Chapter 3 (pp 118-163)

February 8, 2017

Homework for Feb 8, 2017

- Read AMM, pages 66 – 140
- Replicate Figures 2.12, 2.13, and 2.14
- Send figures with programing electronically to wmgavin@gmail.com

Quiz 5 Review of Issues in Chapter 2

1. What is the price of output in the aggregate demand, aggregate supply graph?
2. What happens to wages when there is an increase in technology? Why does this happen?
3. What happens to the amount of labor in equilibrium when there is an increase in technology?

Figure 2.12. Productivity Increase in the Goods Market in Example 2.6

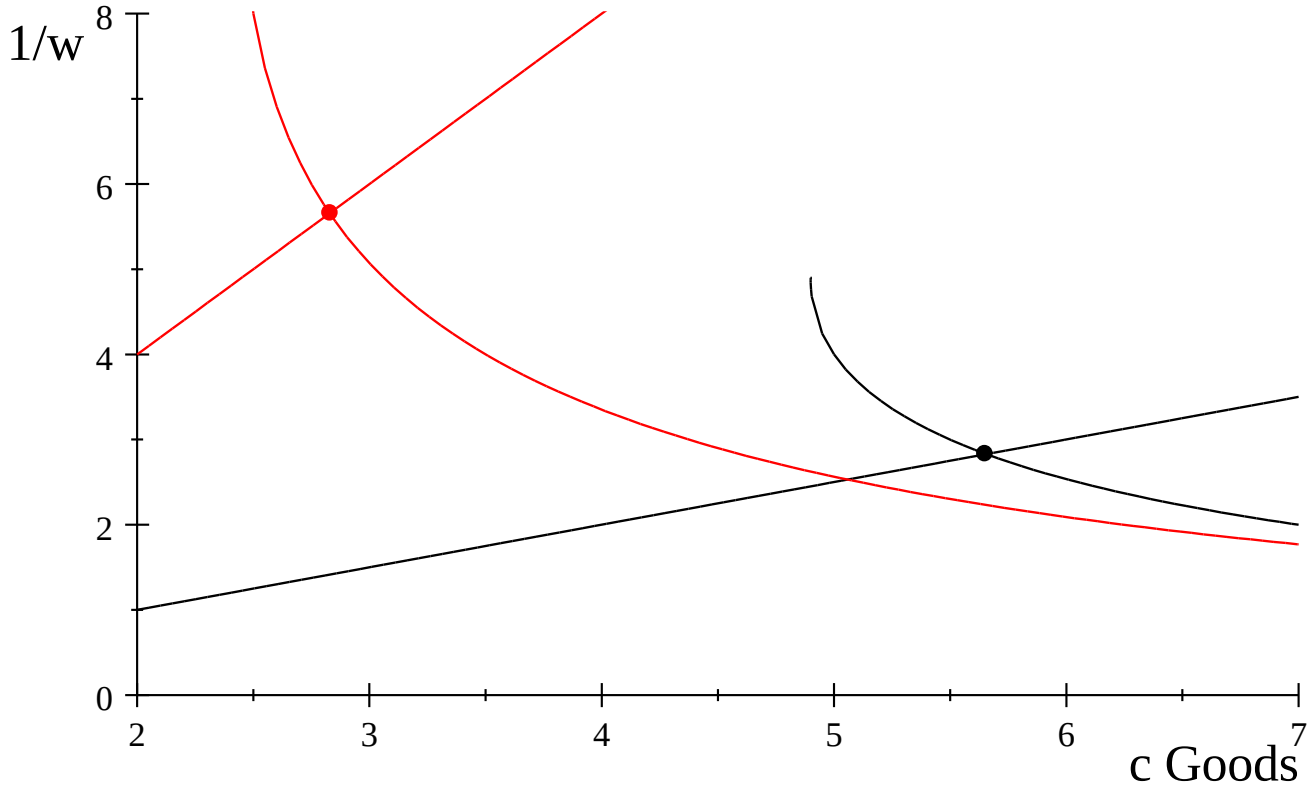
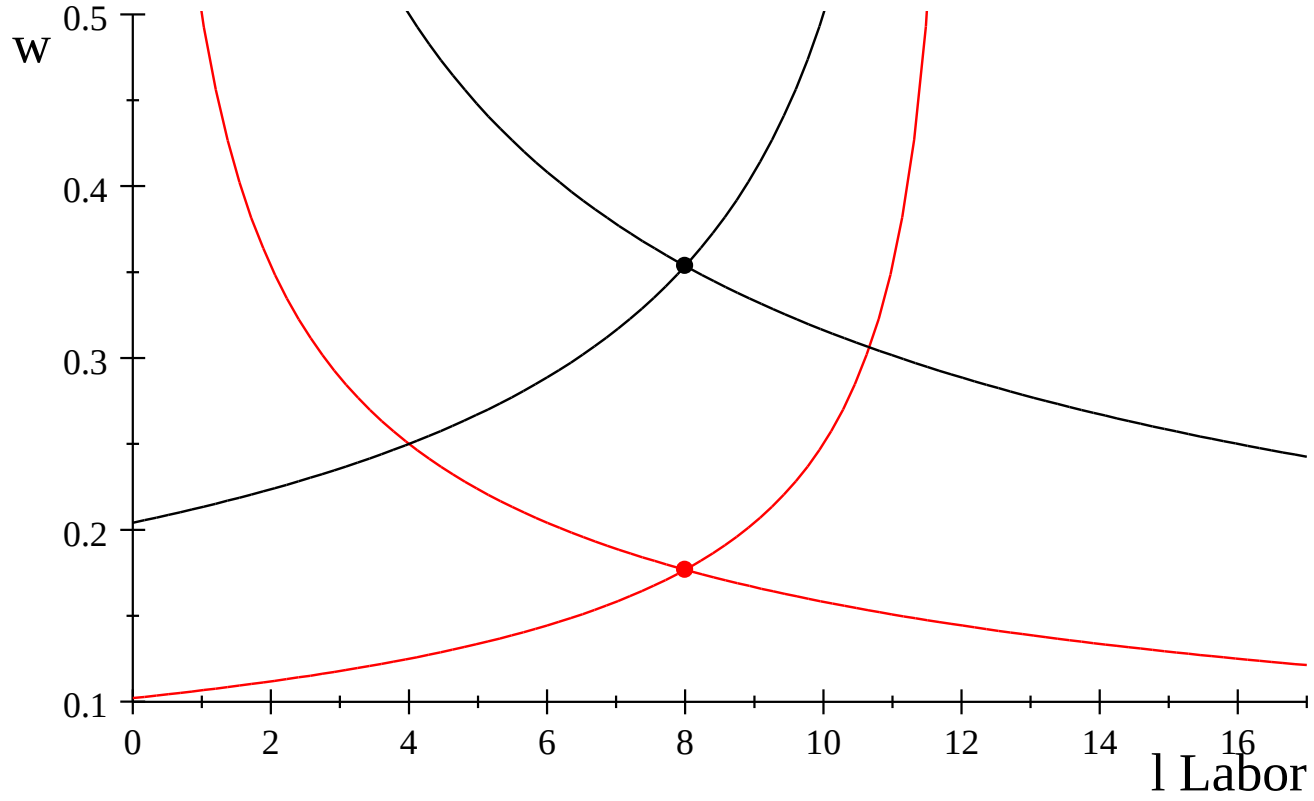


