Name: Chris Shepard Section: 2020

E-Portfolio – Signature Assignment

Salt Lake Community College
Macroeconomics - Econ 2020
Professor: Heather A Schumacker

Please type your answers to the following questions. If you need to hand draw the graphs on page 3 you may and then scan them as a separate document. When you have completed this assignment post it to your e-portfolio along with your chosen article and 20 terms article write up. (20pts) Make sure to put an explanation of the assignments and a reflection statement on your ePortfolio web site. For examples of reflection prompts please see SLCC's website: https://www.slcc.edu/gened/eportfolio/docs/ReflectionHandout2.pdf. (10 pts) Link your ePortfolio URL to your My.SLCC.edu under the Academics & Records tab so that instructors can view your work. (5pts)

1. What are the 3 main macroeconomic goals economists would like to see for an economy: (3pts)
    1. GDP growth
    2. Low unemployment
    3. Low inflation

2. What is the formula for GDP (write out the full name)? Circle or highlight the largest component and fill in the chart. Under each put the components and something unique. (19pts)

GDP = Consumption + Investment + Government Purchases + Net Exports

Components: Circle the largest sub-category	Components:	Components:	Components:
1. Durables	1. Fixed Business Investment	1. Goods	1. Exports
2. Nondurables	2. Construction Investment	2. Services	2. Imports (subtracted)
3. Services	3. Inventory Investment		
	Excludes: 1. Transfers of ownership for assets, both paper and real	Excludes: 1. Transfer payments 2. Governmental debt interest	

3. Given the following information, what is the short-run equilibrium output (show your work) **2,610** What is the autonomous expenditure **1,305** what is the induced expenditure **0.5Y** where would it cross the Y axis **1,305** what is the slope of PAE **0.5** what is the multiplier **2** if there is a 10 unit increase in PAE what will happen to the short run equilibrium (increase or decrease) **increase** and by how much **20 points** and will it lead to a recessionary gap or an expansionary gap **expansionary gap** (9pts)

$C_a = 890$ MPC = 0.5 $I^p = 220$ G = 300 X-M = 20 T = 250

$PAE = C_a + MPC(Y - T) + I^p + G + (X\text{-}M) \rightarrow PAE = 890 + 0.5(Y - 250) + 220 + 300 + 20 \rightarrow$ **PAE = 0.5Y + 1,305**

$Y = PAE \rightarrow Y = 0.5Y + 1{,}305 \rightarrow 0.5Y = 1305 \rightarrow Y = 1{,}305*2 \rightarrow$ **Y = 2,610**

$Y = 0.5Y + 1{,}305 + 10 \rightarrow Y = 0.5Y + 1{,}315 \rightarrow 0.5Y = 1{,}315 \rightarrow$ **Y = 2,630**

4. FRED Create a GDP graph following the instructions on the handout:

Based on the graph, what is the Real Personal Consumption Expenditures for the second quarter of 2016?

12,211.285

Based on the graph, what is the Real Government Consumption Expenditures and Gross Investment amount for the second quarter of 2016?

