Lecture 8

Chapter 7 in Weimer and Vining

Distributional and other goals.

Return to the Pareto efficiency idea – that is one standard.

If a market leads us to a distribution that is not Pareto efficient, we have suffered a market failure.

But there are lots of different Pareto efficient outcomes.

How can we choose among them?

One idea is a social welfare function.

The best option is the one that is Pareto efficient and maximizes the social welfare function.

- Recall the idea of diminishing marginal utility of income.
- Recall the discussion that utility functions are ordinal rather than cardinal.

Utilitarian : add them.

- One person ‘one vote’ all accorded equal weight
- Greatest overall good.
- Has redistribution potential due to the diminishing marginal utility of income (transfer income from richer to lower should increase utility of lower more than decrease to richer since utility exhibits diminishing marginal returns to income)

Rawlsian: Pick the minimum.

- “Rawlsian veil of ignorance” thought experiment.
- What distribution would we agree to *ex ante* if we only found out our realization *ex post*.

Multiplicative: Multiply them.

- Puts weight on overall values
- Punishes more unequal distributions; 2*2=4, average is 2. 1*3=3, average is 2. 0*4=0, average is 2.
- But picks up on increases; 2*2=4, 2*3=6.

Table 7.1 from the book: Three different social welfare functions

	Utility person 1	Utility person 2	Utility person 3	*AVERAGE*	Utilitarian SWF	Rawlsian SWF	Multiplicative SWF / 1000
Policy A	80	80	40	*66.7*	200	40	256
Policy B	70	70	50	*63.3*	190	50	245
Policy C	100	80	30	*70.0*	210	30	240
					C is best	B is best	A is best

Utilitarian: Utility A + Utility B + Utility C

Rawlsian: Minimum (Utility A, Utility B, Utility C)

Multiplicative: Utility A*Utility B*Utility C

[Contrast]

	Utility person 1	Utility person 2	Utility person 3	*AVERAGE*	Utilitarian SWF	Rawlsian SWF	Multiplicative SWF / 1000
Policy A	70	70	70	*70.0*	210	70	343
Policy B	70	80	60	*70.0*	210	60	336
Policy C	70	90	50	*70.0*	210	50	315

Now recall that utility has no objective meaning.

It is ‘ordinal rather than cardinal’.

It orders bundles for a given individual, but cross individual comparisons are questionable.

It also does not exist as empirical reality – it is a theoretical concept used to analyze behavior.

Some other things to consider:

Principle of no envy: for a given distribution of resources, if no one would prefer to have someone else’s bundle rather than their own bundle, the distribution is equitable from a ‘no envy’ standpoint.

A social welfare function may place weight on consumption of particular goods rather than simply relying on the utility of individuals.

- If they get utility from ‘bads’ or if we think society has an interest in having them consume particular goods (food stamp example), we may have ‘societal preferences’ that outweigh the individuals’ preferences.

Since different outcomes come from different functions, this is not something we could easily decide by voting.

- We do not live behind a ‘Rawlsian veil of ignorance’ so those favored by a particular measure would likely champion that measure.

Social norms come into play.

- Note ultimatum game.
    - Division of a dollar. By economic theory, the leader should offer one cent, the follower should accept it.
    - People tend toward 40% or 50% in experiments.

Limits to knowing all the impacts on current members who would be subject to the policy.

Limits to knowing how the policy would impact people in the future.

One resolution to this is to argue we cannot resolve all these problems, so we are better off choosing institutions that will lead to policy decisions, not a social welfare function to make a particular decision.

- Act-utilitarianism. The rightness of an act is assessed by the utility it produces.
- Rule-utilitarianism. The rightness of an act is assessed by the process by which that act is decided.

Other measures we may use (here I am elaborating some on what is in the book):

Some measure of national income:

Gross domestic product is the total value for final use of output produced by an economy, both by residents and nonresidents. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

Real versus nominal values.

- Nominal price – actual selling price.
- Real price – deflated for inflation price.

Unemployment: As part of evaluating the social impact of a policy, we might want to consider the impact on unemployment.

An unemployment rate has efficiency and distribution aspects.

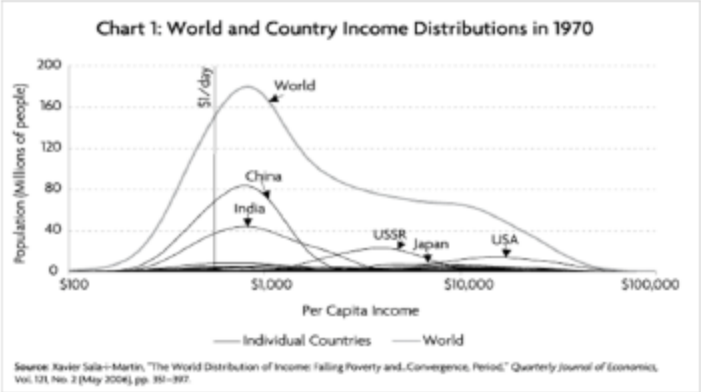
- Efficiency – people not employed are a resource not being used.
- However, no unemployment can signal a stagnant system as there is no movement between jobs.
    - 'Natural rate' of unemployment.
- Distributional issues arise with regard to who is among the unemployed and to what extent is this involuntary.

