

Chapter 9: Employment (pp 372-406)

March 15, 2017

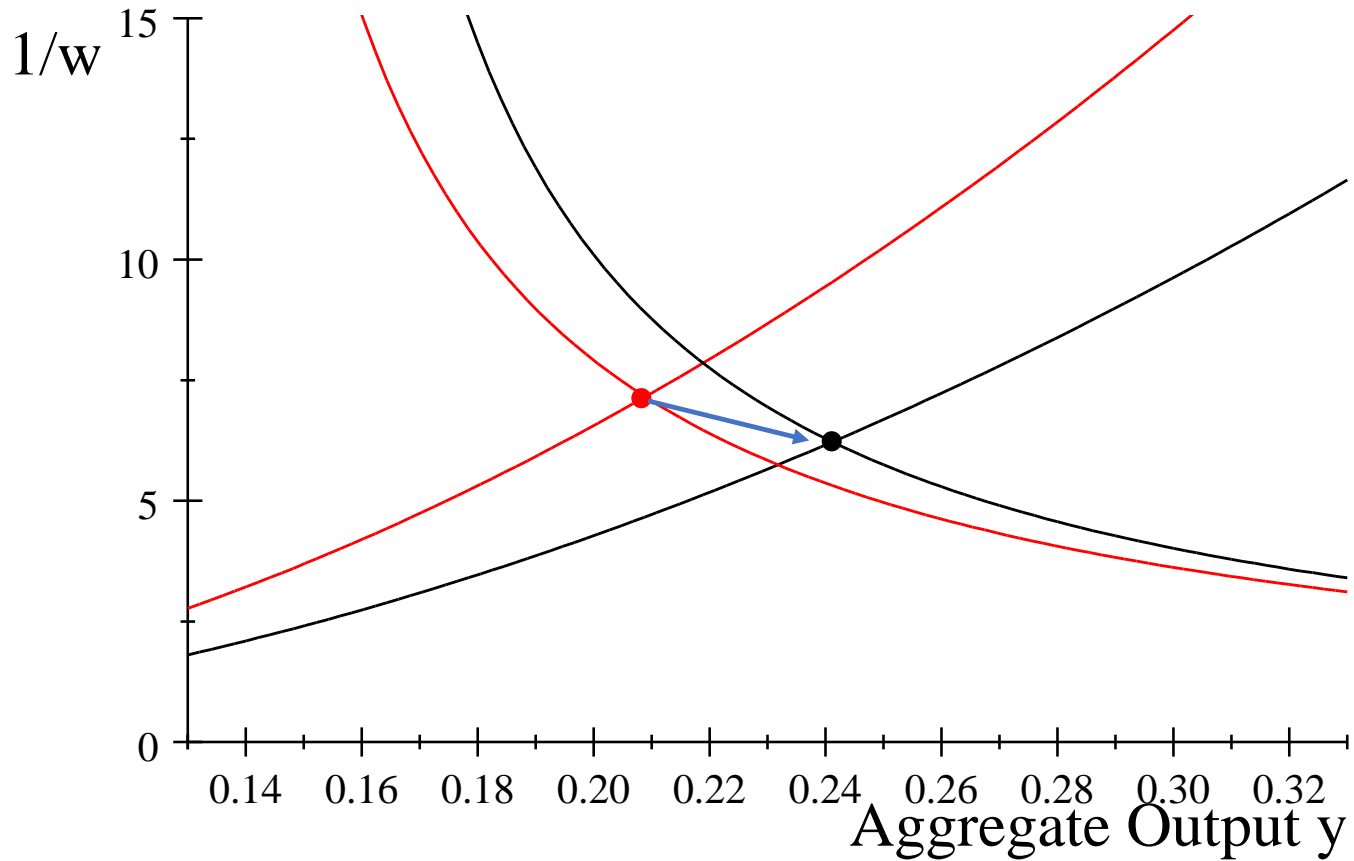
Homework for March 15

- Continue to turn in old quizzes.
- Replicate figures 8.9, 8.11, and 8.12
- Replicate figures 8.13, 8.15, and 8.16
- Due by March 22
- Create new figures that combine the productivity and the time endowment increase together.
AD-AS, Factor market equilibrium and time endowment and productivity
- Read Chapter 9 – labor tax is most important
- Replicate figure 9.15

