

# The Great Minimum Wage Debate

EC 350: Labor Economics

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## Discussion

**Q<sub>1</sub>:** What are the strengths of the study?

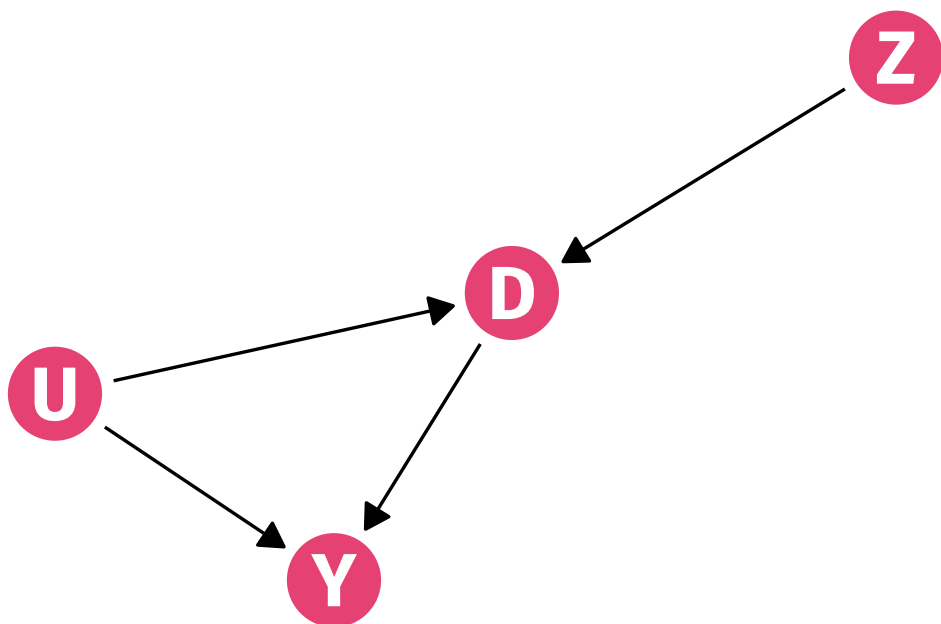
**Q<sub>2</sub>:** What are the weaknesses of the study?

**Q<sub>3</sub>:** What can we learn from the study?

# Azar et al. (2020)

The authors worry about unobserved changes in productivity within markets, so they use an **instrumental variables strategy**.

- An **instrumental variable** has a direct effect on the intensity of treatment, but has no direct effect on the outcome variable. It can be used to **isolate** the "**clean**" **variation in treatment**.



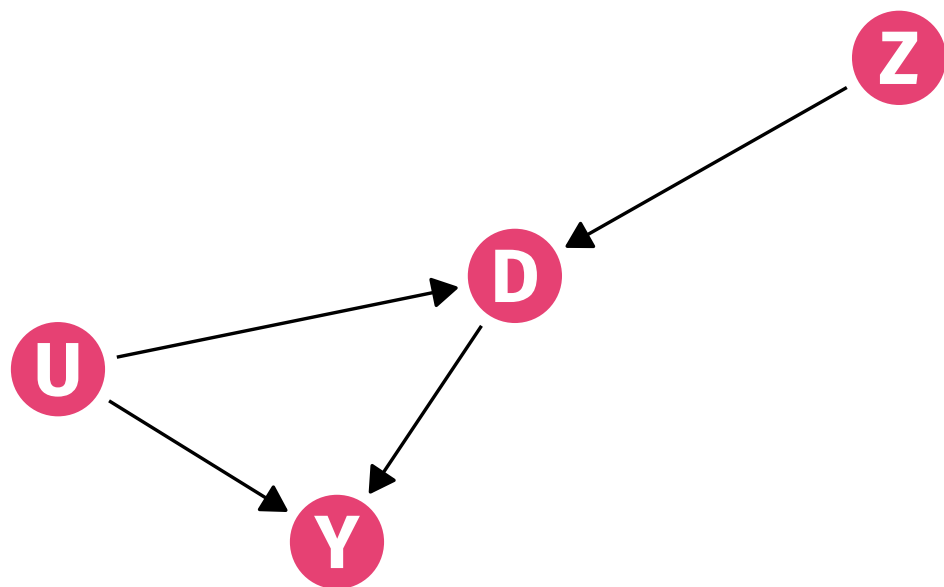
## Variables

- **D** = Local market concentration
- **Y** = Local wages
- **Z** = Instrument (concentration in other markets)
- **U** = Unobserved changes *within* each market

