

## Chapter Three: Tools of Normative Analysis (pg 34 - 50)

### Welfare Economics (34)

Pure Economy Exchange  
(Smithian economy)  
The Edgeworth Box

### Graph Beer and Pizza, Crusoe and Friday

Indifference Curves

The MRS for Ann and Brad

Note – assume two goods, with diminishing Marginal Utility  
(cheese, not Durian; and no acquisition of taste)

MRS – The marginal rate of substitution

In markets,  $MRS = \text{price ratio}$ , here we assume no money for the moment

Initial Endowment (distribution of goods)

Changes to the initial endowment

Exchange of goods

Pareto Improvement through Exchange

Pareto Improvement: a reallocation of goods (resources) that makes at least one person better off without making anyone else worse off.

Pareto Efficient: an allocation of goods (resources) such that no person can be made better off without making another person worse off.

In our simple two person – two good example; the efficient points are the contract curve

Contract Curve: Where  $MRS_C = MRS_F$

Note that for any given initial distribution, there are more Pareto improving points than there are Pareto efficient points. So long as transaction costs are negligible, this is only a short term problem.

There are a great many different conceivable Pareto efficient outcomes, but many of them would not strike many of us as “fair”.

But all Pareto improving points are fair in the sense that they are based on voluntary exchange

### Production Economy

(Samuelsonian economy)

### The Production Possibilities Curve

The above assumes that all quantities of goods is fixed. There is a fixed amount of beer and pizza, which is initially distributed, then exchanged.

Consider the case where we can change one into the other.

## Graph the productive possibilities curve of Beer and Pizza

The productive possibilities curve shows us how much of one good we must give up in order to get the other.

It assumes that it becomes increasingly hard to turn one good into the other, i.e. diminishing marginal returns

Specifically, in this case it assumes no returns to scale, and undifferentiated labor

The rate at which we can transform one good into another is the Marginal Rate of Transformation (MRT) of Beer into Pizza ( $MRT_{B,P}$ )

**Note that the MRT is really the ratio of the  $MC_B$  over the  $MC_P$  i.e. how much beer do we have to give up to get more P (and visa-versa)**  
So when we have variable production, our efficiency condition changes

$$MRT_{B,P} = MRS_C = MRS_F$$

Intuition: Even if  $MRS = MRS$ , if they don't equal the MRT we could transform some of one good into another good: a good that BOTH Crusoe and Friday value more than the original good.

### The First Fundamental Theorem of Welfare Economics (41)

Assuming perfect competition, and markets in all commodities (no transaction costs), than society will achieve Pareto Efficiency on its own.

This is a restatement of Adam Smith's "invisible hand".

"The bourgeoisie, during its rule of scarce 100 years, has created more massive and more colossal production forces than have all preceding generations together"

#### Intuition of the result:

**Everybody is a price taker. So  $MRS_F = P_B/P_P$ , and  $MRS_C = P_B/P_P$**

**That takes care of the consumption side**

**All firms are also price takers. So they produce until that point where  $MC = P$  of the product they are selling. But  $MC_B/MC_P = MRT_{B,P}$**

**And  $MC_B/MC_P = P_B/P_P$**

**So  $MRT_{B,P} = P_B/P_P = MRS_F = MRS_C$**

### The Second Fundamental Theorem of Welfare Economics (42)

Asks the basic question, is Pareto Efficiency the only criteria by which to judge a society?

Crusoe and Friday revisited

(Edgeworth box that is "unfair" but on the contract curve vs. a "fair" one that is somewhat inefficient.)

From the contract curve, we can derive a “Utility possibilities curve”  
Using Crusoe’s and Friday’s Utility as our two axes.

## Graph Utility possibilities curve

Societies Welfare indifference curve

$W = f(U_C, U_F)$  using standard assumptions about declining marginal utility...

Some big assumptions about Social Utility functions

Can we rank people’s utilities?

At the extreme, we all do.

Even we know what gives people utility, and how much they get, does it follow they should get more if it is more valuable to them than to others?

Empirical question:

How many people in America go hungry because they don’t have the money to pay for food, and no government program can provide for them?

Pareto improvements to Social welfare.

If we redistribute initial endowments, we can again achieve pareto optimality. Just get out of the way of markets.....

### **The second Theorem of Welfare Economics**

Society can attain any Pareto efficient allocation of resources by making a suitable assignment of initial endowments and then letting people freely trade with each.

Problems with measuring societies indifference curve

Arrow’s impossibility theorem

Multi-peaked preferences

Revealed preference systems (see appendix chap. 4)

Why would we need govt. Intervention (other than redistribution)

Violations of the first welfare theorem.....

### **Market Failure (46)**

#### **Market Power**

Natural Monopolies

Cartel Behavior

“Trusts”

#### **Non-existent Markets**

Asymmetric Information

Akerloff’s Lemon

Government Welfare as “poverty insurance”

Externalities

Obviously, if private transactions have spillover effects  
Market mis-allocation from a public view can occur

Non-existent goods

Public goods  
Non-rival  
Non-excludable

No market for public goods can exist, in theory  
Or they only exist when bundled with private goods  
Olsen: Early unions

### **Buying into Welfare Economics (48)**

How welfare economics differs from the rest of economics

Our approach is much more individualistic than normal in the social sciences

But NOT for economists

What if preferences are wrong – Ends and Means

Do we care about process

Or do we care about results?

Merit Goods

Opera

Overview

### *LONG DIGRESSION ON PUBLIC CHOICE ECONOMICS*

*Market failure vs. Government failure*

*Example: Dr. House Syndrome*

Summary

Problems