Read the Porter paper for
THURSDAY APRIL 17, NO CLASS. LAST CLASS, TUESDAY APRIL 22. PAPERS ARE DUE AT THE BEGINNING OF THAT CLASS.

Redistribution of income

So far all we've used is the Kaldor-Hicks criterion: add up all the costs and benefits of a project for each group involved (changes in income, externalities, surpluses etc), add up the group sums discounted properly, and if the net result is greater than 0 (or greater than the result for an alternative project) you do the project.

In other words, you do a project if the gainers could, in theory, compensate the losers and still be better off.

- This differs from the Pareto criterion in that compensation is not required to actually take place.

Passing the K-H criterion is not the end of the question, however. If the distribution of burdens is inappropriate from society's point and view, we may want to bear some inefficiency in return for greater equity.

If there were no transaction costs, we could always have a Pareto improvement because we could just redistribute income. However, we do have transaction costs, and the question becomes how much is lost.

Okun's "leaky bucket" tells us that some benefit is lost in transferring from one group to another.
Some terminology: 0<"C"<1 where C is the amount that leaks out in the transfer; ∴ we're interested in (1-C) which is the amount that makes it from one group to the other.

Consequences:

- There will be some projects that pass the K-H test in theory that we will reject because they are highly inequitable and the leaky bucket factor makes it impossible to efficiently redistribute burdens.
- There will be some projects that don't pass the K-H test but are relatively equitable because they redistribute income in a less costly manner than the alternatives and so comparatively speaking they're the best option.

Ways of dealing with the leaky bucket

- report gains and losses separately for all groups (we've done this a few times in problem sets; remember rent control and vaccines?); get a single number for each group but don't subtract one group's losses from another's gains (yet).
- sort programs into three categories rather than 2:
    - Group A is those where K-H is satisfied.
    - Group B is those projects where K-H is not satisfied but where the sum of the changes is greater than the sum of the changes in another program.
    - Group C is those projects where K-H is not satisfied and where the sum of the changes is less than the sum of the changes in other programs.

Drawbacks with reporting gains and losses separately:

- You're passing the buck to the decisionmaker; you often are asked to make policy recommendations and this doesn't give recommendations, just data.

Drawbacks with sorting:

- theoretically you need to compare your project with all other projects, which isn't a very tight way of making decisions and the information costs are very high.

There is another alternative, however: apply different weights to different groups in the K-H calculation:

$\Sigma I\ (wi)(Yi)\ >0$

This is a Modified K-H Criterion.
The standard division is into poor and non-poor: wp>1, wn=1.

Often a totally complete BCA includes benefits and costs to people we don't care about; we might want to leave them out (which gives them a weight of zero); there might be groups that get a weight of less than 1 (like Donald Trump).

The problem with weights: where do we get them? How do we know what to use?

Related to the weights view is another method: Solve for Wp that makes the sum of the weights times the incomes greater than or equal to zero.

Then ask the decisionmaker for a determination whether that weight is acceptable; if it is, do the project.

Example: Suppose a project that raises income (including CS and PS) of the poor by Yp and lowers the income of the nonpoor by Yn. Solve the following equation for wp:

wp Yp+ Yn=0

wphat = - Yn/ Yp (the hat distinguishes this from the given kind).

This gives you the weight that just passes the modified K-H test; it's the break-even point.

How do we make this stuff useful?
We compare the weight required to make your project break even compared to the break-even weight of a standard alternative policy and to the other available projects. A more efficient project requires a lower weight on the poor to break even.

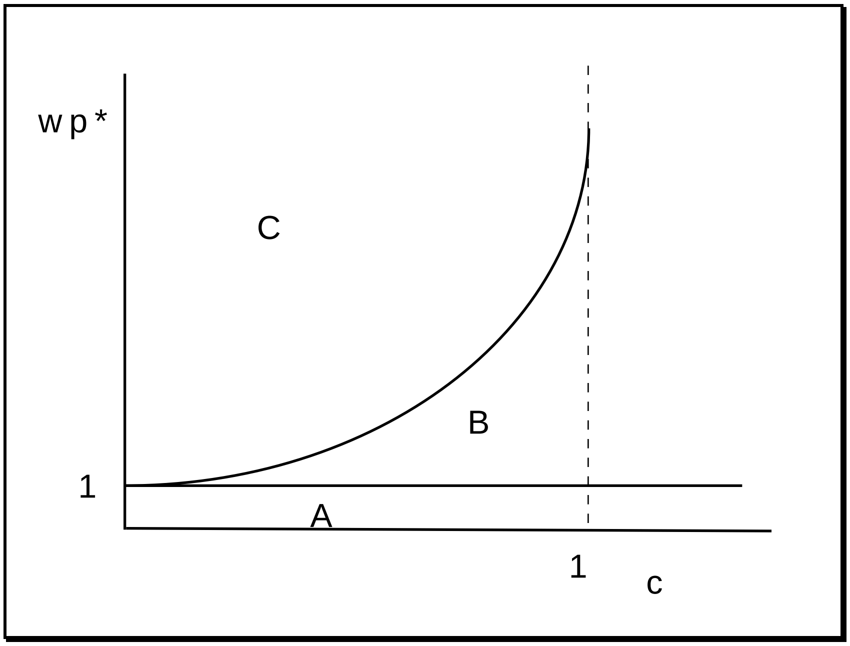
We're going to define wp* as the weight that makes the standard project break even.

C is the leak in our proposed redistribution program
1-C is the amount that reaches the poor.
This changes the wphat equation above to

(1-c) = - Ypbucket/ Ynbucket

and wp*hat = - Ynbucket/ Ypbucket = 1/(1-c)

This tells you the weight on the poor that just equals the weight required in a tax and transfer program.



As c goes to 1, the weight required to break even goes to infinity.

If the weight falls above the curve the project is dominated by the leak; this is group C from before.

If the weight falls below the horizontal line, wp is less than 1; K-H is satisfied. This is group A from before.

If the weight falls between the curves, the weight required on the poor is greater than one but less than the weight of the alternative tax & transfer program so you should do the project; it is less inefficient than the alternative.

What weights should we use? We can calculate the size of the leak, but we're not going to do that today (see next time's notes). We already have weights; they're implicit in the tax code.
wp*tax = (tax rate nonpoor)/(tax rate poor); this tells us what weight we place on poor people retaining their income compared to others.

Another way of weighting is choosing the results we want to achieve and picking weights that reach the goals (or at least nudge us in that direction). See Gramlich for a graph on bracketing weights (For example: do we want to give a weight greater than one only to those at or below the poverty line, or should we give a greater-than-one weight for people just above the line as well? This is a choice of weight brackets.)