Handout 4

diese Woche: 3. Aggregation
des Angebots und der Nachfrage, wann ist Nachfrage nur eine Fkt des Gesamteinkommens und nicht der Einkommensverteilung, identische und homothetische Präferenzen
4. Partielles (= in nur einem Markt) Gleichgewicht
Gleichgewichtspreis, Stabilität und einige Anwendungen:
dead weight loss der Besteuerung, Externalitäten, Importzoll

zu lesen: zu Aggregation: Deaton & Muellbauer, Kap. 6.1
zu partielles Gleichgewicht read Intermediate Varian Kap. 16

Übungsaufgaben:

1. (Wiederholung) Let a consumer's preferences for all consumption bundles (x, y) satisfying $x > a$ and $y > b$ be represented by the utlity function $U(x, y) = \alpha \ln(x - a) + \beta \ln(y - b)$ where α, a, β, and b are all positive parameters with $\alpha + \beta = 1$.
   a) Given the budget constraint $I = px + qy$, find the utility maximizing demands.
   b) Show that the expenditures px and qy are linear functions in prices and income (that's why this is called the linear expenditure system). Interprete the parameters a and b.
   c) Show that these preferences are homothetic only if $a = b = 0$.
   Now, let $a = b = 0$.
   d) Find the indirect utlity function and the expenditure function.
   e) Find the Hicksian (= compensated) demands using Shephard's lemma, through expenditure minimization, and by using the relationship between Marshallian (= uncompensated) and Hicksian demands (all three ways please).

2. Once you are a consultant with McKinsey, do you think your expenditure shares will be the same as that of the student you are today? Consequently, what should you tell some macroeconomist who tries to convince you of aggregate demand functions?

3. Consider our (by now) familiar utility function $U(x,y) = x - 1/y$. Suppose everyone had these preferences. Do we have an aggregate demand function that depends solely on aggregate income?

4. Let aggregate demand for good i be of the form $D(pi, ...) = 10 - pi$ and aggregate supply of the form $S(pi, ...) = 3\ pi$. Calculate the equilibrium price and quantity. What could be the reasons behind shifts in these demand and supply curves?

5. In a partial equilibrium setting, discuss the welfare effects of a tax when demand is relatively elastic and supply relatively inelastic and vice versa. Who really pays the tax - the elastic or inelastic side of the market? What about aggregate/social welfare?

6. The domestic aggregate demand and supply curves for a commodity are given by $D = \alpha - \beta P$ and $S = \gamma P$ respectively, where α, β, and γ are positive constants.
   a) Find the domestic market equilibrium (price and quantity) if neither imports nor exports are allowed.
   b) Suppose there is free trade in this commodity at a fixed world price of Pw. Comparing Pw to the domestic equilibrium price, when will there be exports, imports, no trade? In each case, find the new equilibrium as well as the changes in domestic consumer and producer surplus that result from free trade.