

Useful Macroeconomics

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Suggested Learning Activities after Chapter 1

New Terms to Explain: bank reserves, fiat currency, hypothesis, liquidity, M1, M2, parameters, price index (CPI, PCE, GDP deflator), stocks & flows, tariff, and variables.

Discussion

1. Describe what you found most interesting about the 19th century in this chapter.
2. Suppose you were a TV news reporter in 1896 and heard a presidential candidate say, "We don't have any problems with inflation or deflation these days. In fact, our prices today are about the same as they were 100 years ago." Is that a true statement? If you were a *fact checker* for a major TV news network, what 'facts' would you point out?
3. Explain why, during periods of deflation, lenders are usually better off than borrowers. Give an example in which both might suffer as a result of deflation (hint: adopt a feedback perspective).
4. Explain how the *Rule of 70* can be used to (a) estimate the time needed for a quantity to double if its annual growth rate is known, and (b) estimate the growth rate of a quantity if its average doubling time is known. Use numerical examples to illustrate both explanations.

Modeling

5. Richard Cantillon (18th century British economist) described an economic system as self-adjusting. He described relationships between wages, family size, and labor supply as follows.

- higher wages encourage larger families
- larger families increase the labor supply
- larger labor supply reduces wages

Use a pencil and paper to **draw a feedback loop diagram** of Cantillon's *wage model*. Use dashed links for negative relationships. *Explain how you know this is a negative feedback loop. In this particular model, approximately how much time passes during each link along the loop?*

6. [Login](#) to *Stella Online*, and select 'add new content.' **Practice modeling while watching the online tutorials.** Be sure you know how to do the basics. *Stella Online* is simpler than the *Stella* version used in the tutorials. You will notice differences in the tool bars and the contents of the side windows, such as the window for Model Settings. *Stella Online* also has size limitations: only 1 graph, only 3 variables on a graph, only 3 stocks, and only 20 model components in total (stocks + flows + converters). But *Stella Online* is free.

Tutorials for <i>Stella Online</i> Basics	
operation	tutorial
place stocks (only 3)	1-1
connect flows to stocks	1-3
enter numerical values	1-4
change model settings	2-1
create a graph (only 1)	2-2
scale variables on a graph	2-3
place converters	3-1
link variables (with connectors)	3-2
write values & equations	3-3

7. **Build a copy of this simple model** adapted from the Business Establishments model in Figure 1.8. Study the simulation results. *Answer the questions on the last page with simulation results.*

8. **Build the Savings Account Model** described in Section 1.4. Do the same experiments. Display the Savings Account values for both runs on a *comparative* graph. Compare your results with those displayed in Figure 1.11. *Explain how this model illustrates the Rule of 70. What else did you learn from this activity?*

9. **Build the Population Model** described in Section 1.4. First, do the same experiments. Then create your own experiments, with different birth and death rates. *What did you learn from this activity?*