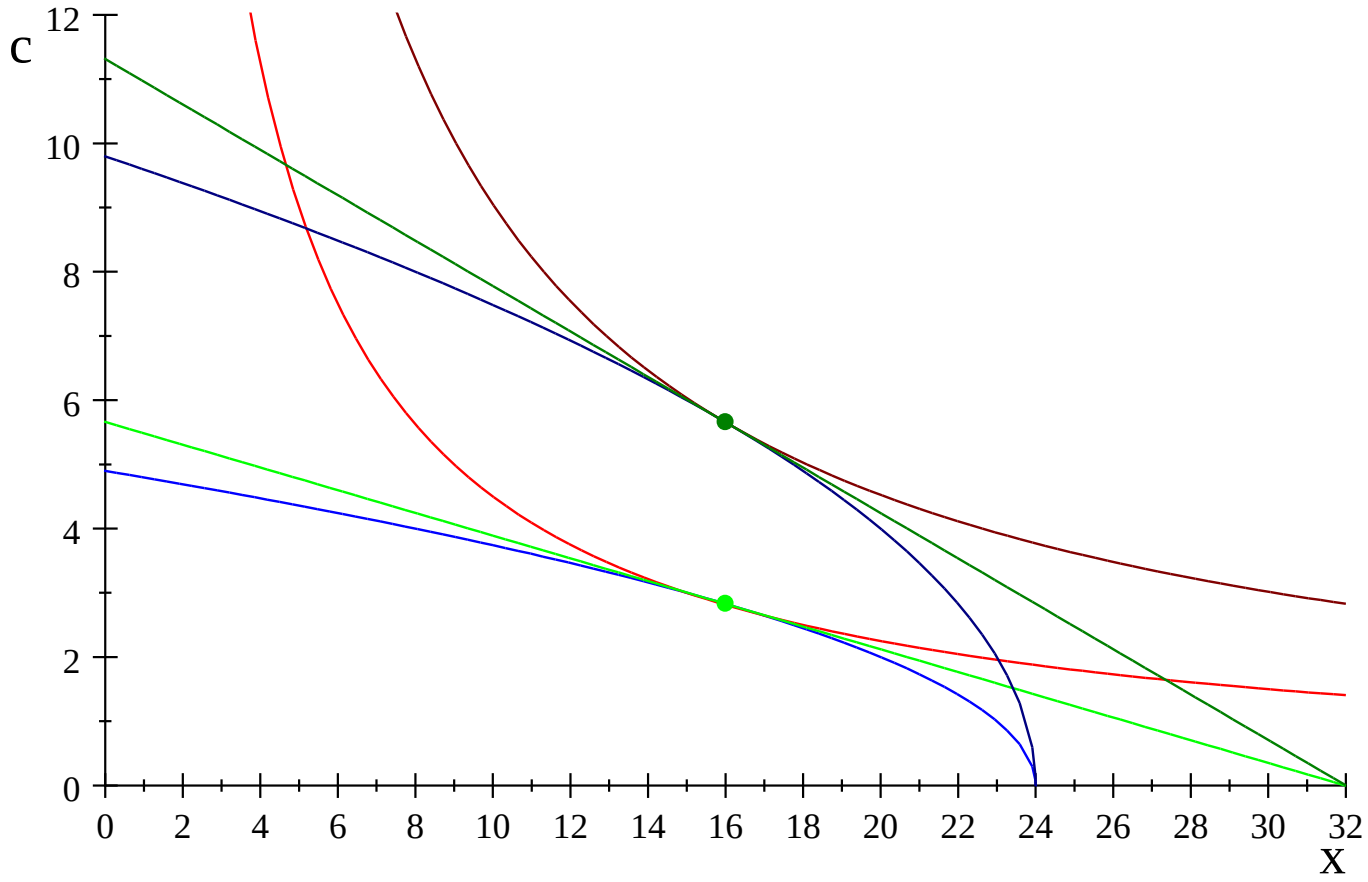
Figure 2.13. Productivity Increase in the Labor Market of Example 2.6



