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Econ 321
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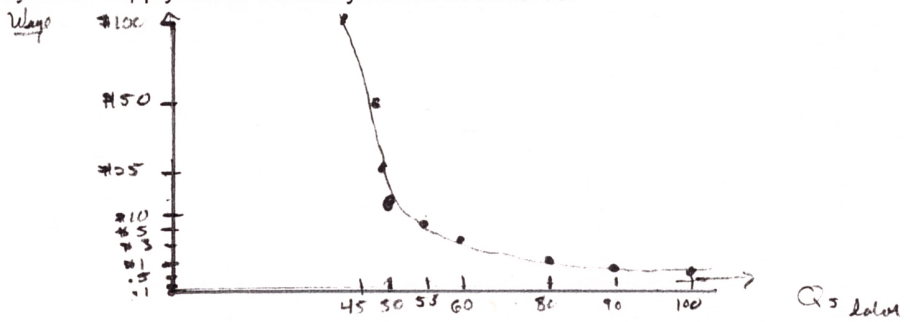
HW#1 Answer Key

I. Write a table showing how many hours you would work per week at each of the following hourly wages, *assuming they are the best offers available to you*: $.10, $.50, $1, $3, $5, $10, $25, $50, $100. Graph your table. Does your labor supply curve ever "bend back"?

Real Wage	Hours Supplied/Week
$.10	100
$.50	90
$1	80
$3	60
$5	55
$10	50
$25	50
$50	50
$100	45

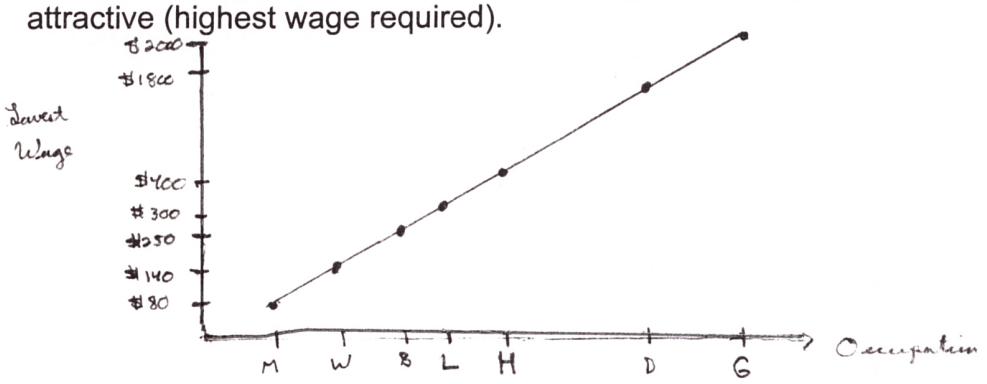
My labor supply curve definitely bends backwards.



II. How high would the hourly wage in the following occupations have to be to induce you to enter them, assuming wages in all other occupations remain at their current level? (In other words, what is the *smallest wage sufficient* to draw you into these professions?)

Occupation	Lowest Wage Needed
garbage collector	$2000
deep-sea fisher	$1800
bank teller	$250
highway maintainer	$400
criminal lawyer	$300
webpage designer	$140
movie star	$80

Graph the occupations from most attractive (smallest wage required) to least attractive (highest wage required).



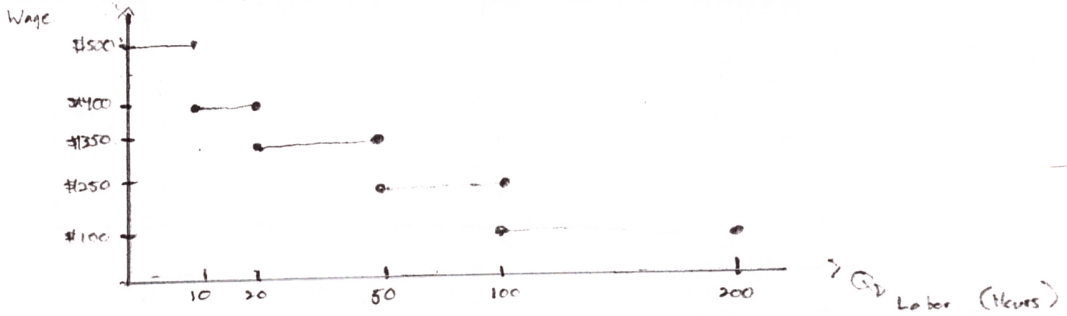
M = Marine Stew
W = Web Designer
B = Bank Teller
L = Lawyer
H = Highway Maintainer
D = Deep Sea Diver
G = Geology Major

