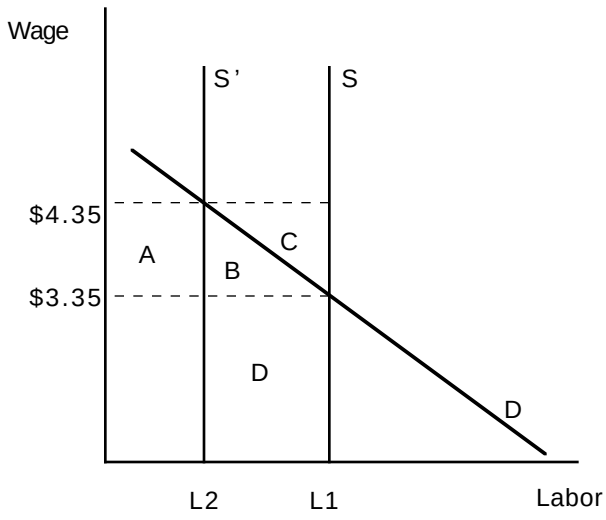
Case: Minimum wage increase
increase from 3.35 to 4.35 (this is an old change; it's in chapter 7) Minimum wage is $5.50 today.

Assumptions:

- Assume that initial 3.35 is also the initial equilibrium (this is not the normal: think about our previous wage floor examples.) (think about how our normal scenario would change the analysis that follows.)
- Labor supply elasticity is 0 (perfectly inelastic). simplifying assumption. If we introduced an upward slope, we'd get 2 effects that go in different directions, so this assumption may not introduce much of a bias.



We already know that this is a loser under the traditional Kaldor-Hicks analysis. The question is whether this is a good program under our modified K-H test (how big is the leaky bucket/how big is the weight we have to use to make the K-H calculation come out to zero).

Effects:
The workers who remain employed gain A.

Those workers who were working and are now not lose D.
The effect on workers as a group is therefore A-D.
Demanders lose -(A+B)
Net K-H result: -B-D.

C has no significance.

A complication: Once you're not clearing the market, it no longer allocates on the basis of excess valuation, so we don't know who

remains in the market. We've talked about queuing and random allocation. Why have we not discussed that here?
Answer: the vertical supply curve implies that every worker in this market has a reservation price of zero, so we don't care who gets the jobs in this scenario; everything above the x axis is surplus and it's the same for every worker.

Problems with doing this analysis:

- If we're measuring this before the minimum wage goes into effect, we only know the initial P and Q. To estimate the effects of the proposed change, we have to get an elasticity of demand for labor. 0.1 is low; we use 0.21 which is still pretty low. Available estimates in the literature are pretty low (for econometric reasons), particularly if we're talking about the long run elasticity (demanders of labor have enough time to change the mix of labor and capital in favor of using more capital and less labor--this is generally true of long-run elasticities). The economist Alan talked to thought that the long run elasticity of demand for labor would certainly be greater than 1.
- Not every person makes the same wage because the labor market is considerably more complex than we talk about it: some people make something in-between the old and new minimum wages, so the change in their market would be smaller than the one in the minimum wage market, but there would be some change. We could do a general equilibrium analysis, but that would be hard. We're going to model this with one additional market that starts with an equilibrium wage somewhere between the old and new minimum wages (we'll use $4); we'll measure the changes in both markets and add them (this is <u>not</u> the case of cross-market elasticities). We'll also address the leaky bucket/break-even weight question.

See the spreadsheet handouts to see the different results of different elasticities.
W1 = old minimum wage
W2 = new minimum wage
L1 = old labor Q demanded
L2 = new labor Q demanded
E = elasticity in demand of labor

Note that the A+B and A-D figures on the handout are changes in CS and PS, not total CS and PS; they should all have in front of them. This scenario assumes 2 weeks unpaid vacation. Also, in changing from per-hour figures to per-year figures, he divides by 1000 to make the numbers smaller (puts them in terms of billions instead of millions).

Now we can determine whether this was an efficient way of transferring money from the non-poor to the poor. We've assumed that 30% of workers in Market 1 and 26% of workers in Market 2 are poor; we can then do the rest of the calculations. We make these percentage assumptions because empirically, many people who earn minimum wage are in non-poor families (they're teens or mothers working mothers' hours in families with decent income overall). Presumably Ned got these numbers from some labor statistic compilation somewhere. Note that we define poor not by the minimum wage but by family income; the official poverty line.

Note that there's a redistribution within each market that isn't accounted for in the leaky bucket calculations that follow: some poor workers are shoved out of each market.
Note also that not all poor people make the minimum wage; we're only talking about low-wage poor here.

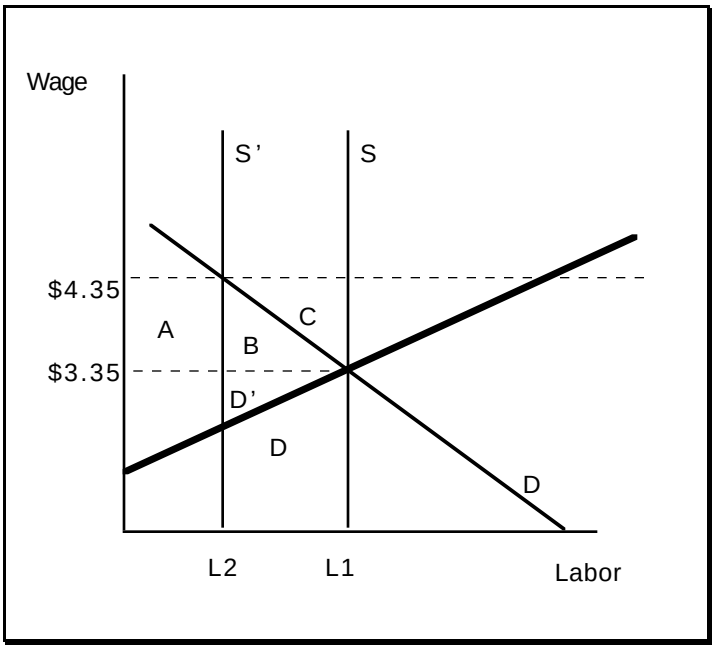
The handout divvies up the change in consumer surplus we calculated above and figures out the implicit weight on the poor. Ultimately the leak in this bucket is the part of the hike in minimum wage that goes to those non-poor teenagers.

It turns out that with an elasticity of 0.21, the minimum wage has a weight about equal to the weight on a tax & transfer program (which we've historically estimated at about 2). Remember that if the weight of a program is larger than that of a tax & transfer program it falls in area C on the tax & transfer graph and we don't do the program. Look at the following pages and see how the implicit weight changes with the changes in elasticity.

When the elasticity is 1, the weight goes negative (this is not in the handout). How can this be an implicit weight? The deadweight loss to demanders drops, but area D gets bigger and bigger. Workers as a

group get A-D; at some point D gets bigger than A (when E is ≥1 this happens); the bucket carries nothing and hits the poor over the head at the same time! Therefore, if the group as a whole is losing (if D is greater than A), the policy doesn't work at all and there's no reason to calculate the leaky bucket coefficient.

What happens if we have an upward sloping supply curve?



In this case, the cost to those who lose their jobs is smaller than it was before, by area D'. Note that we also have the surplus scenario problem we've encountered before. We've introduced two changes that cut different ways: the loss to those who were working is smaller, but the loss caused by the non-clearing market increases (sizes depend on whether allocation is random or by queuing).

Why might one like to vote for a minimum wage even if this model is correct?

- political benefits to politicians: people don't generally understand this effect.
- symbolic respect for lower-paid workers (?)