



Monopsony

EC 350: Labor Economics

Kyle Raze

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Discussion

Q₁: What natural experiment did the authors use to measure the effect of immigration on wages and employment? Did you find it compelling?

Q₂: What did the authors find?

Q₃: Do you think their estimates are externally valid?

Q₄: What are the implications for immigration policy?



Monopsony

Monopsony



A **monopsony is a market** with a single buyer.

- In a labor market, this would entail that there is only one employer, which we call a **monopsonist**.

Why does this matter? Monopsonies are inefficient!

- In a monopsonistic labor market, workers **earn less** and there is **underemployment**.
- Can exacerbate inequality!

Most labor markets are probably closer to monopsony than to perfect competition.

- Employers with significant **market power**? Probably the norm rather than the exception.



Discussion

Q: Is Amazon a monopsonist? Why or why not?

Q: Do large public research universities have monopsony power?

Q: Is a sawmill in Eastern Oregon a monopsonist? What about a sawmill in Eugene?



Assumptions

We will continue to make most of the same assumptions as we did when we modeled supply and demand for a competitive market.

- Perfect competition in capital and output markets
- Homogeneous workers within a market
- Various assumptions about preferences and production technology
- Perfect information and complete contracts

We will now assume that there is **only one employer** whose hiring decisions can influence the market wage.[†]

[†] We are still implicitly assuming that there is a single wage—the employer cannot "discriminate" by offering different wages to different workers.

Labor supply elasticity



Definition

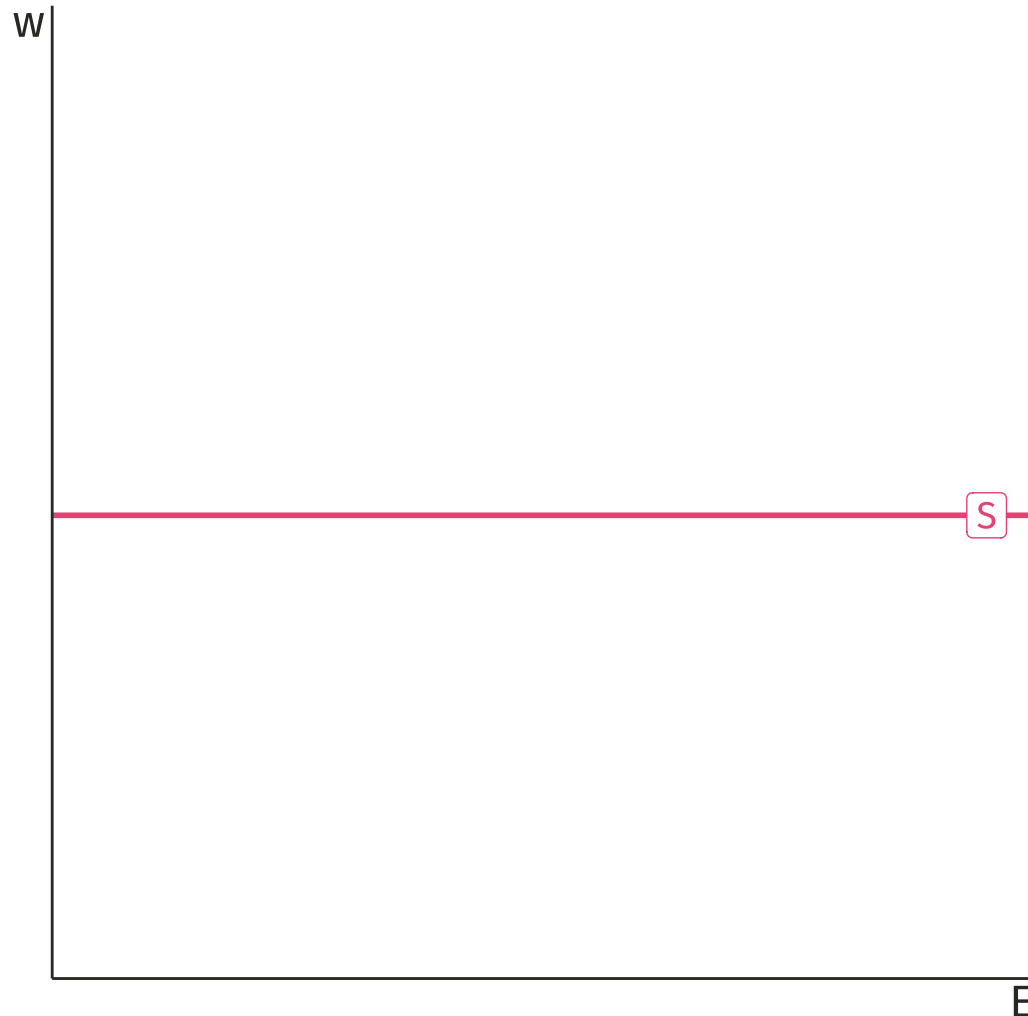
A measure of the responsiveness of the quantity of labor supplied to changes in the wage

$$\sigma = \frac{\% \text{ change in quantity of labor supplied}}{\% \text{ change in wage}}$$

Interpretation? A one-percent increase in wages increases the quantity of labor supplied by σ percent.

- $\sigma > 1 \implies$ labor supply is **elastic** or **sensitive** to changes in the wage.
- $0 \leq \sigma < 1 \implies$ labor supply is **inelastic** or **insensitive** to changes in the wage.

