Labor Markets

EC 350: Labor Economics

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Winter 2022

Discussion

In the early 2000s, the French government shortened the work week from 39 to 35 hours, arguing that there would be work left over for the unemployed.

- **Q:** Would you expect employment to increase, as the French government predicted? Why or why not?

Lump of labor fallacy

Q: What is the fallacy?

A: The notion that **the amount of work** to be done in an economy **is fixed**, with the implication that increasing productivity or the pool of qualified workers will necessarily reduce job opportunities.

Q: Why this unnecessarily pessimistic view of the world incorrect?

A: The amount of work to to be done isn't fixed! Not all economic interactions are zero-sum!

- Job losses from automation can support the creation of new jobs in other industries.
- As the population increases, demand for goods/services increases, which then increases demand for labor.

Supply and demand

Supply and demand

Assumptions

We will continue to make all of the same assumptions as we did when we modeled the "dilemmas" faced by workers and employers.

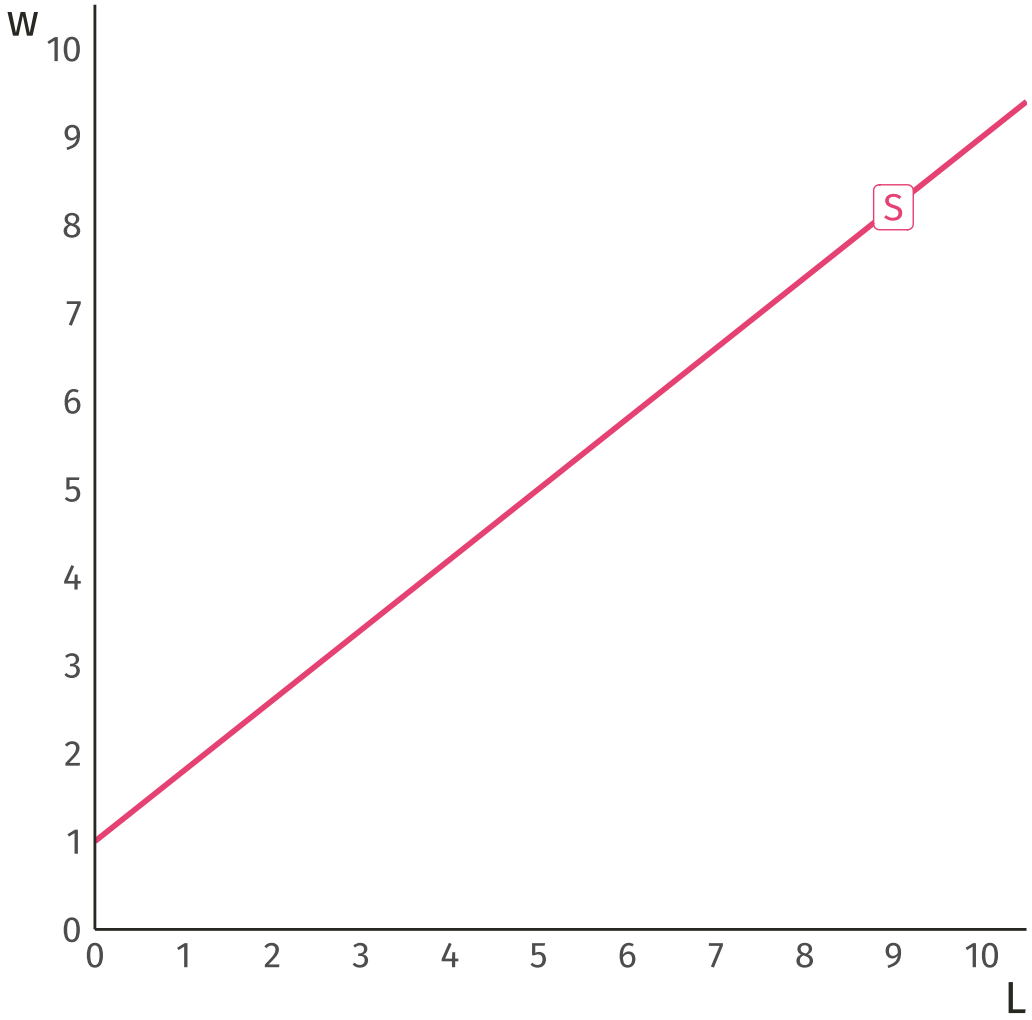
- Perfect competition in input and output markets
- Homogeneous workers within a market
- Various assumptions about preferences and production technology
- Perfect information and complete contracts

