

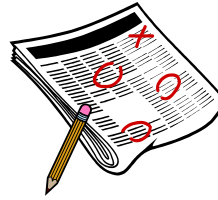
Macroeconomics Equilibrium



Definitions

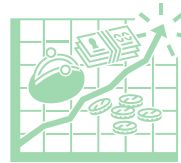
❖ Involuntarily Unemployment

- ✓ occurs when a person is **prepared to accept a job at the existing (money) wage rate, but no such job can be found.**



✓ Inflation

- ✓ occurs when there is a **sustained increase in all money prices.**



Definitions



- ❖ **Gross domestic product (GDP)**
 - ✓ **An aggregate measure of the total value at market prices of final goods and services produced within the domestic boundary of a territory in a specific period (normally a calendar year).**

- ❖ **Real GDP**
 - ✓ **GDP calculated at constant market prices.**

- ❖ **Nominal GDP**
 - ✓ **GDP calculated at current market prices.**

Initial Income Distribution & Identifying Slip to Students

Your Player ID Number is: 1
Your initial income is:
\$10,000.00
Percentage of initial GDP:
2.5%

Your Player ID Number is: 2
Your initial income is:
\$20,000.00
Percentage of initial GDP:
5.0%

Your Player ID Number is: 3
Your initial income is:
\$30,000.00
Percentage of initial GDP:
7.5%

Your Player ID Number is: 4
Your initial income is:
\$40,000.00
Percentage of initial GDP:
10%

- In today's experiment, we will see the effects of spending and saving decisions from a macro level. Pair up yourself and decide how to divide your income in each round into spending and saving portions with the goal of making yourself as well off as possible.
- I will give each pair of you a slip (as shown in Table 1) to reveal your initial income level. (The income distribution is revealed as a specified percentage of GDP and the actual dollar value; students do not have the option of choosing a slip with a high income).

Game Rules



- ❖ Our economy begins with an **initial equilibrium level of GDP** equals to **\$400,000**.

- ❖ **GDP for subsequent rounds** is determined by:
 - ✓ the **consumption spending** by each pair
 - ✓ a **fixed amount of autonomous investment spending** of **\$100,000**.

Game Rules



- ❖ **Each pair of you in each round must **spend at least \$3,000** for food, shelter and basic needs.**
- ❖ **Cannot spend more than your current income in each round in which you are employed. You can only spend your savings when you are unemployed.**
- ❖ **The portion of incomes that are not spent will be saved. **Savings earns an interest payment of 5%.****

Student Record Sheet

Round	Income for this round (0 if unemployed) (A)	Your Decision		Accumulated Saving + Interest at the end of round
		Spending for this round(\$3,000 minimum) (B)	Saving for this round (A – B)	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

- Distributes Table 2 (Student Record Sheet) to each pair of students.
- I will give you 30 seconds each round to make your decision. Report the amount of your spending to me and I will input it into the spreadsheet.

Equilibrium level of GDP

- ❖ The **equilibrium level of GDP** is used to **determine the income level for the next round. GDP is allocated to you using the percentages in original income distribution.**
- ❖ For example, if **GDP is \$360,000:**
 - ❖ **Player ID = 1 students:**
will begin in the next round with incomes of **\$9,000 (2.5% x \$360,000)**
 - ❖ **Player ID = 2 students:**
will have incomes of **\$18,000 (5% x \$360,000)**

Adjustments for GDP



- ❖ For every \$20,000 by which consumer spending falls below \$300,000 one player becomes unemployed. Thus, if the sum of your spending **falls below \$280,000** then one player must be **randomly unemployed**.
- ❖ If any players become unemployed, **their incomes for the period is changed to zero and the GDP for the period is reallocated among the other players.**

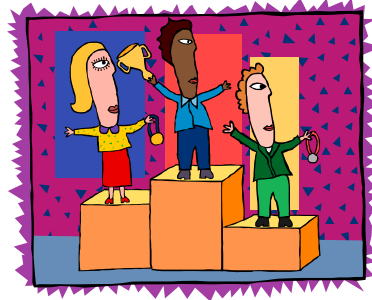
Adjustments for GDP



- ❖ **Unemployment can last up to two consecutive periods. If GDP remains low for more than two rounds, anyone who has been unemployed for two periods becomes re-employed and a different randomly selected player becomes unemployed.**
- ❖ **If the sum of your spending exceeds \$300,000, then the value for GDP is adjusted downward (to reflect inflationary pressure).**

Game Rules

- ❖ **You will be ranked at the end of the game based on the total amount of your spending and your accumulated savings (plus interest) compared to your initial level of income.**



- As this exercise involves complicated calculation, teacher should use the available spreadsheet which has all the formulas set up already.
- Teacher should not mention how many rounds you are going to play. Tell students that the experiment will be run for between 5 to 10 rounds.

Discussion



- ❖ **What happens to the equilibrium level of GDP if all of you decide to **spend less and save more**? What effects does this have on the **actual level of total saving in future rounds**?**
- ❖ **When aggregate spending is high, why don't participants receive higher and higher levels of real income?**