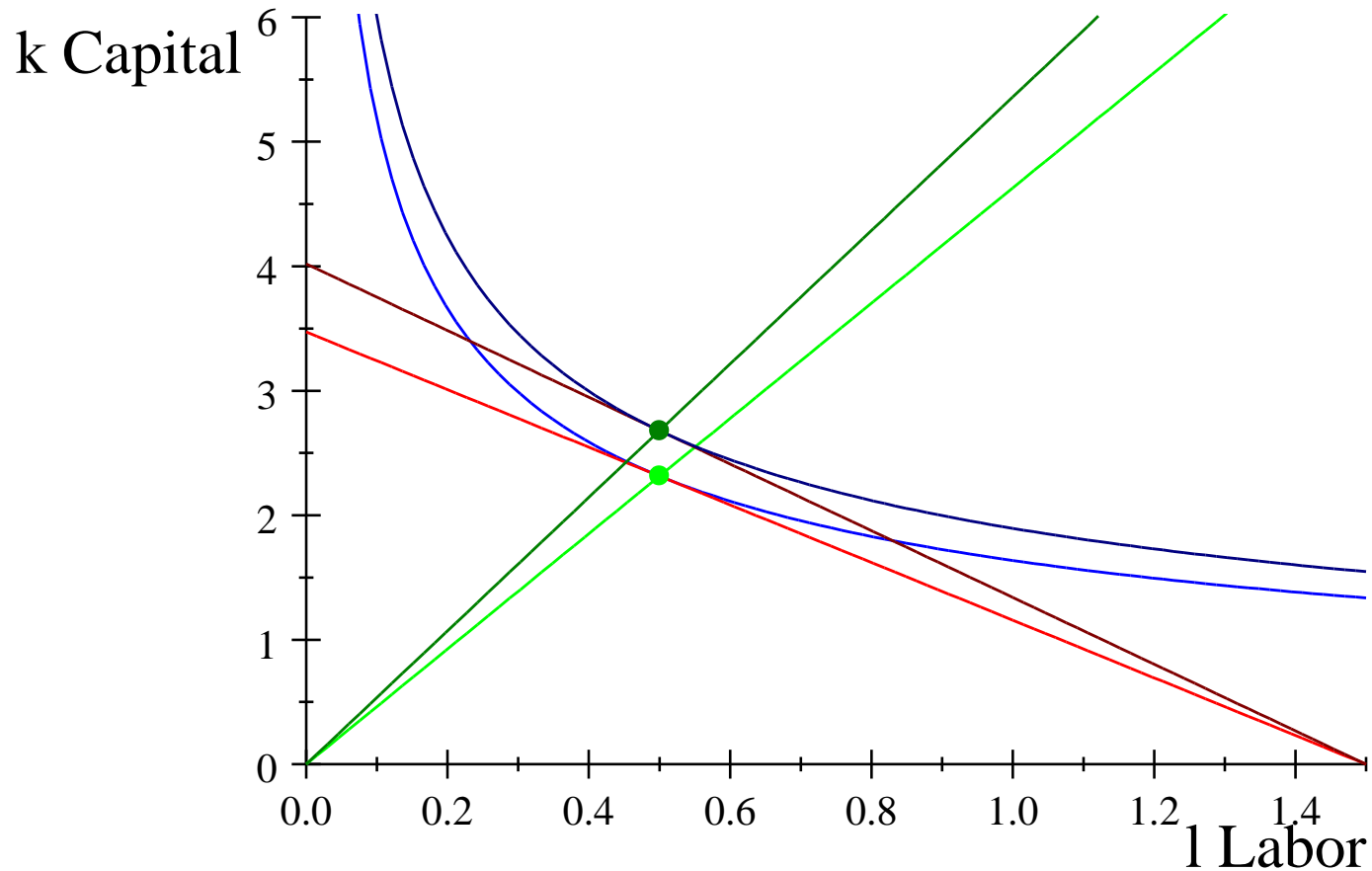
Quiz 16

1. Show how AD-AS curves change when technology (AG) rises.
2. Show how the Factor Market equilibrium changes when technology rises.
3. Show how AD-AS curves change when the time endowment increases.
4. Show how the Factor Market equilibrium changes when the time endowment increases.

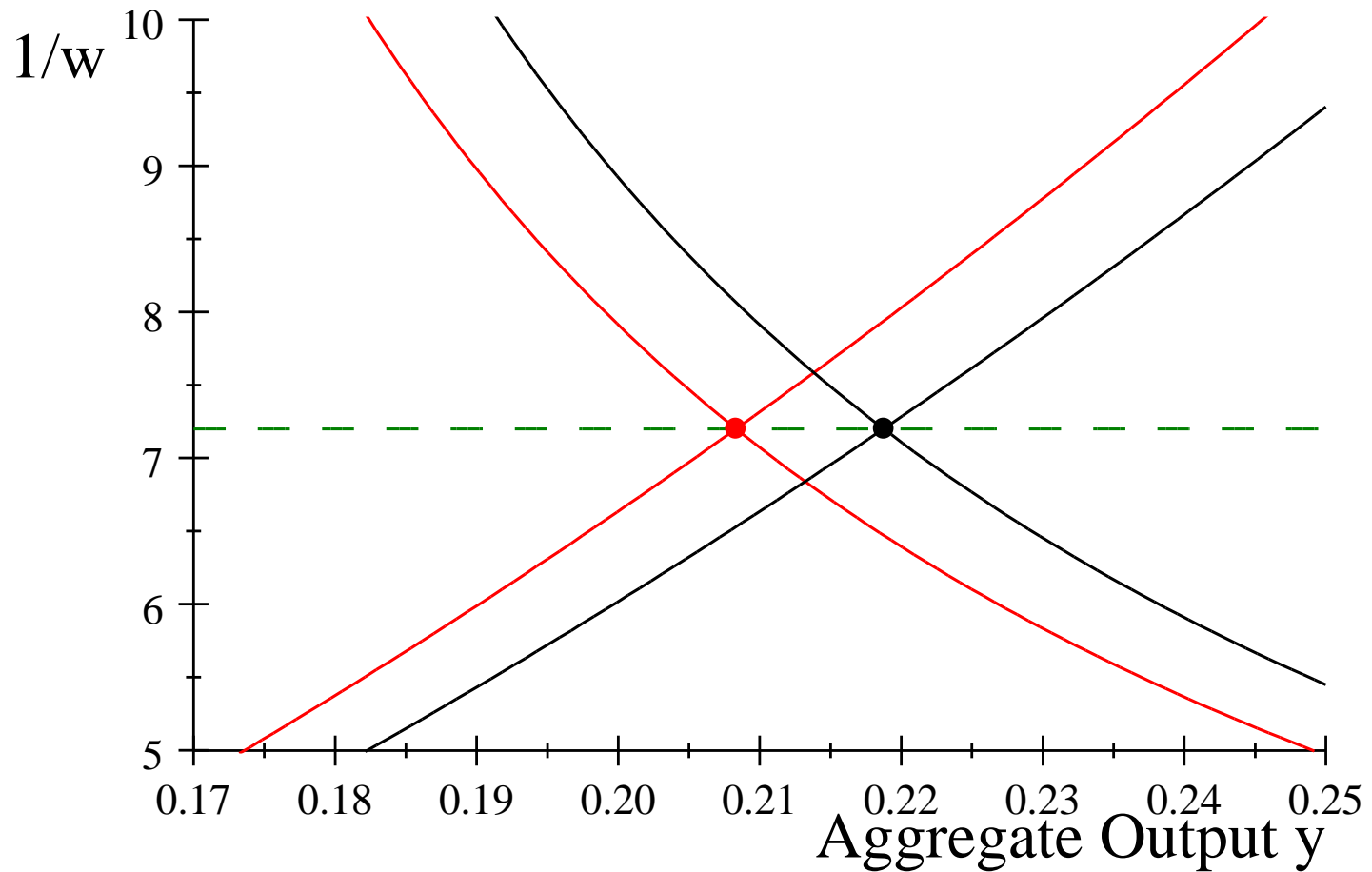
1. AS-AD Equilibrium with Goods Productivity Increase (Figure 8.9)



