Problem Set #2

1. Dig up the following statistics for the most recent year you can find.
   b. Japan’s GDP per capita in yen.
   c. U.S. GDP in dollars.
   d. U.S. GDP per capita in dollars.
   e. Japan’s GDP in dollars using market exchange rates.
   f. Japan’s GDP per capita in dollars using market exchange rates.
   g. Japan’s GDP in dollars using purchasing power parity (PPP) exchange rates.
   h. Japan’s GDP per capita in dollars using PPP exchange rates.

All of the above statistics should be for the same year so that you can compare them.

2. Is GDP per capita higher in Japan or the U.S.? Does the answer depend on the exchange rate you use? Which is the "right" exchange rate to use? Does it depend on what you want to know? Is the standard of living higher in Japan or the U.S.?

3. Economic Growth
   a. What is the convergence hypothesis? Discuss the evidence whether Japan seems to be an outlier or not?
   b. If you look at OECD countries, you will find convergence. Why is this misleading?
   c. If you look at all countries around the world, you will not find convergence. Why is this misleading?
   
   d. Under some standard conditions we can decompose a country's growth as follows:

   \[
   g_Y = g_T + \alpha g_K + \beta g_L
   \]

   where \( g_Y \) is GDP growth, \( g_K \) is growth in the capital stock, \( g_L \) is growth in labor stock, \( \alpha \) is the capital share of output, \( \beta \) is the labor share of output, and \( \alpha + \beta = 1 \) because of constant returns to scale.

   i) What does \( g_T \) represent?
   ii) Draw a graph to show how \( g_Y \) varies with \( g_L \), and be sure to indicate the slope. Will growth in only the labor force produce growth in GDP? What will happen to standards of living if only labor grows? Why?
   iii) Between 1960 and 1980, how important were each of the three components, \( g_T, \alpha g_K \) and \( \beta g_L \) in Japan's growth? What does this imply about the sources of Japanese growth?
   iv) What does the convergence hypothesis predict about the relative sizes of \( g_T \) for the U.S. and Japan? Why?

4. How important do you think culture is for economic growth? Of the six dimensions of culture evaluated by Geert Hofstede, which do you think is the most important with regard to the Japanese
economy? Does it help to shed some light on some differences between the U.S. and Japanese economies?

5. Why are wages more flexible in Japan than in the United States? Provide three reasons. Do these reasons help to explain why the Japanese economy was more stable than the U.S. in the late 1900s? Explain.

*Due Thursday 22 March*