International Economics and Business Dynamics
Practice questions for the midterm

Bocconi

Question 1
Switzerland only produces watches and chocolate bars. In the following table you have the production and the prices of watches and chocolate bars (In Swiss francs) in Switzerland in 1990 and in 2000.

	Watches	Chocolate bars	Price of Watches	Price of Chocolate bars
1990	100	1000	SF 20	SF 1
2000	200	2000	SF 25	SF 2

Using these data compute

i) Swiss Nominal GDP in 1990 and 2000.
ii) Swiss Real GDP in 1990 and 2000 using 1990 base year prices
iii) Swiss GDP deflator in 1990 and 2000
iv) The growth rate of Real GDP and of nominal GDP. Why are they different?

Suppose the consumption basket used to compute the Swiss CPI is composed of 10 chocolate bars, 1 watch and 5 oranges (imported from Italy) per year. Suppose that the price of 1 orange in 1990 was SF 1 and in 2000 is SF 5.

v) Compute the Swiss CPI in 1990 and in 2000 and the CPI inflation. Why is it different from the GDP deflator inflation?

Question 2
A farmer in Canada grows wheat and sells it to Gold Medal Flour in Minnesota for $50. Gold Medal hires 2 local workers, at $10 each, to process the wheat into flour. It then sells $80 of flour to Punch Pizza in Miami, and $20 to McDonald in New York. A farmer in North Dakota raises 4 cows. He uses milk from the cows to make $40 of mozzarella cheese, which he sells to Punch. The farmer then slaughters the cows and sells meat to McDonald for $100. Punch hires 4 Italian pizza makers, at $15 each, and uses the flour and the mozzarella to make white pizza sold for $300. McDonald uses the flour and beef to make burgers and sells these for $200.

i) Compute value added by each firm.
ii) How much do these transactions contribute to Italian and US GDP,GNP and Current Account?

Question 3

The country of Agraria is specialized in farming. Its aggregate production function is $Y=K^{.5}L^{.5}$, where Y is GDP, K is the total capital stock and L is the number of workers. Each year Agrarians save 15% of their income. Capital (farm equipment) depreciates at a rate of 5% per year.

i) Compute the steady state per capita capital stock, output and consumption.

The government decides the time is right to modernize and switch to producing computers. Producing computers requires a new type of capital that depreciates at a faster rate of 15% per year. With the new machines the aggregate production function changes to $Y=2*K^{.5}L^{.5}$, where K is the stock of new capital.

ii) Compute the new steady state per capita capital stock, output and consumption. Based on these numbers should Agraria adopt this policy?

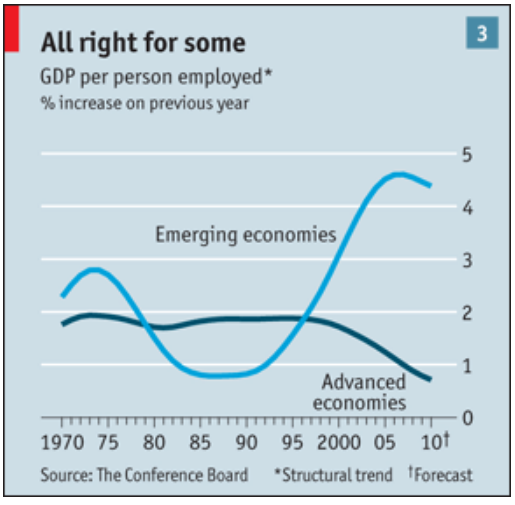
Question 4

Urania and Neptunia are two very similar nations. They are both closed economies, they have the same aggregate production function, given by $Y=AK^{\alpha}L^{1-\alpha}$ where Y is GDP, A is TFP, K is capital stock, L is labor force and $0<\alpha<1$ is a fixed parameter. Capital in the two economies depreciates at the same rate and the saving rate is the same. In both countries TFP is constant at the same level. The only difference between the countries is that Uranian labor force grows at 1% per year while Neptunian labor force does not grow. Suppose now that both countries are at their steady state level of capital per worker.

i) Which country has the higher steady state level of GDP per worker? (justify your answer using a graphical analysis)
ii) Which has the highest growth rate of GDP?
iii) Suppose that both countries now open to foreign capital and you, an interplanetary fund manager, have to decide which country to invest in. Which one would you pick? Why?

Question 5

The picture on the right shows that over the past 10 years emerging (hence poorer) economies have experienced faster growth in productivity (GDP per worker) than advanced (hence richer) economies. In the previous 10 years the opposite was true. Can you give reasons why advanced economies can experience faster productivity growth and why emerging economies can experience faster productivity growth?



Shorter questions

1. Do you agree with the statement that “Large government deficits today can lead to large government deficits in the future”. Why?

2. Do you agree with the statement that “Investment in 2012 does not affect GDP in 2013”. Why?

3. Is it possible, in a given month, to have both the number of employed people and the unemployment rate increase? Why?

4. Suppose that your boss shows you a chart showing that, in your sector, firms that export abroad are also more profitable. On the basis of this chart he wants your advice about your firm entering the export market. Explain him, using the same ideas we learned about endogeneity in growth theory, why the chart is not necessarily informative about your firm’s export decision