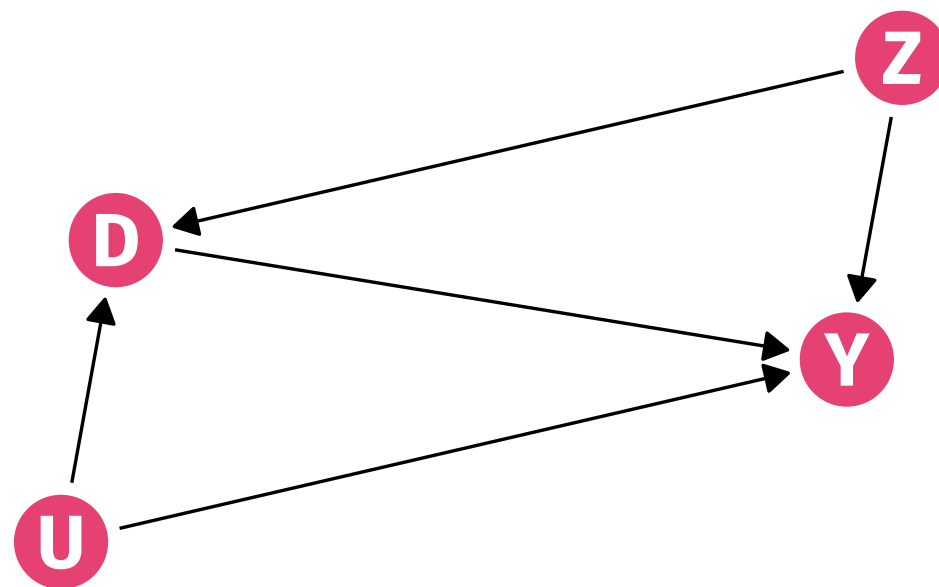
## Instrumental variables

The instrument (concentration in other markets) is valid if it only affects local wages through local market concentration. If there is a direct effect on local wages, then it is invalid.

**Valid instrument**



**Invalid instrument**



# Minimum wages

# Minimum wages

**Policy Q:** Should the federal government increase the minimum wage to \$15?

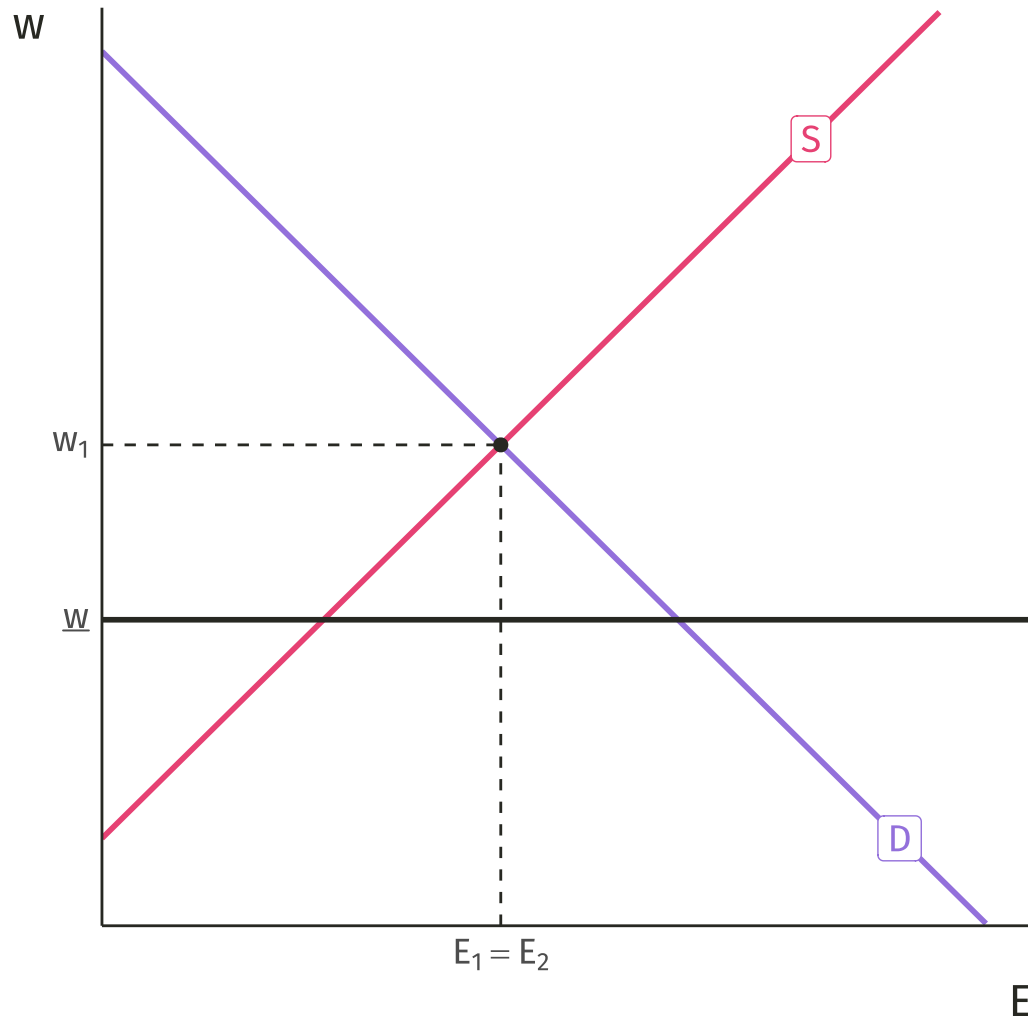
**Research Q:** How would a \$15 minimum wage affect workers and employers?

- **Q:** Would a higher minimum wage help low-wage workers? Would it reduce poverty?
- **Q:** What are the tradeoffs of a higher minimum wage?
- **Q:** Are there any unintended consequences that we should be aware of?

