**Economics 111**

**Fall 2019**

**Homework #5**

**Due Tuesday, December 10, 2019**

**General Instructions:**

* Homework is due at the beginning of the lecture.
* Do not submit the homework questions. Just submit your answers: these answers should be neat, legible, and easy to follow. Be generous with your use of paper. Do not write in small, hard to read font. If asked to provide a graph, provide a generous graph.
* All homeworks should be stapled and on the front page your name should be legibly written.
* It is all right to do homework with a "study buddy": however, when asked to explain your answer your words should be significantly different from your "study buddy's" words. Homeworks that are too similar to one another will not receive any credit.
* To get full credit for the homework you need to answer every question that is asked. A failure to answer all the questions will result in a lower homework score.
* It is a good idea to make a copy of your homework so that you can compare your answers to the posted answers. Your copy (a digital photo) also provides a time-stamped proof that you did the homework.

**GDP Measurement:**

1. For each of the following scenarios determine the effect on GDP of the described event. Then, explain the reasoning behind your answer.

a. Joe’s T-shirts produces 1000 t-shirts in 2013 and sells 1800 of these t-shirts in 2013 for a price of $10 per t-shirt. In 2014 Joe’s T-shirts produces another 1000 shirts and sells 600 t-shirts in 2014 for a price of $10 per t-shirt. What was the impact of Joe’s t-shirts on GDP in 2013 and 2014?

b. Susie owns 100 shares of IBM stock and during 2013 she sells 70 of these shares for $100 per share to Marty. In 2014 Susie purchases 35 shares of GM stock from Billy for $34 a share. What is the impact of these activities on GDP in 2013 and 2014?

c. Michael cuts his grass every Saturday as does his neighbor Millie. In 2013 Michael incorporates a lawn care business and starts providing lawn care services. Millie is one of his first customers and she pays him $20 a week to cut her grass. Her grass needs cutting for forty weeks. In addition, Millie contracts with Michael for snow removal and he gets paid $10 per week for the ten weeks of winter season to provide this service to Millie. Given Michael and Millie’s actions, what is the impact on GDP in 2014 from these events?

d. Both Josie and Zena in 2013 opened daycare facilities. Josie’s daycare is not licensed and is strictly a word-of-mouth, cash operation. Josie has ten children who come to the daycare facility for $250 per child per week. Josie’s daycare center is open for 50 weeks a year. Zena’s daycare is a licensed daycare facility for young children. She currently has 20 children that come to the daycare facility at a cost of $300 per child per week. The center is open for 50 weeks a year. What was the effect of Josie and Zena’s activities on GDP in 2014?

e. Elizabeth has a desk that has been in her family for 100 years. A recent appraisal of the desk noted that it was worth $1250 due to its age and uniqueness. In 2014 she realized that the desk needed some repair and refinishing after all these years of use. She took the desk to “Dr. Phil”, a local furniture restorer, who re-glued and refinished the desk. Dr. Phil charged Elizabeth $125.38 (including a sales tax of $8.38) for this work. What was the contribution to GDP in 2014 from these activities?

2. For each of the following scenarios determine the effect on GDP of the described event. Then, explain the reasoning behind your answer.

a. Window Makers produced 500 windows in 2015 and sold 300 of these windows in 2015 for $400 per window. In 2016 Window Makers produced an additional 500 windows and sold 600 windows for $400 per window. What was the impact of Window Makers on GDP in 2015 and 2016? Explain your answer using two different methods to get to this answer.

b. Mario has 10,000 shares of Exxon stock and he decides to sell this stock in 2017. He sells his share through a broker for $120 a share and the broker collects a commission of 2% of the value of the transaction. What is the impact of this transaction on GDP in 2017? Explain your answer.

c. Jenny sold her house in 2017 for $400,000. She purchased the house as its third owner in 2004. Over the years she made $150,000 of renovations that were all completed prior to 2015. She sold the house without using any real estate brokerage help. What was the impact of this transaction on GDP in 2017? Explain your answer.