Labor supply elasticity

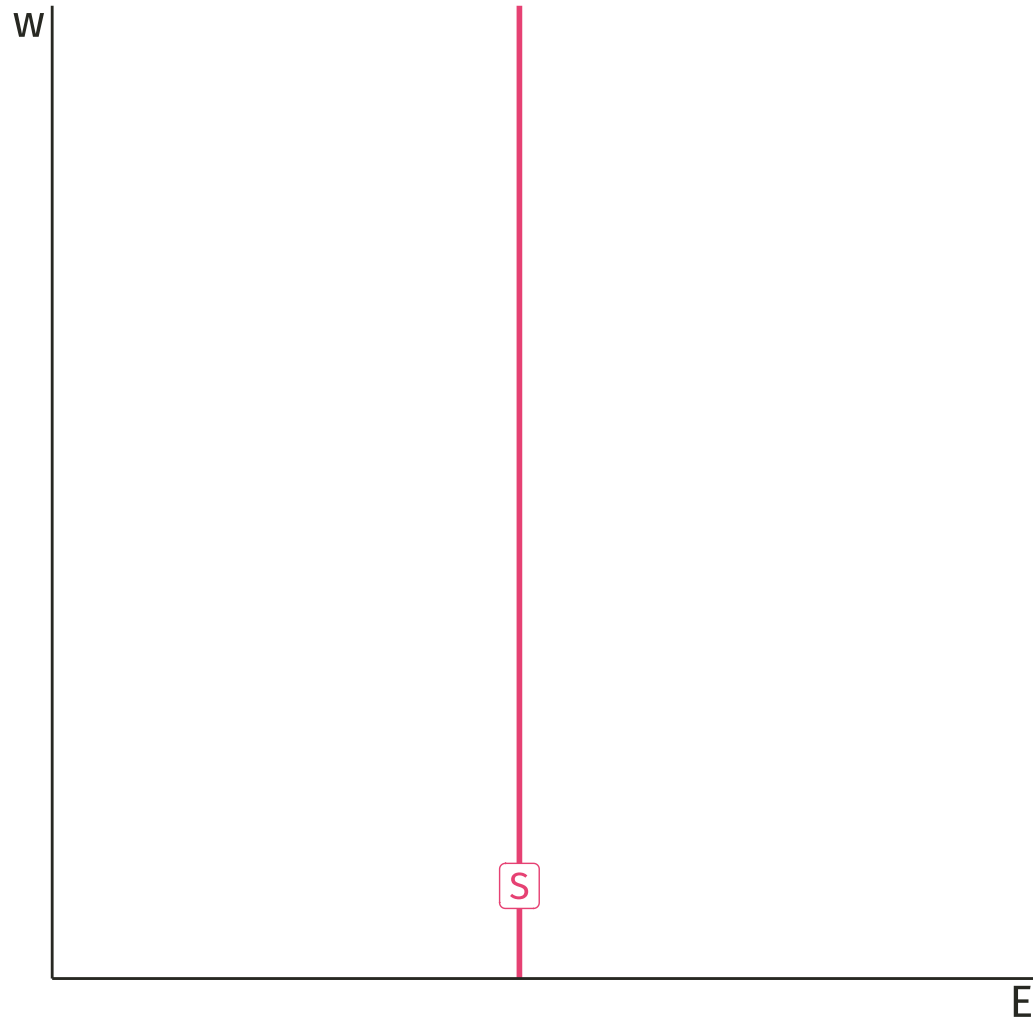


Perfectly elastic labor supply

Quantity of labor supplied falls to zero when the wage decreases and approaches infinity when the wage increases.