Q: Do these assumptions actually describe any real-world markets?

A: Strictly speaking, probably not. But they do allow us to make testable predictions!

> All models are wrong, but some are useful. — George Box?

Labor supply



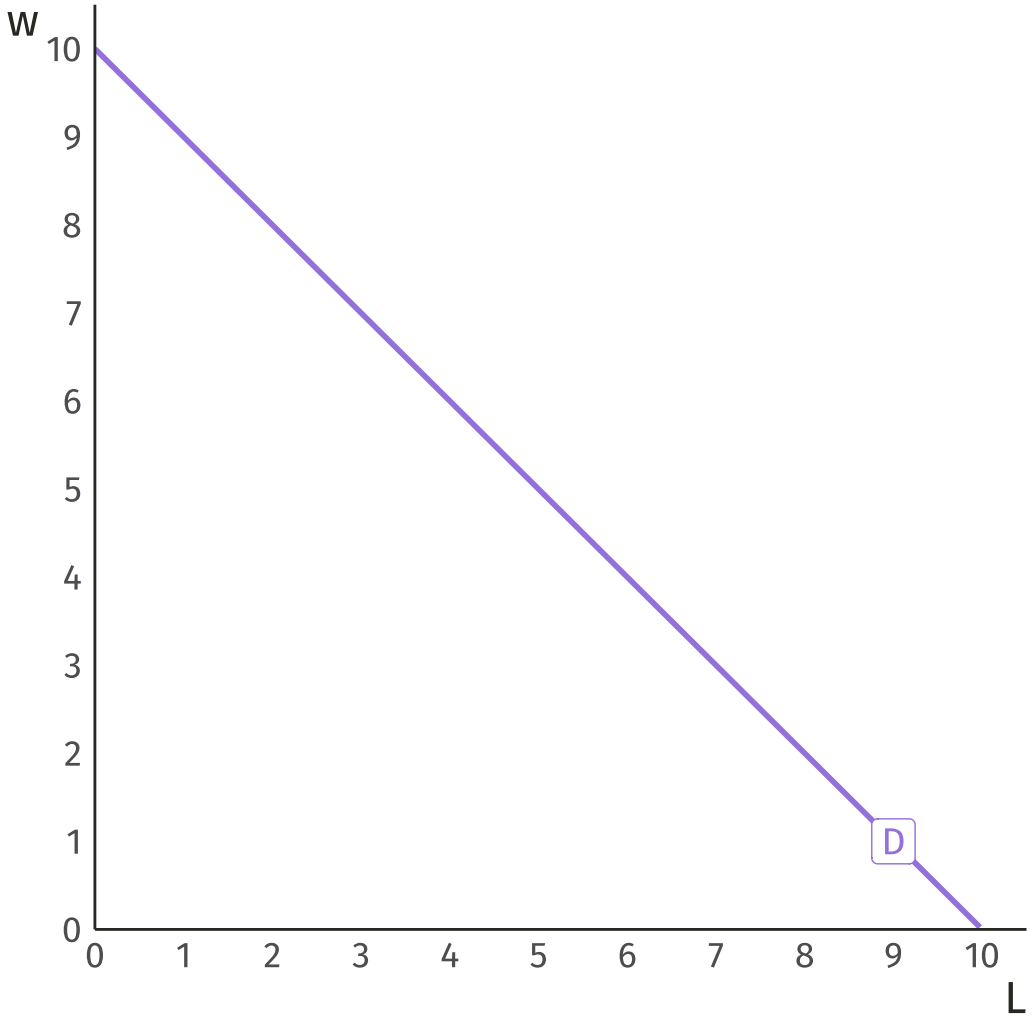
Market labor supply curve

Shows the number of workers who are willing to work at specified wages, other things being equal.