d. Charlene and Michael live across the street from one another. Both are tax preparers. Charlene does her own taxes as does Michael. They both spend 15 hours preparing their taxes and their wage rate if $50 per hour. How does this transaction affect GDP this year? Explain your answer.

e. Charlene and Michael from the previous scenario decide they would both feel better about their taxes if they were prepared by an objective third party. They both independently hire Jane to do their taxes. Jane spends 12 hours preparing Charlene's taxes and 8 hours preparing Michael's taxes. Jane's hourly rate is $30 per hour. What is the impact of this transaction on GDP this year? Explain your answer.

f. Mary went to the store and bought $20 worth of grapefruits grown in the state of Texas, $15 of cheese produced this year in France, $8 of crackers made in Wisconsin this month, $40 worth of beef produced this year in Argentina, and $30 of flour grown and milled last year in Minnesota. What was the impact of this transaction on GDP this year? Explain your answer and use at least two methods to get your answer. And, if your answer is different depending upon the method, redo the example so that the two methods agree.

3. Suppose you are told that in the economy of McKeiverville that rent payments for land resources are equal to $2000 million in 2015, interest payments for capital are equal to $750 million in 2015, consumer expenditures on goods and services are equal to $1800 million in 2015, profits are equal to $250 million in 2015, investment spending is equal to $800 million in 2015 and net exports are equal to $200 million in 2015. You also know that in McKeiverville in 2015 that wage income was 20% of the amount spent by the government on goods and services during 2015. Determine the level of GDP in McKeiverville in 2015, the level of wage income in 2015, and the level of government spending in 2015. In determining these levels verbally describe how you are finding these answers and in your verbal description make specific reference to the definition(s) of GDP you are using to find the answers.

4. You are told the following information about the economy of Smithville. Lee Enterprises a company located in Smithville produced $2 million worth of goods in 2016 and sold $1.8 million of these goods as final goods to consumers in Smithville. Lee Enterprises sold an additional $.5 million of these goods as final goods to consumers located outside of Smithville. Consumers in Smithville during 2016 made purchases of $3 million on goods and services. Included in these consumer purchases were $500,000 worth of French wine produced in 2016 in France rather than Smithville; $200,000 worth of bananas produced in Costa Rica; and $700,000 worth of steel produced in Japan. Consumers in Smithville also purchased $1.2 million worth of new residential construction during 2016. The government of Smithville spent $1.2 million in 2016. There is no other data to consider when computing the GDP for Smithville in 2016. For each question show how you got your numerical value.

a. Given the above data, what is the level of consumer expenditure in Smithville in 2016?

b. Given the above data, what is the level of government expenditure in Smithville in 2016?

c. Given the above data, what is the level of investment expenditure in Smithville in 2016?

d. Given the above data, what is the level of imports to Smithville in 2016?

e. Given the above data, what is the level of exports to Smithville in 2016?

f. Given the above data, what is the level of GDP in Smithville in 2016?

5. You are given the following information about an economy:

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Nominal GDP | Real GDP | GDP Deflator |
| 2000 | $200 Million |  | 80 |
| 2001 |  |  |  |
| 2002 |  | $300 Million | 100 |
| 2003 |  |  |  |
| 2004 |  |  |  |

You are also told that

* Nominal GDP increased by 10% between 2000 and 2001
* Real GDP stayed constant between 2000 and 2001
* Overall inflation, as measured by the GDP deflator, over the period 2000-2004 was 100%
* Real GDP increased 20% between 2002 and 2003
* Inflation increased by 20% between 2002 and 2003 as measured by the GDP deflator
* Nominal GDP between 2003 and 2004 stayed constant

a. Given the above information fill in the missing cells in the table.

b. Given the above information calculate the annual percentage change in nominal GDP, real GDP, and the GDP deflator. Put your answers in the following table. Round your answers to the nearest tenth.