III. Suppose that the MPP of an hour of labor in a shoe factory is given by the following table:

Hours	MPP/hour
0-10	100 shoes
10-20	80 shoes
20-50	70 shoes
50-100	50 shoes
100-200	20 shoes

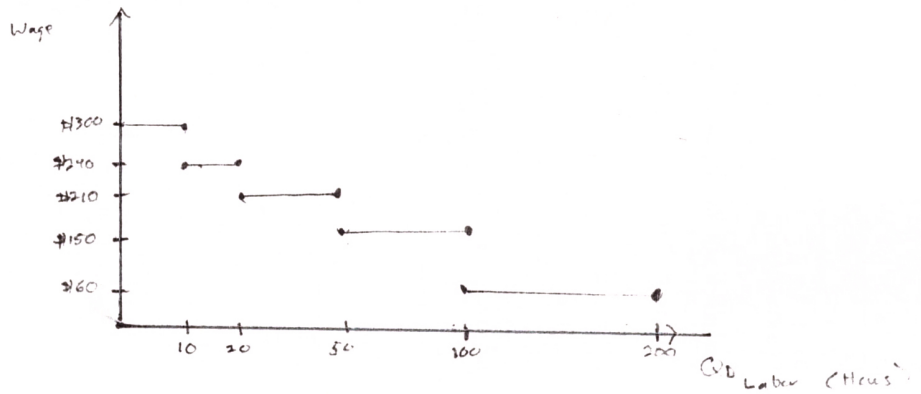
Carefully draw the labor demand curve for the owner of this factory, assuming the price of shoes is $5/pair.

This demand curve looks like a flight of stairs - demand is flat at $500/hr for 0-10 hours, flat at $400/hr for 10-20, flat at $450 for 20-50, at $250 for 50-100, and $100 for 100-200.



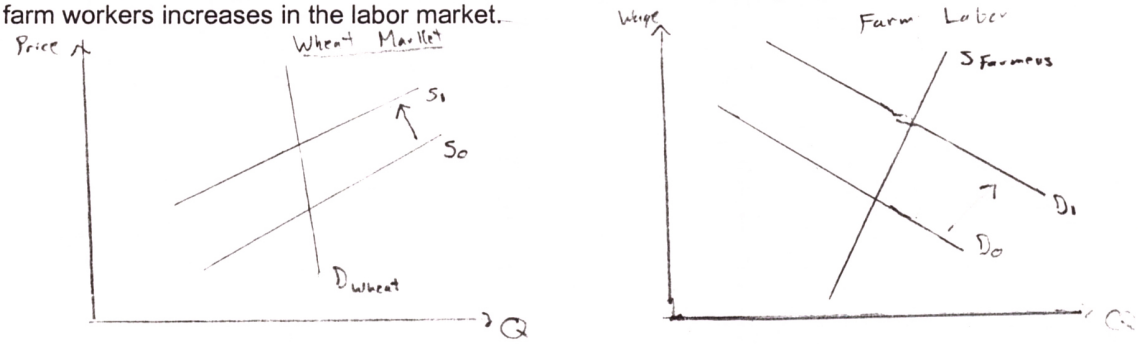
On a separate diagram, show how the labor demand curve shifts if the price of shoes falls to $3/pair.

It still looks like a flight of stairs, but it is only 60% ($3/$5) of the first demand curve, with steps at $300, $240, $210, $150, and $60.



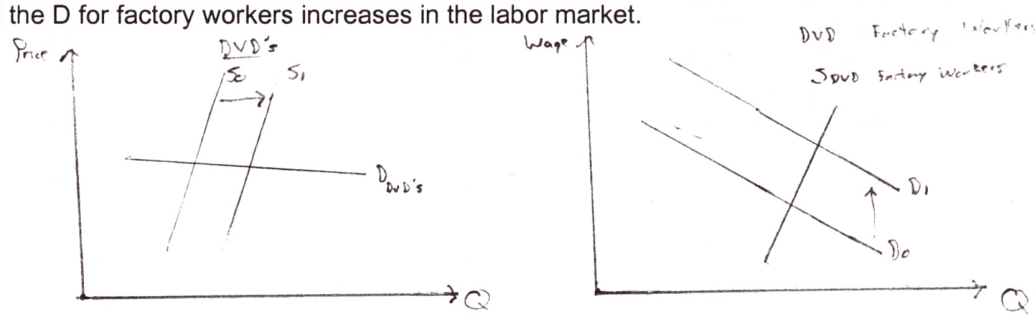
IV. Draw supply-and-demand diagrams for the market for wheat and the market for farm laborers, drawing the demand curve for wheat as highly **inelastic**. Then show what happens in both markets when the MPP of farm laborers decreases.