Quiz 5 February 6, 2017

1. What is the price of output in the aggregate demand, aggregate supply graph?
2. What happens to wages when there is an increase in technology? Why does this happen?
3. What happens to the amount of labor in equilibrium when there is an increase in technology?
4. What happens to utility when there is an increase in technology?
5. What happens to the $MRS_{(c,x)}$?

Figure 2.14. General Equilibrium Goods and Labor Market in Example 2.6 (black) and Example 2.5 (red)



Chapter 3: The business cycle and taxes

- The model is calibrated to match long run trends in the data. How do we introduce short run fluctuations?
- Keynesian Macroeconomics
- We introduce taxes without having a government that behaves as an optimizing agent. Government policies are constraints faced by the other agents.
  - Tax firms on each good produced
  - Tax households labor income

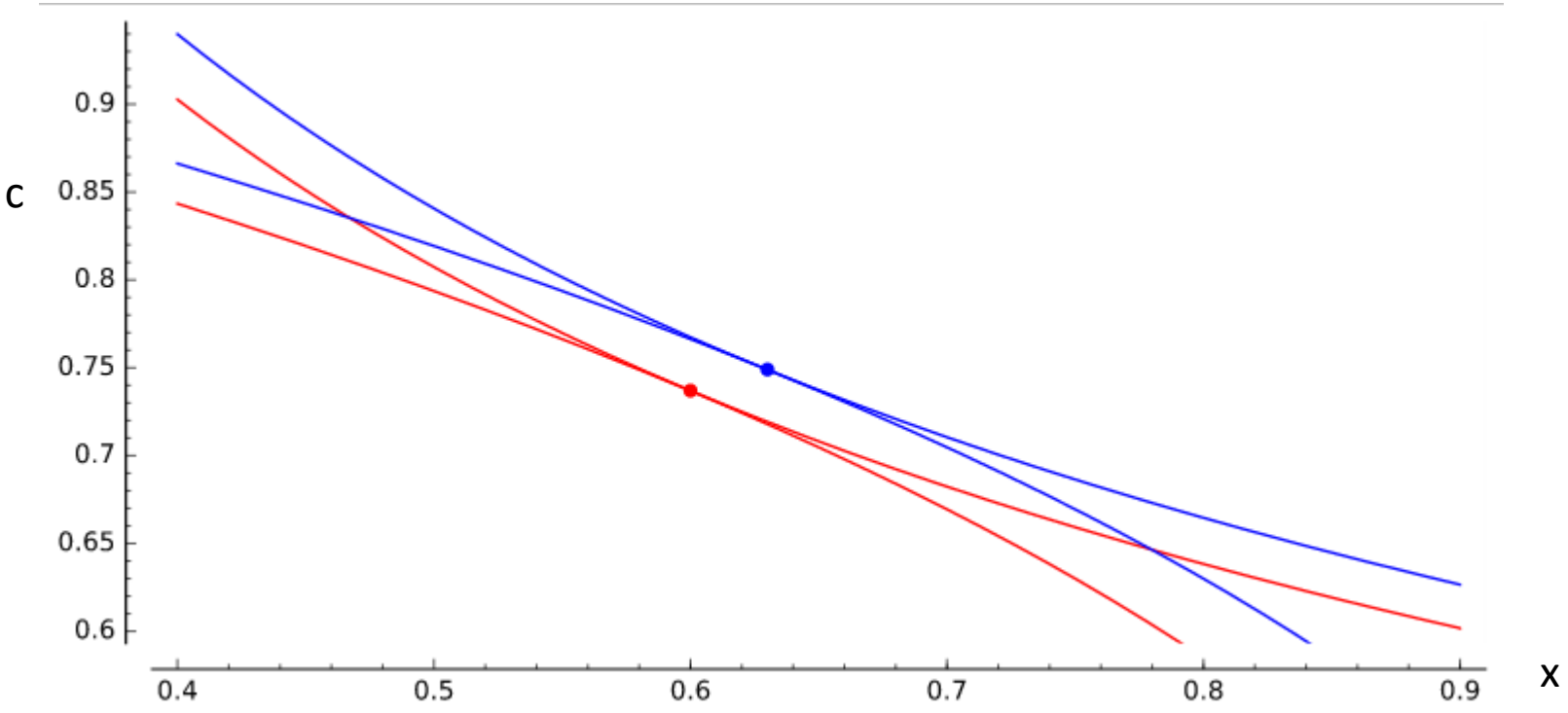
Homework for Feb 1, 2017 which has not been discussed in class so far.

- Read AMM, pages 118 – 140
- Replicate Figures 3.1 through 3.4
- Send figures with programing electronically to wmgavin@gmail.com