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Percentage Change in Nominal GDP | Percentage Change in Real GDP | Percentage Change in GDP Deflator |
| 2000 | ---- | ---- | ---- |
| 2001 |  |  |  |
| 2002 |  |  |  |
| 2003 |  |  |  |
| 2004 |  |  |  |

c. What does it mean if the percentage change in real GDP is a negative number?

d. According to your calculations is the percentage change in nominal GDP always equal to the percentage change in the GDP deflator?

e. According to your calculations is the percentage change in real GDP always equal to the percentage change in nominal GDP?

**Unemployment:**

6. Consider the community of Thomasville. There are five hundred people who live in Thomasville and your task is to answer the following set of questions based on the information below:

* In Thomasville there are 70 people who are less than 16 years old
* In Thomasville there are 20 people who are over 70 years old and are fully retired
* In Thomasville there are 40 people who are currently not working, are available to work, and have submitted job applications during the past four weeks
* In Thomasville there are 20 people who are currently not working, are available to work, but who have given up submitting job applications because they do not believe there is any work to be had in Thomasville
* In Thomasville there are 90 full-time college students who are not currently seeking work
* In Thomasville there are 100 people who are working part-time but who would like to work full-time
* The rest of the Thomasville population is over 16 years old and currently working

In your answers round to the nearest tenth of a percent when calculating the percent value.

a. What is the number of employed people in Thomasville? Explain how you got your answer.

b. What is the number of unemployed people in Thomasville? Explain how you got your answer.

c. What is the labor force equal to in Thomasville?

d. What is the unemployment rate in Thomasville? Show how you found your answer.

e. How would the unemployment rate change in Thomasville if discouraged workers were counted as unemployed workers? Verbally describe how the unemployment rate would change and then calculate a numeric value based on this change in the definition of unemployment.

f. How would the unemployment rate change in Thomasville if part-time workers were counted as unemployed workers rather than employed workers? Verbally describe how the unemployment rate would change and then calculate a numeric value based on this change in the definition of unemployment.

7. For each of the following scenarios decide whether the person is employed or unemployed. Explain the reasoning behind your answers.

a. Mary turned sixteen on April 4, 2014. She currently works at Kohl’s Department Store 10 hours a week. She is not enrolled in school.

b. Jose is twenty years old and works in his family’s accounting business for sixteen hours a week. Jose does not get paid for this work. Jose is not enrolled in school.

c. Susie volunteers ten hours a week with Habitat for Humanity. Susie is also enrolled as a full-time college student. Susie celebrated her 21st birthday at the Nitty Gritty in March, 2014.

d. Todd is out of work currently, but he is available to work and three weeks ago he submitted an application to a local software company that was advertising a job that he thought he might be able to get. However, yesterday Todd agreed to go on a four week long vacation with his first cousin to see the western United States. They will leave next Tuesday for their trip.

e. Tyler is not currently working, but is available for work and is looking for work. Tyler is finding it tough to find positions that suit his skills and interests. The last time Tyler submitted a job application was April 15, 2014 and it is now July 5, 2014. Tyler turned 19 on January 1, 2014.

f. Samantha is fifty five years old and she has worked throughout much of her adult life. In 2010 her work hours were cut to 20 hours a week at her job as a quality control officer for a local company. Samantha would like to work full-time and she is persistently looking for that kind of work and she is submitting job applications every week, but she has been unsuccessful in finding a full-time job.

g. Melinda works at a local copy shop forty hours a week. Melinda is 38 years old. But, for the past two weeks Melinda has not been at work and she has not been paid. Melinda and her family have been on a two week-long camping trip as part of their annual vacation.

**Inflation and the CPI:**

8. For this problem you will find it helpful to use either a calculator or an Excel spreadsheet. For your answers, round to the nearest hundredth.