$$\sigma \rightarrow \infty$$

Labor supply elasticity

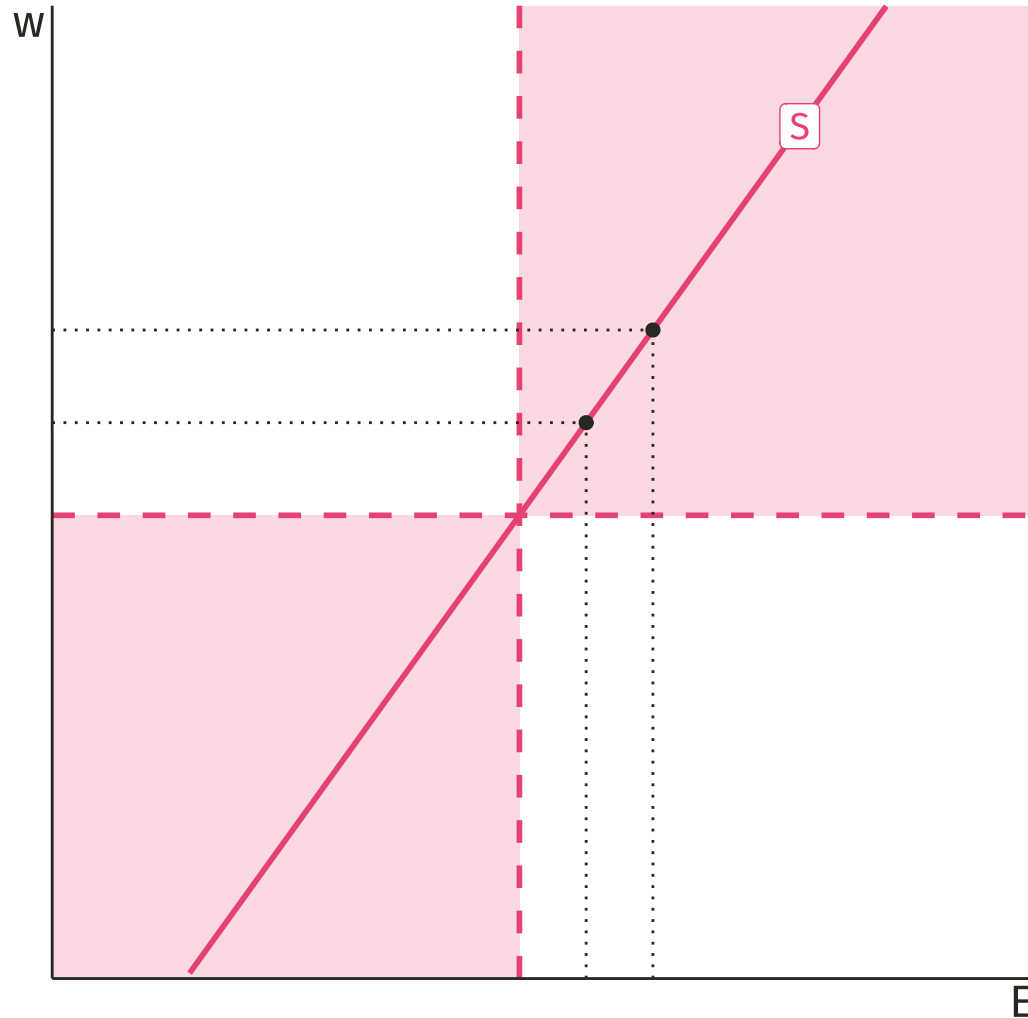


Perfectly inelastic labor supply

Quantity of labor supplied does not change when the wage changes.

$$\sigma = 0$$

Labor supply elasticity



All else being equal, flatter supply curves are **more elastic** than steeper supply curves.

As σ decreases, the same wage increase leads to smaller increases in the quantity of labor supplied.

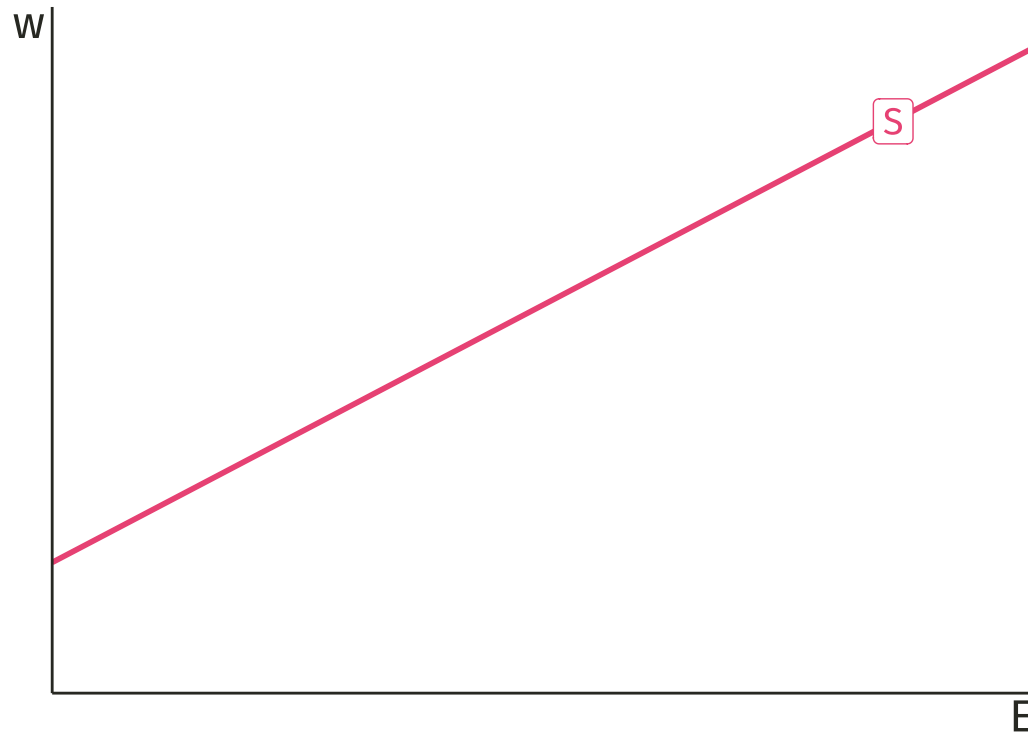
Monopsonist vs. competitive employer



Workers have few employment opportunities in a monopsonistic labor market.

→ A monopsonist faces the labor supply curve for the entire market.