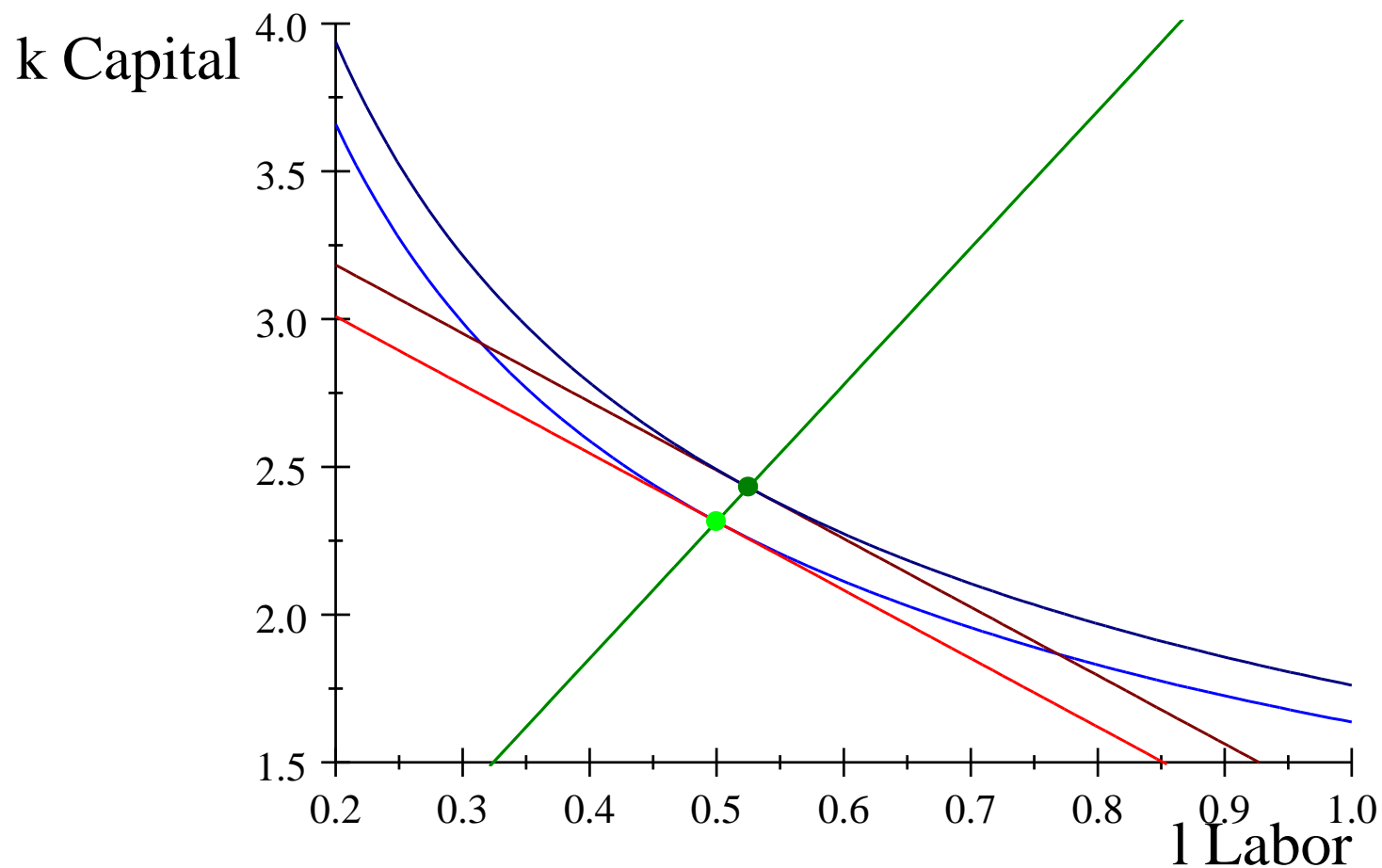
2. Factor Market Equilibrium with Goods Productivity Increase (Figure 8.11)