A great deal of economic research focuses on **how minimum wages affect employment**.

- **Why?** Disemployment is one of the main (potential) unintended consequences. You only enjoy the benefits of a wage increase if you keep your job!

# Minimum wages



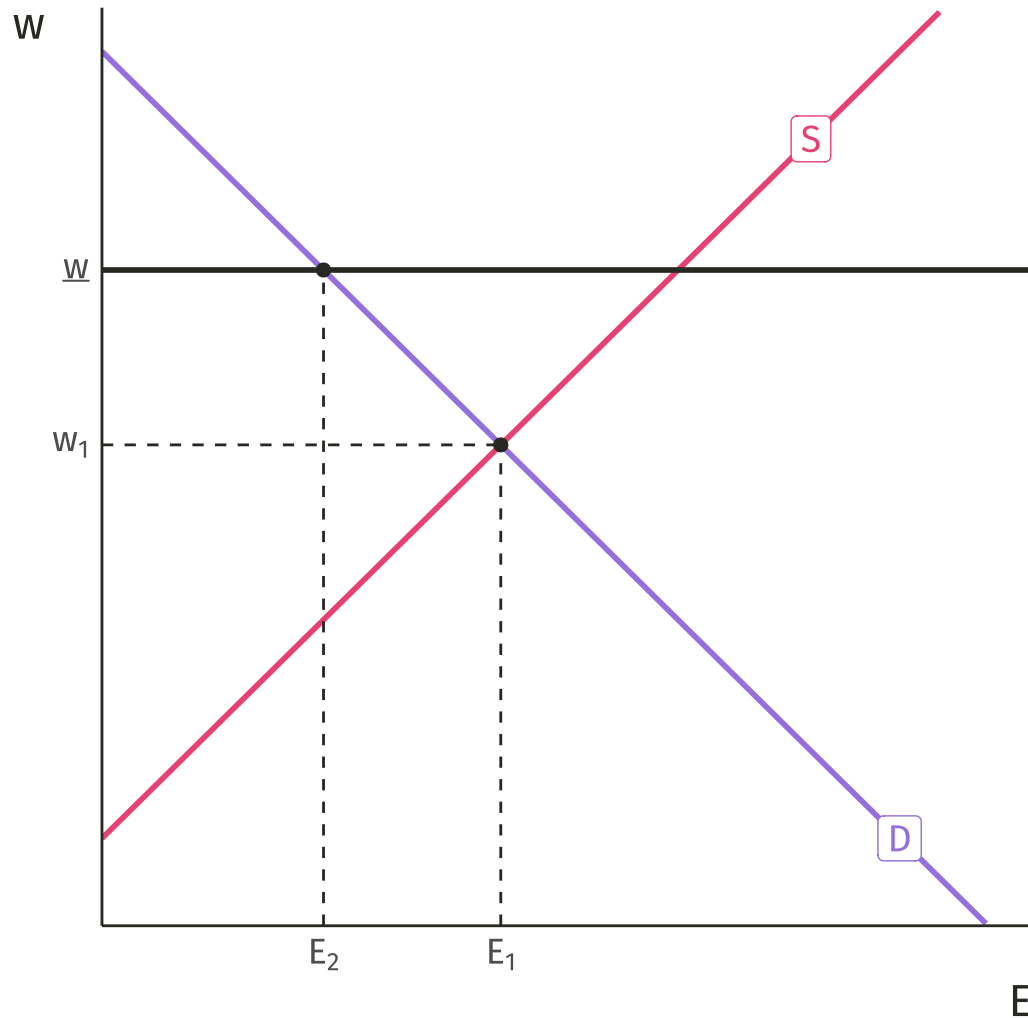
## Theory

**Q:** How does a minimum wage **set below** the current equilibrium wage affect employment?

**A:** It doesn't. The current equilibrium wage **already satisfies** the minimum-wage requirement. No adjustments required!

- At the same time, this minimum wage doesn't "do anything" for workers—no different than not having a minimum wage!
- This is known as a **non-binding** minimum wage.

# Minimum wages



## Theory

**Q:** How does a minimum wage **set above** the current equilibrium wage affect employment?

**A:** It reduces the number of employed workers.

- **"Winners and losers:"** Workers who keep their jobs earn a higher wage, but workers who lose their jobs end up losing their labor income.
- **Unemployment:** At the higher wage, the quantity of labor supplied exceeds the quantity demanded.



