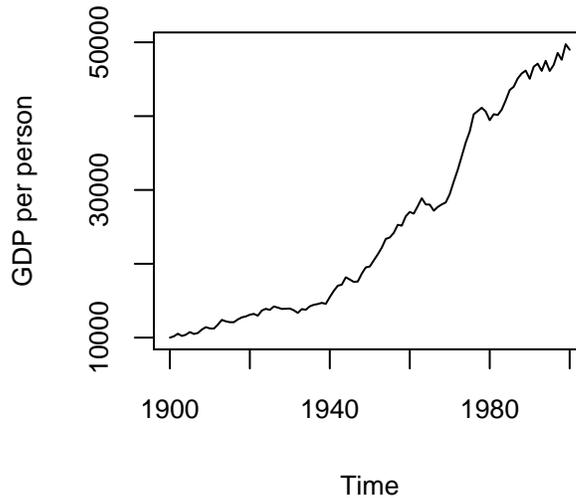


Exam 1

Econ 3150, Summer 2015

Explain your answers (graphs combined with descriptions are usually best). Write clearly.

1. Use the Solow model to show what will happen to the economy in *one* of the following scenarios. Specifically, show what will happen to saving, consumption, incomes, and the capital stock immediately and in the long run and how these variables will transition to the long run.
 - (a) Later today an alien space ship comes to Earth and gives each person a new laptop. These are not special laptops; they are what you could buy online today. The benevolent aliens simply saw these ubiquitous machines and thought that we liked them and so manufactured some for us.
 - (b) We develop a new industrial lubricant that makes machines last longer.
 - (c) Jesus comes back and tells everyone that Catholics are right about birth control.
2. Plot a graph showing how Solow Model steady state consumption relates to the saving rate. *Hint: the saving rate should be on the horizontal axis, and steady-state consumption should be on the vertical axis.*
3. Answer *one* of the following:
 - (a) True, false, or uncertain: if we cut tax rates, some people might suffer, but average income growth will rise because many people will have more to spend on the stuff they like and to invest in their futures.
 - (b) True, false, or uncertain: the fast income growth in the 1970s in the graph below (not the U.S.) indicates that the rate at which people's wellbeing was improving was higher in the 70s.



- (c) True, false, or uncertain: legalizing marijuana will lower GDP because people will get high and be less productive.
4. True, false, or uncertain: the Solow model shows us that changes in technology rather than purchases of capital are the source of the long-run economic growth much of the world has enjoyed over the last two centuries.
5. What is the opportunity cost of holding money?
6. What is the opportunity cost of investment?
7. Choose *one* of the following:
- (a) Name *two* problems with predictable inflation and *one* problem with unexpected inflation.
 - (b) Explain *two* reasons the central bank might want to keep inflation above 0%.
8. Answer *one* of the following:
- (a) True or false: if we had only stock brokers but no banks, then the money base would exactly equal the money stock.
 - (b) True, false, or uncertain: if the Fed increased the required reserve ratio, then the money supply would fall.

9. Suppose that we discover a new technology that increases the marginal product of capital.
 - (a) Show using the investment market model how this will affect the real interest rate.
 - (b) Show using the money market model how this change in the interest rate will affect the price level.
 - (c) How do you think this change will affect income levels? Does your answer change your answer to question 9b?
10. Choose *one* of the following:
 - (a) Use the quantity theory of money to show that long-run inflation is due to changes in the money supply.
 - (b) The Fed announces that they will buy fewer bonds over the next three years than they did in previous years. Show using our model of the money market how this announcement will affect the price level in the short run (this month, for instance).
11. Use our model of the small, open economy to show how *one* of the following will affect nominal interest rates:
 - (a) An increase in government purchases
 - (b) An increase in technology that makes capital more productive
 - (c) An increase in purchases by governments in some other, large country
 - (d) A tax on imports