

Mini Homework #1 - worth 1/2 of a homework grade - econ 304

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This mini HW assignment is worth 50 points (10 points each part)

1. a) Go to [FRED](#) and search for CPIAUCSL, the Consumer Price Index for All Urban Consumers: All Items. Calculate the rate of inflation over the most previous 12 months. Please show all work. I help you by calculating the rate of inflation during the year 2000.

YEAR	
2000-01-01	169.300
2000-02-01	170.000
2000-03-01	171.000
2000-04-01	170.900
2000-05-01	171.200
2000-06-01	172.200
2000-07-01	172.700
2000-08-01	172.700
2000-09-01	173.600
2000-10-01	173.900
2000-11-01	174.200
2000-12-01	174.600
2001-01-01	175.600

Inflation is defined as the percent change in the price index over a twelve month period.

For the year 2000, the inflation rate is thus $((175.6 - 169.3)/169.3)*100 = 3.72\%$

Year	Price index
2014-03-01	235.790
2014-04-01	236.240
2014-05-01	236.950
2014-06-01	237.348
2014-07-01	237.596
2014-08-01	237.409
2014-09-01	237.626
2014-10-01	237.753
2014-11-01	237.067
2014-12-01	236.284
2015-01-01	234.677
2015-02-01	235.186
2015-03-01	235.740

The rate of inflation over the most previous 12 months is $(235.740 - 235.790)/235.790 * 100 = 0.0212\%$

b) Now go to FRED and search for PCEPI. This is the price index that receives the most attention from the Federal Reserve in terms of fulfilling the nominal part of their dual mandate. Calculate the most recent rate of inflation using PCEPI and compare to the Fed's implicit target of inflation = 2%. Is inflation too high, too low, or just right?

YEAR	PRICE INDEX
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2014-03-01	108.292
2014-04-01	108.523
2014-05-01	108.790
2014-06-01	109.034
2014-07-01	109.125
2014-08-01	109.072
2014-09-01	109.150
2014-10-01	109.201
2014-11-01	109.028
2014-12-01	108.773
2015-01-01	108.272
2015-02-01	108.460
2015-03-01	108.646

MOST recent rate= $(108.646-108.292)/108.292 * 100 = 0.327\%$

The most recent rate of inflation is 0.327%, which is lower than the target of inflation of 2%.

2. Using FRED again, search for GDPC96 and calculate the percent change in real GDP over the most recent 4-quarter period. Again, please show all work including the data that you used for your calculation. Now compare to the potential growth rate as estimated by the Congressional Budget Office (use GDPPOT). Again, show your calculations. Is real GDP currently growing too slow or too fast relative to potential?

DATE	REAL GDP (3 DECIMAL)
2014-01-01	15831.652
2014-04-01	16010.405
2014-07-01	16205.591
2014-10-01	16294.699
2015-01-01	16304.774

DATE	Real Potential Gross Domestic Product
2014-01-01	16426.6
2014-04-01	16489.7
2014-07-01	16554.4
2014-10-01	16621.0
2015-01-01	16689.7

% change in real GDP for 1st quarter= $(16010.405-15831.652)/15831.652 * 100 = 1.129$

% change in real GDP for 2nd quarter= $(16205.591-16010.405)/16010.405 * 100 = 1.219$

% change in real GDP for 3rd quarter= $(16294.699-16205.591)/16205.591 * 100 = 0.550$

% change in real GDP for 4th quarter= $(16304.774-16294.699)/16294.699 * 100 = 0.062$

% change in potential rate for 1st quarter= $(16489.7-16426.6)/16426.6 * 100 = 0.384$

% change in growth rate for 2nd quarter= $(16554.4-16489.7)/16489.7 * 100 = 0.392$

% change in growth rate for 3rd quarter= $(16621.0-16554.4)/16554.4 * 100 = 0.402$

% change in growth rate for 4th quarter= $(16689.7-16621.0)/16621.0 * 100 = 0.413$

The real GDP is growing too fast relative to potential rate.

3. Using FRED, search for UNRATE and compare the actual unemployment rate to the natural rate of unemployment as measured by NROUST. Is the current unemployment rate higher or lower than the natural rate of unemployment? Please use the actual numbers from FRED to answer this question.

UNRATE

2014-03-01	6.6
2014-04-01	6.2
2014-05-01	6.3
2014-06-01	6.1
2014-07-01	6.2
2014-08-01	6.1
2014-09-01	5.9
2014-10-01	5.7
2014-11-01	5.8
2014-12-01	5.6
2015-01-01	5.7
2015-02-01	5.5
2015-03-01	5.5

NROUST

2014-01-01	5.72
2014-04-01	5.61
2014-07-01	5.51
2014-10-01	5.40
2015-01-01	5.39
2015-04-01	5.38

The natural rate of employment is lower than the actual unemployment rate.

4. During this lesson we talked about lags in policy. Name the three lags in policy and then explain each lag in the context of fiscal policy and monetary policy.

The three lags in policy are:

- 1) Recognition lag- the time it takes to figure out that policy action is needed. The fiscal policy and the monetary policy are the same.
- 2) Implementation lag- the time it takes for Congress to pass the laws needed to change taxes or spending. For monetary policy, it's very short for the FED to conduct open market operations. If they want to buy or sell government securities to influence the money supply it does not take very long at all. For fiscal policy, it takes a long time for politicians to decide on gvt spending program or tax policy. it might take 6 months or more to pass a tax policy
- 3) Effectiveness lag- the time it takes from passing a tax or spending change to its effect on real GDP being felt. Monetary policy is very short and fiscal policy is very long.