Labor Supply and Wage Determination

AP Microeconomics | Unit 5 | shifts, wage differences, and the minimum wage

1. The supply of labor

The market supply of labor slopes **up**: working means giving up other jobs and free time, and a higher wage makes more people willing to do that.

Labor supply shifts when

1. the number of workers changes (population, immigration);
2. the skills, education or license required change;
3. wages in *other* jobs change;
4. the job becomes more or less pleasant, or attitudes to work change.

2. A change in labor demand

Labor demand comes from firms' MRP. It shifts with the **price of the product**, **productivity**, and the **prices of other inputs**.

Example. Equilibrium: \$12 an hour, 100 thousand workers. A housing boom raises the demand for plumbing work, so labor demand shifts right: the wage rises to \$14 and employment to 120 thousand.

3. A change in labor supply

Example. A new two-year license requirement: fewer people qualify, labor supply shifts left. The wage rises to \$14 and employment falls to 80 thousand.

Reading the result

Demand shift: wage and employment move the **same** way.
Supply shift: wage and employment move **opposite** ways.

Why wages differ. A job pays more when demand is high (each worker adds a lot of revenue: high MRP) and when supply is low (long training, a license, hard or dangerous conditions). High wages go to skills that are valuable *and* scarce.

4. The minimum wage

A minimum wage is a **price floor**. It matters only if it is set *above* the equilibrium wage.

Example. Equilibrium \$12; minimum wage \$15. At \$15 firms want 70 thousand workers (demand curve) and 130 thousand people want to work (supply curve).

$$\text{surplus of labor (unemployment)} = 130 - 70 = 60 \text{ thousand}$$

The surplus is measured between the two curves at the minimum wage, not from the old equilibrium quantity. Workers who keep their jobs earn more.

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5. Why wages differ, and more shifts

Compensating wage differential

Extra pay that makes up for an unpleasant or risky job when the workers and skills are the same: night shift $21 vs day shift $18 for the same work; risky tall rooftops $29 vs low roofs $24. Fewer people are willing at each wage, so supply is lower and the wage higher.

- **Elasticity of labor demand** decides how a supply shift splits: with *elastic* (flat) demand, employment changes a lot and the wage little; with *inelastic* (steep) demand, the wage changes a lot and employment little.
- A large one-time windfall (inheritance): people choose more leisure, supply shifts **left** at every wage.
- A new tax on wages in a job lowers after-tax pay at every wage: supply shifts **left**.
- Supply shifts right while a minimum wage still binds: firms hire only what they demand at the floor, so employment is unchanged and the surplus (unemployment) grows.
- A fall in the wage can come from a supply increase (employment rises) or a demand decrease (employment falls).

Where students lose points

1. A change in product demand shifts labor *demand*, not labor supply.
2. Shifting a curve when the wage changes: that is a movement along.
3. Unemployment from a minimum wage is quantity supplied minus quantity demanded.
4. A minimum wage below equilibrium has no effect.
5. Shifting both curves when the question changed only one thing.
6. Explaining hazard pay by productivity: it is a compensating differential.

Now practise it

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