Monopsonist



Perfectly competitive employer



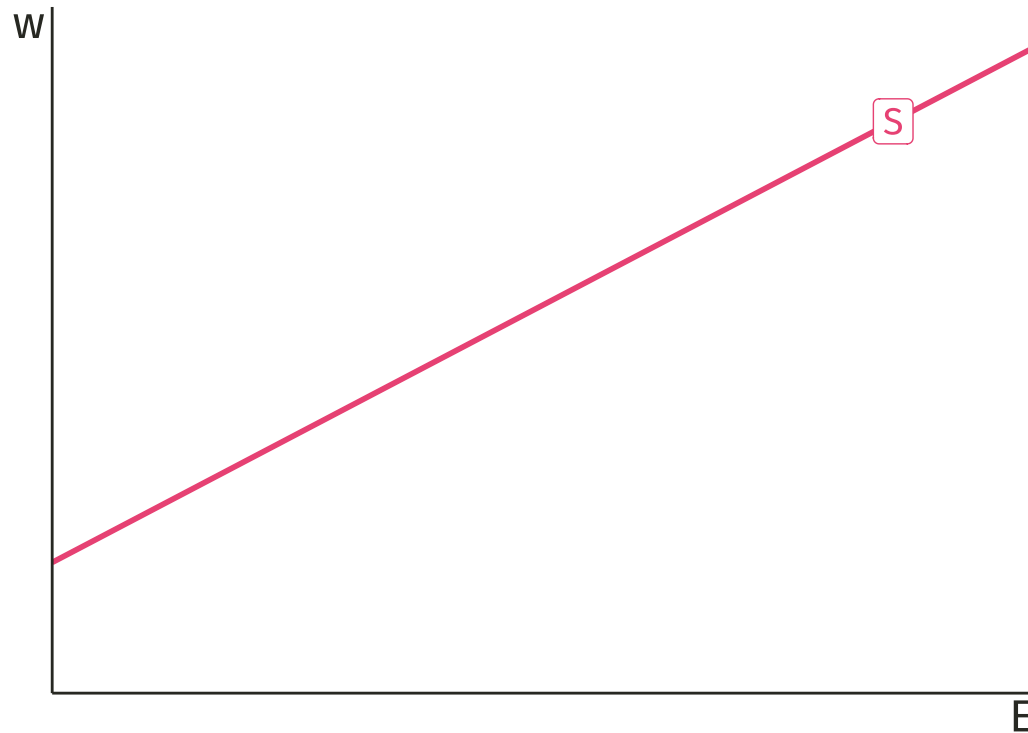
Monopsonist vs. competitive employer



Workers have more employment opportunities in a competitive labor market.

→ Individual employers face flat supply curves.

Monopsonist



Perfectly competitive employer



Profit maximization



Perfect competition

A competitive employer maximizes profit by hiring E^* workers such that $w = \text{VMP}_E$ and VMP_E is decreasing.

- The employer keeps hiring until the **marginal cost** of the last worker equals the **marginal benefit** of the last worker.

Monopsony

A monopsonist maximizes profit by hiring E^* workers such that $\text{MC}_E = \text{VMP}_E$ and VMP_E is decreasing.

- **The difference?** Marginal cost is no longer equal to the wage—the monopsonist has increase the wage to attract additional workers *and* pay this new wage to existing workers.



Q: Given supply and demand for labor, how many workers would a monopsonist hire?

| Workers (E) | VMP (demand) | Wage (supply) | Wage × E | Marginal cost |
|-------------|--------------|---------------|----------|---------------|
| 0 | — | 80 | 0 | 0 |
| 1 | 70 | 85 | 85 | 85 |
| 2 | 120 | 90 | 180 | 95 |
| 3 | 95 | 95 | 285 | 105 |
| 4 | 50 | 100 | 400 | 115 |

A: A monopsonist would hire 2 workers.

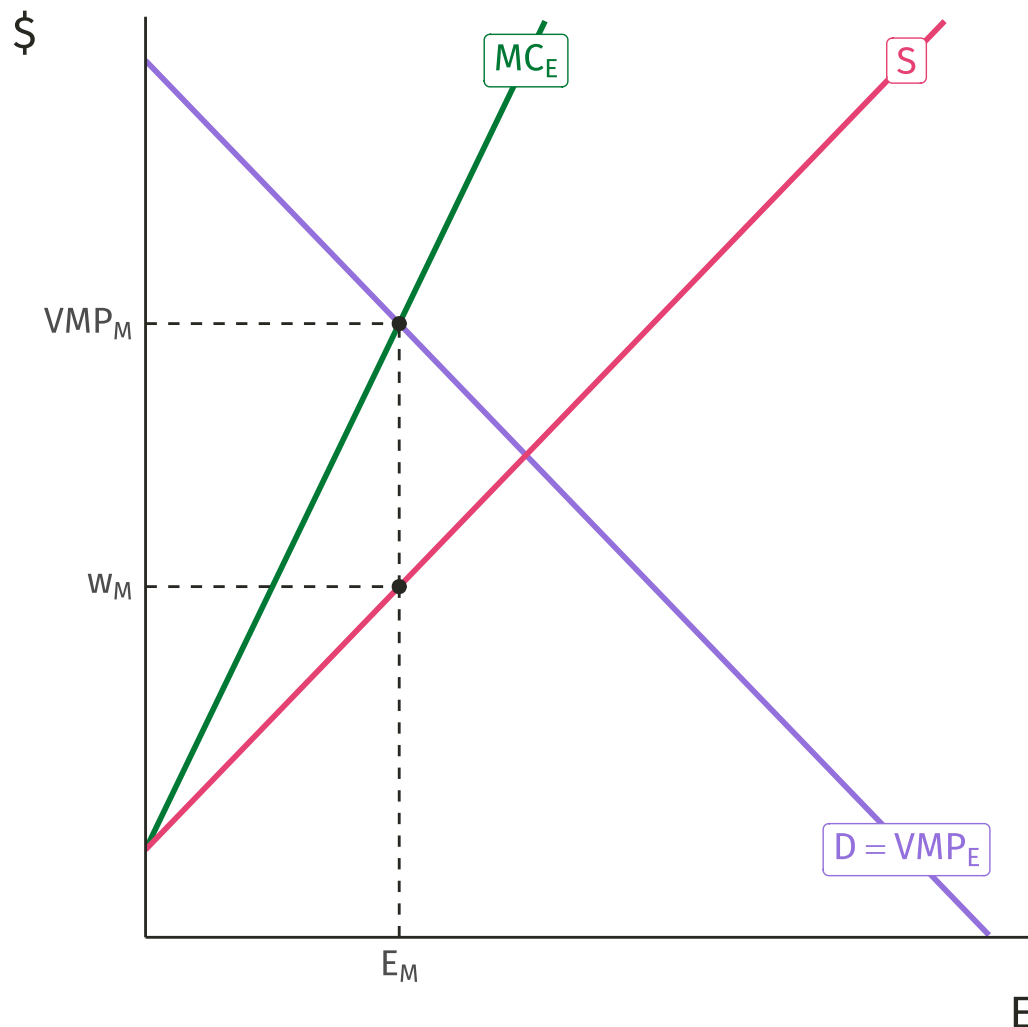
- As close to $MC_E = VMP_E$ as the employer can get.

