

Teaching Plan

Title	Macroeconomics Equilibrium
Instructional Objectives	➤ To explain the effects of high or low aggregate spending decisions on the equilibrium level of GDP.
Keywords and Concepts Illustrated	<ul style="list-style-type: none"> ➤ Involuntary Unemployment ➤ Inflation ➤ GDP ➤ Real GDP ➤ Nominal GDP
Assumption	<ul style="list-style-type: none"> ➤ Students know the concepts of involuntary unemployment & inflation ➤ Teacher can use computer in the class.
Needed Time	➤ A double-lesson period, 80 minutes in total

Sessions	Details	Time Spent
Activity/ Announcement	<ol style="list-style-type: none"> 1 T: 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). 2 T: Our economy begins with an initial equilibrium level of GDP equals to \$400,000. GDP for subsequent rounds is determined by summing the consumption spending by each pair of you and adding a fixed amount of autonomous investment spending of \$100,000. 3 T: Each pair of you in each round must spend at least \$3,000 for food, shelter and basic needs. You cannot spend more than your current income in each round in which you are employed. You can only spend your savings while you are unemployed. The portion of incomes that are not spent will be saved. Savings earns an interest payment of 5%. 4 Teacher distributes Table 2 (Student Record Sheet) to each pair of students. T: I will give you 30 seconds each round to 	60 mins

	<p>make your decision. Report the amount of your spending to me and I will input it into the spreadsheet.</p> <p>5 T: The equilibrium level of GDP is used to determine the income level of you for the next round. GDP is allocated to you using the percentages in original income distribution (shown in Table 1). For example, if GDP is \$360,000, all the seven Player ID = 1 students will begin in the next round with incomes of \$9,000 (2.5% of \$360,000), eight Player ID = 2 students will have incomes of \$18,000 (5%), three Player ID = 3 students will begin with \$27,000 (7.5%), and two Player ID = 4 students will have incomes of \$36,000 (10%).</p> <p>6 T: There are several adjustments for GDP:</p> <p>6.1 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 (selection is by a random drawing).</p> <p>6.2 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.</p> <p>6.3 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.</p> <p>6.4 If the sum of your spending exceeds \$300,000, then the value for GDP is adjusted downward (to reflect inflationary pressure). This is modeled here by assuming that prices rise by enough to keep real GDP at \$400,000, and the distribution of income for the next round is based on the real \$400,000 level.</p> <p>7 T: 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.</p> <p>8 <i>As this exercise involves complicated calculation, teacher should use the available spreadsheet which has all the</i></p>	
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	<p><i>formula set up already.</i></p> <p>9 <i>Teacher should not mention how many round you are going to play. Tell students that the experiment will be run for between 5 to 10 rounds.</i></p> <p>10 Discussion:</p> <p>10.1 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?</p> <p>10.2 When aggregate spending is high, why don't participants receive higher and higher levels of real income?</p>	20 mins
Roles of Teacher	<ul style="list-style-type: none"> ➤ Facilitator ➤ Input data 	
Tools	<ul style="list-style-type: none"> ➤ Computer ➤ LCD projector ➤ Prize for the winning pair. 	
Definitions	<ul style="list-style-type: none"> ➤ 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 (Lam, 1996:194). ➤ Inflation – occurs when there is a sustained increase in all money prices (Lam, 1996: 213). ➤ 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). (Lam, 1998: 18) ➤ Real GDP- GDP calculated at constant market prices. (Lam, 1998: 19) ➤ Nominal GDP – GDP calculated at current market prices. (Lam, 1998 : 19) 	
References	<ul style="list-style-type: none"> ➤ Yandell, D. 2002. Using Experiments, Cases, And Activities in the Classroom 2nd ed. (New Jersey: Prentice Hall). ➤ Lam, P. L. 1998. Advanced Level Macroeconomics 3rd ed. (Hong Kong: Macmillan Publishers). 	

Appendix I – Materials for Teacher

Table 1: Initial Income Distribution & Identifying Slip to Students

Table 2: Student Record Sheet

Spreadsheet: Macroeconomic Equilibrium Experiment Worksheet