3. Shift in AS-AD with Time Endowment Increase (Figure 8.13)



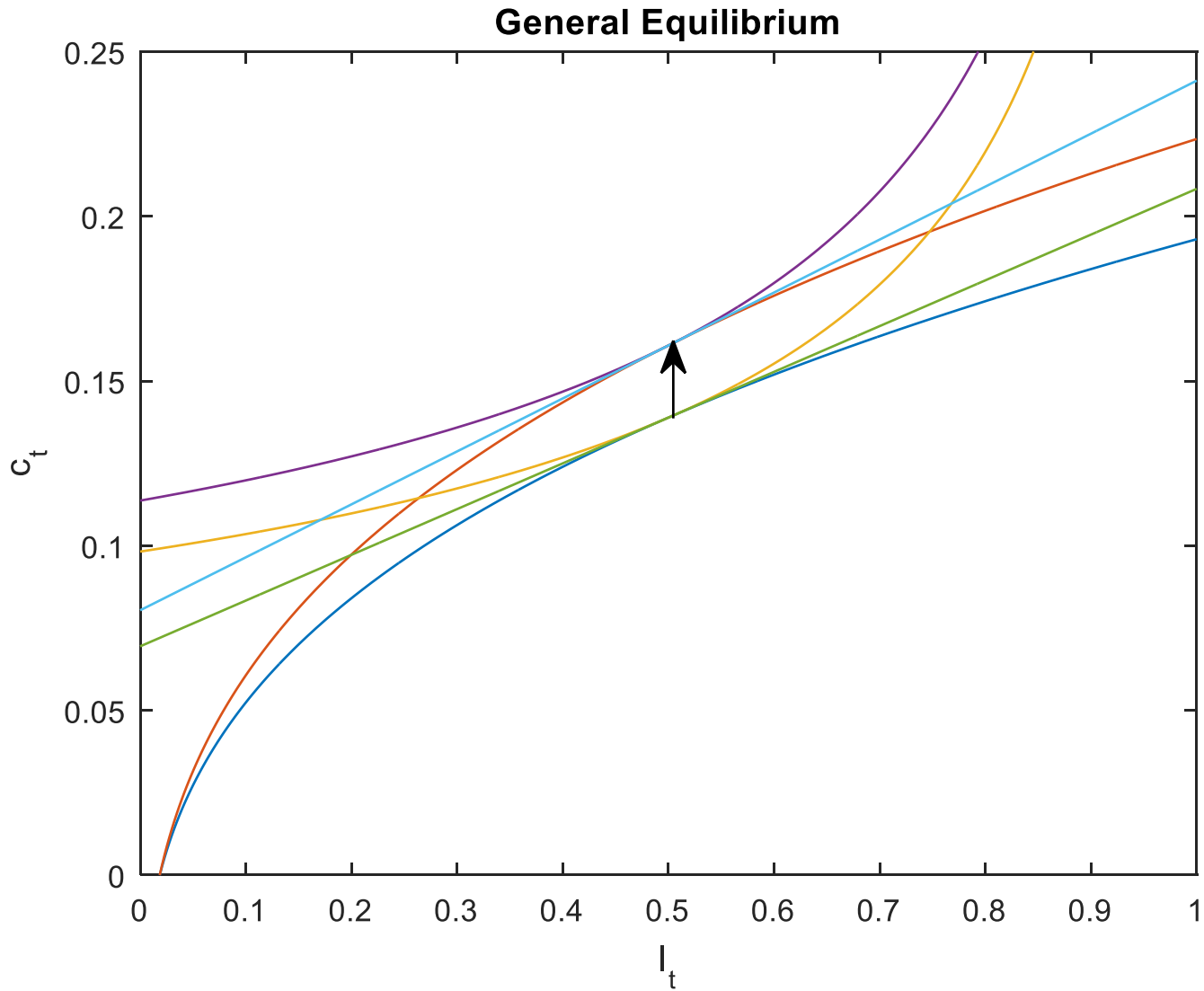
4. Factor Market Equilibrium with Time Endowment Increase



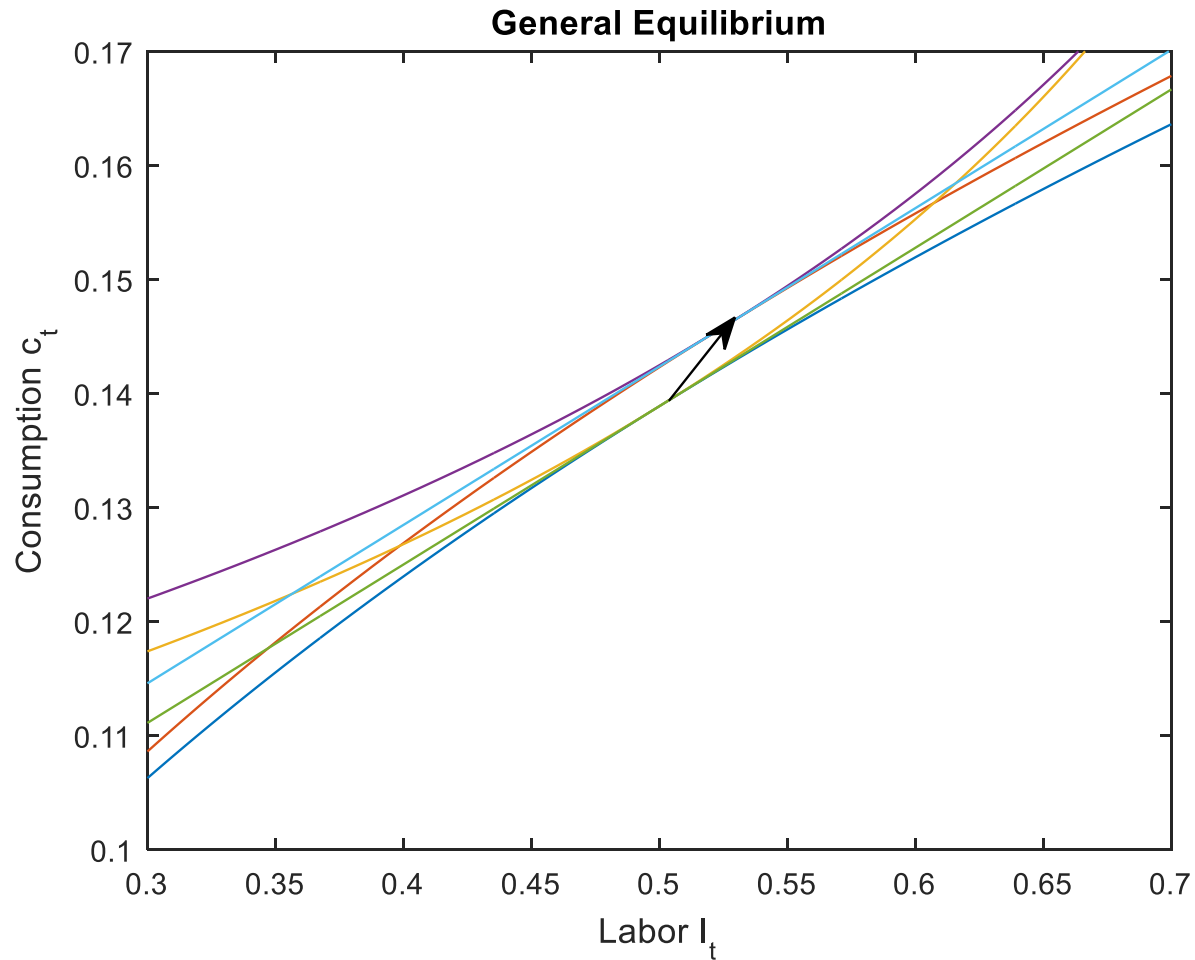
Draw the General Equilibrium Figures Showing Increases in A_G and Time

- What are the variables on the axes?
- How many lines will be plotted?
- What do they represent.

