

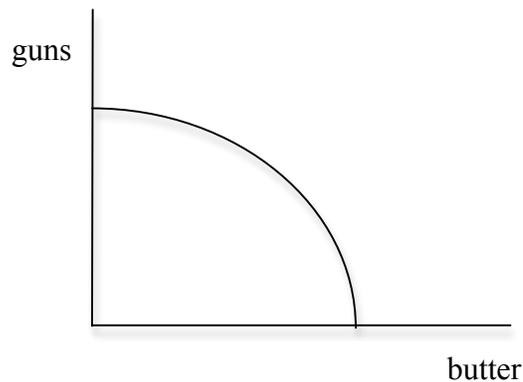
37th Class

4/29/11

today we'll take up internal redistribution

recall our efficiency vs. equity dichotomy from early in the course

recall concept of efficiency as shown by the production possibility frontier (PPF):



--if all available resources are utilized, society is on the PPF; points inside the PPF are inefficient while all points on the PPF are equally efficient (recall they are also all Pareto efficient)

recall the tasks for a society/economy:

- utilize resources efficiently, i.e., get to the PPF (How)
- choose a point on the PPF (What)
- distribute production (for Whom)

so let's now take up the second and third of those problems

being on the PPF translates to a set amount of national income through the accounting identity

what gets made and who gets it in a competitive market society?

distribution of output is based on willingness to pay and ability to pay

ability to pay is based on earnings from factor markets

why do people have different income-earning capacities?

- different factor endowments
 - human capital
 - physical capital
 - land
 - other assets
- different efficiencies at utilizing their factor endowments

e.g., why do people earn different amounts?

- different productivity levels
 - different amounts of human capital
 - different amounts of different abilities
 - expend different amounts of effort
- different tastes
 - different preferences for working conditions
 - different preferences for work vs. leisure

If we don't like the outcome (i.e., the income distribution) the free market generates, we may choose to have the government intervene by setting up a tax and transfer system

empirical question: How much inequality is there in the U.S.?

http://en.wikipedia.org/wiki/Income_inequality_in_the_United_States

incomes are unequal and getting more spread out

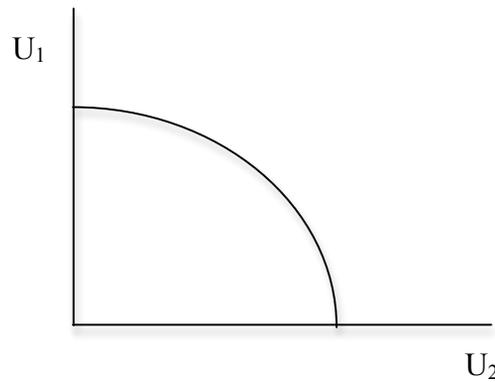
(note we've already seen that incomes are pretty unequal across countries)

so if income is unequal, it can be because of different factor endowments, different amounts of productivity at translating endowments into output, and different tastes

we may find the first factor to be problematic in particular

concept of utility possibility frontiers: how do we distribute national income to create utility

remember $U = f(Y)$, and in general we assume $\frac{dU}{dY} > 0, \frac{d^2U}{dY^2} < 0$

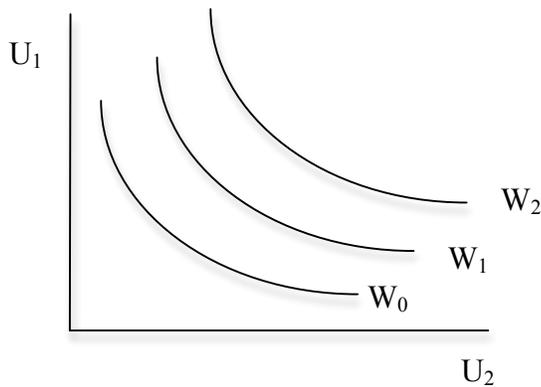


UPF; it's easy to mark endpoints (where one person gets everything and the other person nothing) as well as then considering what the points in between signify (set one person's utility and then maximize the other person's utility subject to that value)
 --discuss why this would tend to be convex--diminishing marginal utility of income
 --just consider distributing total income between the people, and then they decide what they want to buy, and that translates to the chosen point on the PPF.

now let's introduce the concept of a social welfare function (SWF) and consider maximization of social welfare subject to the utility possibility frontier constraint.

$$W = f(U_1, U_2) \text{ (more generally, } W = f(U_1, U_2, \dots, U_n) \text{ where there are } n \text{ people in the society)}$$