When the MPP of farm laborers decreases, the S of wheat decreases in the product market, but the D for farm workers increases in the labor market.



V. Draw supply-and-demand diagrams for the market for DVD players and the market for DVD factory laborers, drawing the demand curve for DVD players as highly **elastic**. Then show what happens in both markets when the MPP of DVD factory laborers increases.

When the MPP of DVD factory laborers increases, the S of DVD players increases in the product market, and the D for factory workers increases in the labor market.



VI. Using the concept of MVP, describe the two possible reasons why a worker would not be worth employing at any positive wage.

MVP=MPP*P, so if MVP=0, it is because either MPP or P equal zero. In plain language, a worker will not be worth anything if (a) He is unable to produce anything, or (b) No one is willing to buy anything he produces at any price.

VII. Using the equation for Annual Labor Income from the NLSY, calculate your predicted wage and the predicted wage of an older family member. Roughly how accurate are the two predictions?

In the notes, the equation is:
Annual Labor Income= -29,645 + 3318*Years of School + 728*Years of Experience

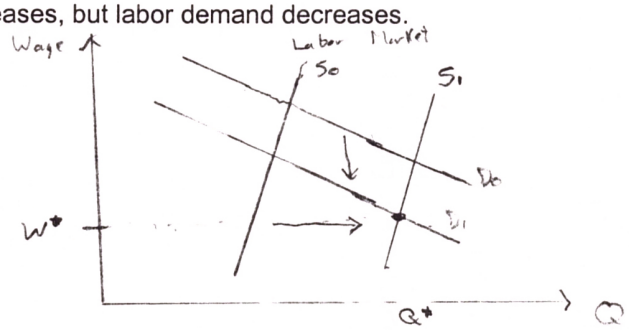
Plugging in for my dad, who has 22 years of school and 35 years of experience, his predicted Annual Labor Income= -29,645 + 3318*22 + 728*35=$68,831. Not a very accurate prediction, because he is retired now!

Plugging in for me, I have 20 years of school and 4 years of experience, so my predicted Annual Labor Income= -29,465 + 3318*21 + 728*4=$43,125. This is not too far off, something like 15-20% too low.

VIII. Using separate supply-and-demand curves, show what happens in a single occupation if employers provide free coffee for workers, and:

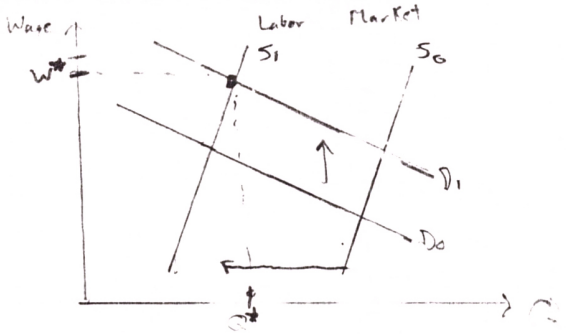
A. Workers like coffee, but the caffeine makes them "hyper" and less able to do their job.

Labor supply increases, but labor demand decreases.



B. Workers actively dislike coffee, but it enhances their ability to keep working late at night.

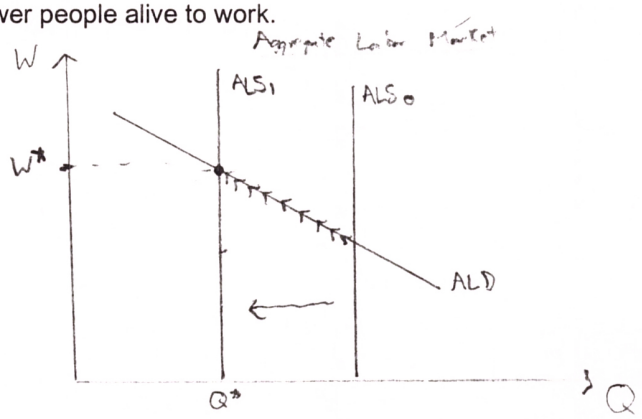
Labor supply decreases, but labor demand increases.