3,137.504

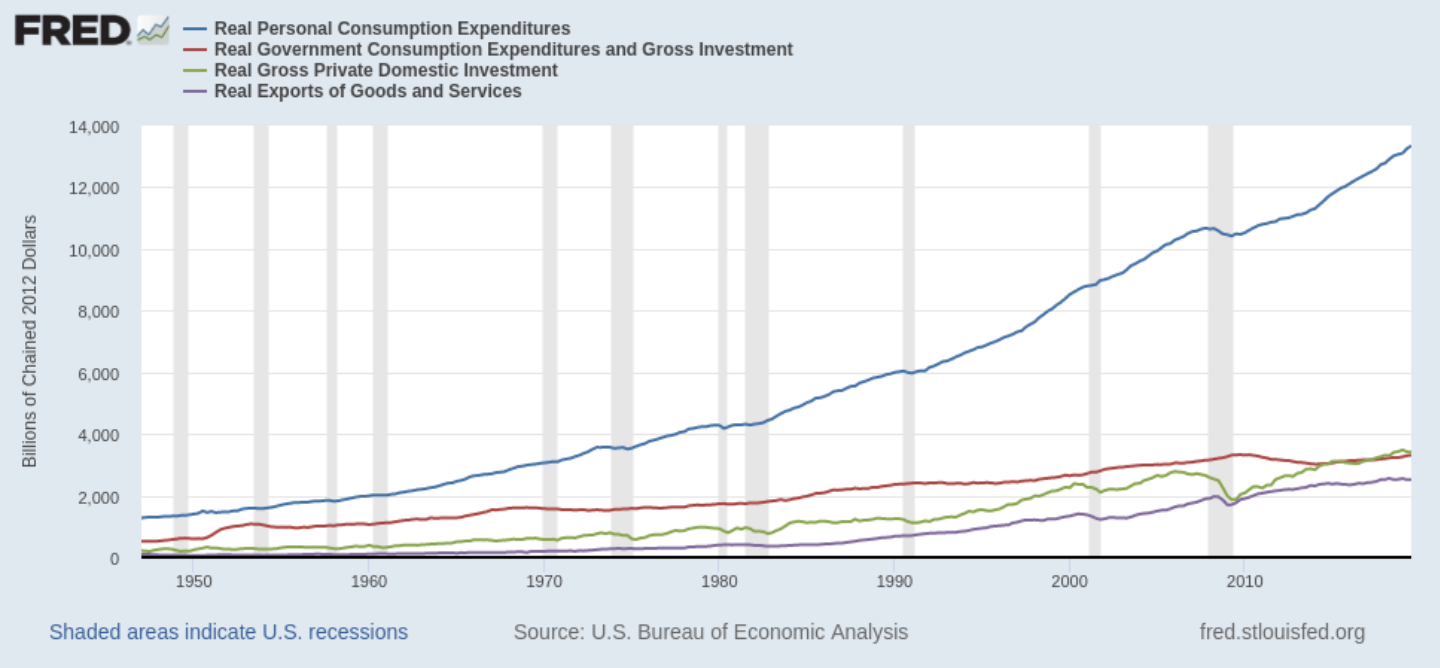
Based on the graph, what is the Real Gross Private Domestic Investment amount for the second quarter of 2016?

3,041.633

Based on the graph, what is the real net exports of goods and services amount for the second quarter of 2016? (4pts)

2,367.934

Write about what inferences you can make from this graph. Save and paste the area graph here: (5pts for the graph and 5 pts for write-up)



Consumption dominates over any other type of expenditure or investment, almost always increasing faster than the rest. It is impacted less during recessions, while private domestic investment gets hammered as businesses become more conservative and pull back.

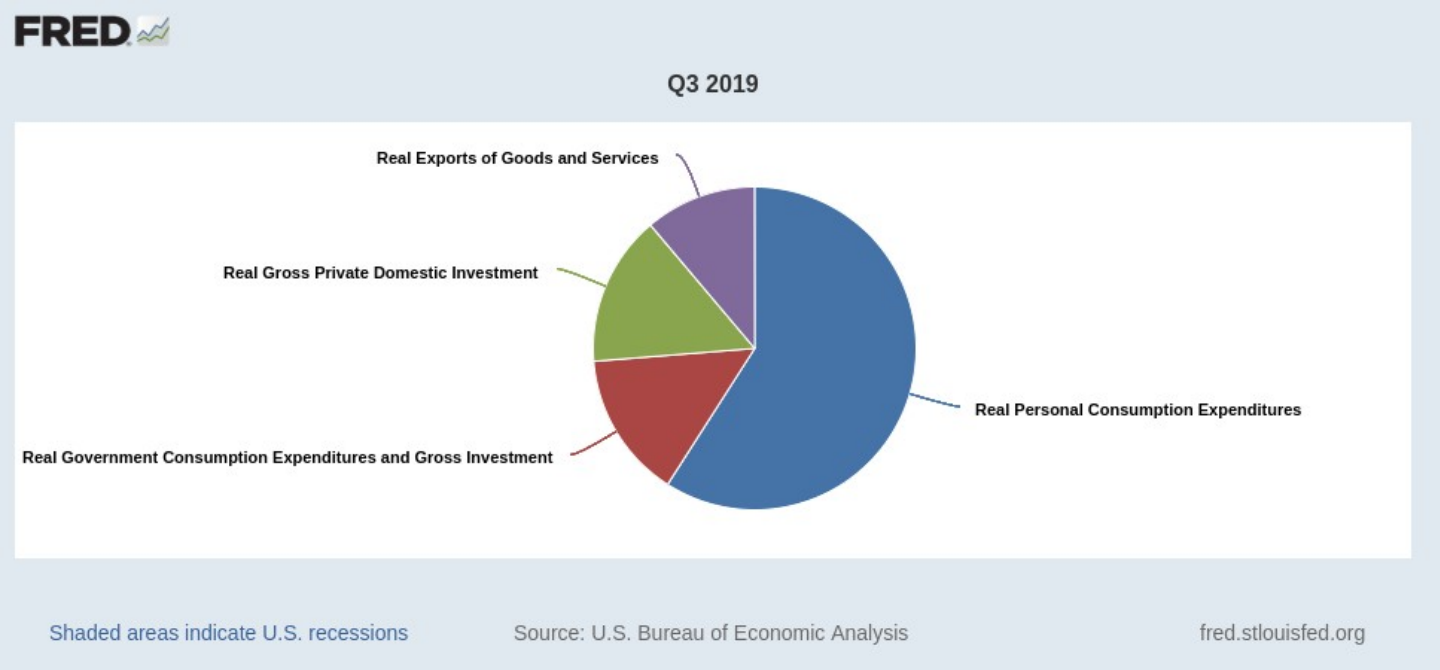
5. Change the graph type to a pie graph:

