Useful Macroeconomics

I. David Wheat

Suggested Learning Activities after Chapter 5

New terms to Explain: *balanced budget norm, banks' reserves at the Fed, capital formation, depreciation, financial capital, guns & butter, infrastructure, Keynesian, open market operations, Phillips Curve, physical capital, potential GDP, SMTH1,* and *TREND.*

Discussion

1. Describe what you found most interesting about the 1960s in this chapter.

2. When the Fed uses open market operations to increase banks' reserves, does that increase the banks' wealth? Use a numerical example to illustrate your explanation.

3. Suppose that during a recession, the Fed uses open market operations to increase banks' reserves. Why might that fail to increase bank lending to the private sector very much?

4. Explain why the Phillips Curve research findings might have led some 1960s economists to think it was possible to use fiscal policy to 'fine tune' the economy and achieve an acceptable trade-off between inflation and unemployment. Why might such 'fine tuning' be difficult?

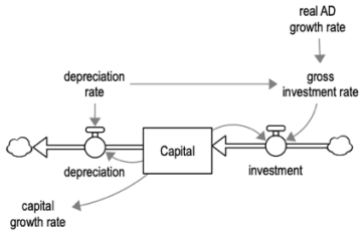
5. Use the feedback loop in ***UM*** Figure 5.2 to explain the logic of the Kennedy tax cut proposal.

6. Explain the hypothesis that the growth rates of employment and labor productivity depend on the growth rate of capital. Use numerical examples to illustrate your explanation.

7. Explain the growth rate rule for calculating the growth rate of C when C = A*B
Similarly, explain the rule for calculating the growth rate of Z when Z = X / Y

Modeling: Refer to Diagram in Figure 5.10 and Equations in Figure 5.11 (*UM*)

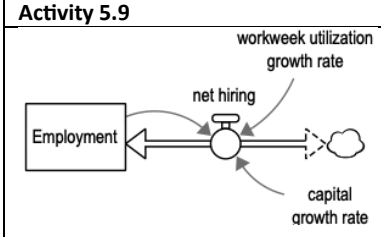
Activity 5.8



8. Build only the Capital structure. Simulate for 20 years.
Initial value of the Capital stock = 10e+12, with 'USD' units.
Place three variables on a graph:
gross investment rate, *depreciation rate*, *capital growth rate.*

Experiment #1: Let *real AD growth rate* = 2.5 + STEP(0,1)
Experiment #2: Let *real AD growth rate* = 2.5 + STEP(-1,1)
Experiment #3: Let *real AD growth rate* = 2.5 + STEP(1,1)
➔ Describe the relationships between the variables on the graph.

Activity 5.9



9. Build only the Employment structure.
Initial Employment stock = 114e+6 with 'persons' units.
Put it on a comparative graph.
Let *workweek utilization growth rate* = 0.
Experiment #1: Let *capital growth rate* = 2.5 + STEP(0,1)
Experiment #2: Let *capital growth rate* = 2.5 + STEP(-1,1)
Experiment #3: Let *capital growth rate* = 2.5 + STEP(1,1)
➔ Compare the results of all three experiments.

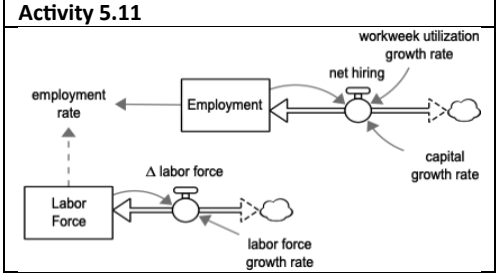
10. Use same model as in Activity 5.9. Clear the graph.
RUN the model with *capital growth rate* = 2.5 percent. Do not clear the graph.
Let *workweek utilization growth* rate = 0 + STEP(-10, 2) + STEP(15, 3) + STEP(-5, 5)
➔ Simulate and describe the results.
➔ Explain what might be happening in a real economy if the average workweek ...
... declined from 40 to 36 hours in one year,
... rose from 36 to 42 hours the next year,
... and declined from 42 to 40 hours two years later.

Useful Macroeconomics

I. David Wheat

Suggested Learning Activities after Chapter 5

Activity 5.11



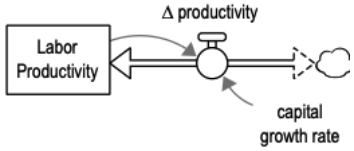
11. Add the *Labor Force* and *employment rate* structure to the Employment model you built in Activity #9.

Initial value of the *Labor Force* stock = 120e+6
Stock units: persons
Put the *employment rate* on a comparative graph.
Let *workweek utilization growth* rate = 0.

Experiment #1: Let *labor force growth rate* = 1 and *capital growth rate* = 2.5
Experiment #2: Let *labor force growth rate* = 1 and *capital growth rate* = 1.5
Experiment #3: Let *labor force growth* rate = 2 and *capital growth rate* = 2.5
Experiment #4: Let *labor force growth rate* = 2 and *capital growth rate* = 1.5

➔ What is the Employment growth rate in (a) experiments 1 & 3? (b) experiments 2 & 4?
➔ Describe how the *employment rate* depends on both Employment and the Labor Force.

Activity 5.12

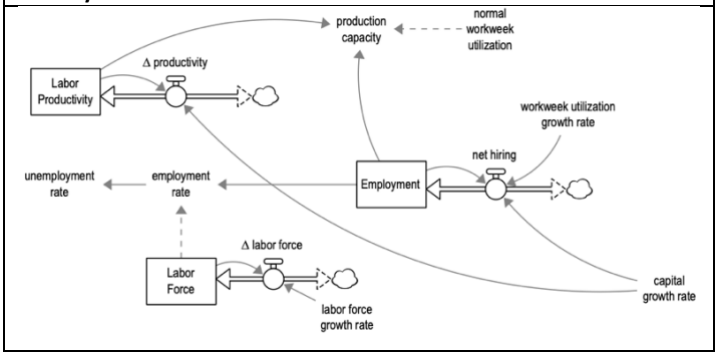


12. Build only the Labor Productivity structure.
Initial value of the Labor Productivity stock = 75000
Units: USD/year/person. Put the stock on a comparative graph.

Experiment #1: Let *capital growth rate* = 2.5 + STEP(0,1)
Experiment #2: Let *capital growth rate* = 2.5 + STEP(-1,1)
Experiment #3: Let *capital growth rate* = 2.5 + STEP(1,1)

➔ What is the Labor Productivity growth rate in each experiment, before & after the STEP change?

Activity 5.13



13. Connect the models you built in Activities #11 & #12, and also include
- *production capacity*
- *normal workweek utilization*.

Select Multiscale graph for:
- *Employment*
- *Labor Productivity*
- *Production Capacity*

Let:
- capital growth rate = 2.5
- workweek utilization growth rate = 0
- normal workweek utilization = .85

Experiment #1: Run the model, and record the values of each graphed variable in year 20.

Experiment #2: Change the **labor share** of the capital growth rate to **.5** in the *net hiring* equation.
And change the **productivity share** to **.5** in the *Δ productivity* equation.
Run the model, and record the values of each graphed variable in year 20.

Experiment #3: Change the **labor share** of the capital growth rate to **.3** in the *net hiring* equation.
And change the **productivity share** to **.7** in the *Δ productivity* equation.
Run the model, and record the values of each graphed variable in year 20.

➔ Describe what happens to Employment & Productivity when you change the 'shares.'
➔ Describe what happens to Production Capacity when you change the 'shares.'