Quiz 6, February 8, 2017

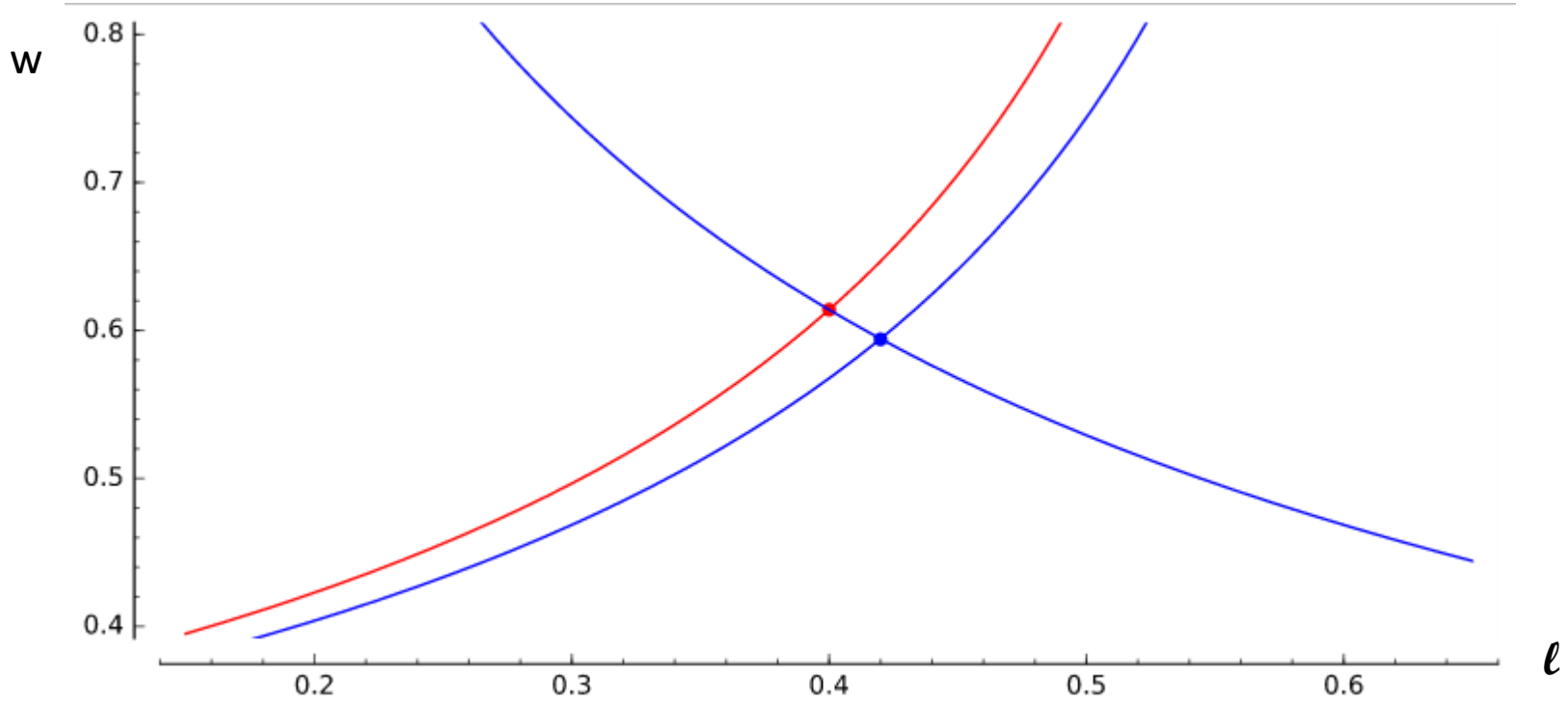
1. What happens to utility, output, and labor if the household has more total time available to be used for work or play?
2. Why do people work less in a recession that may be caused by a decline in technology?
3. Do people have ‘less’ time available for work and play when the climate is very cold or very hot?
4. What will the household do with the time?
5. Why did Milton Friedman advise his students not to take a job at Stanford?