IX. Show what happens to Aggregate Labor Demand and Aggregate Labor Supply if:

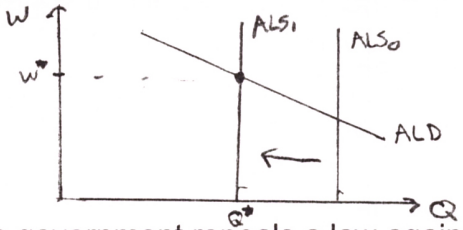
A. A plague kills half of all workers?

ALS falls - there are fewer people alive to work.



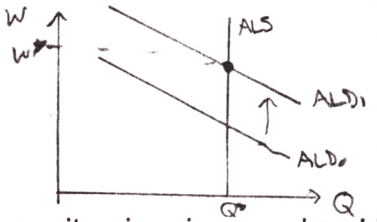
B. The government increases subsidies to (non-productive) education.

ALS falls - some people quit their jobs to become full-time students.



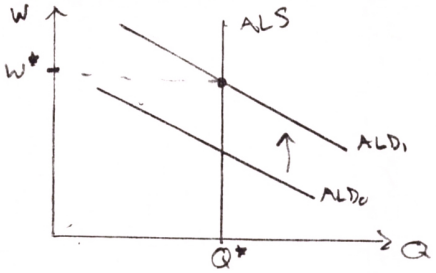
C. The government repeals a law against secretly monitoring workers with video cameras.

ALD increases - monitored workers goof off less, and thus produce more output. This increases workers' marginal product, so employers are willing to pay more for an hour of labor.



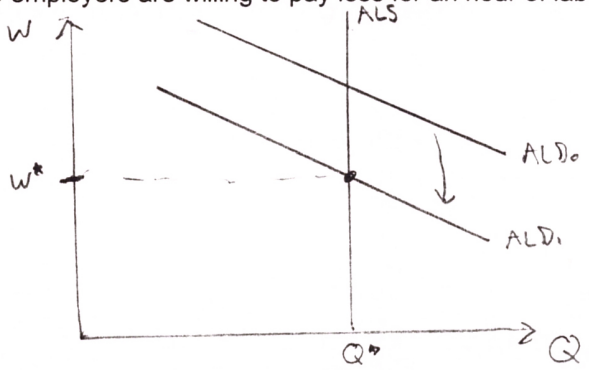
D. A new vitamin raises workers' IQs.

ALD increases - smarter workers are more productive and thus have a higher marginal product, so employers are willing to pay more for an hour of labor.



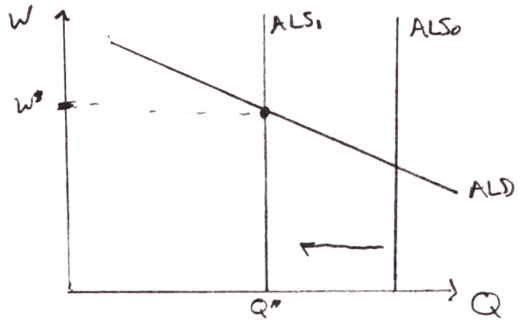
E. The courts rule that unions are immune to prosecution for acts of vandalism committed during strikes.

ALD falls - employers know that there is a greater chance that a worker will commit acts of destruction and thus on net actually have *negative* productivity. Thus, the expected productivity of a worker falls, so employers are willing to pay less for an hour of labor.



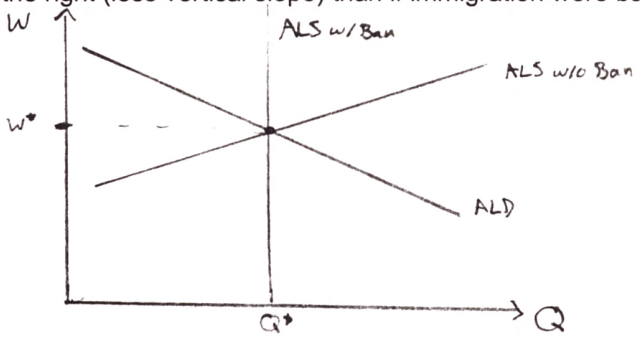
F. Higher taxes on gasoline make commuting more expensive.

