Chapter 14 #8

a) The natural rate of output is determined by the production function $Y_{bar} = F(K_{bar}, L_{bar})$. If a tax cut raises work effort, it increases $L_{bar}$ and, thus, increases the natural rate of output.

b) The tax cut shifts the aggregate demand curve outward for the normal reason that disposable income and, hence, consumption rise. It shifts the long-run aggregate supply curve outward because the natural rate of output rises.

The effect of the tax cut on the short-run aggregate supply (SRAS) curve depends on which model you use. The labor supply curve shifts outward because workers are willing to supply more labor at any given real wage while the labor demand curve is unchanged. In the sticky-wage or sticky-price models the quantity of labor is demand-determined, so the SRAS curve does not move. By contrast, the imperfect-information model assumes that the labor market is always in equilibrium, so the greater supply of labor leads to higher employment immediately: the SRAS shifts out.

c) If you are using the sticky-wage or sticky-price model, the short-run analysis is the same as the conventional model without the labor-supply effect. That is, output and prices both rise because aggregate demand rises while short-run aggregate supply is unchanged. If you use the imperfect-information model, short-run aggregate supply shifts outward, so that the tax cut is more expansionary and less inflationary than the conventional model. The figure below shows the effects in both models. Point A is the original equilibrium, point SW is the new equilibrium in the sticky-wage model, and point II is the new equilibrium in the imperfect-information model.
d) In contrast to the normal model, the tax cut raises long-run output by increasing the supply of labor. The policy’s long-run effect on price is indeterminate, depending, in part on whether SRAS does, in fact, shift out. The change in the long-run equilibrium is shown in the figure below.