This review sheet is intended to cover everything that could be on the exam; however, it is possible that I will have accidentally left something off. You are still responsible for everything in the chapters covered except anything that I explicitly say you are not responsible for. Therefore, if I left something off of this sheet, it can still be on the exam. There will be no multiple-choice questions. Most of the questions will be like the ones in the homework assignments, and possibly a few definition questions, but I am more likely to ask questions that make you use the definitions rather than recite them. I will probably ask one of the questions from the book at the end of the chapters.

The review session will be at a time to be determined in class, probably 4/25.

Chapter 10: What is meant by the term **long-run aggregate supply curve**? What determines its shape and its location? How does it relate to the PPF, a.k.a. the PPC? What is **aggregate demand**? Why does it take its shape? Note the logic used for the demand curve's slope does not apply to the slope of the aggregate demand curve. What moves the AD curve? *Anything that changes the demand for goods and/or services (C+I+G+X), other than price induced changes in the demand, will move AD. Remember that for all curves, if a variable on one axis changes causing the other variable to change, then you did not move the curve, you retraced it.* What causes inflation? What are **demand pull and cost push inflation**? The book goes into more detail in Chapter 11.

Chapter 11: What are the four assumptions of the **classical school**? What did **Say say**? How does it relate to the **SRAS curve**? Note that we went into more detail than the book on that explanation. How does it relate to labor supply and labor demand? Why should S = I? What assumptions did **Keynes** make? How did that relate to the SRAS curve? Why do we draw the "**Modern**" SRAS? *Unless I specify otherwise, when I refer to the SRAS, use the "Modern SRAS."* What moves the SRAS? *Notice that the only thing that moves SRAS without moving LRAS is the price of inputs because they do not affect how much could be produced if we are at full employment. Note the book has useful tables on Pages 229 (Chapter 10) and 253, which is slightly misleading in the next to last line. Marginal business and/or sales tax rates move the SRAS because it is a cost of production, while marginal income tax rates affect aggregate demand because they reduce income, not raising the cost of production. The prices of inputs only temporarily affect the costs of production without any long-term effects. Since expected future price increases will increase wages, which are an input price, it will move only the AD and SRAS curves but not the LRAS curve.* What is meant by **supply shock** and **demand shock**? *Unless specified otherwise, use the "modern" SRAS curve when asked for the SRAS curve. If you are not told that unemployment is high or low, start your graph with LRAS crossing SRAS where it crosses AD.* What are **inflationary and recessionary gaps**? How will they solve themselves if the government takes no actions? What are the demand pull and cost push inflations? How does a change in the value of the dollar on the foreign exchange market affect the SRAS/LRAS/AD diagram? *Note that the book should combine the panels in Figure 11-13. Unless specified otherwise, use the "modern" SRAS curve when asked for the SRAS curve. If you are not told that unemployment is high or low (recessionary gap or inflationary gap respectively), start your graph with LRAS crossing SRAS where it crosses AD.*

Chapter 12 starting with Page 279: *Note that the AD line is virtually the same as the C + I + G + X line.* Both represent how much is being demanded. However, changes in the price level will move the C+I+G+X line but not AD line. What determines the size of the **government spending multiplier**? What is the economics behind it? How do we see it on the Keynesian Cross diagram? How does our

assumptions about prices, interest rates, income taxes, and imports affect its size?

Chapter 13: What is fiscal policy? What should the government do with taxes and spending if there is an **inflationary gap** or **a recessionary gap**? Show those actions on the **LRAS/SRAS/AD diagram**. What are the drawbacks of doing fiscal policy, for example, **crowding out investment, direct expenditure offset,** and **lags**? Why are these problems? What is the **Laffer Curve** and why does it matter? What is Ricardian Equivalence and why should it hold? Note that **Ricardian Equivalence**, the size of crowding out and lags are often debated among economists. What are automatic stabilizers?

Chapter 14: What determines the size of the **government deficit/surplus**? Why should we know the unemployment rate when considering the desirability or lack of desirability of the deficit? How does a deficit differ from the **debt**? Be able to calculate the **full-employment deficit**. What is the difference between **gross public debt** and **net public debt**? What are the problems caused by them? To what extent are these arguments valid: **high interest payments hurt, future generations must pay the debt, crowding out,** and **we owe foreigners the money**? How is the government deficit related to the **trade deficit**, i.e., the **twin deficits**? Why is it important to know why the deficit is big? How are the short-run and long-run effects of the deficit different? Why is it difficult to reduce the deficit? For example, why are most expenditures tough to cut and why isn't raising taxes a good option? Why does **Paul O'Neill** say that the government owes a lot more than the amount they borrowed?

This is the non-graded Assignment #9A that will be reviewed with Assignment #9.

According to TreasuryDirect.gov, the gross public debt was $21,070,966,420,897.70 on 2018/4/18. http://www.treasurydirect.gov/NP/debt/current According to the Census Bureau's population clock at 2:34 on 2018/4/18, http://www.census.gov/popclock/, the population was about 327,558,663 people. That means the debt is $64,327.31 per person. According to NASA, the solar system started 4,500,000,000 years ago, http://map.gsfc.nasa.gov/universe/uni_age.html. Therefore, if you earned 1 penny for 8 out of every 9 minutes (without earning interest) from the start of the solar system, you would not have enough to pay the debt. According to the Bureau of Economic Analysis, the GDP is $19.4 trillion. This means the debt-to-GDP ratio is 1.09. Therefore, the government owes 109% of the entire GDP. The GDP data was gotten from https://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm.