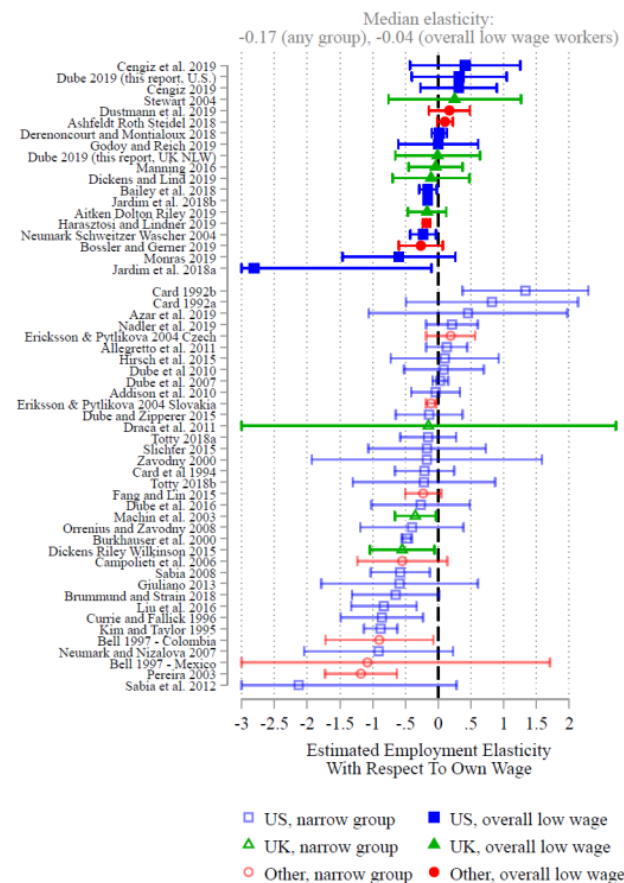
# Minimum wages

## Evidence

There is considerable variation in estimates of the effect of minimum wages on employment!

Most studies use **difference-in-differences designs**, but differ on other margins:

- **Data** (e.g., surveys vs. administrative data)
- **Sample** (e.g., restaurant workers only, teens only, all low-wage workers, etc.)
- **Modeling** (e.g., choice of control variables)
- **Increases considered** (e.g., case studies, federal increases, state increases, etc.)



Source: Arindrajit Dube (2019), *Impacts of Minimum Wages: Review of the International Evidence*, Report prepared for Her Majesty's Treasury (UK).

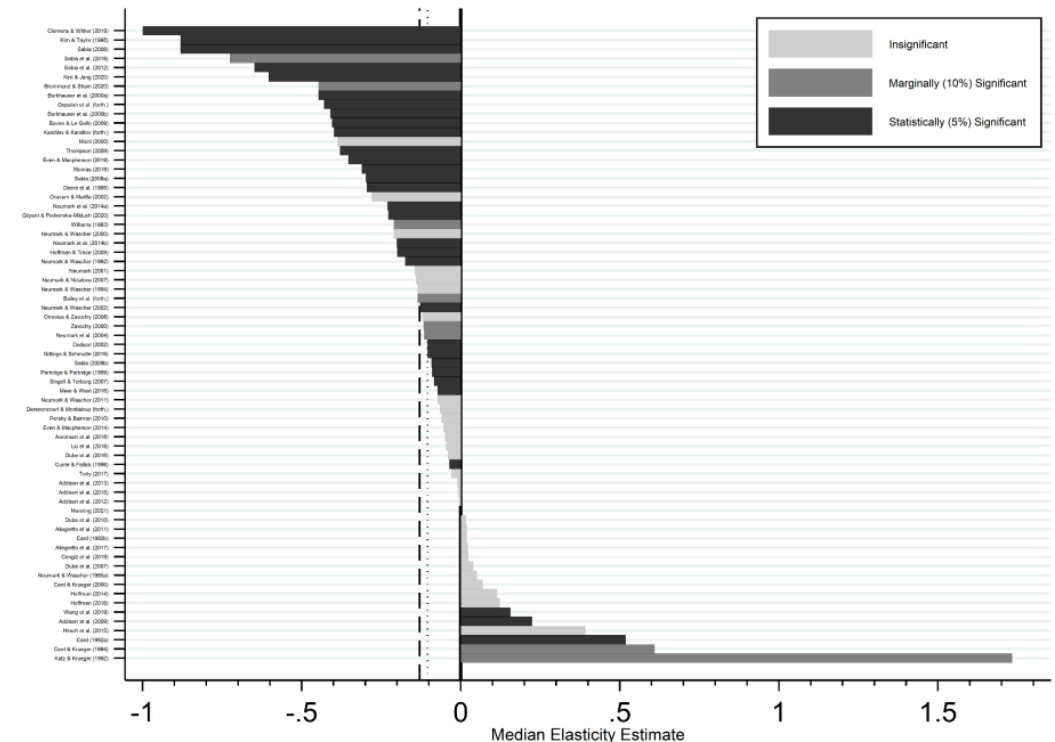
# Minimum wages

## Evidence

There is considerable variation in estimates of the effect of minimum wages on employment!

Most studies use **difference-in-differences designs**, but differ on other margins.

**There is even disagreement about how to summarize the empirical literature!**



Source: David Neumark and Peter Shirley (2021), *Myth or Measurement: What Does the New Minimum Wage Research Say About Minimum Wages and Job Loss in the United States?*, NBER Working Paper 28388.