In the economy of Greensboro the market basket for purposes of calculating the consumer price index (CPI) consists of 50 sandwiches, 1 moped and 60 apples. You are given the following information about prices of these three goods for the years 2010, 2011, and 2012. Assume the price is the price per unit.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Price in 2010 | Price in 2011 | Price in 2012 |
| Sandwich | $3.00 | $4.00 | $5.00 |
| Moped | $800.00 | $820.00 | $840.00 |
| Apples | $1.00 | $1.50 | $1.00 |

a. Given the above information, calculate the cost of the market basket and put your answers in the following table. In your homework show how you got these costs.

Cost of Market Basket

|  |  |
| --- | --- |
| Year | Cost of Market Basket |
| 2010 |  |
| 2011 |  |
| 2012 |  |

b. Calculate the CPI for 2010, 2011, and 2012 in Greensboro using a one hundred point scale and with the base year equal to 2010. Put your answers in the following table.

|  |  |
| --- | --- |
| Year | CPI with Base Year 2010 |
| 2010 |  |
| 2011 |  |
| 2012 |  |

c. Calculate the CPI for 2010, 2011, and 2012 in Greensboro using a one hundred point scale and with the base year equal to 2012. Put your answers in the following table.

|  |  |
| --- | --- |
| Year | CPI with Base Year 2012 |
| 2010 |  |
| 2011 |  |
| 2012 |  |

d. Calculate the annual rate of inflation in Greensboro using 2010 as the base year. In your answer show how you found this annual rate of inflation. Then put your answers in the following table.

|  |  |
| --- | --- |
| Year | Annual Rate of Inflation with Base Year 2010 |
| 2010 |  |
| 2011 |  |
| 2012 |  |

e. Calculate the annual rate of inflation in Greensboro using 2012 as the base year. In your answers show how you found this annual rate of inflation. Then put your answers in the following table.

|  |  |
| --- | --- |
| Year | Annual Rate of Inflation with Base Year 2012 |
| 2010 |  |
| 2011 |  |
| 2012 |  |

f. Are your answers in (e) and (f) the same? If they are not, then you have made an error and you should go back and correct the error before submitting your homework.

9. It is Thanksgiving 2015 and once again Uncle Roger and Scooter have gotten into a heated argument (this happens every year!). Scooter's son just got hired in an entry-level management position where he will earn $32,000 during his first year of employment. Uncle Roger is long retired but he is busy reminiscing about the “good old days” and he insists that life was much tougher for him when he was starting out. In fact he states that his first job paid him only $2000 a year. Uncle Roger got this job in 1950 while Scooter's son got his job in 2014 (the 2015 data weren’t available last Thanksgiving).

a. Scooter argues that Uncle Roger is making a serious error in his argument. Write an explanation about what you think Uncle Roger’s error is.

Scooter goes to the computer and finds the Bureau of Labor Statistics site that provides him with the Consumer Price Index for 1950, 2014, and for the base year 1982-1984 (this reflects the use of a "chain-weighted index" method).

|  |  |
| --- | --- |
| Year | CPI with base year 1982-1984 |
| 1950 | 24.1 |
| 1982-1984 | 100.00 |
| 2014 | 236.74 |

b. Given the above data, what scale is the CPI measured on?

c. Compute the following table’s missing values using 1982-1984 as the base year. Make sure you show the work you did to get the missing values. Round your answer to the nearest whole number.

|  |  |  |
| --- | --- | --- |
|  | Nominal Value | Real Value using 1982-1984 as Base Year |
| Uncle Roger’s Salary |  |  |
| Scooter’s Son's Salary |  |  |

d) Compute the following table’s missing values using 2014 as the base year. Make sure you show the work you did to get the missing values. Round your answer to the nearest whole number.

|  |  |  |
| --- | --- | --- |
|  | Nominal Value | Real Value using 2014 as Base Year |
| Uncle Roger’s Salary |  |  |
| Scooter’s Son's Salary |  |  |

e) Uncle Roger contends that Scooter’s son's salary is 16 times greater than his starting salary was. Thus, Uncle Roger concludes that Scooter's son has it much easier than Uncle Roger did when he was first starting out. Analyze this argument and provide some clarity for these two relatives! (If you need to round in your answer, round any calculations to two places past the decimal.)