   Put the curser over the pie graph: What is the value of the current Real Personal Consumption Expenditures 13,343.662 in billions of chained 2009 dollars and what % of GDP is it 59.1%

   What is the value of the current Real Government Consumption Expenditures and Gross Investment 3,312.747 in billions of chained 2009 dollars and what % of GDP is it 14.7%

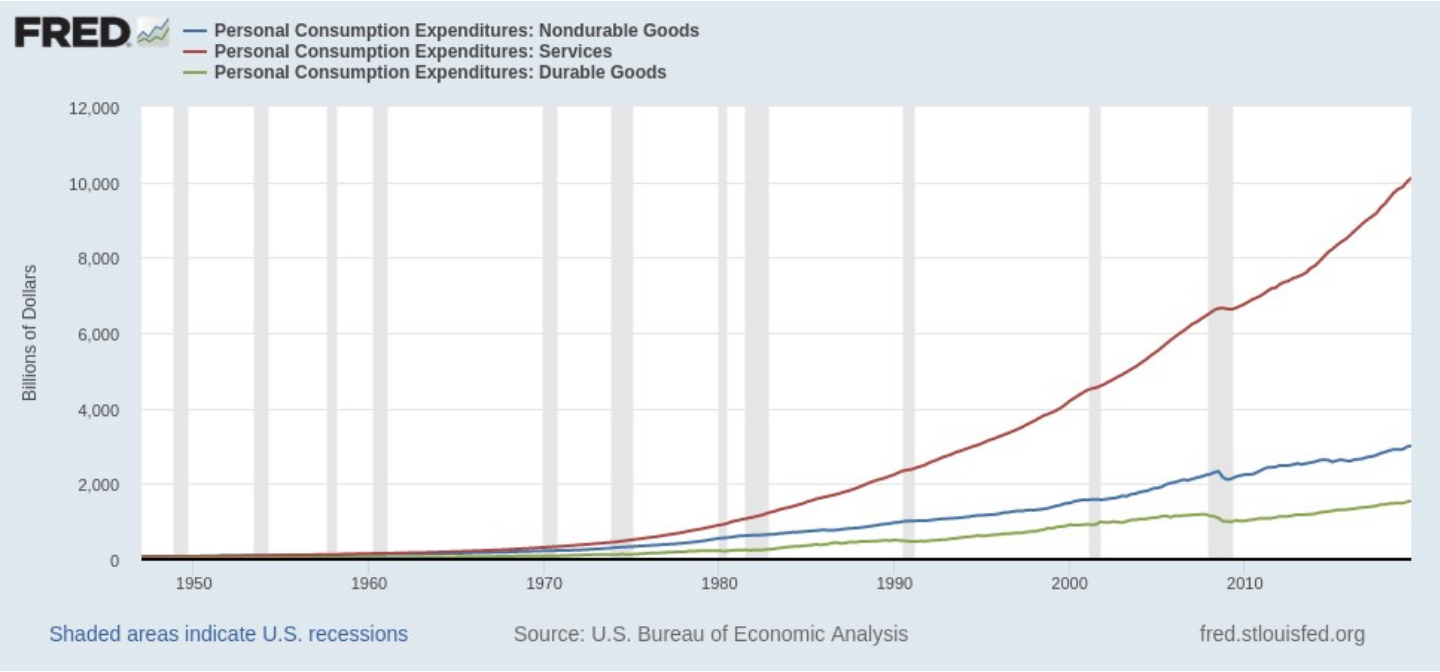
   What is the value of the current Real Gross Private Domestic Investment Expenditures 3,411.382 in billions of chained 2009 dollars and what % of GDP is it 15.1% (6pts)