# Minimum wages

## What do we know so far?

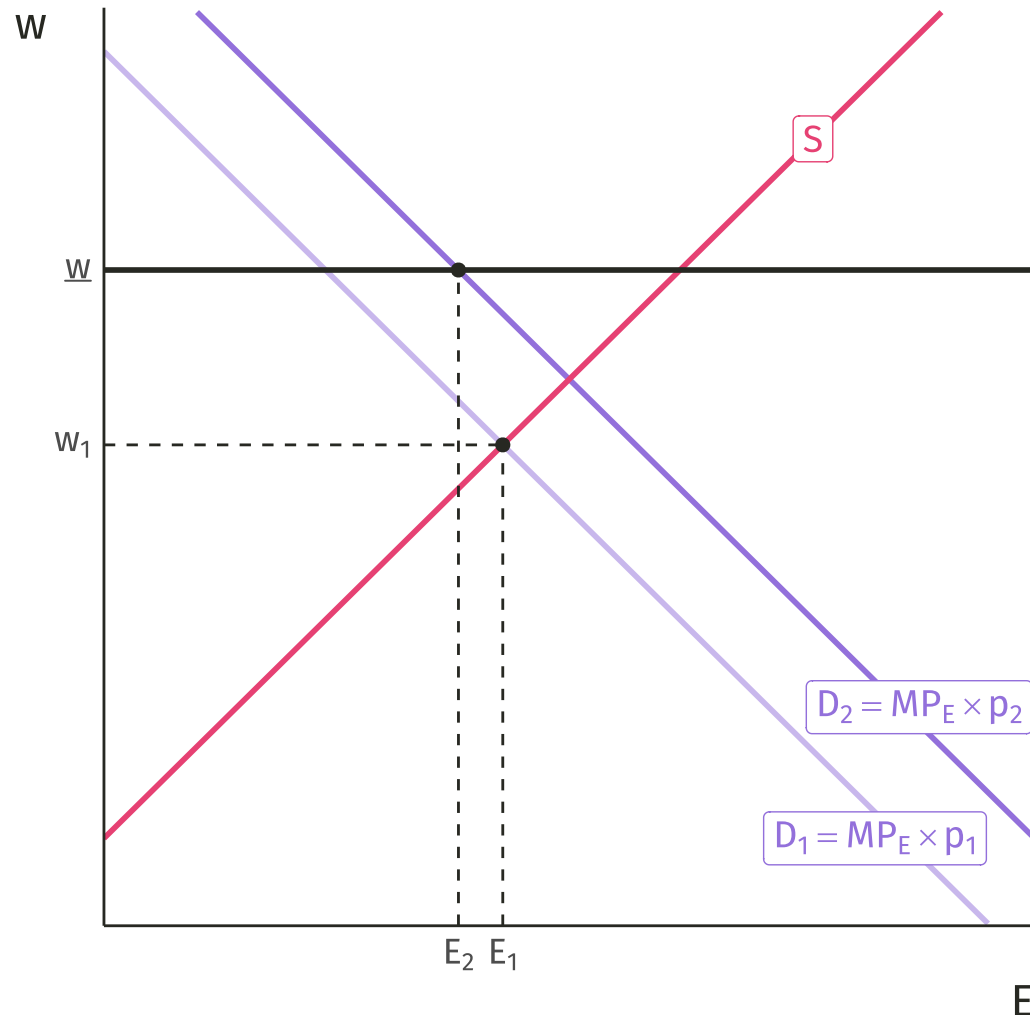
The traditional neoclassical model predicts **an unambiguous decrease** in employment!

Economists disagree about how minimum wages affect employment, but it does appear that some increases in the minimum wage increased employment.

This raises important questions!

- **Q:** Is the neoclassical model wrong? What is missing from our analysis?
- **Q:** How do employers respond to increases in the minimum wage? On what margins do they make adjustments?

