ECON 100A - Section Notes
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Reading response 2

- We'll be working on our second reading response today. **The paper is called "Risk Aversion and Incentive Effects" by Charles Holt and Susan Laury.**
- How do the authors design their experiment to distinguish different levels of risk aversion?
- What role do *incentives* (real versus hypothetical payoffs) play in shaping observed behavior?
- In what way do the findings challenge or support the standard expected utility model?
- Can you connect their results to the labor supply and risk/return tradeoffs we are modeling in this section?

Notions covered today

- *Labor supply and leisure tradeoffs.* With total time T, leisure L, and wage w, the budget constraint is $c = w(T - L)$ (plus any non-labor income). When wages change across segments, as in piecewise pay schedules, the budget set exhibits a *kink*. The marginal rate of substitution,
$$\text{MRS}_{L,c} = \frac{MU_L}{MU_c},$$
determines whether the worker optimally allocates time entirely to one job, or splits across segments.
- *Demand derivation.* Marshallian demands arise from solving
$$\max_{L,c} \; u(L, c) \quad \text{s.t.} \quad pc + w(T - L) = wT,$$
yielding optimal choices $L^*(w, p)$ and $c^*(w, p)$. These demands trace how shifts in wages and prices affect labor supply and consumption.
- A related concept is the *elasticity of labor supply*, which measures how responsive hours worked h are to changes in the wage w. This is similar to the elasticities we computed for the demand function that we covered in previous topics. Formally,
$$\varepsilon_{h,w} \; = \; \frac{\partial h}{\partial w} \cdot \frac{w}{h}.$$
Note: This elasticity reflects the balance between substitution effects (higher w makes leisure more costly, encouraging more work) and income effects (higher w increases income, potentially raising demand for leisure).

Section Exercises

1. **Piecewise wages and labor supply kink.**
   Chef Jim has no non-labor income and 12 hours available. Leisure is L and consumption is c (price of c is 1). He can work up to 4 hours at a fancy restaurant for a wage of \$4/hour; additional hours (beyond 4) can be worked at a diner for \$2/hour.

   (a) Sketch the budget set with L on the horizontal axis and c on the vertical axis. Label intercepts, slopes, and the inflection (kink) point.

   (b) Jim's preferences are represented by $u(L, c) = ZL + \sqrt{c}$ with $Z > 0$. Derive the marginal rate of substitution (MRS) and explain, in non-technical terms, how and why MRS depends on Z.

   (c) For what values of Z will Jim optimally work at *both* jobs? Show the relevant calculations and give a brief intuition.

2. **Baseline labor–leisure choice.**
   A decision maker has $T = 10$ hours to allocate between leisure L and work (wage w). Consumption c costs price p per unit. Preferences are well-behaved and given by $u(L, c) = L^2c^3$.

   (a) On standard axes, sketch the budget set and label its intercepts and slope (use correct symbols/expressions). Briefly explain the economic intuition for the slope.

   (b) Derive Marshallian demands for L and c as functions of w and p. In a couple of sentences, tell the "story" of how optimal work and consumption change with w and p.