- Or, alternatively, the amount of time workers are willing to work at specified wages, other things being equal.

Upward sloping: As w increases, L_S increases.

Labor demand



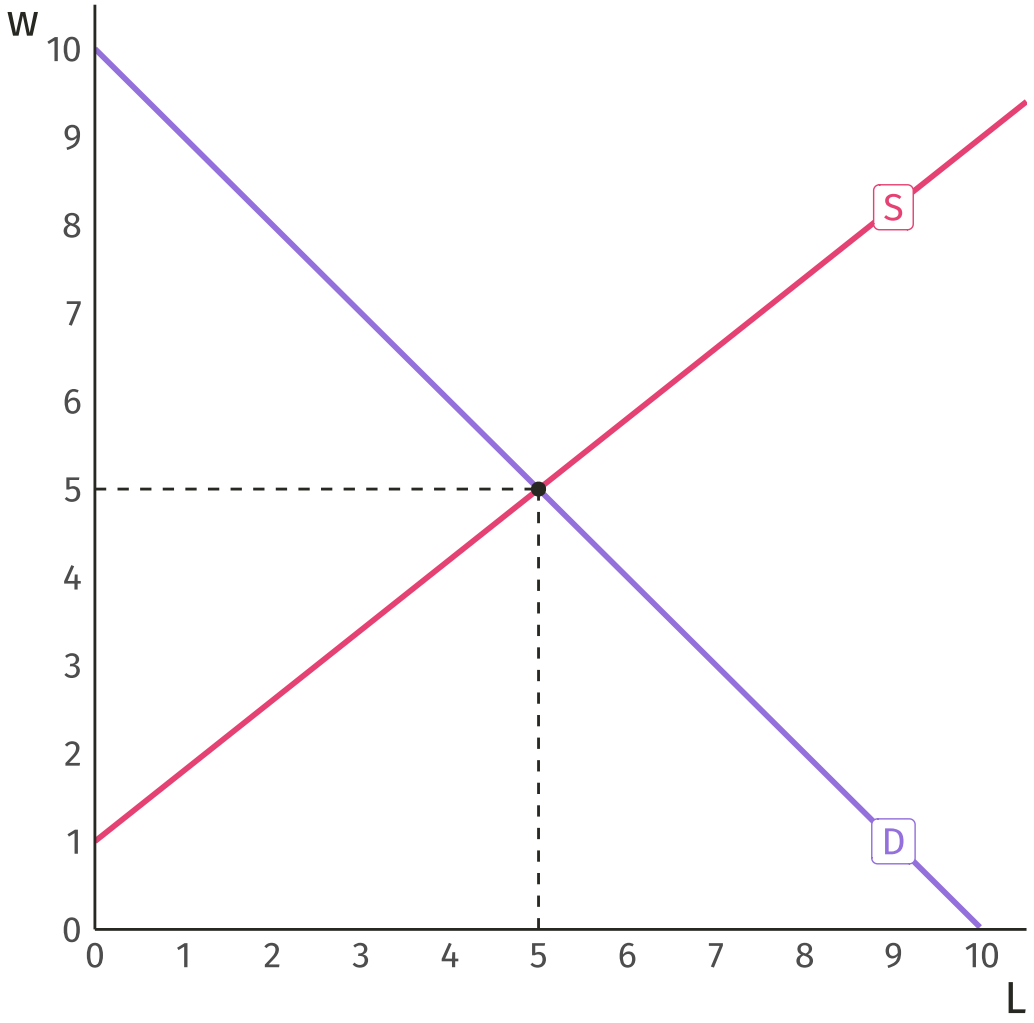
Market labor demand curve

Shows the number of workers employers are willing to hire at specified wages, other things being equal.