# Margins of adjustment



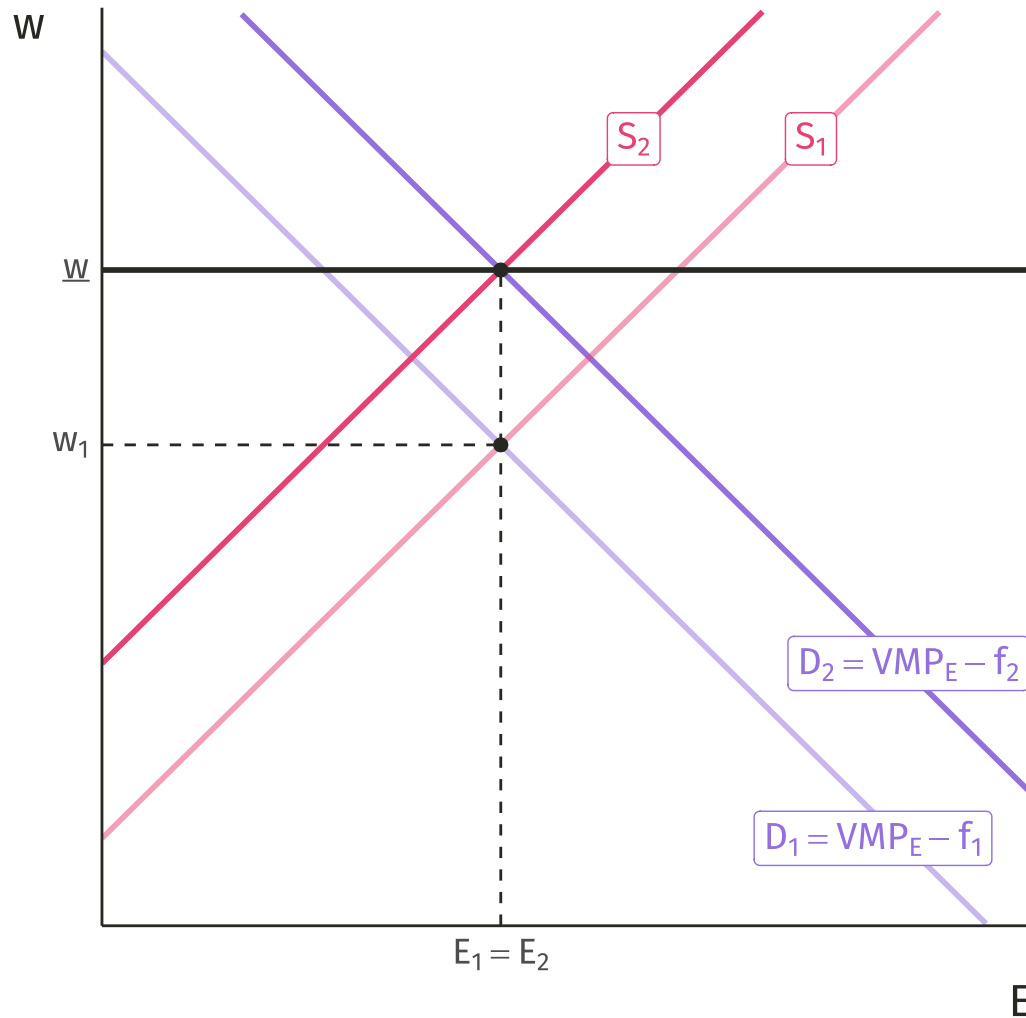
## Consumer prices

Firms can respond to a binding minimum wage by **increasing the price** of the output good.

- This is known as **pass-through**, which can partially **offset** the effects of a wage increase.
- The ability of firms to increase prices depends on consumers' sensitivity to changes in price.

In this example, the **decrease in employment is smaller** than when prices are held constant, but unemployment remains.

# Margins of adjustment



## Fringe benefits

Firms can respond to a binding minimum wage by **cutting fringe benefits**.

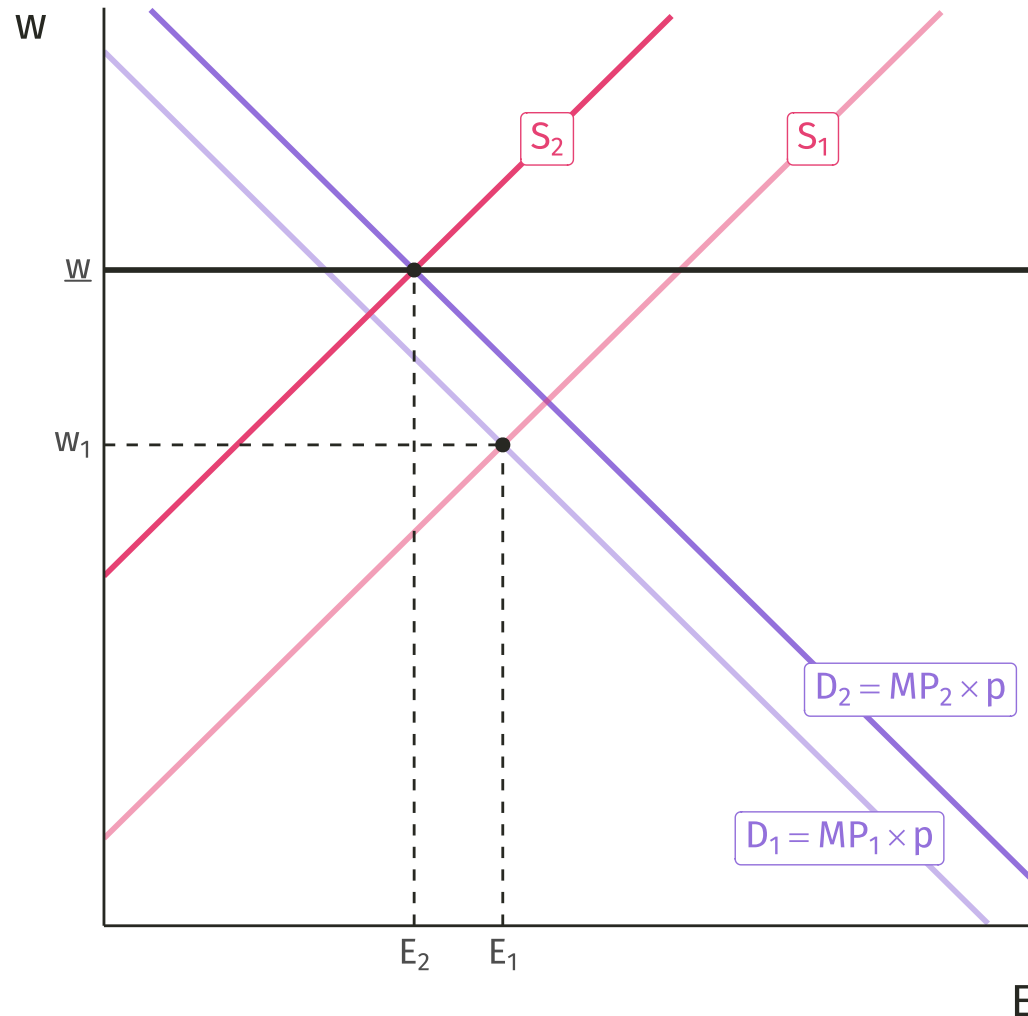
- In addition to reducing supply, decreases in non-wage compensation also increase demand!†