   Paste the pie graph here: (3 pts)



6. Create a graph in FRED that shows the 3 components of consumption as a line graph from the beginning of the data through to the current: Personal Consumption Expenditures: Nondurable Goods, Personal Consumption Expenditures: Services, and Personal Consumption Expenditures: Durable Goods (6pts).
   1. What % was durable goods in 1947 13.3% and what is it in the most recent quarter: 10.6%
   2. What % was non-durable goods in 1947 47.9% and what is it in the most recent quarter: 20.5%
   3. What % was services in 1947 38.8% and what is it in the most recent quarter: 68.9%

   Paste the graph here (5pts):


FRED
Personal Consumption Expenditures: Nondurable Goods
Personal Consumption Expenditures: Services
Personal Consumption Expenditures: Durable Goods
Billions of Dollars
12,000
10,000
8,000
6,000
4,000
2,000
0
1950
1960
1970
1980
1990
2000
2010
Shaded areas indicate U.S. recessions
Source: U.S. Bureau of Economic Analysis
fred.stlouisfed.org

7. Given the situation our economy went through in the Great Recession it was took several years to come out. Explain why both fiscal and monetary policy had a difficult time getting us back to the optimal level of GDP. (5pts)

Attempts to accelerate the economy by providing additional money to the public, such as in the form of tax rebates, fell flat as people instead used the additional money to pay off existing debt. Businesses were unwilling to take on new debt, even in the face of improved rates, which also contributed to these difficulties.

8. What is the difference between nominal and real, why is each important? (4pts)

Nominal includes inflation while real does not. Nominal is important because it highlights the effects that inflation has on prices. Real is important because it allows apples-to-apples comparisons between different years, which are otherwise obfuscated by changes in inflation.

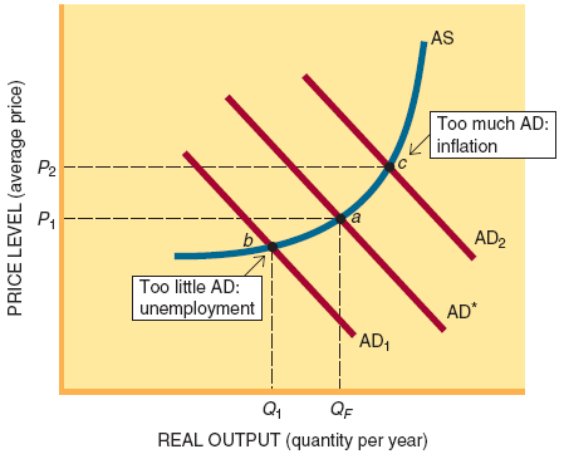
1. Pull the top fifteen countries with the highest nominal GDP, the highest real GDP, and the highest real GDP per capita based on data from the World Bank. How are these similar and different? Which one would want to use and why? (10 points)
    i. https://en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)
    ii. https://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)
    iii. https://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28PPP%29_per_capita
    iv. Download this map and paste it below the 3 charts as a JPEG. Use it as you answer this question as well https://geofred.stlouisfed.org/map/?th=blues&cc=5&rc=false&im=fractile&sb&lng=0.0&lat=39.9&zm=2&sl&sv&rt=country&sti=1460&at=Not%20Seasonally%20Adjusted,%20Annual,%202010%20U.S.%20Dollars&fq=Annual&am=Average&un=lin&dt=2017-01-01

Nominal and real GDP are fairly similar in the countries that they list, though the ordering is shaken up a bit. Per capita real GDP is strikingly different. Nominal GDP is useful when comparing within a narrow timeframe, such as quarters of the same year – inflation will have less of an impact in these cases, usually. When comparing different years, real GDP is used in order to remove inflationary differences between those points in time. Real per capita GDP is used to account for differences in population. Without accounting for population differences, one cannot readily distinguish between a low-population-high-production economy vs a high-population-low-production economy. For example, China is #1 in real GDP, but doesn't show up in the top 15 when population is accounted for.

