Problem Set #2: Emerging Market Forecasting and Growth Accounting

DUE: End of Day Friday, March 2nd

You may work in a group of up to 3 people. Whatever you hand in should be the work of your group. Your report should take to form of a professional piece of work.

1. What drives GDP growth in China and India? How do they compare to each other? Data on real GDP, capital, employment, are in the country data file, available on the course website. Assume that payments to labor make up two-thirds of GDP in both countries, i.e., $1 - \alpha = 2/3$.

   a. How has GDP per worker evolved in the two countries? Turn in one well-labeled graph that plots GDP per worker (1979–2011) for both countries.

   b. Compute TFP for each year. Create a TFP index for each country by dividing the value of TFP in each year by the value of TFP in 1979 and multiplying by 100. Turn in one well-labeled graph showing (1979–2011) the two TFP indices.

   c. Compute the marginal product of capital (i.e. the MPK) for each year. Turn in one well-labeled graph showing (1979–2011) the MPKs for each country.

   d. Separate each country's growth experience into two periods: 1979-1990 and 1990-2011. Decompose the growth in output per worker into contributions from TFP, capital per worker, and these two periods. Report your findings in the tables below.

China	Y/L	$\alpha K/L$	TFP
1979–1990			
1990–2011			

India	Y/L	$\alpha K/L$	TFP
1979–1990			
1990–2011			

   e. Prepare a short summary of growth in China and India, highlighting the similarities and differences between the two countries (including any differences that arise in the two periods). In your report, please address several questions

      - Which of the growth accounting elements are most important?
      - How have returns on capital evolved over this time period? How do the evolution of returns relate to the accounting exercise?
      - What are possible reasons for the evolution of productivity in these two countries. In doing so, you should explore the World Bank's *Doing Business* reports and *Governance Indicators*. See the Blog for more discussion.