **AxesOn** and **DrawFit** should be highlighted and accepted.



5. The graph to the right is an example of the display obtained when multiple columns are specified in the YRange1, 2, and 3 fields of the Line Chart Screen shown in Step 3.



6. The complete data charts shown below are for reference.

FARMERS

	A	B	C	D	E	F	G	H	
1		Expenses							
2	Year	Personal Items	Farm Supplies	Mortgage	Taxes	Total Costs (cols b-e)	Total Income	Profit	
3	Def1	250	300	500	50	1100	1200	100	
4	Def2	225	275	500	50	1050	1100	50	
5	Def3	200	250	500	50	1000	1000	0	
6	Def4	175	225	500	50	950	900	-50	
7	Def5	150	200	500	50	900	800	-100	
8	Inf1	250	300	500	50	1100	1200	100	
9	Inf2	275	325	500	50	1150	1300	150	
10	Inf3	300	350	500	50	1200	1400	200	
11	Inf4	325	375	500	50	1250	1500	250	
12	Inf5	350	400	500	50	1300	1600	300	

LABORERS

	A	B	C	D	E	F	G	H	
1		Expenses							
2	Year	Food	Rent	Fuel	Clothing and Sundries	Total Costs (cols b-e)	Annual Wages	Remainder	
3	Def1	220	80	32	130	462	575	113	
4	Def2	200	78	30	115	423	575	152	
5	Def3	180	75	28	105	388	575	187	
6	Def4	165	72	26	100	363	575	212	
7	Def5	150	70	25	90	335	575	240	
8	Inf1	220	80	32	130	462	575	113	
9	Inf2	240	90	35	142	507	575	68	
10	Inf3	265	100	38	156	559	575	16	
11	Inf4	291	110	41	171	613	575	-38	
12	Inf5	320	120	45	188	673	575	-98	