

1) Given our discussion of social welfare functions, identify the best policy according to each of the alternative welfare functions considered in class:

	Utility person 1	Utility person 2	Utility person 3	AVERAGE	Utilitarian SWF	Rawlsian SWF	Multiplicative SWF / 1000
Policy A	14	80	26	40	120	14	29.12
Policy B	20	20	20	20	60	20	8.0
Policy C	25	40	15	26.7	80	15	15.0
Policy D	1	99	50	50	150	1	4.95
Which Policy is best by this SWF?					D	B	A

Contrast the different findings in terms of the average level of utility and the distribution of utility.

We can find the average by dividing the utilitarian outcome by 3.

The highest average and the highest utilitarian outcome is policy D. Looking at the Rawlsian and multiplicative which penalize for inequality, identifies this policy as the worst of the four policies.

The highest ranked policy by the Rawlsian SWF is policy B, which is the worst for the utilitarian SWF and second worst for the multiplicative SWF.

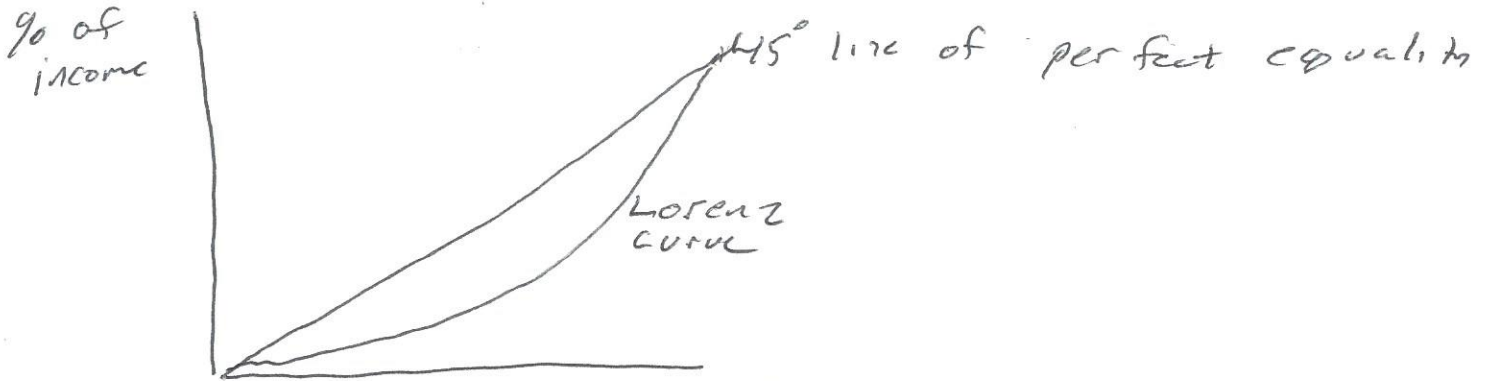
The utilitarian SWF does not penalize for inequality.

The Rawlsian does not consider the sum of the values.

The multiplicative is a mix of these and gives weight to both the magnitude of the values and the inequality of the values.

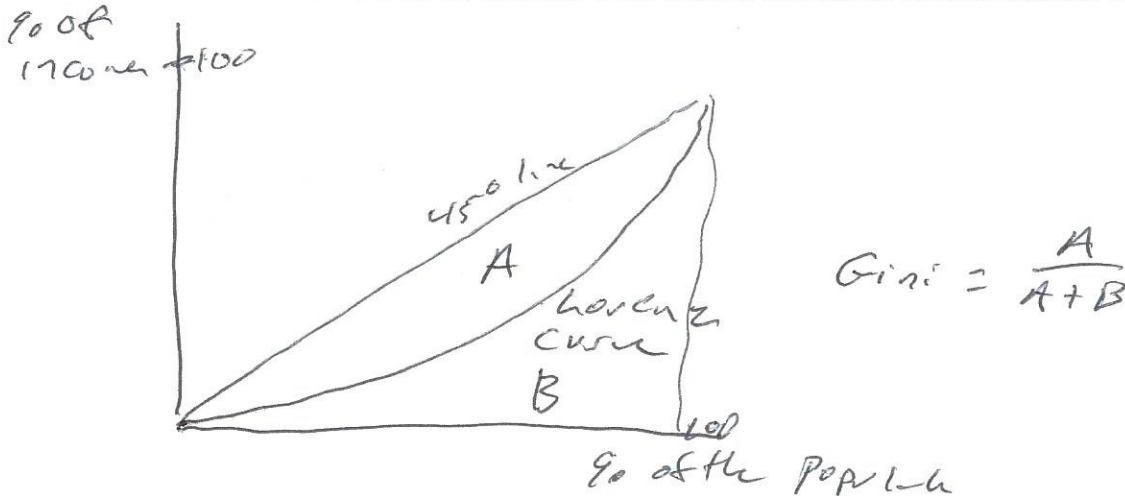
2) Inequality.

a. Draw and interpret a Lorenz curve. Be clear about what is on the x-axis and what is on the y-axis.



