Section Exercise for April 20/21 with answers: Aggregate Supply

1) Real GDP in the fourth quarter of 2015 was estimated at $16.471 trillion/year at 2009 prices. Nominal GDP in the fourth quarter of 2015 was estimated at $18.165 trillion/year. Calculate the price level in the fourth quarter of 2015, setting the average price level in 2009 equal to 1.0:

2) The Federal Reserve believes that the United States's level of GDP in the fourth quarter of 2015 was equal to potential output, and that potential output is growing at 2.3% year. What is the Federal Reserve's forecast of what potential output will be in the fourth quarter of 2018?

3) Suppose the Federal Reserve also seeks to keep inflation over the three years starting in the fourth quarter of 2015 at 2%/year. What does it want the price level (2009 = 100) to be in the fall of 2018?

4) The Federal Reserve will, over the next several years, adjust interest rates so that nominal GDP will hit a target level at which inflation will be what the Fed wants and production will be at full employment. What is the Fed's target value for nominal GDP for the fourth quarter of 2018?

5) Suppose the aggregate supply curve in the fall of 2018 is given by:

$P/1.171 - 1 = 0.4 \times (Y/17.634 - 1)$

and suppose that the Federal Reserve undershoots—that the actual level of real GDP in fall 2018 turns out to be not $17.634 trillion/year but $17 trillion/year. What will the price level and level of real GDP be?

6) If the price level you calculated in (5) does turn out to be the price level in the fall of 2018. what is the average inflation rate between the fall of 2015 and the fall of 2018

7) Draw a figure with the price level on the vertical and the level of nominal GDP on the horizontal axis. Show (a) the aggregate demand curve corresponding to nominal GDP = \$20.649 trillion; (b) the aggregate demand curve corresponding to nominal GDP = \$19.621 trillion; and (c) the aggregate supply curve $P/1.171 - 1 = 0.4 \times (20/20.649 - 1)$.

Assuming that the Federal Reserve's forecasts and estimates of potential output and inflation expectations are correct, what point on that aggregate supply curve corresponds to inflation at its expected value and actual output equal to potential GDP?