

1. Individual labor supply: introduction
 - Questions we want the theory to answer: What factors determine whether an individual chooses to work for pay or not? For an individual who chooses to work, how would her or his work hours vary with changes in their wage or other income sources?
 - Labor supply as a *time allocation* decision: tradeoff between two goods: “leisure” time and consumption expenditures (essentially, income)
 - *The labor-force participation decision*: to work in the market or not?
 - *The hours decision*: if working, then how many hours per day?
2. Basic elements of the theory: budget constraints and preferences
 - *Budget constraint*: What options are available to the individual? That is, what is the tradeoff between more leisure and more consumption?
 - *Preferences (indifference curves)*: What are the individual’s preferences or tastes regarding consumption versus leisure?
 - *Optimal choice*: Given the available options, what choice of time allocation is most preferred?
3. The budget constraint
 - Vertical axis: Y = money income or value of consumption per day (assume they are the same)
 - Horizontal axis: X = hours of *leisure* per day
 - Suppose there are 16 hours per day available for leisure or paid work (allow 8 hours of sleep). Then the hours of work are $H = 16 - X$
 - If a worker’s entire income comes from paid labor, $Y = wH = w(16 - X)$
 - The endpoints of the constraint: all work or no work
 - The slope = $-w$ measures the tradeoff between the two goods, leisure hours and income
 - If a worker also has nonlabor income, I , then we need to add that to the labor income
 $Y = \text{labor income} + \text{nonlabor income} = wH + I = w(16 - X) + I$
 - When the hourly wage rate increases, the budget constraint pivots up (gets steeper), and vice versa for wage cut
 - When nonlabor income increases, the budget constraint shifts out (parallel), vice versa for income cut
4. Preferences: introduction to indifference curves
 - Thought experiment (see handout)
 - Indifference curve connects all the combinations of leisure and consumption (daily income) that the person likes equally well (is indifferent between them)
5. Two assumptions about preferences and indifference curves
 - *First assumption about preferences: More is better* (person would rather have more consumption or leisure rather than less, all else equal)
 - The slope of the indifference curve = $\frac{\Delta Y}{\Delta X} = \text{marginal rate of substitution (MRS)}$ tells us how many dollars of consumption the person would be just willing to give up to get one more hour of leisure time
 - *Second assumption about preferences: Indifference curves are “bowed in”*, or exhibit decreasing MRS
6. Putting the picture together: the optimal choice of hours and consumption
 - The best point on the budget constraint is the one with the highest possible indifference curve
 - If a person chooses to work, the highest indifference curve is *tangent* to the budget constraint
 - At that point of tangency, the slope of the budget constraint is equal to the slope of the indifference curve, which implies that the psychological cost of one more hour of labor is exactly equal to (offset by) the dollar benefit
 - If a person chooses not to work, there is no tangency and their highest indifference curve is at a *corner solution*, with 0 hours of labor time (hence they are NILF: not in the labor force)

Economics 150
 Fall 2001
 Thought experiment on labor supply

Suppose you have graduated and obtained a job working 6 hours per day, and your daily take-home pay is \$100. You are now considering a similar job that will require you to work 10 hours per day. Presumably, whether you want to switch to the new job depends on what it pays.