10. Tommy recently graduated from college and is now in the process of deciding where he wants to start his career. He has three job offers (!) for similar work and similar future opportunities, but each job offer is in a different city. Tommy has no strong geographic preference and his only goal is to select that job that results in his being financially best off. From his economics class Tommy knows that he needs to be thoughtful when comparing these offers. This is what he knows:

Job Offer #1: is for a job in Toledo that pays $40,000 for his first year of work (for convenience, let’s refer to this as year 2015), guarantees him a 10% increase in his nominal salary for the second year (2016), and a 10% increase in his nominal salary for the third year (2017). After that his nominal salary will be adjusted so that his real salary stays constant.

Job Offer #2: is for a job in Miami that pays $42,000 for his first year of work (for convenience, let’s refer to this as year 2015), guarantees him a 5% increase in his nominal salary for the second year (2016), and a 5% increase in his nominal salary for the third year (2017). After that his nominal salary will be adjusted so that his real salary stays constant.

Job Offer #3: is for a job in St. Paul that pays $48,000 each year for the first and second years (2015 and 2016), and a 3% increase in his nominal salary for the third year (2017). After that his nominal salary will be adjusted so that his real salary stays constant.

a. Let’s start by simply analyzing the nominal values of these three job offers. Given the above descriptions fill out the table below so that Tommy can compare the nominal values of the offers he has. Once you fill out the table rank the options in terms of their nominal values. Show in the table how you computed these answers.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Nominal Wage in 2015 | Nominal Wage in 2016 | Nominal Wage in 2017 |
| Toledo |  |  |  |
| Miami |  |  |  |
| St. Paul |  |  |  |

b. Tommy understands from his economics class that he needs to really consider real salaries rather than nominal salaries in making his decision about which offer to accept. Luckily for him we have data about the CPI projections for the next three years for each of these cities. The table below provides our best estimates of what the CPI for 2015, 2016 and 2017 will be in each of these cities.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Projected CPI 2015 | Projected CPI 2016 | Projected CPI 2017 |
| Toledo | 100 | 120 | 130 |
| Miami | 110 | 120 | 130 |
| St. Paul | 120 | 125 | 130 |

Use this information to complete the following table of real salary values for these three job offers. In the table, you should round your answers to the nearest whole number. Show in the table how you computed your answers. Once you fill out the table rank the options in terms of their real values. Which job offer should Tommy accept?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Projected Real Salary in 2015 | Projected Real Salary in 2016 | Projected Real Salary in 2017 |
| Toledo |  |  |  |
| Miami |  |  |  |
| St. Paul |  |  |  |

c. To drive home the difference between the nominal and real values a bit more. Let’s complete one more table using the data you have been given. Here is the table: make sure you show your work for how you computed your answers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Percentage change in nominal salary from 2015 to 2016 | Percentage change in nominal salary from 2015 to 2016 | Percentage change in real salary from 2015 to 2016 | Percentage change in real salary from 2016 to 2017 |
| Toledo |  |  |  |  |
| Miami |  |  |  |  |
| St. Paul |  |  |  |  |

**AD/AS Model:**

11. Use the AD-AS Model to answer this question. For each description assume that the AD-AS Model is initially in long-run equilibrium.

a. Suppose that there is a real estate boom in this economy. Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the short run? Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the long run? Explain your answer.

b. Suppose that the government in this economy goes to war. Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the short run? Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the long run? Explain your answer.

c. Suppose that the price of energy decreases in the economy. Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the short run? Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the long run? Explain your answer.

d. Suppose that the government reduces taxes and at the same time an announcement is made that a major new oilfield has been discovered in western Nebraska and this oilfield is anticipated to be so large that the country no long will need to import oil. Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the short run? Holding everything else constant, what do you predict will happen to real GDP and the aggregate price level in the long run? Explain your answer.