An increase in Technology, A_G



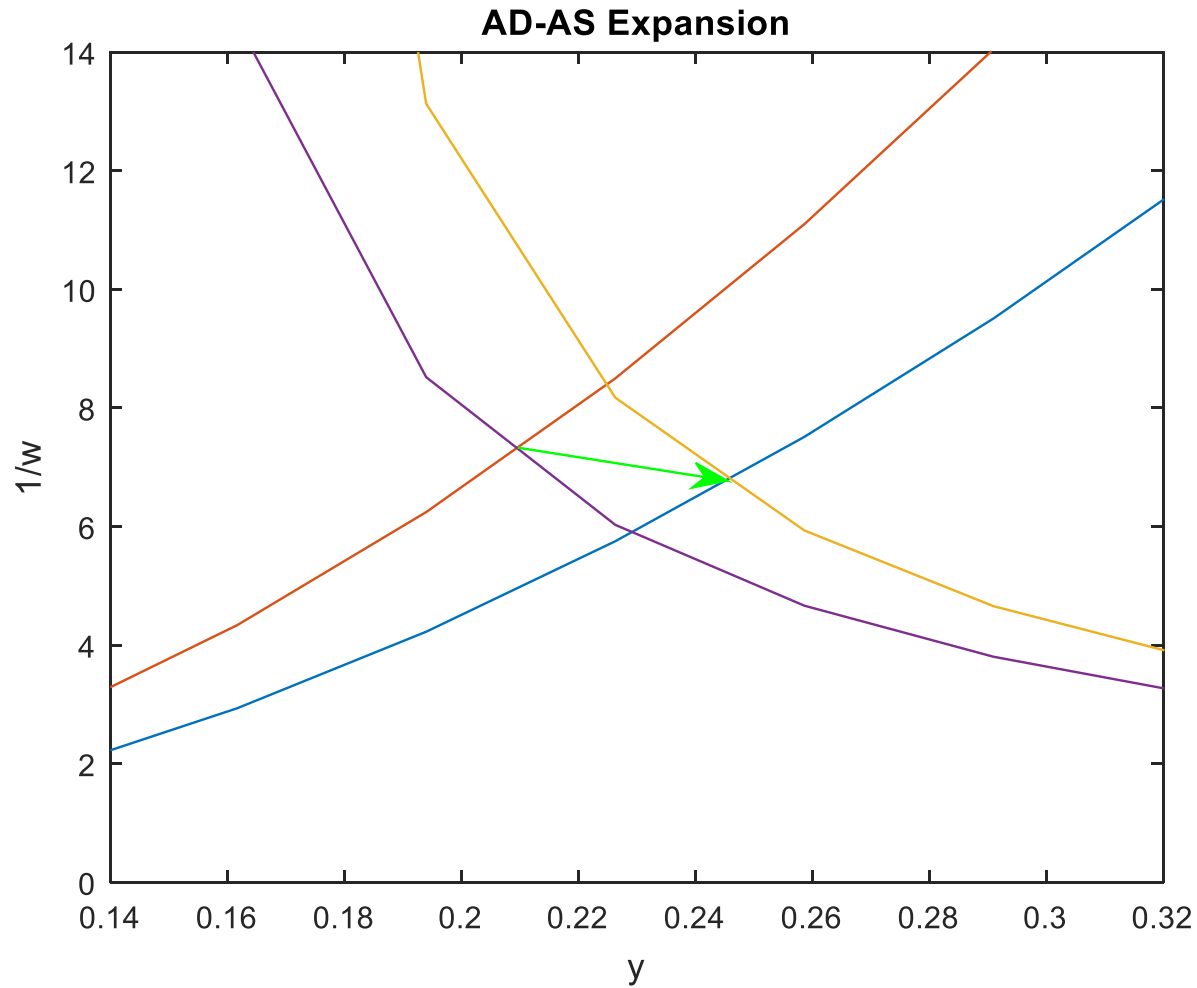
An increase in the time endowment



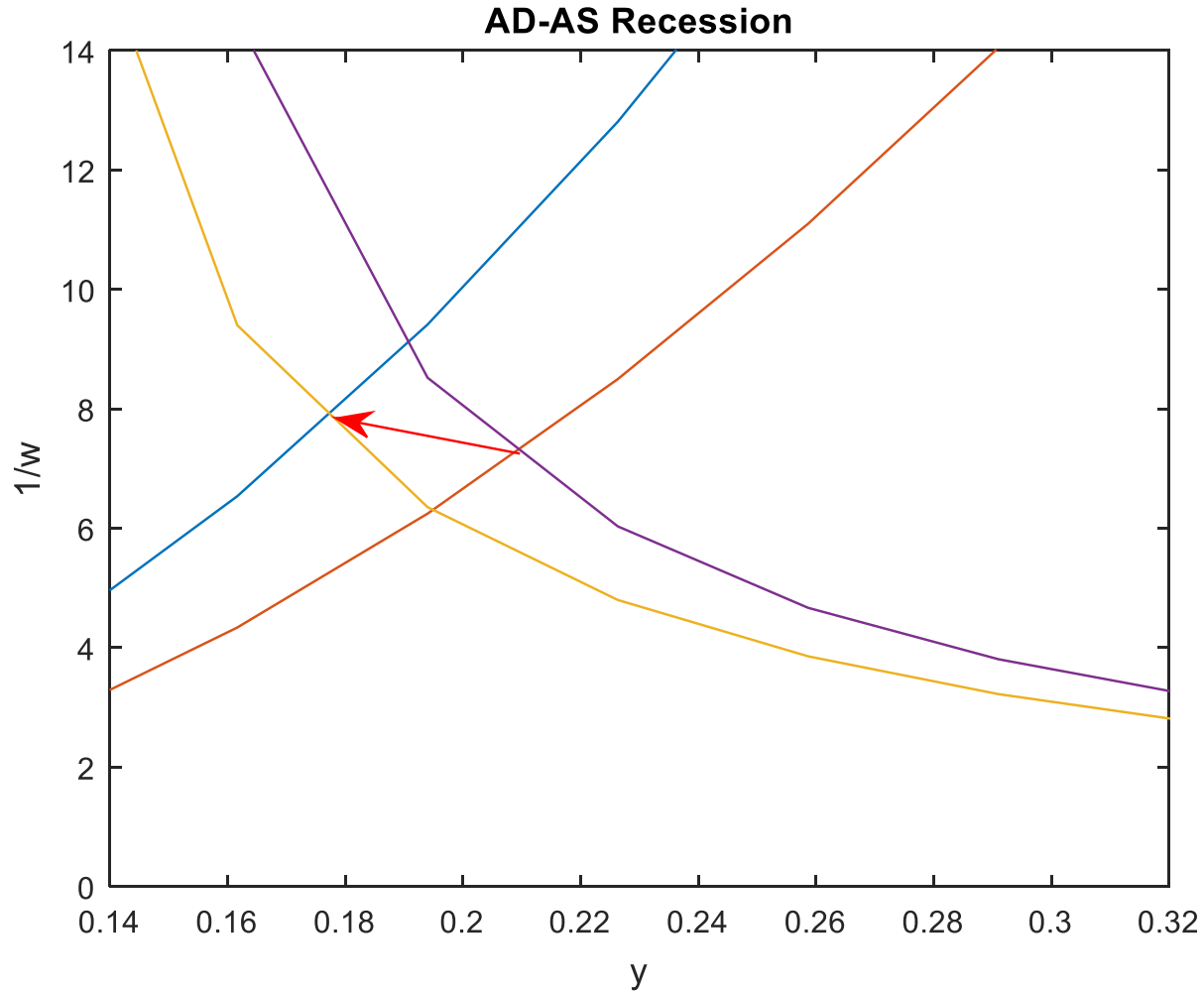
Chapter 9. The Business Cycle and Labor Taxes

- This chapter looks mainly at the labor market.
