

Economics 1102-033  
Homework 2  
Due Date: February 27  
Total Points = 100

**This HW will require more time than the previous one, so prepare accordingly**

All homework should be typed, except for calculations and graphs.  
The HW will be distributed and collected at the recitation section.  
No late assignments will be accepted.  
All graphs need to be neat and correctly labeled for full credit.  
You need to show all of your work for full credit.

**Short-Answer Questions (35 points)**

**Question 1: Real Changes in Wages**

Pam, having recently graduated from college, is going to work for 2 years before she enters graduate school. She has received 2 job offers with the following salary structures:

JOB A: Pays \$30,000 in 2003 and \$40,000 in 2004

JOB B: Pays \$30,000 in 2003 and 2004's salary will be equal to \$30,000 plus a cost of living adjustment (i.e., a % raise equal to the inflation rate)

Suppose Pam has no preference for either job, other than higher salary.

**(Each part is worth 5 points)**

- a) If the inflation rate is 35%, what is the percentage increase in nominal salary from 2003 to 2004 for JOB A? (calculate with precision up to 1 decimal point)
- b) What is the % increase in real salary from 2003 to 2004 for JOB A (with inflation rate=35%) (calculate with precision up to 1 decimal point)
- c) What is the % increase in real salary from 2003 to 2004 for JOB B (with inflation =35%)
- d) With inflation for 2004 equal to 35% which job should Pam take? Briefly explain.
- e) Suppose the CPI for 2003 is 200, while the CPI for 2004 is 270. Deflate the 2004 salary for JOB A to determine how much the salary is worth in terms of 2003 dollars (you may need to round to the nearest cent)
- f) How much is the 2004 salary for JOB B worth (in 2003 dollars)? (Show your work)
- g) Suppose Pam only has offer for JOB B. The employer plans to increase Pam's salary only in order to keep up with the inflation, but does not inform Pam of this plan. So with inflation expected to be 35%, Pam gets a 35% nominal raise. Briefly explain why, when during the year Pam sees prices rising, she will blame inflation for the decrease in her purchasing power. Is inflation really costing her any purchasing power?

**Question 2: Surfing the Net to deflate Nominal variables (20 points)**

This exercise is aimed to show you that nominal values can be misleading.

Find the following information:

First: All-Time Top 100 Box Office Champions.

Follow these instructions:

- Go to this web page: <http://movieweb.com>
- Go to the Box Office.
- Click on: All-Time Top 100.

Now write down the Rank (from 1-9), Total Gross and the Year Released for the following movies. **(7.5 points)**

- Titanic
- Star Wars: A New Hope
- Star Wars: The Phantom Menace
- E.T.
- Jurassic Park
- Forrest Gump
- Harry Potter and the Sorcerer's Stone
- Gone with the wind
- Snow White and the Seven Dwarves

Second: Find the CPI for the relevant years (release years of the above movies). To do this, follow these instructions.

- Go to this web page: <http://stats.bls.gov>  
(this is the Bureau of Labor Statistics web page)
- From section "Inflation and Consumer Spending" choose "Consumer Price Index".
- Then choose "Tables created by BLS"
- Then choose "Table Containing History of CPI-U U.S. All Items Indexes and Annual Percent Changed From 1913 to Present."

Columns of interest are the **years** and the **avg** (the average) NOT avg-avg.

[Note you will probably need to scroll over to the right to find the avg column]

Using the information found in these two web sites, adjust the value of the total gross from each movie listed above to 2002 dollars and rank them according to these real values.(2 decimal points) **(7.5 points)**

Have the ranking changed that much from the ones listed on the web page? Briefly comment. **(5 points)**

You can assume that the total gross numbers are in dollars from the year in which the movie was released( for example, the Titanic's total gross would be in 1997 dollars.)

### **Question 3: Disposable Income ( 5 points)**

Using the following data calculate Disposable Income:

- National Income \$4,000
- Transfer Payments \$1,000
- Taxes \$300

### **Question 4: Components of Aggregate Demand (12 points)**

State whether each of the following transactions is a part of aggregate demand in the United States, and if so whether it is C, I, G, X or IM. ( 2 points each)

(a)David buys a domestically-produced keyboard synthesizer.

(b) An automaker builds an assembly plant in Illinois.

- (c) Will buys a compact disk player made in Japan (This is a bit tricky).
- (d) Dieter, a German resident, buys frozen chickens that were grown in the United States.
- (e) Mark buys a three-year-old used car.
- (f) The state government sends a salary check to Karen, an economics instructor at Rigorous State College.

**Question 5: Consumption Function (28 points)**  
**(Each part is worth 4 points)**

Consider the following data :

<u>Year</u>	<u>Real Disposable Income</u>	<u>Real Consumption</u>
0	20,000	14,000
1	30,000	19,000
2	40,000	24,000

For now, assume that no other variable (besides real disposable income) that could affect real consumption has changed between Year 0, Year 1, and Year 2.

- a.) Use the above data to draw a consumption function.
- b.) How big is the marginal propensity to consume.
- c.) What is the slope of the consumption function that you drew in part a.) ( you should give a numerical answer, not a formula)?
- d.) What is the formula for the consumption function that you drew in part a.) ( using C and DI as the variables)? Give autonomous consumption as well.

Suppose the government provides a \$300 (in real dollars) tax rebate (i.e., the govt. gives \$300 ( in real dollars) total to the economy's citizens).

- e.) Will the rebate lead to a movement along or to a shift of the consumption function that you drew in a.)?
- f.) Using the data listed at the beginning of the problem as a guide, solve for the new level of real consumption in Year 2.

Hint: Use the Real Consumption figure for year 2, and add/subtract the change in C

- g.) Suppose that, at the beginning of Year 3, citizens change their belief about their future income. In particular, they believe that they will have less future income. Show ( on a graph) the position of Year 3's consumption function in relation to the function you drew in a.). You do not need to show the exact amount of the shift (if any).