12. Use the AD-AS Model to answer this set of questions. Suppose you are given the following information:

Long run aggregate supply (LRAS): Yfe = 2500

Short run aggregate supply (SRAS): Y = 250P – 500

Aggregate demand (AD): Y = 4,000 – 200P

where Y is real GDP and P is the aggregate price level.

a. Given the above information, find the short run equilibrium level of real GDP and the aggregate price level.

b. Draw a graph representing the SRAS curve, the AD curve, and the LRAS curve. Label the short run equilibrium.

c. Given your answers in (a) and (b), in this economy in the short run in a boom or a recession? Explain your answer.

d. In the long run, holding everything else constant, what do you predict will happen in this economy?

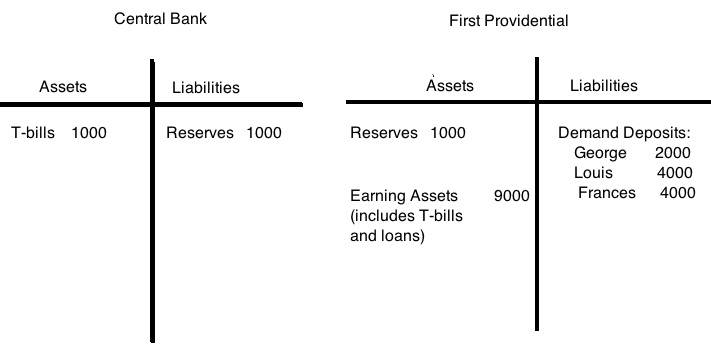
e. Given the above information, provide a numerical answer for the long run values of real GDP and the aggregate price level in this economy.

f. Given your answers in (d) and (e), provide an equation for the new SRAS curve.

g. At each aggregate price level, what was the decrease in real GDP given your new SRAS curve for (f)?

**The Federal Reserve:**

13. Suppose that an economy has one bank for the public’s financial transactions and a central bank authorized to manage the economy’s money supply. In this economy no one holds currency (i.e., there are no currency drains) and all purchases are made by writing checks (or using debit cards). Furthermore, First Providential never holds excess reserves after it makes full adjustment for any monetary policy. There are three people-George, Louis and Frances-that live and work in this economy. The following t-accounts provide us with the initial situation in this economy.



a. Given the above information, what is the required reserve ratio in this economy? Explain how you got your answer.

b. Given the above information, what is the money supply in this economy? Explain how you got your answer.

c. Suppose Louis writes a check in order to purchase $500 worth of camera equipment from George who owns and operates a camera store. Describe the impact of this purchase on First Providential’s demand deposits and reserves. Does this purchase affect the Central Bank’s t-account? If so, explain all the changes in this t-account.

d. For this question start with the initial t-accounts. Suppose the central bank decides to sell $200 worth of T-bills to First Providential. Show how this decision first impacts these t-accounts before any adjustment with regard to returning to the required reserve levels has been made (show the first round effects of this transaction and not the final full adjustment).

e. Given (d), right after the central bank purchases the T-bills does First Providential have insufficient or excess reserves? Quantify the level of these reserves relative to the required amount for the given amount of demand deposits.

f. Given (d), suppose First Providential approaches George, Louis and Frances and tells them that the bank will need to call in some of the loans that First Providential has made to George, Louis and Frances. At the end of this process First Providential will have no excess reserves and the percentages of total demand deposits held by George, Louis and Frances are the same as they were initially. Draw this final t-account. [Hint: this will be a t-account where First Providential has made full adjustment to the central bank’s sale of $200 worth of T-bills.] Show in your answer how you calculated the values in your t-account.

g. Given the transaction in (d), what is the change in the money supply? Provide two different ways (one of these methods should use the money multiplier) to get this change in the money supply.