Q: How many employees would a perfectly competitive employer hire?

A: A perfectly competitive employer would hire 3 workers.

- Where $w = VMP_E$.

Profit maximization



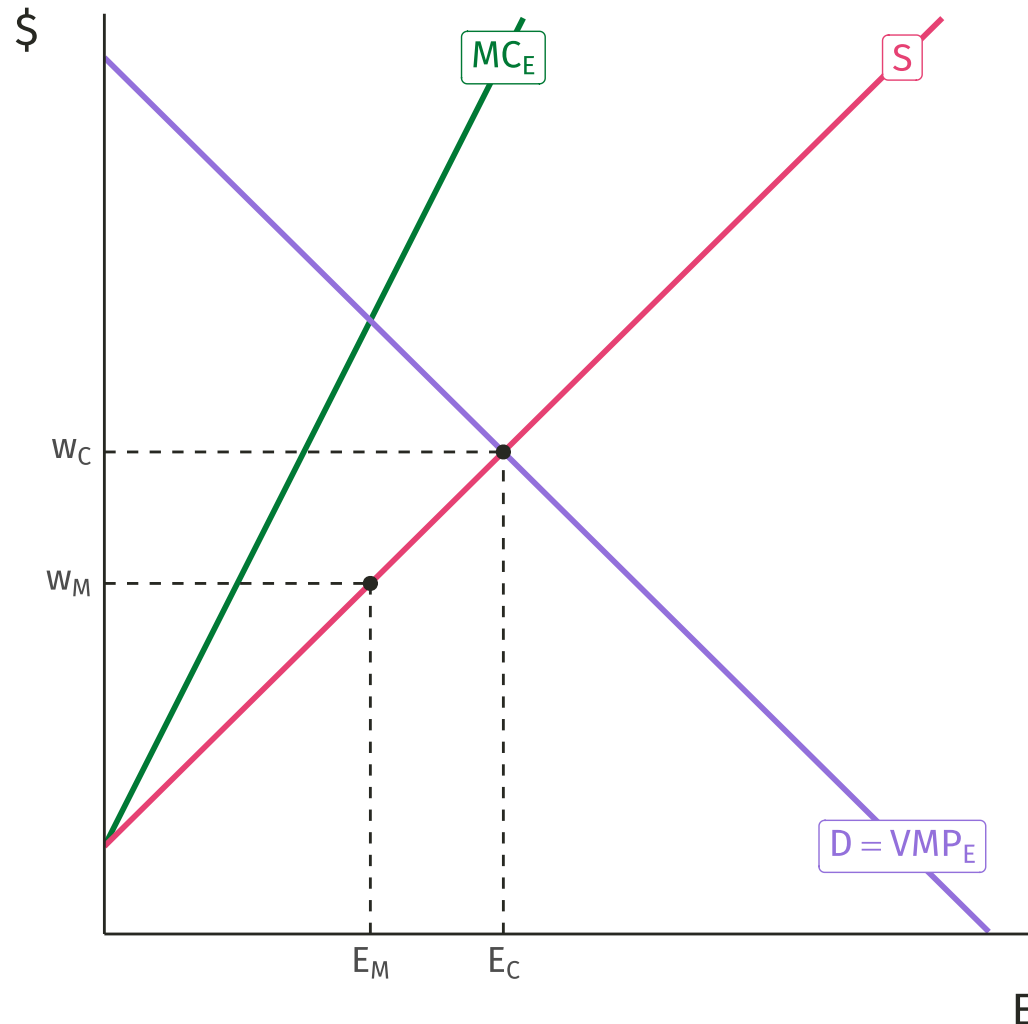
Q: How does a monopsonist maximize profit?

A: Two steps!

- **Step 1:** Hire E_M where $MC_E = VMP_E$.
- **Step 2:** Set w_M on the supply curve.

The point (E_M, w_M) characterizes the monopsony equilibrium.