- First let us look at AD and AS when both the technology factor and the time endowment move together in the same direction.
- Again, what causes business cycles?

Both AG and Time Increase in Expansion



Both AG and Time Decrease in Recession

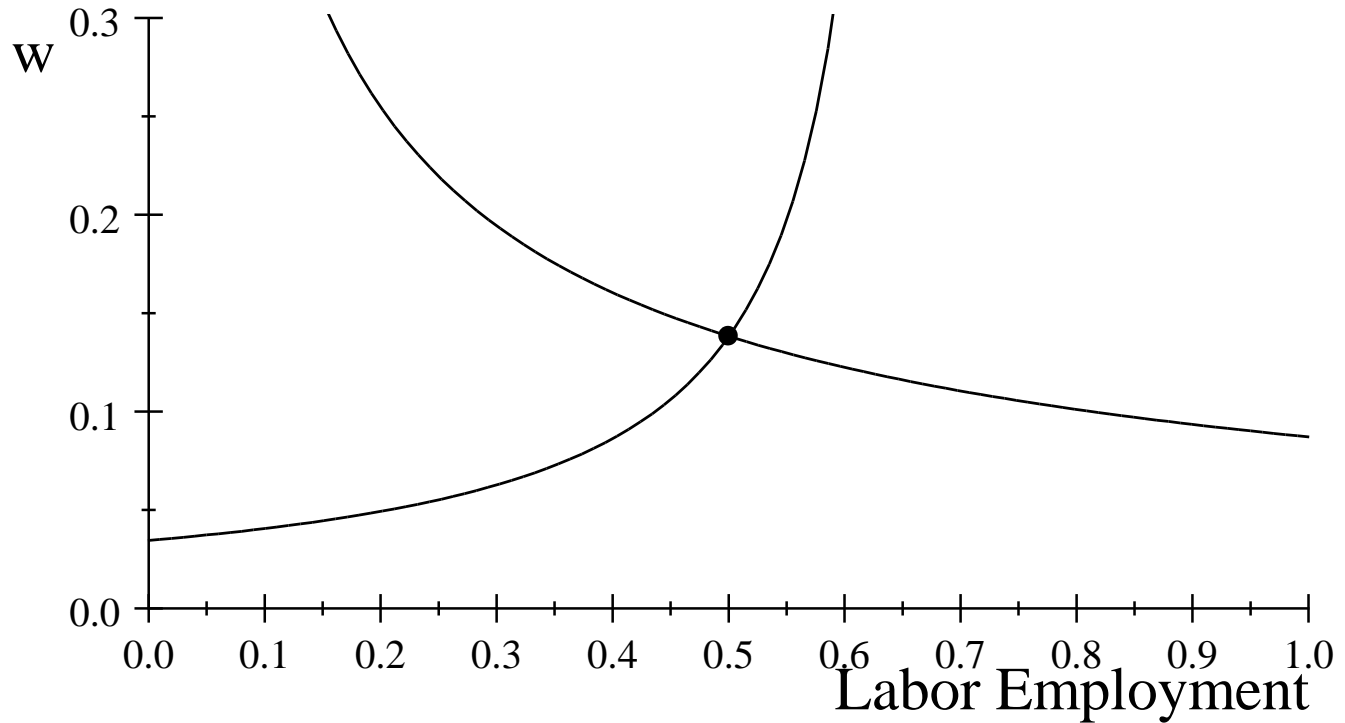


labor supply and labor demand (Fig 9.1)