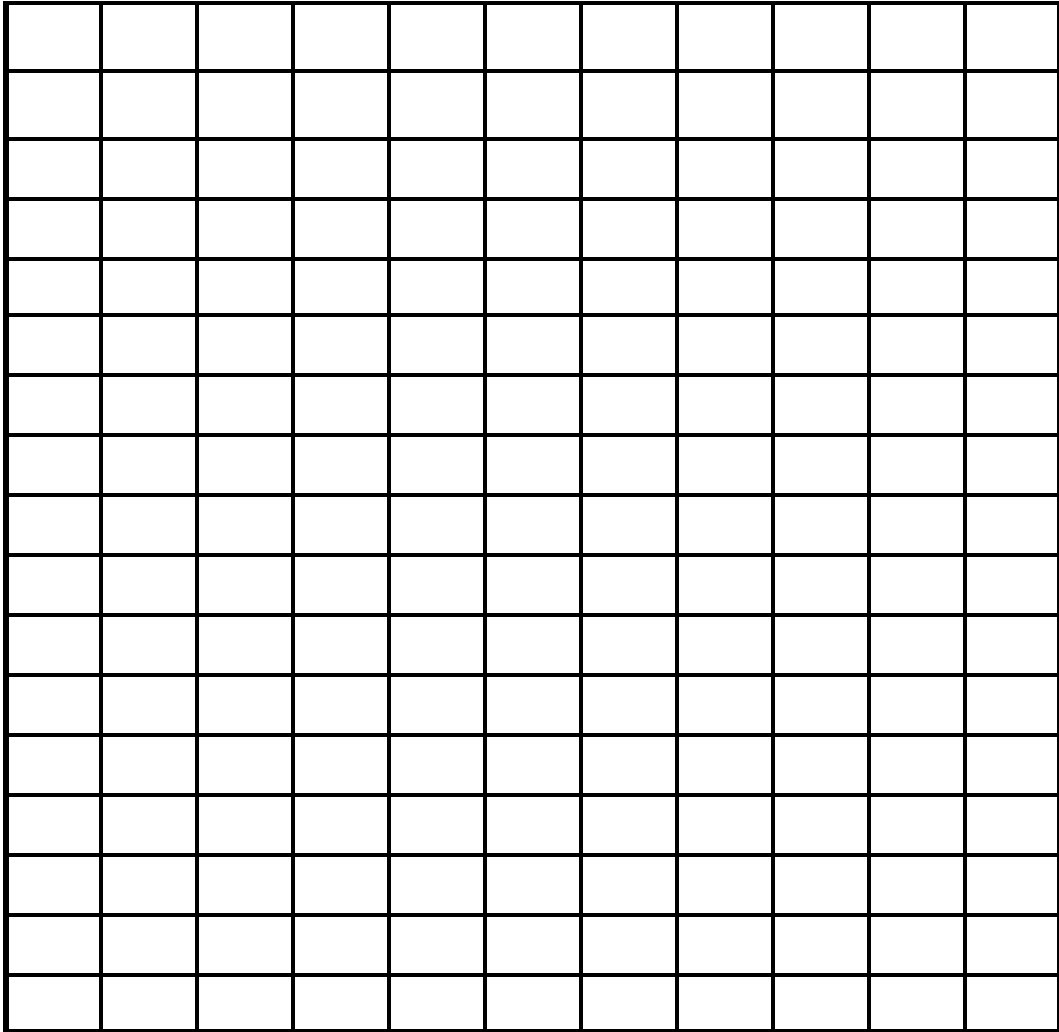
In the following table, fill in the blank with a “>” sign if you prefer your current situation (6 hours at \$100 per day) to the alternative given. Fill in a “<” sign if you prefer the alternative. If you are exactly indifferent between them, fill in with an “=” sign. There are no right or wrong answers!

Current job	Fill in with >, =, or <	Alternative
6 hours of work at \$100 per day		10 hours of work at \$100 per day
6 hours at \$100 per day		10 hours at \$125 per day
6 hours at \$100 per day		10 hours at \$150 per day
6 hours at \$100 per day		10 hours at \$175 per day
6 hours at \$100 per day		10 hours at \$200 per day
6 hours at \$100 per day		10 hours at \$225 per day
6 hours at \$100 per day		10 hours at \$250 per day
6 hours at \$100 per day		10 hours at \$275 per day
6 hours at \$100 per day		10 hours at \$300 per day

Now suppose a rich uncle tells you that he will support you at a modest daily income if you quit working altogether. Again, compare your current job situation with the following alternatives.

Current job	Fill in with >, =, or <	Alternative
6 hours of work at \$100 per day		0 hours of work at \$0 per day
6 hours at \$100 per day		0 hours at \$10 per day
6 hours at \$100 per day		0 hours at \$20 per day
6 hours at \$100 per day		0 hours at \$30 per day
6 hours at \$100 per day		0 hours at \$40 per day
6 hours at \$100 per day		0 hours at \$50 per day
6 hours at \$100 per day		0 hours at \$60 per day
6 hours at \$100 per day		0 hours at \$70 per day
6 hours at \$100 per day		0 hours at \$80 per day
6 hours at \$100 per day		0 hours at \$90 per day
6 hours at \$100 per day		0 hours at \$100 per day

Y
\$/day



Hours of leisure per day

X