Perfect competition vs. monopsony



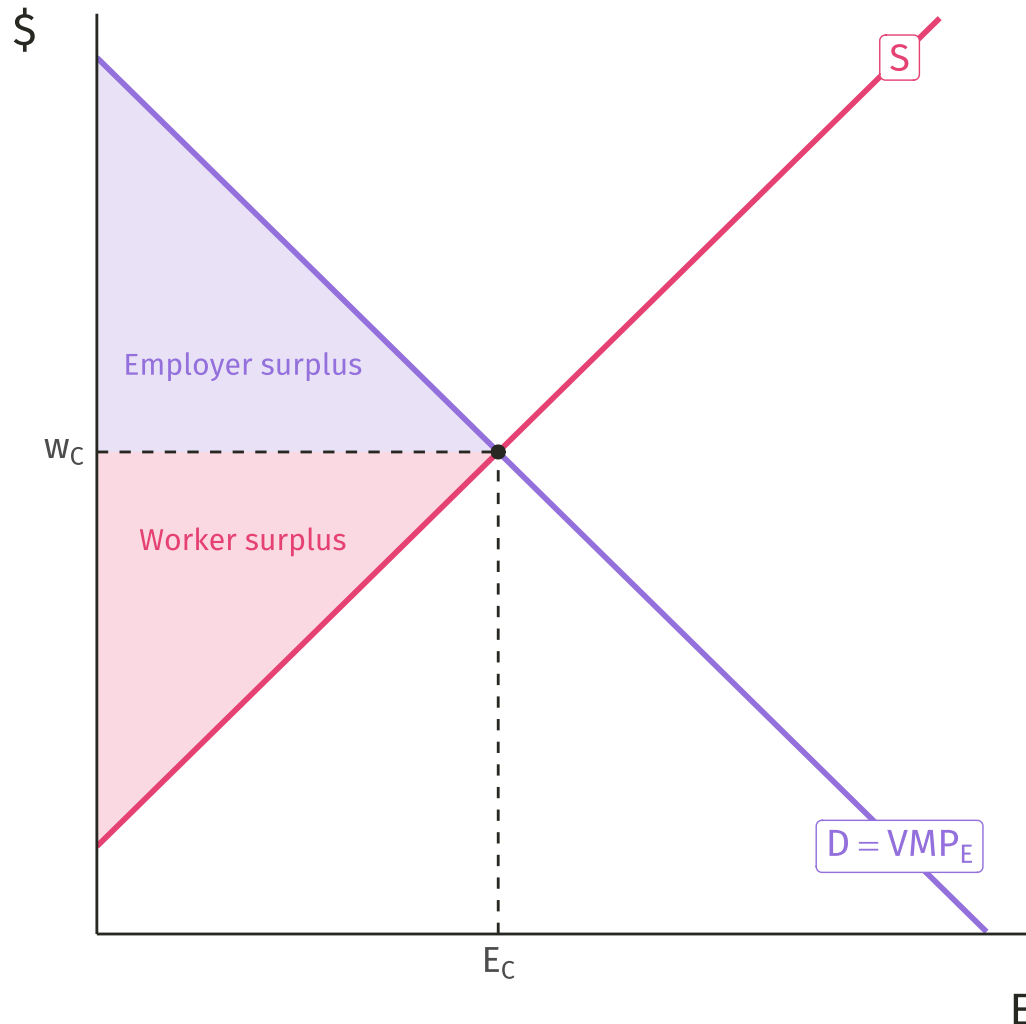
In a perfectly competitive market, the point (E_C, w_C) characterizes the market equilibrium.

In a monopsony, the point (E_M, w_M) characterizes the market equilibrium.

The takeaway? Monopsonies generate lower wages and less employment than competitive markets.

- **Q:** Why does this matter?