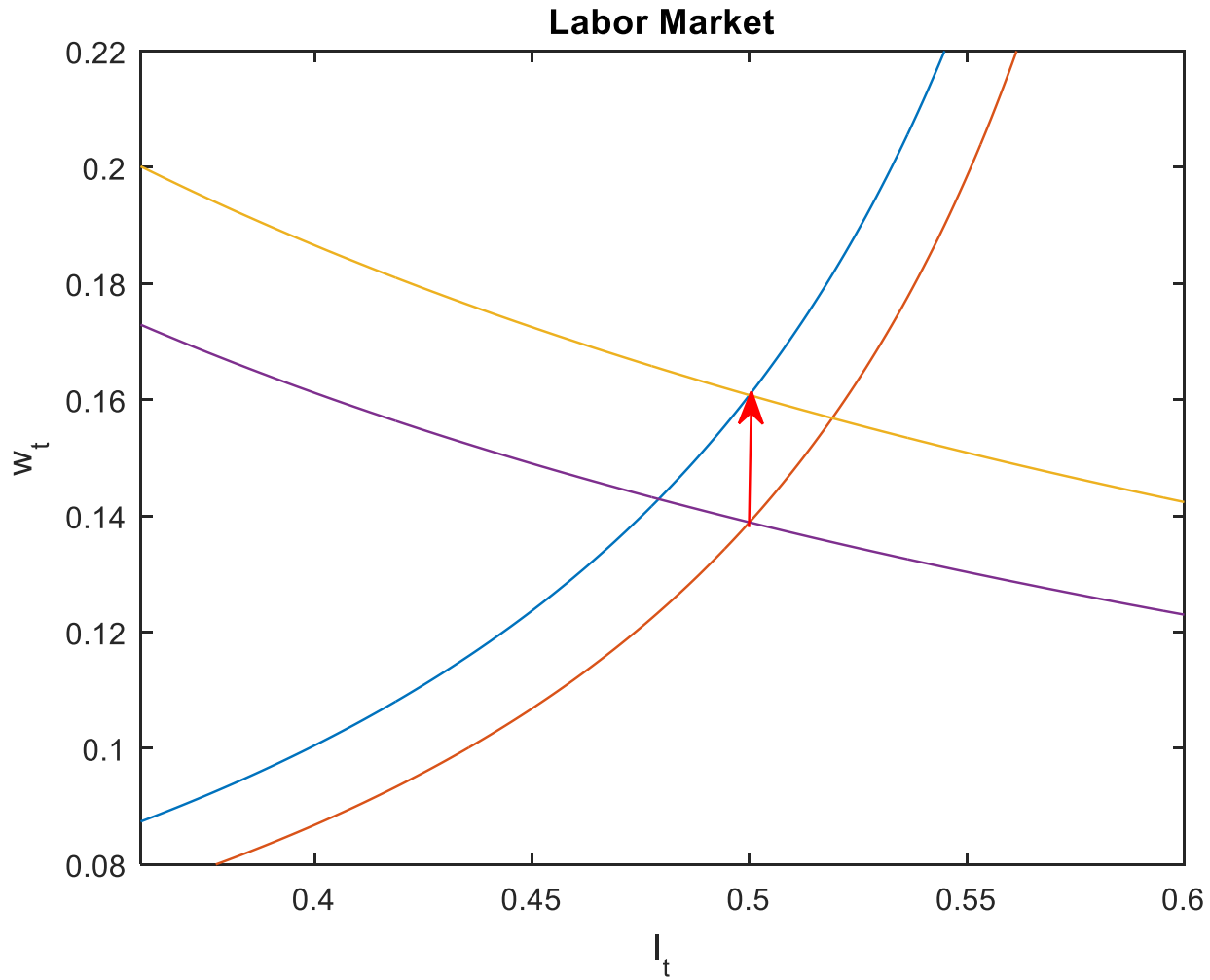
- Derive equations 9.5 and 9.6
- Labor supply starts with time constraint and substitutes from the $MRS=MPL$ condition.
- Then c^d is replaced by the expression used in AD
- Solve for w .
- Labor demand starts (and ends) with the MPL.
- See page 375 (section 9.2)

Labor Supply and Labor Demand

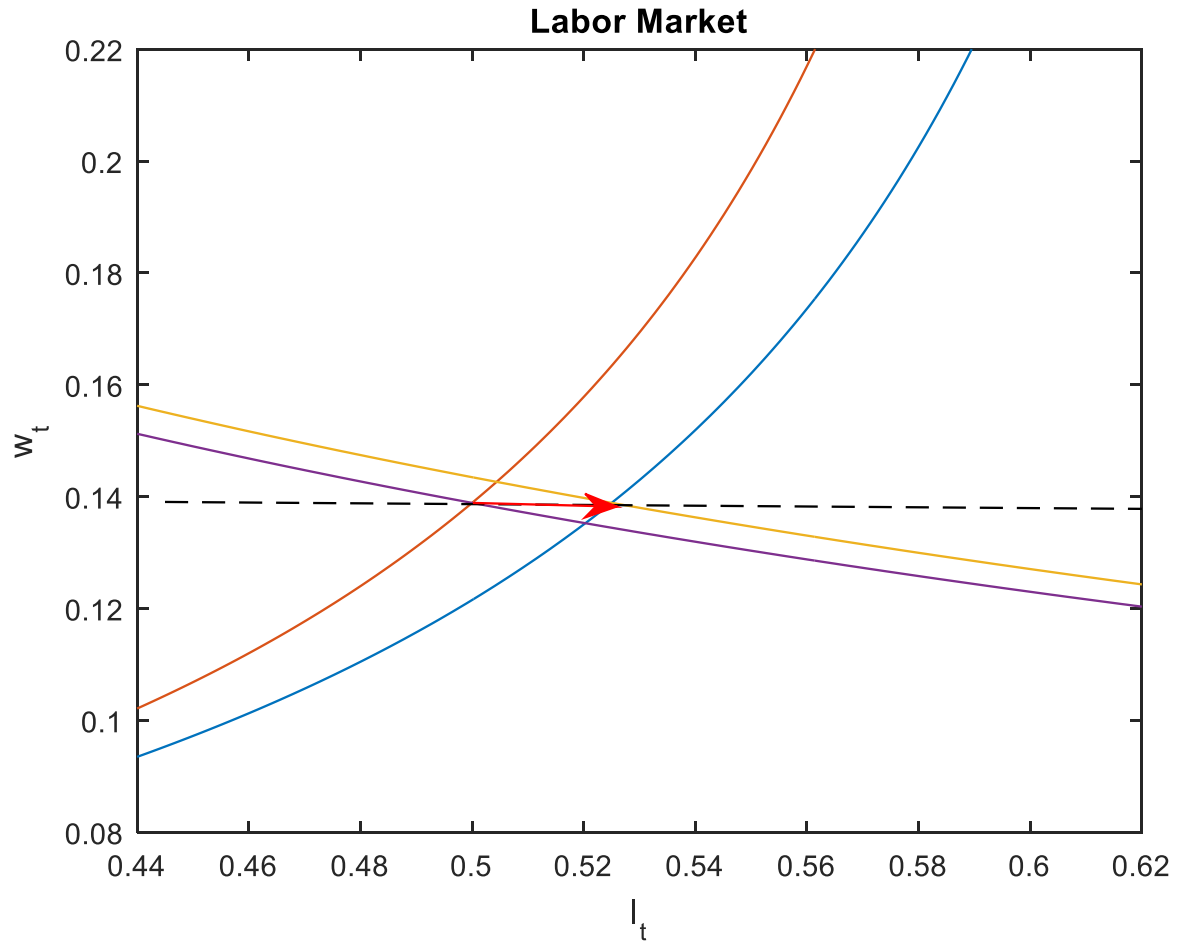
$$w_t = \frac{\alpha \rho k_t}{T - (1 + \alpha) l_t^s} \qquad w_t = \gamma A_G \left(\frac{k_t}{l_t^d} \right)^{1-\gamma}$$



