SGPE Summer School. Tutorial 1.

Q1. Explain the difference between exogenous and endogenous variables.

Q2. Suppose a woman marries her butler. After they are married, her husband continues to wait on her as before, and she continues to support him as before (but as a husband rather than as an employee). How does the marriage affect GDP? How do you think it should affect GDP?

Q3. What would happen to GDP if the government hired unemployed workers, who had been receiving £B in unemployment benefits, as government employees and now paid them £B to do nothing? Explain.

Q4. Place each of the following transactions in one of the four components of expenditure: consumption, investment, government purchases, and net exports (note that the question assumes an American perspective).

- **(a) Boeing sells an airplane to the US Air Force.**
- **(b) Boeing sells an airplane to American Airlines.**
- **(c) Boeing sells an airplane to Air France.**
- **(d) Boeing sells an airplane to an American billionaire (he plans to throw lavish parties on it).**
- **(e) Boeing sells an airplane to a Saudi billionaire (he also plans to throw lavish parties on his plane).**
- **(f) Boeing builds an airplane to be sold next year.**

Q5. A farmer grows a bushel of wheat and sells it to a miller for £1. The miller turns the wheat into flour and then sells the flour to a baker for £3. The baker uses the flour to make bread and sells the bread to an engineer for £6. The engineer eats the bread. What is the value added by each person? What is the bread's contribution to GDP?

Q6. Data for Smalland can be found in the table below.

Variable	*Amount*
Private consumption	50
Government consumption	23
Private investment	20
Government investment	3
Exports	36
Imports	32
Primary income from RoW	5
Primary income to RoW	2
Taxes less subsidies on products	10
Net transfers from RoW	0
Capital stock	200
Depreciation rate	7.5%
Labour income	60
Net interest paid from gov't to private sector	1
Gov't income from private sector (taxes, etc.) minus transfers	24

Use the data to calculate the following:

- **(a) GDP (*Hint*: use the balance between sources and uses)**
- **(b) Net domestic product at market price**
- **(c) Net national disposable income at market price**
- **(d) Labour income as a share of gross value added at basic price**
- **(e) Gross and net capital income as a share of gross value added at basic price**

Q7. Use the data from the previous question to calculate the following:

- **(a) Private gross saving and net lending**
- **(b) Government gross saving and net lending**
- **(c) The current account balance**
- **(d) What is the relationship between the three numbers that you just calculated?**

Q8. What is the PPP adjustment to GDP? For each of the following countries, explain whether you think the PPP adjustment will raise or lower the value of GDP per capita:

- **(a) India**
- **(b) Norway**
- **(c) The United States**

Q9. The Office for National Statistics reports that GDP per capita in the UK was about £26 000 in 2013, whereas GDP per capita in the United States in 2013 was about $53 000. On a purchasing power parity (PPP) basis, GDP per capita is listed as about $36 000 in the UK, and $53 000 in the USA. The average exchange rate in 2013 was about $1.58 per pound.

- **(a) What is US GDP per capita at market exchange rates (expressed in dollars)? Is this higher or lower than the PPP measure?**
- **(b) What is UK GDP per capita at market exchange rates (expressed in dollars)? Is this higher or lower than the PPP measure?**
- **(c) Based on your answers above, do you think that the price level is higher or lower in the UK? By how much?**

Q10. In the textbook, there is not much of a distinction made between physical goods and services. Discuss the similarities and differences between services (haircuts, meals in restaurants, transports) and physical goods (milk, cars, machines). Do you think goods or services prices are more likely to vary internationally? What kind of international variation do you expect to see (i.e. where would prices be high or low)?