Population is organized from lowest income to highest income. The Lorenz curve tells you what % of total income is held by a given % of the population. Cumulative share of the population.

b. Draw another Lorenz curve, and note areas A and B that can be used to calculate the Gini coefficient.



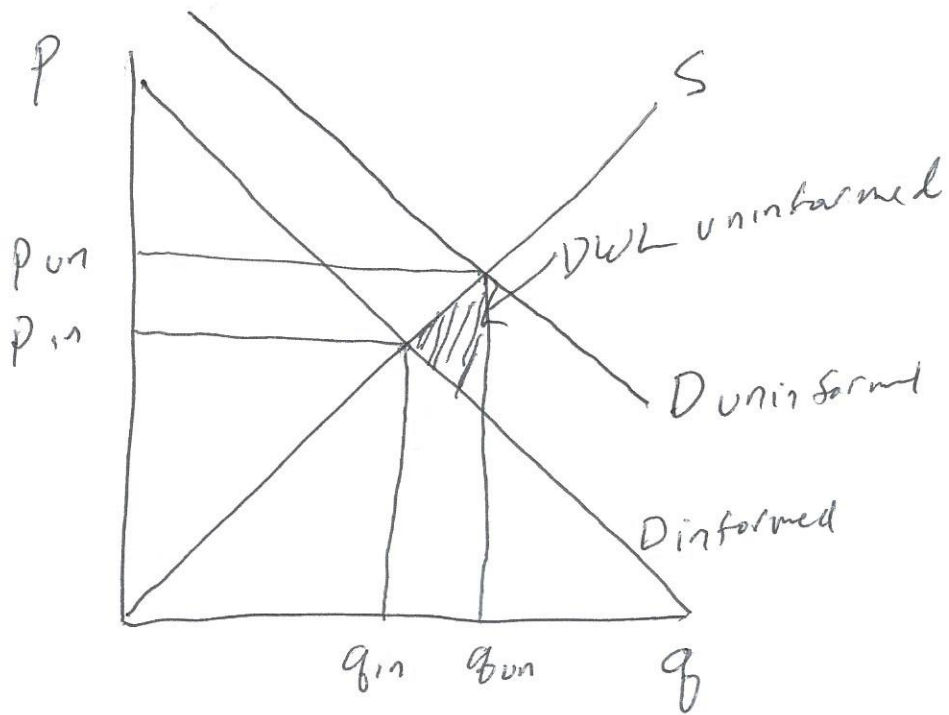
c. What range of values for a Gini coefficient is considered relatively equal? What range is considered relatively unequal?

0.3 and below are relatively equal

Between 0.3 to 0.5 is average inequality

Above 0.5 is relatively high inequality

- 3) Illustrate the deadweight loss of uninformed demand when there is a negative health consequence of consumption that the consumer is not aware of currently.



- 4) Public goods. There are three people who live in a town. They each have a demand curve for the number of flowers to be planted in the town square (q is the # of flowers). Fran's demand is $\$5.50 - \$0.10 \cdot q$. Eloise's demand is $\$3.20 - \$0.40 \cdot q$. Madeline's is $\$3.25 - \$0.15 \cdot q$.

- a. If the marginal cost planting a flower is constant at $\$4.80$ per flower and no effort is made to avoid the free rider problem, what number of flowers will be planted and who will provide these flowers?

$$\begin{aligned} F \text{ WTP} &= 0 @ 55 \\ E \text{ WTP} &= 0 @ 8 \\ M \text{ WTP} &= 0 @ 21\frac{2}{3} \end{aligned}$$

Only Fran has a WTP high enough to private provide flowers at a price of 4.80 .

$$\begin{aligned} 5.50 - .10q &= 4.80 \\ .70 &= .10q \\ q &= 7 \end{aligned}$$

- b. How much less is this than the socially optimal number of flowers if the cost is $\$4.80$ per flower?

From 0 to 8 $(5.50 + 3.20 + 3.25) - (.10 + .40 + .15)q$
at 8, $\$6.75$ $11.95 - .65q$

From 8 to $21\frac{2}{3}$ $(5.50 + 3.25) - (.10 + .15)q$
at $21\frac{2}{3}$, $\$7.33$ $8.75 - .25q$

From $21\frac{2}{3}$ to 55 $5.50 - .10q$

after 55 0

Use $8.75 - .25q$
since cost is between $\$3.33$ and $\$6.75$
 $4.80 = 8.75 - .25q$
 $3.95 = .25q$
 $q = 15.8$

- c. Describe why public good provision is different from private good provision using the characteristics of rivalry and excludability.

There is no means of exclusion so all people have access to it. One person enjoying looking at the flowers does not prevent another person enjoying looking at those same flowers.

In contrast, for a private good there is a means of exclusion, the price. Also, because it is rival, for a given price we add each person's quantity demanded horizontally to identify total demand.

round to 16
The answer to a is q less than socially optimal