Perfect competition vs. monopsony

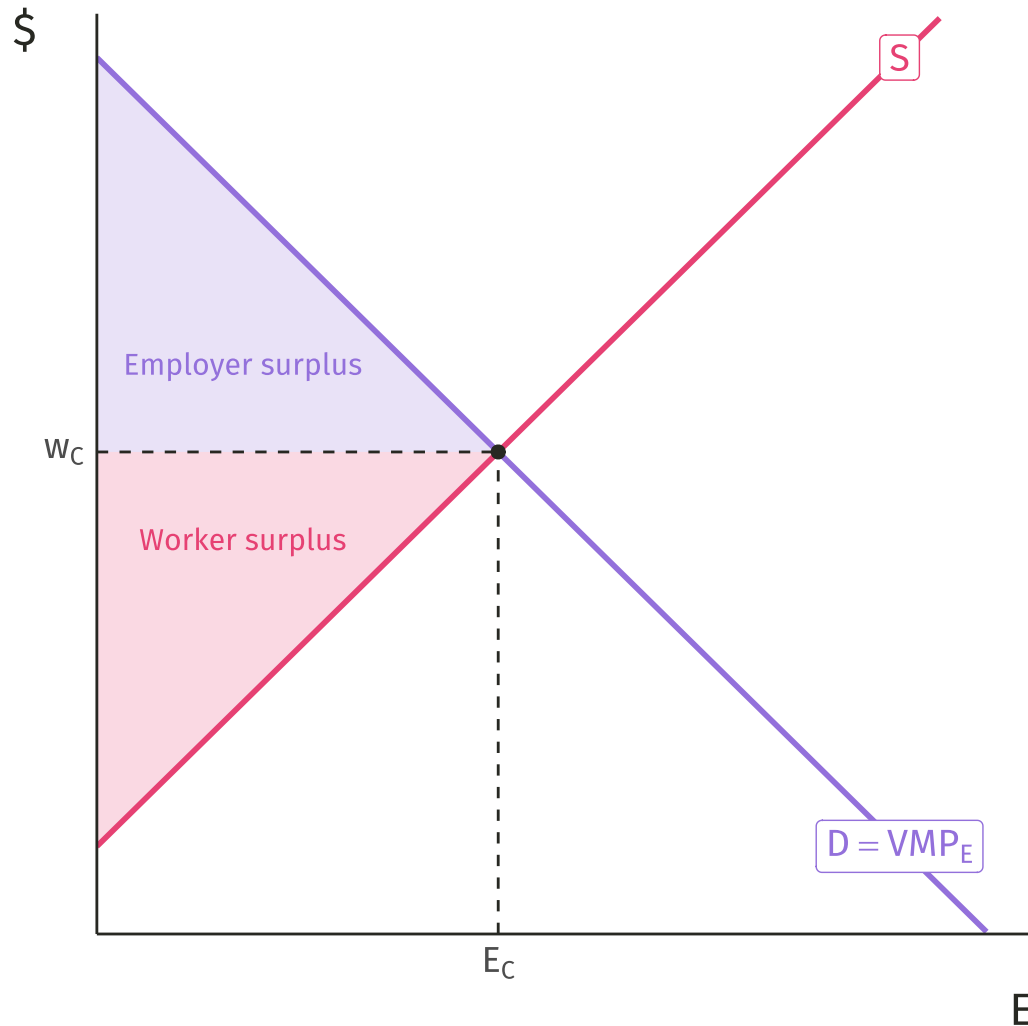


Welfare analysis

Total surplus describes **mutual gains** from employment.

- Workers experience monetary benefits from working (**worker surplus**).
- Employers experience monetary benefits from hiring (**employer surplus**).
- Total surplus = **worker surplus** + **employer surplus**.

Perfect competition vs. monopsony

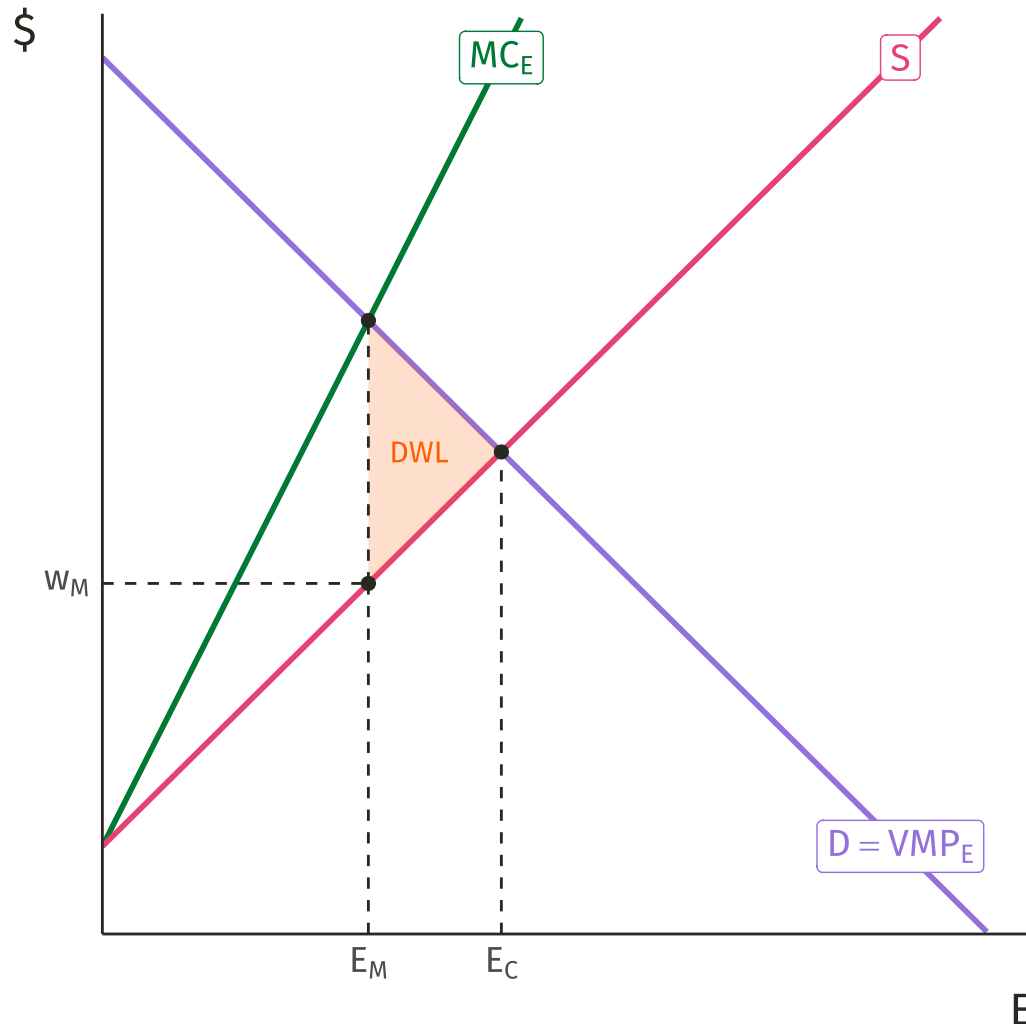


Welfare analysis

Total surplus describes **mutual gains** from employment.