Figure 3.1 5% increase in time endowment



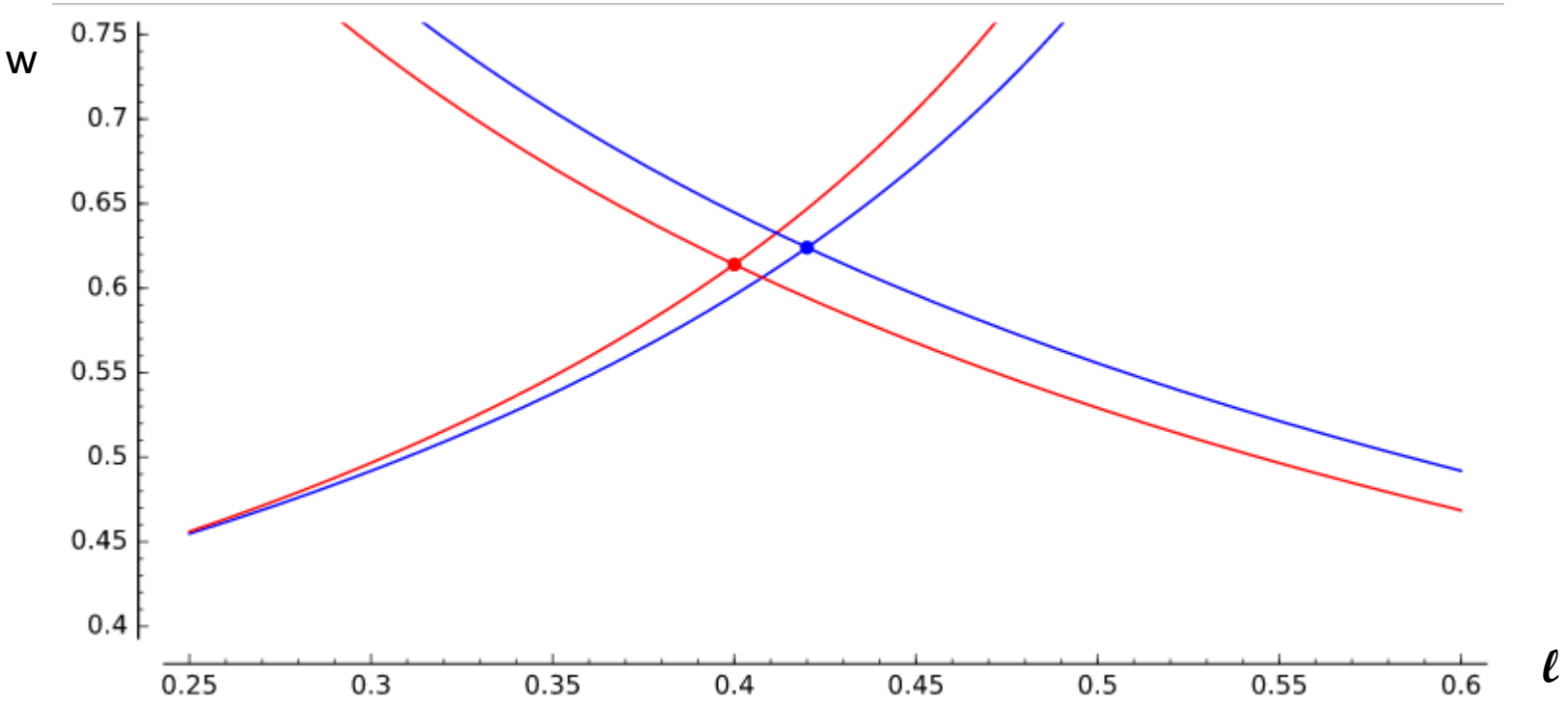
plot(e^(-0.56058)/(x)^0.5, 0.4, 0.9, color='red',ymin=0.6)+plot((1-x)^(1/3), 0.4, 0.9, color='red',ymin=0.6) + point((0.6,0.737), size=30, color='red')+plot(e^(-0.52018)/(x)^0.5, 0.4, 0.9,ymin=0.6)+plot((1.05-x)^(1/3), 0.4, 0.9,ymin=0.6) + point((0.63,0.749), size=30)