In this example, the decrease in fringe benefits **perfectly offsets** the wage increase.

- No unemployment!

† Fringe benefits affect the marginal cost of hiring a worker, but our previous analysis of profit maximization implicitly assumed that firms do not provide non-wage compensation.

# Margins of adjustment



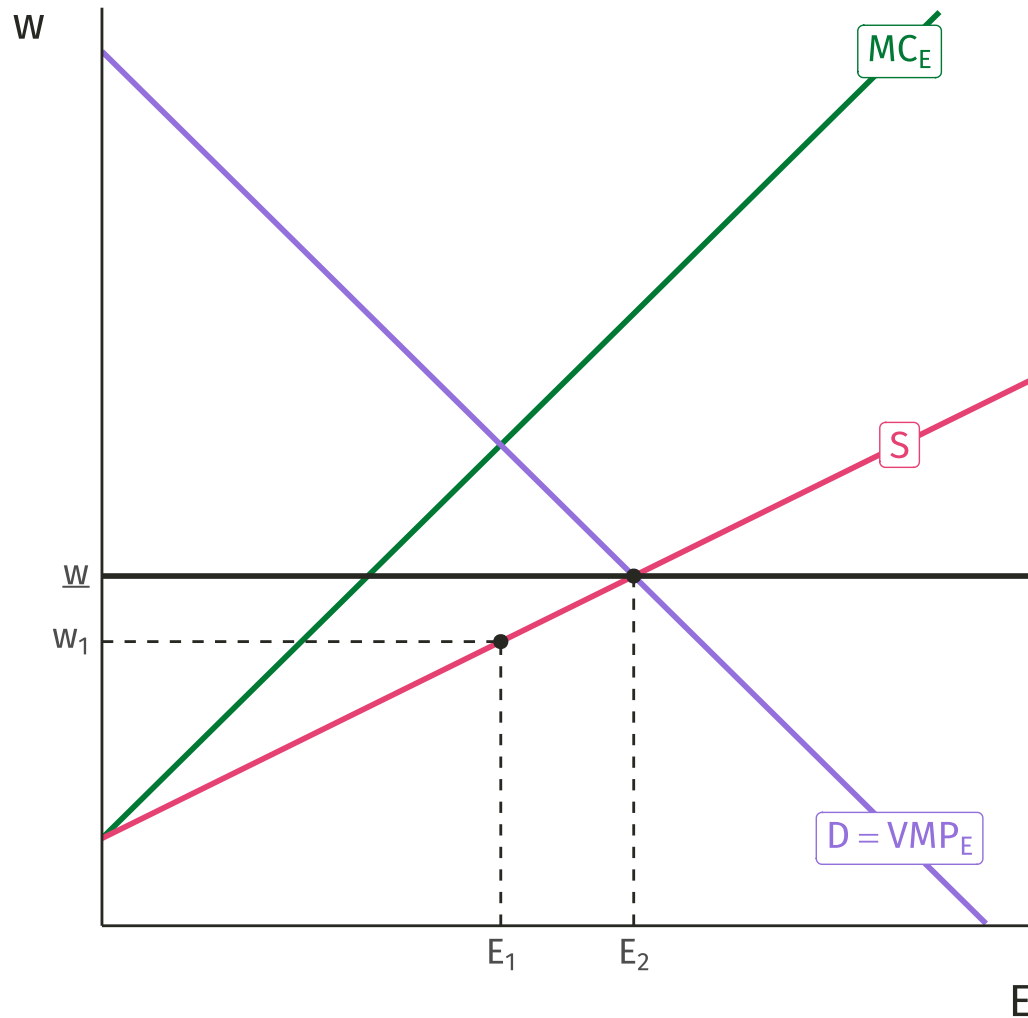
## Effort requirements

Firms can respond to a binding minimum wage by **making employees work harder**.

- Working conditions become less desirable, which decreases labor supply.
- Marginal product of labor increases, which increases labor demand

In this example, employment decreases, but there is no unemployment.