Nominal GDP	Real GDP	Real GDP Per Capita
1. United States	China	Qatar
2. China	United States	Luxembourg
3. Japan	India	Singapore
4. Germany	Japan	Brunei
5. United Kingdom	Germany	Ireland
6. France	Russia	United Arab Emirates
7. India	Indonesia	Kuwait
8. Italy	Brazil	Switzerland
9. Brazil	United Kingdom	San Marino
10. Canada	France	Norway
11. Russia	Italy	United States
12. South Korea	Mexico	Saudi Arabia
13. Australia	Turkey	Iceland
14. Spain	South Korea	Netherlands
15. Mexico	Spain	Austria

9. What is the problem associated with being at AD_2 that makes policy makers concerned? (1pt)

Too much aggregate demand leads to inflation



10. Who does fiscal and monetary policy? What are 2 fiscal policies and 3 monetary policies to correct a situation where the economy is naturally at AD^* but finds itself at AD_2, as seen in the graph on the previous page. Briefly explain how each of these policies would work to correct the situation. (22pts)

Who does fiscal policy: Congress

1. Reduce government spending

   Directly shifts aggregate demand to the left. Such cuts are impacted by the multiplier, so 1$ in cuts can produce more than 1$ in reduced aggregate demand.

2. Increase taxes

   Reduces disposable income, which reduces consumption, shifting aggregate demand to the left.

Who does monetary policy: Federal Reserve

1. Increase the Reserve Requirement

   This will increase the amount of money banks must keep in reserve, reducing the amount of money they have to lend, which in turn reduces the amount of money supply. This shifts the aggregate demand curve to the left.

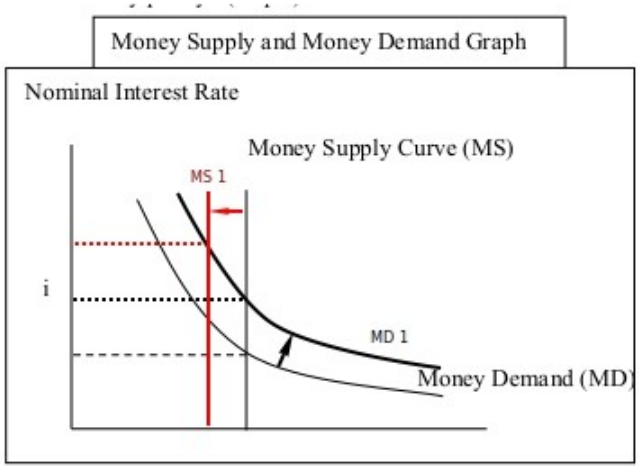
2. Increase the Discount Rate

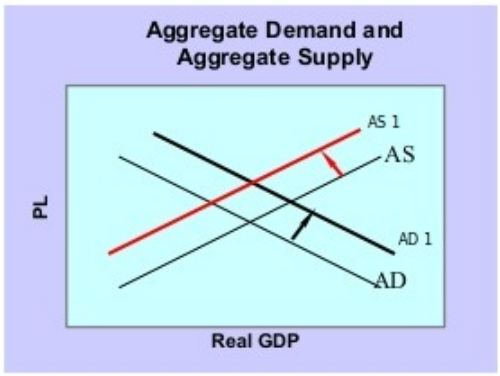
   This will increase the cost to banks for closing any gaps in their reserve funds. Banks will compensate by holding more in reserve, to avoid having to spend more due to this increased rate. This reduces their lending power, pulling money out of the money supply, which shifts the aggregate demand curve to the left.

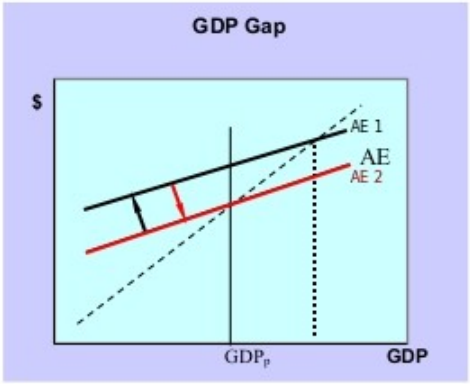
3. Sell Bonds via Open Market Operations

   This will directly remove money from the money supply, shifting the aggregate demand curve to the left.

11. Begin in equilibrium in each of the following graphs; draw the effects from question 2 above as they would apply in each graph below. Next draw the effects of an anti-inflationary policy taken by the fed to correct the result from question 2 - use each of the graphs below in your explanation. Explain what is happening in each graph and overall in the economy as the due to the anti-inflationary policy. (20 pts)







I'll be referring to the AD-AS graph as "graph 1", the money supply/demand graph as "graph 2", the aggregate demand/supply graph as "graph 3", and the GDP Gap graph as "graph 4", for ease of reference.