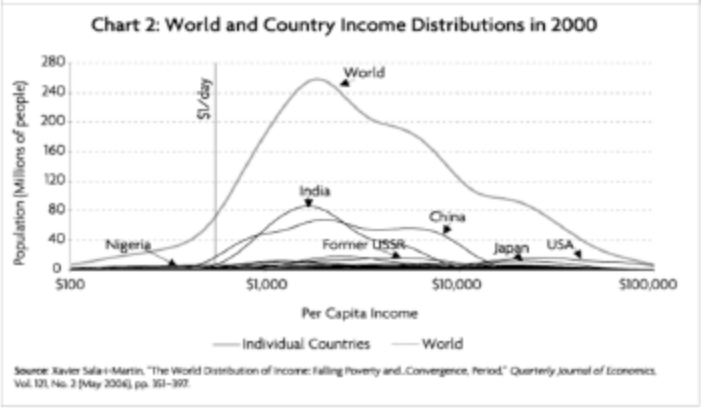
Inflation: As part of evaluating the social impact of a policy, we might want to consider the impact on inflation.
The rate at which prices rise in an economy.

Balance of Payments is noted as a set of measures we may consider at the national level. It measures a country's relative standing in the international flow of goods, services, capital, and currency.

Government debt, government deficit is also noted. It also reflects some of the issues of the balance of payments, but with a sense of how current consumption is impacting future consumption.

Minimum consumption bundle: $1 per person per day as estimate of what it takes to buy basic needs.





Also can be used to measure progress over time in income. Sala-i-Martin illustrates how the world distribution of income has changed over time.

The vertical line is a poverty line of $1 per person per day.

The x-axis is in log terms.

The y-axis is millions of people with a given income level (note scale changes).

Report these figures are from is here:
http://www.heritage.org/research/features/index/chapters/htm/index2007_chap1.cfm

Paper is here:
http://www.mitpressjournals.org/doi/pdf/10.1162/qjec.2006.121.2.351

https://www.salaimartin.com/media/pdf/Parametric_Paper_NBER.pdf

Headcount: the size of the population below the poverty line.

Headcount index: the share of the population below a poverty line.

Poverty gap: the amount of money it would take to bring all those below the poverty line up to the poverty line.

Foster-Greer-Thorbecke index.

$$P_\alpha = \frac{1}{N} \cdot \sum_{i=1}^{H} \left(\frac{Y_p - Y_i}{Y_p} \right)^\alpha$$

P is the measure of poverty with alpha as a parameter to be chosen to define the measure.
Y sub p is the absolute poverty line chosen.
Y sub i is the income of household i, and households are indexed from 1 to N (the total number of households) or 1 to H (the total number below Y sub p).

Say alpha equals zero.
Then, just the sum of 1 to H divided by N: Headcount index.
Extent of poverty.

Say alpha equals one.
It is the normalized average poverty gap. Depth of poverty.

If alpha equals two, we get a severity of poverty measure.

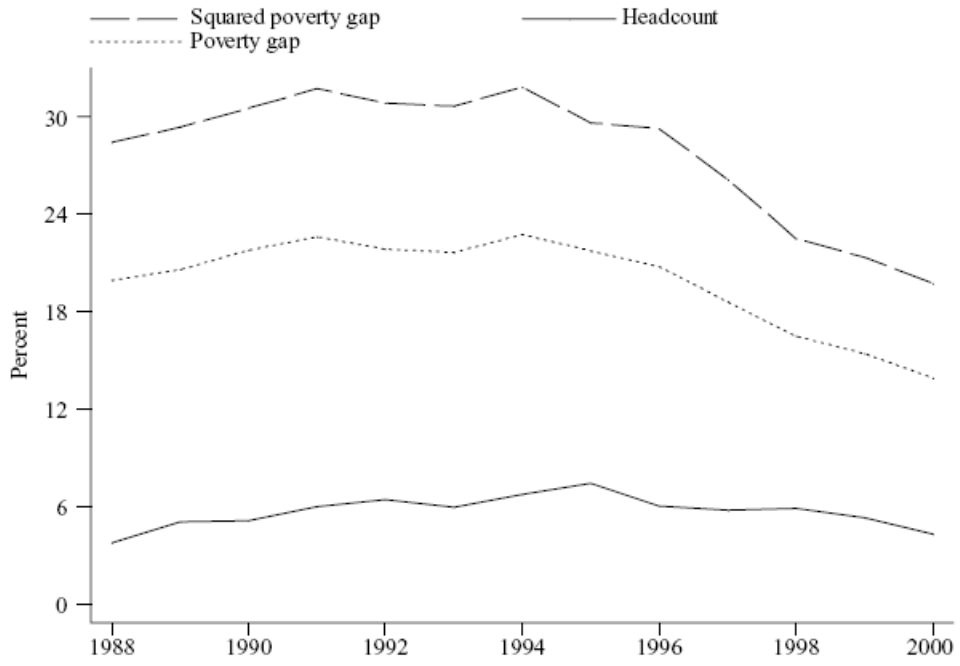


Figure 1. Percentage reduction in child poverty from food stamps

From Jolliffe et al. AJAE, 87(3). 2005. Page 575.
This is for the United States.

Uses of these measures can be found here:

http://iresearch.worldbank.org/PovcalNet/index.htm