Due (either a paper copy—slide under my door—or email attachment submission) on October 18th by 12:05pm.

1. During the 1980s the average rate of unemployment in Europe was high. Some economists claimed that this was the result of real wage rigidity due to union action. Assuming this is true (this is an assertion, but perhaps not the reality), show how real wage rigidity would lead to unemployment. What is the effect of this rigidity on aggregate output? Now suppose that a positive technology shock occurs (A in the production function increases in value). How would this alter employment, unemployment, and aggregate output?
2. How would each of the following affect the full employment level of employment and output? Use a diagram (or more than one diagram) to explain.
   a. A large number of immigrants enter the country
   b. Energy supplies become depleted
   c. New teaching techniques improve the productivity of high school and college graduates
   d. A new law mandates the closure of unsafe physical capital goods
3. The article "China Bleeds Foreign Exchange Reserves" discusses the outflow of financial capital from China. Under the assumption that at least a portion of these funds flow into the US, explain the likely impact of these flows on US savings rates. How might this impact growth in the US? Consider the Solow model in your answer.
4. Suppose a technological improvement pushes up the value of A in the Solow production function. What is the effect on output and growth in the Solow model? Now suppose that the estimated elasticity of labor supply is 0.0. What is the impact of the increase in 'A' on the equilibrium level of employment?
5. Suppose that the demand for imports increases. What is the expected effect of this change in demand on the equilibrium exchange rate? What would this change do to the level of domestic savings for an economy with a fixed demand for investment? Assume that the government budget deficit/surplus does not change.
6. Suppose Susan has $1,000 in income this period, but no income in the next period (this is only a two period example so nothing happens after that). Demonstrate how Susan determines how much to save and how much to consume in both periods. How would her level of savings change if real interest rates increased?
7. Komal has unfortunately contracted a deadly disease so she will only live for two more periods. This year she will earn $10,000 and next year she will earn $12,000. The interest rate on borrowing and savings is 10% per year. What does her budget constraint look like? Assume Komal wants to end her life with no remaining savings (unfortunately, she is alone in the world with no one to pass on an inheritance to) and her preferences are such that she has decided to live it up this year (borrow against her future earnings in the first period); show where her indifference curve must be positioned relative to her budget line. Now suppose that the interest rate rises to 20%. How would her budget line change? Demonstrating the income and substitution effects, show how her savings and consumption pattern is expected to change. Will her savings rate increase or decrease?
8. Using a budget line/indifference curve model, show the effect of a tax cut on spending and savings decisions.

MARKETS | HEARD ON THE STREET

China Bleeds Foreign Exchange Reserves

By Alex Frangos
Updated Sept. 7, 2015 6:33 p.m. ET

A $100 billion here, a $100 billion there, and pretty soon you are talking about real money.

China's foreign-exchange reserves fell by just under $94 billion during the market mayhem in August, to $3.56 trillion, the central bank reported Monday. On a percentage basis, it was the biggest one-month drop since May 2012, which was also during a bout of currency depreciation and hard-landing fears.

China's actual selling of reserves was probably even higher because of measurement effects. Though the composition of China's reserves is a state secret, economists estimate the holdings are roughly 55% dollars and 45% other currencies, such as the euro and yen. Because reserves are reported in dollars, and because the euro was on average 1.14% stronger against the dollar last month, China's actual selling was likely around $112 billion.

That said, the declines don't pose an immediate threat to China's national balance sheet. Assuming China keeps a fixed exchange rate, but is unable to impose capital controls, under International Monetary Fund guidelines on short-term debt and other liabilities, China should keep at least $2.7 trillion, figures Société Générale economist Wei Yao.

Were China to allow the currency to float, it wouldn't need to spend reserves defending it. In such a case, the amount of reserves needed under the IMF criterion drops to $1.5 trillion.

A truly market-determined exchange rate would also quickly fall to an equilibrium level that then encourages investors to dive back into an economy when they sense value.

But so long as China maintains such a tight leash on the yuan, outflow pressures will express themselves through reserve depletion rather than a weaker currency. Despite the fanfare that went with China's policy shift in August, it has only timidly tested letting market forces drive the currency.

China has guided the yuan stronger in recent weeks, partly as a signal to investors to stop sending cash out of the economy. If that doesn't work, at $100 billion a month, the day when China decides to let the currency take the pain could come sooner rather than later.

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