An Increase in Ag



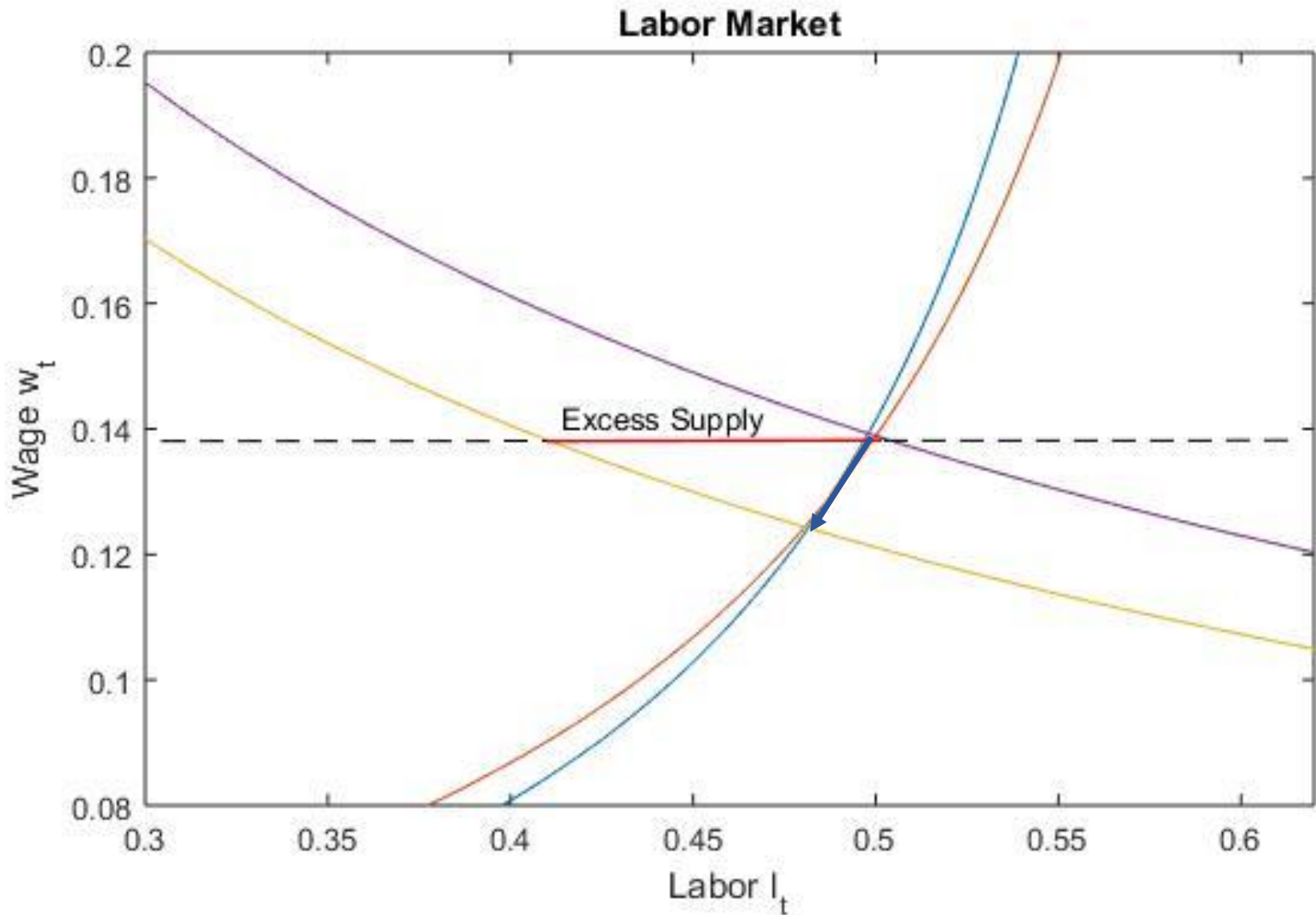
An increase in the time endowment



What happens in a recession when both decline?

- Draw the figure in your notes.
- Now assume that Keynes was correct and real wages do not decline.
- The excess supply of labor includes people who want to work at the prevailing wage minus the demand for labor at that same wage.
- See figure 9.11

Both AG and Time fall by 5%, with Keynesian View



Homework for March 22

- Finish Reading Chapter 9
- Complete Quiz 17.
 - Set up the GE recursive model with a labor tax.
 - Write down the utility function, the four constraints and the modified Bellman equation for the decentralized solution.
 - Take first order conditions and derive the equations for aggregate demand and aggregate supply.
- Read Chapter 10.