When aggregate demand increased from AD* to AD_2 in graph 1, it created an inflationary gap. Prices are higher, and the economy overheats. Aggregate demand shifted out from AD to AD_1 in graph 3, which increased the price level and also increased real GDP. This shift in price level and the increase in aggregate demand results in an increase in the money demand, shifting MD out to MD_1 and raising interest rates, in graph 2. Aggregate expenditures also increase, shifting AE to AE_1 in graph 4, which reflects both the increase in GDP above the planned level of GDP_P and an increase in aggregate demand (the vertical axis of graph 4).

The Federal Reserve could implement a contractionary policy, such as selling bonds, to close this inflationary gap. Selling bonds would pull money out of the money supply, shifting MS to MS_1 in graph 2. This would raise interest rates even further. Such an action would reduce aggregate spending from AS to AS_1 in graph 3, raising price levels even higher, but bringing real GDP back in line. Aggregate expenditure would reduce from AE_1 to AE_2, and GDP would once again be at planned levels, GDP_P. Ultimately, prices are higher, interest rates are higher, but the economy is no longer straining beyond sustainable levels.

12. List the 3 types of Unemployment, define each, and put a star next to those that are included in the natural rate of unemployment. (8pts)

    1. Frictional unemployment

       Short-term unemployment, associated with matching workers and jobs. Includes workers who have quit, been fired, laid off, or have just entered the labor force.

    2. Structural unemployment

       Unemployment due to changes in the structure of the demand for labor. For example, when certain skills become obsolete or when the geographic distribution of jobs changes.

    3. Cyclical unemployment

       Unemployment that occurs during the recession phase of the business cycle.

13. Complete 2 graphs looking at aspects of unemployment and write about what inferences you can make from these graphs.
    1. Create a graph to compare the national rate of unemployment to the unemployment rate for Salt Lake City, UT. FRED: Follow the instructions for this assignment on PDF handout.

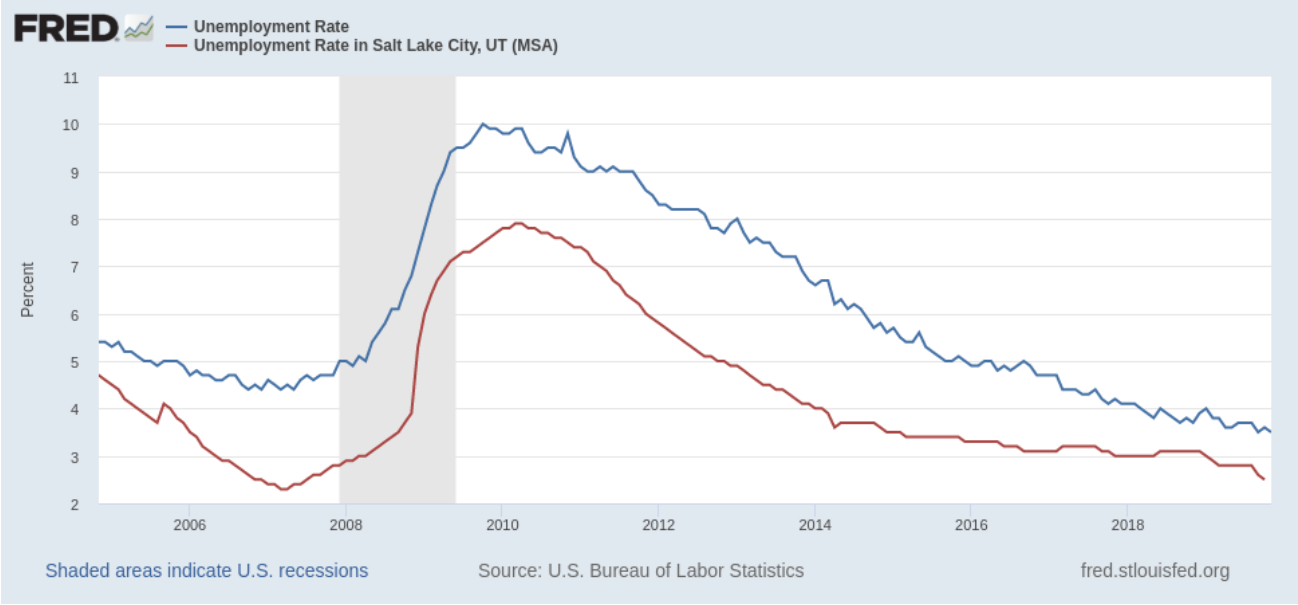
       Before you start, make sure to log in to your free account so that you can save your graphs!