1) (25 points) We discussed three different debts, net public debt, gross public debt, and Paul O'Neill's debt. What is the difference between the three? Which do you feel is going to cause the government's budget the most problems in the future? Explain your logic.

2) (15 points) Those who say the debt is a big problem, will often say (referring to the calculations above Question #1), "The debt per person is $64, 327.31. That means my grandchildren will have to pay that much when we pay off the debt. They cannot afford to pay that much." What are two problems with that argument? Explain your logic.

3) (10 points) According to http://ticdata.treasury.gov/Publish/mfh.txt, just over $4 trillion of the

debt was owned to foreigners as of August of 2017. Why is that a problem?

4) (15 points) When we discussed the reasons why fiscal policy may not work, we discussed *crowding out*. What is that? Why is that also a long-run problem of the debt? Explain your logic.

5) (15 points each) For each of the following ways to reduce the budget deficit, explain why it is either difficult to do, or it will not achieve much. Answer each part in a different paragraph.
A) Cut spending.
B) Tax the rich

6) (5 points) President Trump has done a tax cut for the middle class. What will that do to the deficit and debt? Briefly explain your logic.

Review Sheet for the two parts of the final.

The optional review session for the first part of the final will be determined by group decision. The "review session" for the second part will be in class on 5/3. The first half of the final will be the last class (5/10) and the second half is Monday, May 14th, 8:00 - 10:00.

The two parts of the final will be in the same order as the last few years. **The second half of the final** will be just like the second half of the final for the last semester. However, I will change the numbers and I may slightly change the manner which I assign points or improve the wording.) If I were you, I would use a Keynesian, but not extreme Keynesian, approach to solve the problem because it is easier to solve problems in a Keynesian world. (That does not mean that Keynes is right, just easier to deal with.) For the second half of the final, you will probably want to practice showing policy on the SRAS/LRAS/AD diagram, 45° diagram, and the MS/MD diagram **at the same time**. Make sure that GDP goes the same direction in the two diagrams with it on the X-axis. **The second half of the final** is open book and notebook.

The first part of the final will be held during the last class. It will cover the material that is not directly covered by the second half of the final. For example, I will not ask you to show an increase in the money supply on the LRAS/SRAS/AD diagram. Anything on any review sheet that is not explicitly covered in Part 2 of the Final is fair game. There will definitely material from the class after Exam #3. This part of the final is closed book and closed notes, just like all other tests.

When I write the final, I look to see what I did not ask about, and what were the major topics. I write questions about those topics. (Obviously, opportunity costs, supply/demand, and Social Security will be on the first half of the final.) I try to get the questions evenly distributed from all the tests. However, the second half of the final covers much of the material for Test #2 and #3. Therefore, much of the material for the first half of the final will be on material from Test #1, with some questions from each of the other tests' material.

Material Covered After Exam #3 (On the Next Page):

Chapter 15: Why should money be a good **medium of exchange, unit of account, store of value,** and **standard of deferred payment**? What is meant by **liquidity**? What backs our money? Know what is in **M1** and **M2**, but not M3. You only have to know the items in them that the book mentions. (There are other parts of M2 and M3 that the book leaves out.) Know the properties of each item in them. Know what happens when we move money between them. *Hints: Do not forget that M1 is in M2. Unless you are taking a loan, then M2 doesn't change.* Do not worry about what each organization in Table 15-2 does. What is the **Federal Reserve**? What does it do? What are its tools? How do they affect the money supply? The map of the Federal Reserve Districts incorrectly has us in the Richmond District. We are in the Cleveland District. Do not worry about the balance sheets or the money multiplier. What is the **FDIC**? How does it result in moral hazard and adverse selection? Ignore the rest of the chapter.

Chapter 16: What determines the demand for money? What are transaction, precautionary, and asset demand for money? Be able to move the **MS** and **MD** curves. Ignore the S/D for bonds. Illustrate the effects of **monetary policy** on LRAS/SRAS/AD diagram. Understand why **MV=PY**. Understand why **monetarists** do not like monetary policy. (This is the lags from Chapter 13 again, but they are of different lengths than they were there.) Why can't the Fed choose to set both interest rates and the money supply? What is the **Keynesian liquidity trap**? Why might that mean monetary policy won't work?

Questions based upon Chapters 15 & 16 after Exam #3

1) (15 points) Draw the MS/MD diagram. Illustrate the effects of an increase in real GDP. Explain why the curve(s) moved as drawn. What happens to the quantity of money and the interest rate?

2) (15 points) Draw the MS/MD diagram. Illustrate the effects of the Fed buying bonds on the open market. Explain why the curve(s) moved as drawn. What happens to the quantity of money and the interest rate?

3) (20 points) Draw the LRAS/SRAS/AD diagram. Illustrate the effects of an increase in the money supply. Explain why the curve(s) moved as drawn. What happens to the price level and real GDP?

4) (10 points) The classical school assumes that MV=PY is true and makes two other assumptions about the equation. What are those assumptions? In their model, if the Federal Reserve increases the money supply, then what happens to the economy? Explain your logic.

5) (20 points) Use the MS/MD diagram to prove the Fed cannot control both the money supply and interest rates.

6) (20 points) Show a Keynesian liquidity trap on the MS/MD diagram. Explain why that could mean monetary policy won't work.

Remember to fill out course evaluations the last week of classes.