Figure 3.2 5% increase in time endowment



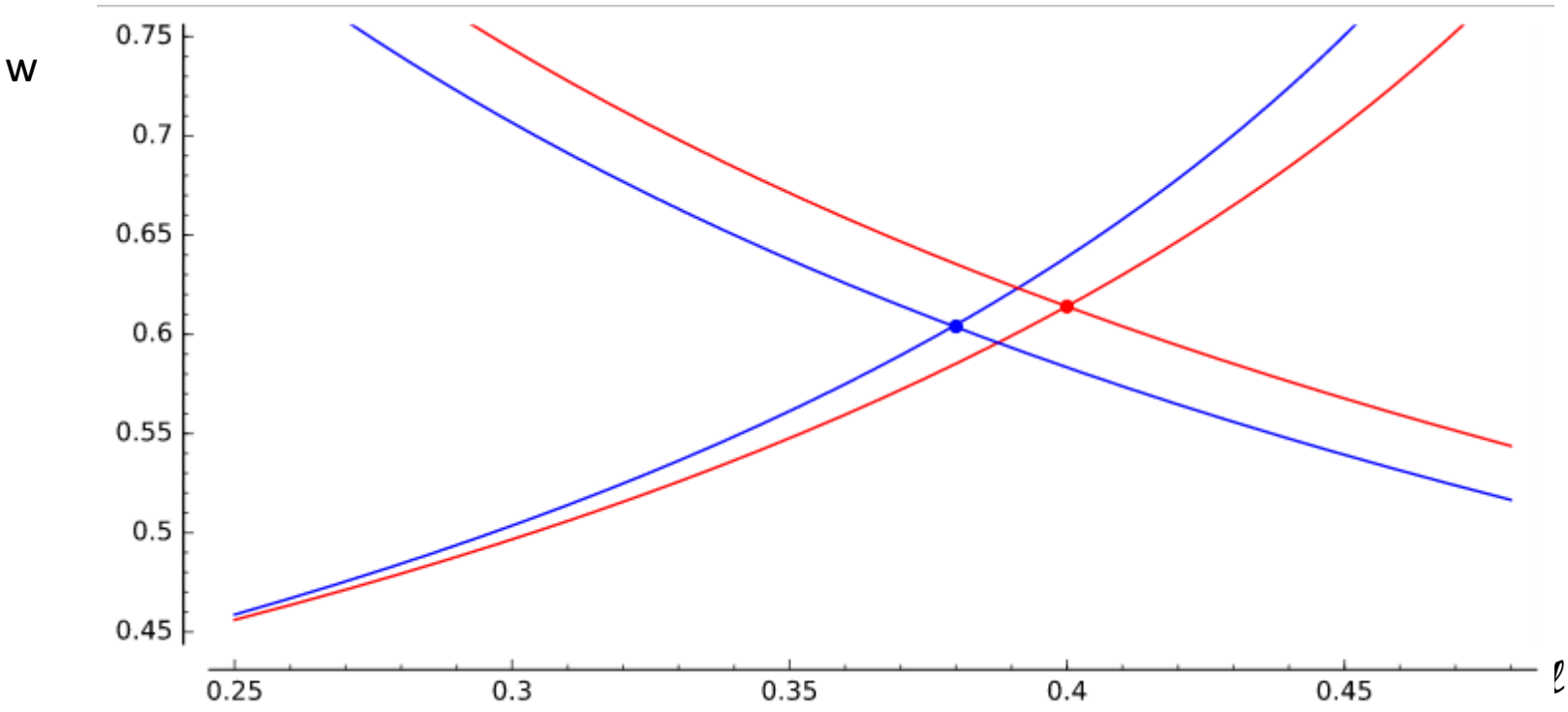
# plot(.491/(2-3*l), 0.15, 0.8, ymin=0.4, ymax=0.7) + plot(1/(3*(l)^(2/3)), 0.15, 0.8, ymin=0.4, ymax=0.7)+point((0.4,.614), size=30, color='red')
plot((2/((0.7-x)*9*3^.5))^(2/3), 0.15, 0.65, ymax=0.8)+plot((.385/(2-3*x))^(2/3), 0.15, 0.65, ymax=0.8, color='red')+point((0.4,.614), size=30, color='red')+ plot(1/(3*(l)^(2/3)), 0.15, 0.65, ymin=0.4, ymax=0.8)+point((0.42,.594), size=30, color='red')

Figure 3.3 Expansion of both time and technology



plot((0.138/(0.7-x))^(2/3), 0.25, 0.6, ymax=0.75)+plot((.385/(2-3*x))^(2/3), 0.25, 0.6, ymax=0.75, color='red')+point((0.4,.614), size=30, color='red')+ plot(1/(3*(l)^(2/3)), 0.25, 0.6, ymin=0.4, ymax=0.75, color='red')+ plot(1.05/(3*(l)^(2/3)), 0.25, 0.6, ymin=0.4, ymax=0.75) +point((0.42,.624), size=30)

Figure 3.4 Contraction of both time and technology



plot((0.119/(0.633-x))^(2/3), 0.25, 0.48, ymin=0.45, ymax=0.75)+plot((.385/(2-3*x))^(2/3), 0.25, 0.48, ymin=0.45, ymax=0.75, color='red')+point((0.4,.614), size=30, color='red')+ plot(1/(3*(l)^(2/3)), 0.25, 0.48, ymin=0.45, ymax=0.75, color='red')+ plot(0.95/(3*(l)^(2/3)), 0.25, 0.48, ymin=0.45, ymax=0.75) +point((0.38,.604), size=30)