       FRED unemployment graph:

       Watch the video "Introduction to FRED" and complete your own unemployment graph. Instead of using St.

       Louis use Salt Lake City. Have the graph span the last 15 years.

       Paste Graph 1 here (5pts):



    2. Create a graph that looks at the actual unemployment rate (UNRATE) and natural rates of unemployment (NROU)

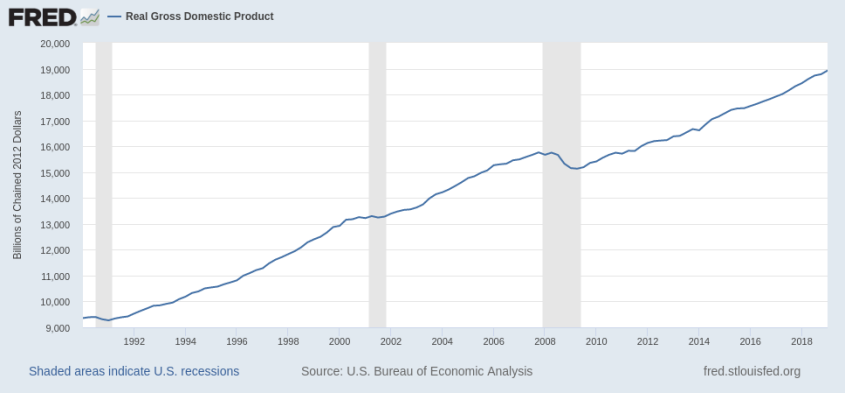
       for all years possible.

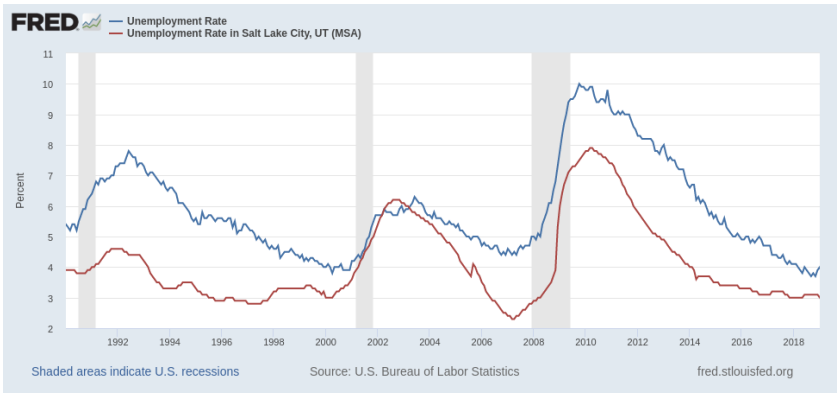
       Paste graph 2 here (5pts):

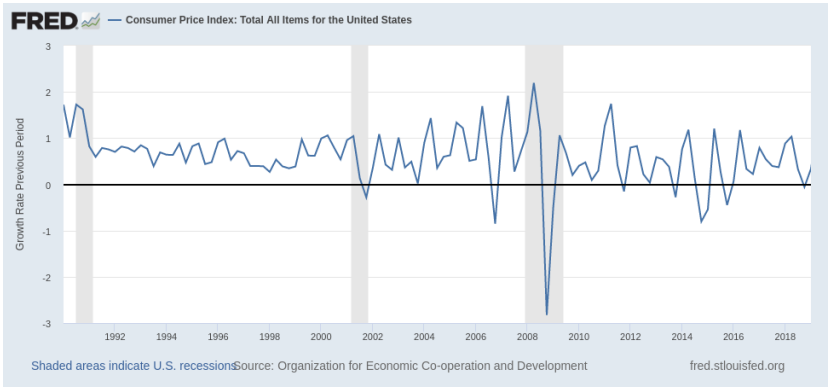
Interpret the graphs (5pts):