- Or, alternatively, the amount of labor employers are willing to employ at specified wages, other things being equal.

Downward sloping: As w increases, L_D decreases.

Equilibrium

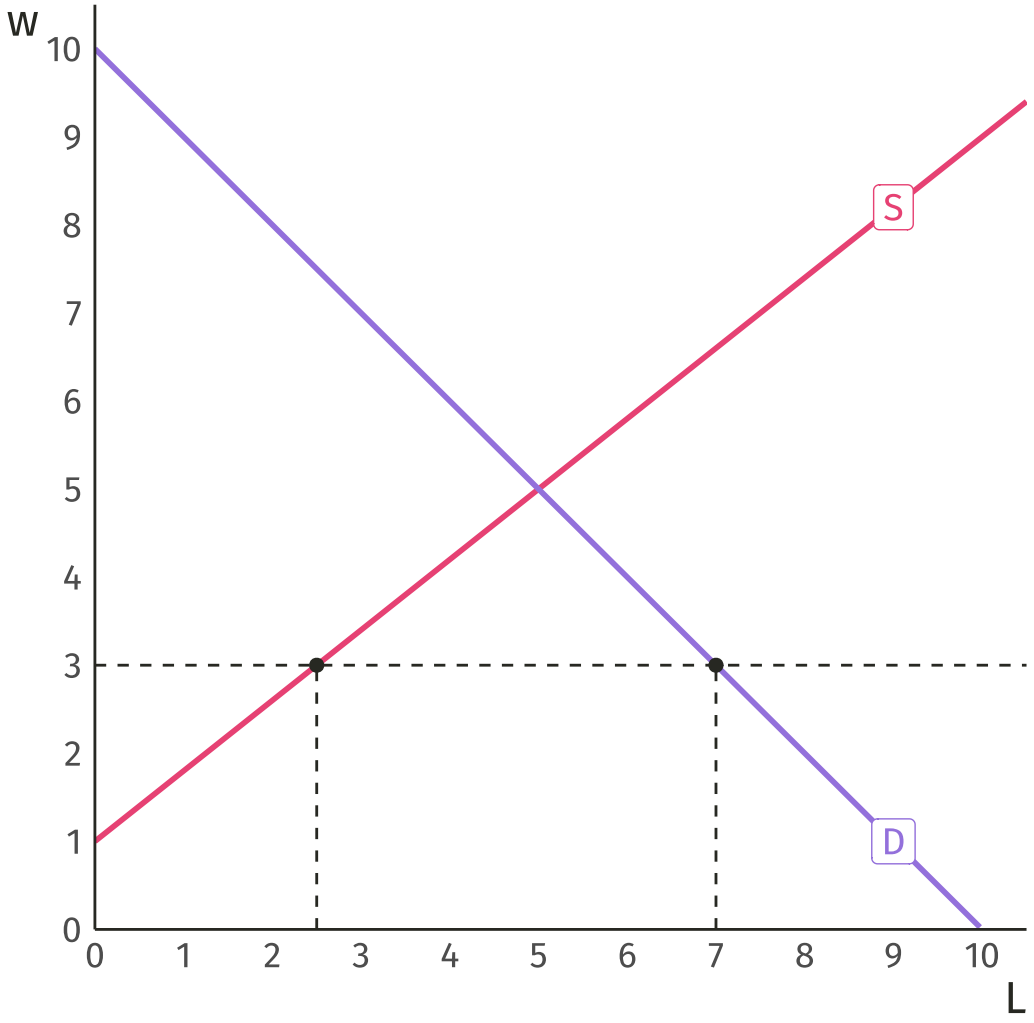


Market clearing

The quantity of labor supplied equals the quantity of labor demanded: $L_S = L_D$.