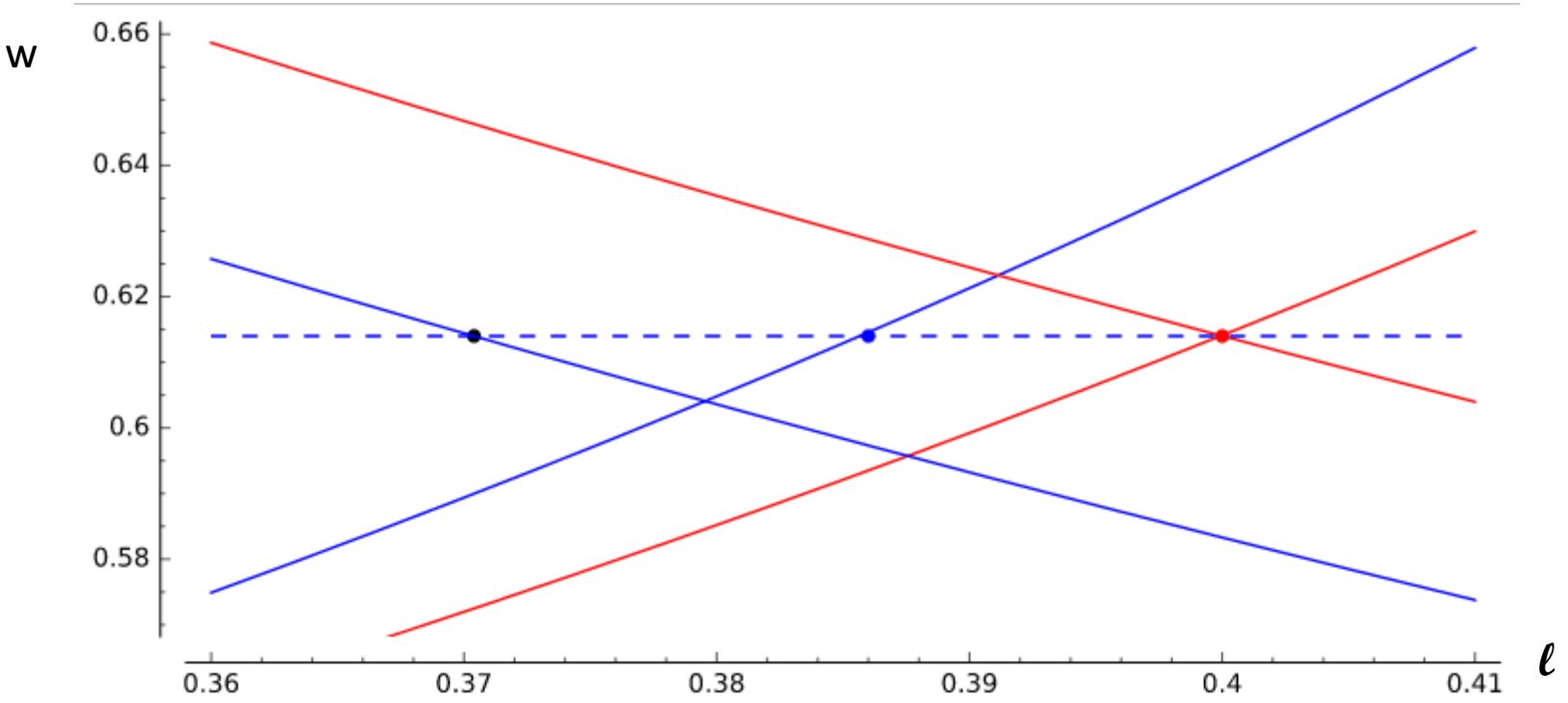
Real Business Cycles

- What is RBC theory?
- What does it mean to say that all prices are perfectly?
- Are any prices perfectly flexible?
- What are the shocks in an RBC model? Or in other words, what is shifting the curves that we draw?

Keynesian Theory—OLD and NEW

- What is the key element in the Keynesian approach to business cycles?
- The old. Why don't wages fall? Or do they sometimes fall?
  - What about real versus nominal wages?
  - What about a workers lifetime 'productivity profile?'
  - Wage stickiness does not 'fit' data in U.S.
- The new. Are prices sticky? What is evidence?

Figure 3.5 The ‘Keynesian Story’



plot((0.119/(0.633-x))^(2/3), 0.36, 0.41, ymin=0.57, ymax=0.66)+plot((.385/(2-3*x))^(2/3), 0.36, 0.41, ymin=0.57, ymax=0.66, color='red')+point((0.4,.614), size=30, color='red')+ plot(1/(3*(l)^(2/3)), 0.36, 0.41, ymin=0.57, ymax=0.66, color='red')+ plot(0.95/(3*(l)^(2/3)), 0.36, 0.41, ymin=0.57, ymax=0.66) +point((0.386,.614), size=30)+point((0.3704,0.614), size=30, color='black')+plot(0.614, 0.36, 0.41, linestyle='--')

Homework for February 13, 2017

- Read Chapter 3, pages 140-163—Taxes
- Work through example 3.6 and plot figures 3.6 and 3.7. send plots and programing to wmgavin@gmail.com
- Find data on the web for Mexico and the United States for 1990 to present
  - level of real consumption,
  - labor supply, wage rate, unemployment rate, and
  - the population.
- You can find Mexican data on the Fed's website, F.R.E.D, under the category of international data
- Send data to me in an excel file