A perfectly competitive market **maximizes** total surplus!

Perfect competition vs. monopsony



Welfare analysis

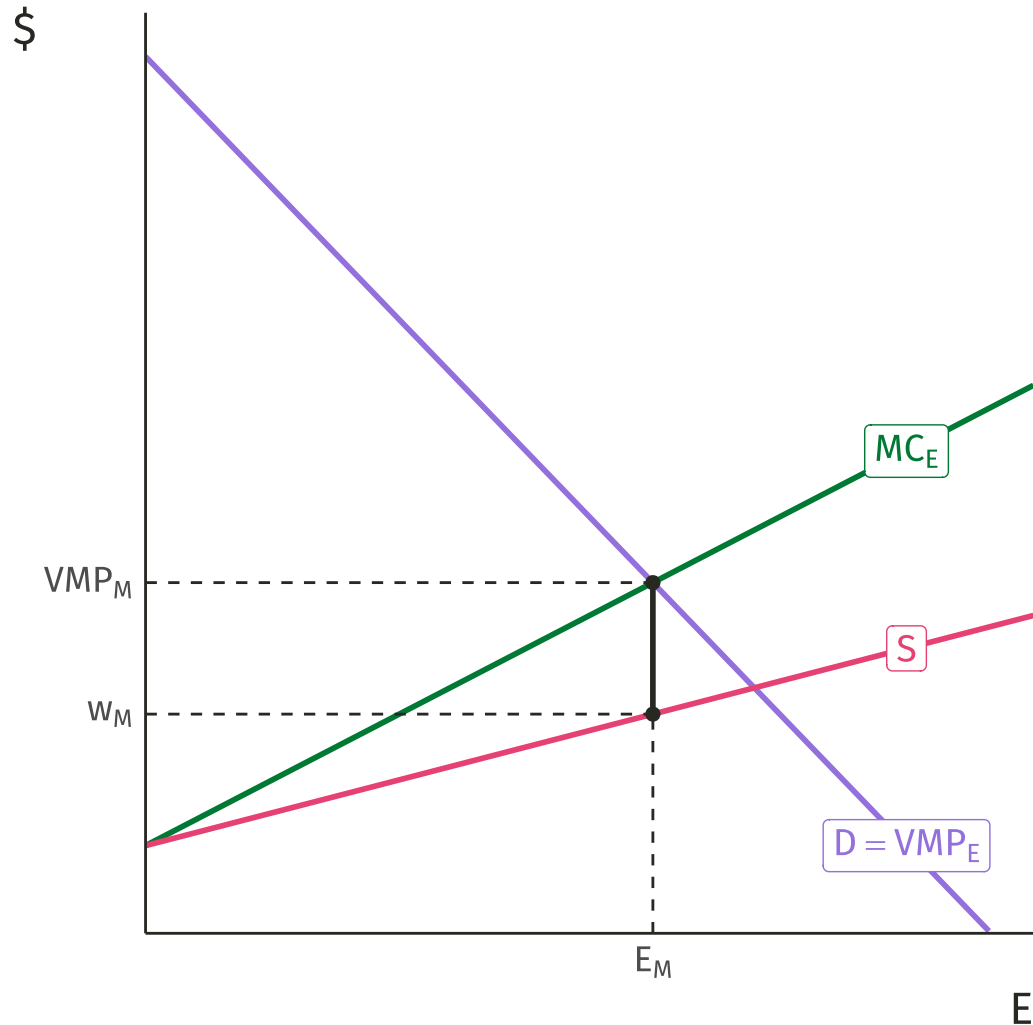
Total surplus describes **mutual gains** from employment.

A monopsony **fails to maximize** total surplus!

- **Deadweight loss (DWL)** represents unrealized mutual gains from employment.

A monopsony **transfers** surplus **from workers to employers**.

Wage markdown



The **wage markdown** is the difference between VMP_M and w_M .

- The marginal worker is paid less than her marginal contribution to the firm!

The size of this markdown depends on the elasticity of labor supply.

- As σ increases, the markdown decreases.

Perfect competition vs. monopsony



Perfect competition

1. Many employers
2. Each employer is a **price taker** in the labor market—the hiring decisions of an employer have no impact on the market wage
→ no market power!
3. The marginal worker receives a wage **equal to** the value of her marginal product.
4. Efficient!

Monopsony

1. One employer
2. Monopsonist is a **price maker** in the labor market—the hiring decisions of this employer affect the market wage
→ significant market power!
3. The marginal worker receives a wage **less than** the value of her marginal product.
4. Inefficient!

Policy implications?



Q: If monopsonistic labor markets are inefficient and perhaps inequitable, what can we do about it?

- Perhaps we should extend anti-trust laws to employers?
- Increase the minimum wage?
- Unions?
- Something else?



Assigned reading for Sunday: [Labor Market Concentration](#) by Jose Azar, Ioana Marinescu, and Marshall Steinbaum (2020).

- I will post the paper tonight.
- The quiz instructions will describe the sections I want you to read closely.
- Reading Quiz 6 is due by **Sunday, May 9th at 23:59**.