ALS falls - people who are just on the margin of working or not worker decide to leave the work force. (I would also accept: ALS is unchanged: If ALS is vertical, indicating an insensitivity of work to the real wage, then it will also be insensitive to reductions in take-home pay in general).



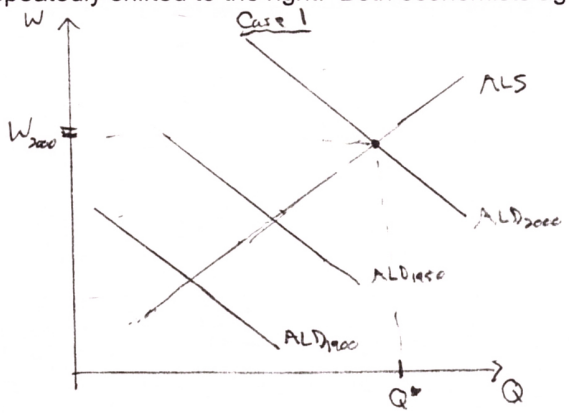
X. How would banning immigration affect the **slope** of the *aggregate* labor supply curve?

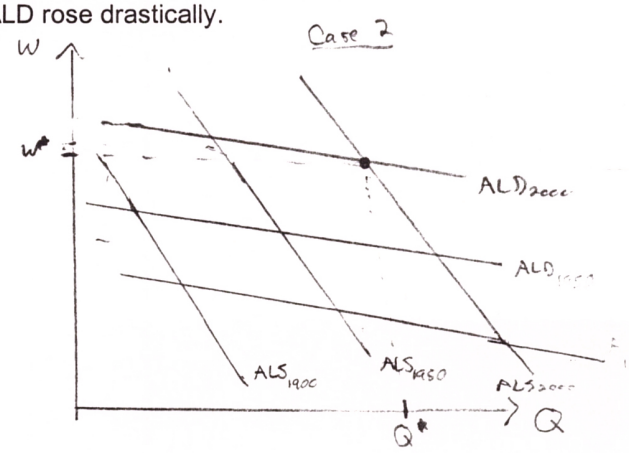
Presumably more people will immigrate the higher wages here are. Thus, with immigration, the ALS curve will slant more to the right (less vertical slope) than if immigration were banned.



XI. One economist says: "More women work today than in 1900 because wages have risen so much." Another says: "No, women's labor supply curve 'bends backwards' just like men's. Women work more today because of innovations in household appliances." Use supply-and-demand curves to diagram what each of these economists is saying.

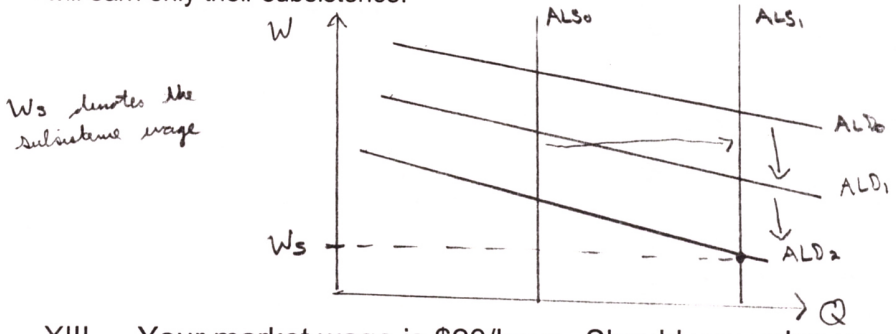
The first one is saying that ALS slopes upwards but has not shifted. The second one is saying that ALS bends backwards, but that due to new household appliances, the ALS curve has repeatedly shifted to the right. Both economists agree that ALD rose drastically.





XII. Is it *possible* for workers in a free market labor to earn "subsistence wages"? Why or why not?

Yes, it is possible. If labor supply is sufficiently high, and labor demand sufficiently low, workers will earn only their subsistence.



XIII. Your market wage is $20/hour. Should you value your time at *more* than $20/hour while vacationing in a foreign country?

Absolutely. If you were willing to pay e.g. $1000 for a plane ticket to Paris, then you clearly plan on having more fun in Paris than at home. And if you are having a lot of fun per hour, then it makes sense to put more value on that time. Intuitively, you wouldn't want to pick up a part-time job while your on vacation - you can earn money anytime at home, but when will you get another chance to see Paris?