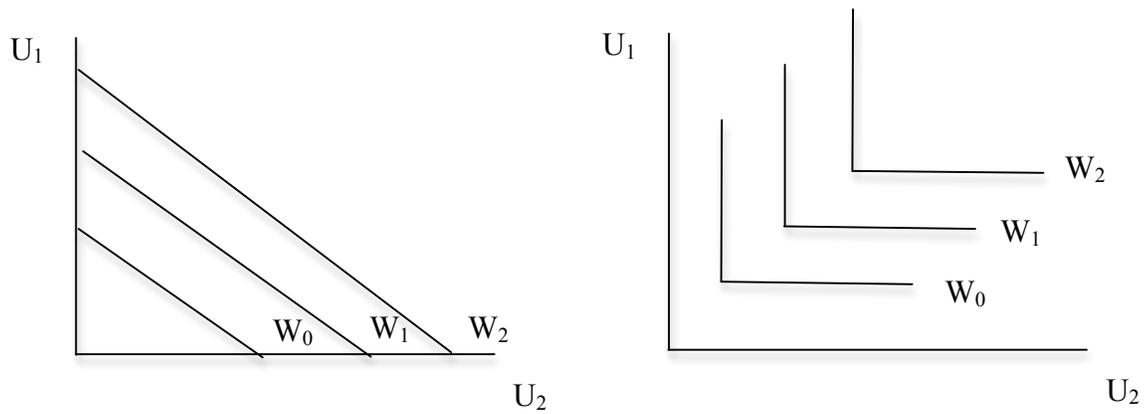
we can graph the isowelfare curves for a given SWF, where $W_2 > W_1 > W_0$:



here are a couple of special cases you might be familiar with by analogy to utility functions:

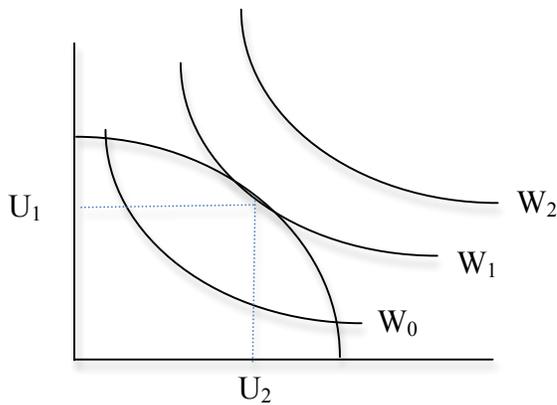
$$W = U_1 + U_2; \quad W = \min[U_1, U_2]$$

and here are the corresponding isowelfare curves for these cases:

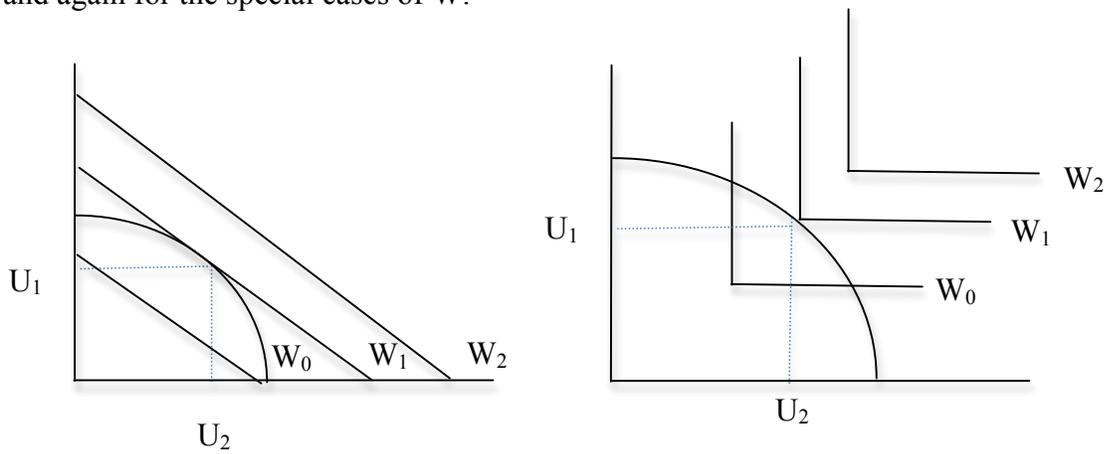


imagine now superimposing the map of isowelfare curves on the utility possibility frontier; now we could solve for the optimal point for the society in terms of what utility each person gets

max W subject to being on or below the UPF
 this is a standard constrained maximization problem



and again for the special cases of W :



this translates back to the optimal income distribution: once you know what the optimal utilities are, give each person the share of national income necessary to achieve that utility, and they will use the income to buy what goods they want, which translates back to the optimal point on the PPF

so what if we aren't at the optimal point?

still have the pareto problem of how to move to it

on the problem set I ask you to consider in particular the problem that moving may involve transactions costs

consider some moves

--inside to on the UPF is not necessarily equitable (move may violate pareto efficiency; see ranges of violation and nonviolation)

--inside to on the UPF can make both people better off but one person may benefit more than the other

--on the UPF to inside may make things more equal but wouldn't be pareto efficient

It turns out equity is kind of a tricky concept to define.