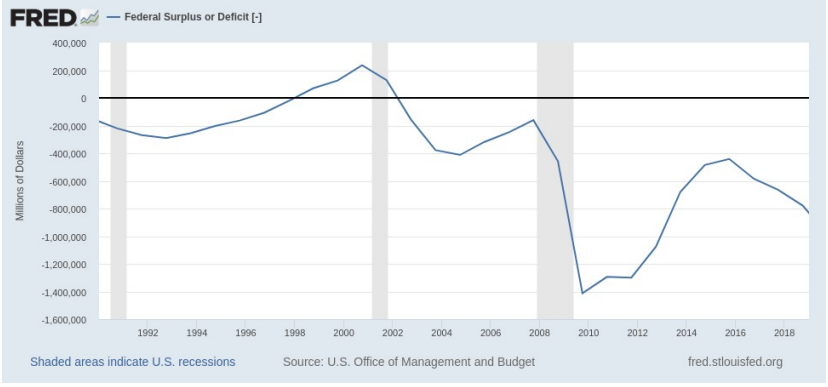
The natural rate of unemployment (frictional + structural unemployment) has held fairly constant over the years, around 5%. This includes through the Great Recession, which saw an inflection point in the rate around 2009. Overall, the national unemployment rate climbed dramatically during the Great Recession, approximately doubling from 5% to about 9.5%. The unemployment rate of Salt Lake City largely matched the shaped of the national trend, but was overall less severe. It raised to a height around 7% by the end of the Great Recession, and peaked around 8% in 2010 before declining back down below the natural rate around 2013. It took the nation until around 2017 to reach the same level. Most recently, the national rate has fallen below pre-Great Recession levels, dipping below 4% in 2018, which is approximately what is seen for Salt Lake City.

14. Stack the following graphs below so that the recession years line up: GDP line graph, Unemployment rate with national and SLC, inflation (CPI graph), consumer confidence graph (CPALTT01USQ657N), and a graph that shows the budget deficits/surpluses using FRED. Explain how they relate to what you have learned in class and what trends/correlations you see between them. (15 pts)









The first graph of real GDP shows a fairly steady climb, with either a drop or plateau during the visible recessions. This was reflected in the course work when we explored GDP directly, but also when we looked into aggregate supply & demand, or inflationary and recessionary gaps.

The second graph, showing the unemployment rates of the nation and of Salt Lake City in particular, shows an ebb and flow, with unemployment rising during recessions, peaking shortly after the recession ends, and then declining again. This rise-and-fall always has a long tail, taking longer to restore a low unemployment rate than it took to climb high in the first place. The various points where unemployment rates rose correspond to points where GDP was flat, or where it fell, showing that production suffered overall.

The third graph, showing the consumer price index, indicates a lot of volatility year-to-year. In general, the CPI falls during recessions, but the rate of that decrease in CPI during recessions is sometimes outstripped in some of the more volatile expansionary years. The Great Recession saw a massive drop in CPI, leading to deflation. Combined with the rise in unemployment, it made for stagflation, which worsened the impact of that particular recession, overall.

The fourth graph, showing the Federal debt & surplus, shows how the Great Recession rather dramatically changed how the government handles debt now. Prior to that point, the Federal deficit ebbed and flowed, but was mostly approximately flat. Debts increased over the 70's (not shown in the graph above), and a surplus was rare, only really standing out in the late 90's. The Great Recession saw a massive increase in Federal debt, an attempt to stimulate the economy which fell somewhat flat due to the liquidity trap (banks with increased liquidity didn't necessarily increase their lending). Once that recession ceased, the deficit was reined in, almost back to early 2004 levels, but the latest congress has turned direction and the deficit continues to grow at rates approximating the attempted stimulus during the Great Recession – without the recession. This extra spending doesn't seem to have made any obvious impact on GDP, unemployment, or inflation (CPI), but it does reflect a change in how fiscal policy has changed in the last decade.

Use the excel sheets provided to complete this problem. Scenario 1: If the initial deposit into a bank is $5,000 and the reserve requirement is 10% use formulas to fill in the chart all the way to completion (where there will be 0 for new deposits). Use formulas and cell references whenever possible. Fix the cell references for the reserve requirement when entering your formulas on the first line such that you can drag your information down the rows. Fixing a cell reference is done by putting dollar signs in front of the cell row and column references ex. B3 – this will mean that no matter where you copy that cell to it will always refer to cell B3. For scenario 2, change the reserve requirement to 40%. (20)

Scenario 1:	
Initial Deposit =	$5,000.00
Reserve requirement =	0.1
Money Multiplier =	10
How many banks will it take to go through the multiplier process?	132
What will the Total New Deposits be?	$50,000.00
How much in Total Excess Reserves will there when the multiplier process completes?	$45,000.00
How much money will be created?	$45,000.00

Scenario 2:	
Initial Deposit =	$5,000.00
Reserve requirement =	0.4
Money Multiplier =	2.5
How many banks will it take to go through the multiplier process?	28
What will the Total New Deposits be?	$12,500.00
How much in Total Excess Reserves will there when the multiplier process completes?	$7,500.00
How much money will be created?	$7,500.00