# Margins of adjustment



## Profit

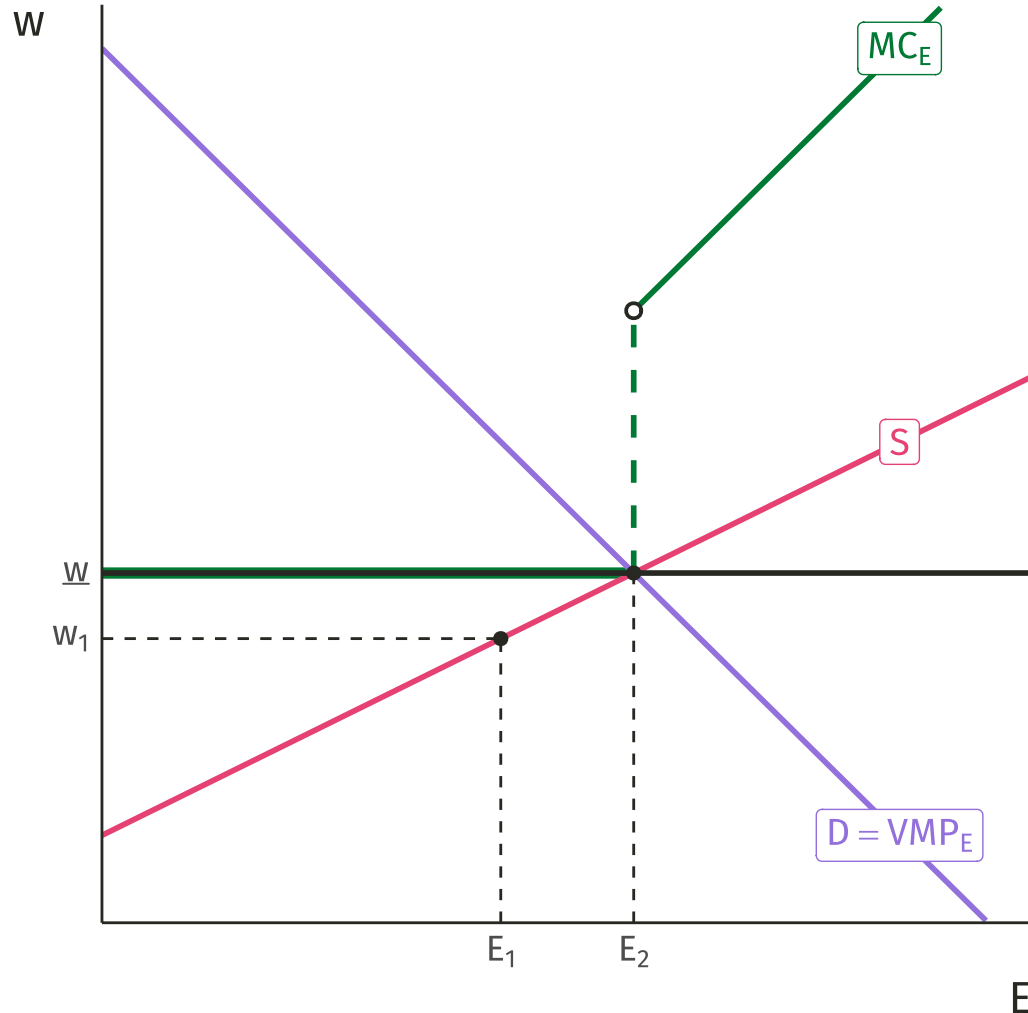
**Q:** How would a monopsonist respond to a binding minimum wage?

**A:** Hire additional workers at a higher wage!<sup>†</sup>

- No unemployment, either!

<sup>†</sup> This is true up to a point. If the minimum wage is set above the value of marginal product of the last worker hired in an unregulated monopsony, then employment will decrease.

# Margins of adjustment



## Profit

**Q:** How does this work?

**A:** The minimum wage "bends" the marginal cost curve.

- In this example, the last worker hired is now paid the value of her marginal contribution!



# Other margins of adjustment

**Q:** How else could employers respond to increases in the minimum wage?

- Long-run substitution toward capital?
- Substitution toward other kinds of labor (e.g., lower-skill to higher-skill)?
- Non-compliance?

**Q:** Why do these responses matter?

- **A:** They determine whether minimum wage increases will have the intended effect of helping low-wage workers!

# Minimum wages

## What do we know?

The evidence on employment effects is mixed!

That said, a closer look at **theory suggests that** the size and direction of **employment effects are ambiguous!**

- **It depends!** In particular, it depends on
  - How much firms can increase prices
  - How much firms can cut non-wage compensation
  - Whether firms can adjust their production process
  - Whether firms have market power
  - The ability of firms to substitute toward other inputs
  - Compliance with the law

Perhaps we should expect **heterogeneous effects?**

# Minimum wages

## Where is the empirical research frontier?

**Q:** *When* do minimum wages help low-wage workers? When do they hurt?

- *Average* effects can provide useful summaries, but they can also mask a lot of interesting variation!

**Q:** What is the **optimal** way to help low-wage workers?

- Do other policies (*e.g.*, the EITC) provide the **same assistance at lower cost** (or more assistance at the same cost)?
- Are there other things we should consider (*e.g.*, political feasibility) when making this judgement?

# Housekeeping

**Assigned reading for Monday:** Minimum Wage Increases, Wages, and Low-Wage Employment: Evidence from Seattle by Ekaterina Jardim and coauthors (2017).

- Reading Quiz 7 is due by **Monday, February 21st at 12:00pm (noon)**.
- The quiz instructions will include a reading guide.