**A Final Big Problem:**

14. Suppose you are given the following information about an economy:

Required reserve ratio is 5%

Money Supply = Ms: Ms = 12,000

Money Demand = Md: Md = 24,000 – 3000r where r is the interest rate (for this problem we will assume that there are no expectations of inflation so that the nominal interest rate is the same as the real interest rate-this is a simplifying assumption that will make this rather-long problem less complex)

Investment Spending = I: I = 1000 - 100r

Aggregate Expenditure = AE: AE = C + I + G + (X – M)

Consumption Spending = C: C = 200 + .5(Y – T) -100P where P is the aggregate price level

Government Spending = G: G = 200

Net Exports = (X – M): (X – M) = 50

Autonomous Taxes = T: T = 150

Aggregate Demand = AD: AD = AE = Y = C + I + G + (X – M)

Long run Aggregate Supply = LRAS: LRAS = Yfe = 1725

Short run Aggregate Supply = SRAS: Y = 287.50P

a. There is a lot of information given to you in this problem. There is information about the money market; information about aggregate expenditure; and information about the AD, LRAS and SRAS curves. Take a moment and look at this information carefully. Now, focus on the consumption function: what does consumption spending depend upon in this economy? What is the relationship between consumption spending and disposable income (e.g., is it a positive or negative relationship)? What is the relationship between consumption spending and the aggregate price level? Do both of these relationships seem plausible to you? Explain your reasoning.

b. Given the above information, what is the equilibrium interest rate in this economy? Explain how you found this interest rate.

c. Given the above information, what is the level of investment spending in this economy? Explain how you found this level of spending.

d. Given the above information, calculate an equation that expresses this economy’s aggregate demand for goods and services.

e. Given the above information and your work in (a) through (d), find the short run equilibrium level of real GDP (Y) and the short run aggregate price level (P). Then draw a graph illustrating this short run equilibrium. In your graph include the LRAS curve as well. Measure the aggregate price level on the vertical axis and real GDP on the horizontal axis.

f. Suppose the government sets a goal of using fiscal policy to reach the full employment level of output. If the government changes the level of government spending to reach this goal, how much will government spending need to change by holding everything else constant? After you compute the change in government spending, use this new level of spending to recalculate the equilibrium level of real GDP and see if your answer is correct. (Hint: the simple multiplier calculation will result in “too small” a level of stimulus since the aggregate price level will change when the AD curve shifts.) Show your work and your computations.

g. Suppose the government sets a goal of using fiscal policy to reach the full employment level of output. If the government changes the level of autonomous taxes to reach this goal, how much will the autonomous taxes need to change by holding everything else constant? After you compute the change in autonomous taxes, use this new level of taxes to recalculate the equilibrium level of real GDP and see if your answer is correct. (Hint: the simple multiplier calculation will result in “too small” a level of stimulus since the aggregate price level will change when the AD curve shifts.) Show your work and your computations.

h. Suppose the government, for political reasons, finds that fiscal policies are simply not possible to implement in this economy. But, the government is still determined to restore this economy to Yfe, perhaps because the government is concerned with the social instability that high levels of unemployment may create, or because the government is morally concerned about the impact of high unemployment on people in their society, or because….(fill in your own rationale).The government sets a goal of using monetary policy to reach the full employment level of output. Can the government reach this goal using only monetary policy? In your answer remember that it is not possible to have the nominal interest rate go below 0%. Holding everything else constant, what is the highest level of real GDP this economy can attain if the government engages in activist monetary policy? (Hint: you will definitely need your calculator on this one!) And, what will be the monetary policy that is implemented to reach this level of real GDP? In your answer to this last question be specific with the type of policy as well as providing a quantitative number for this policy.