No tendency for real wages to change.

Disequilibrium

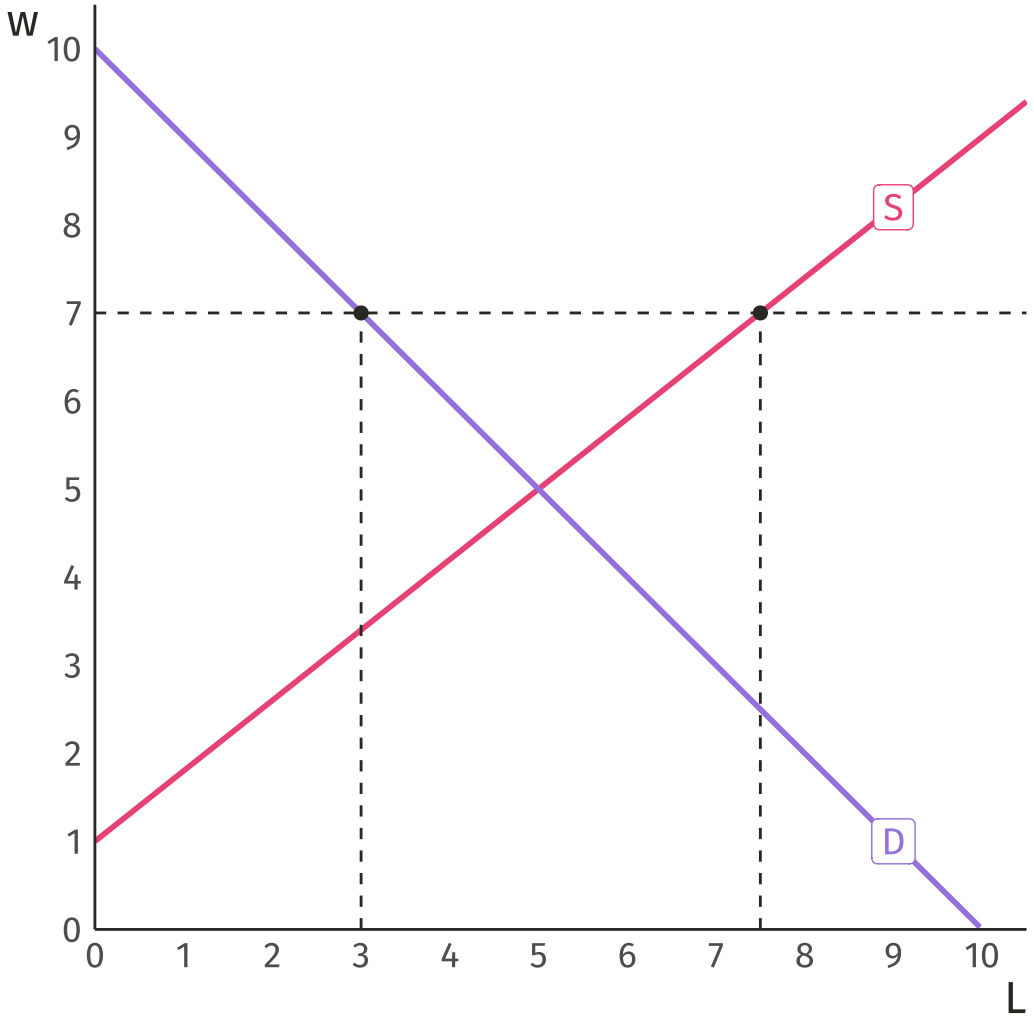


Labor shortage

The quantity of labor supplied is less than the quantity of labor demanded: $L_S < L_D$.

Real wages tend to rise.

Disequilibrium



Unemployment

The quantity of labor supplied is greater than the quantity of labor demanded: $L_S > L_D$.

Real wages tend to fall.

Unemployment

Definitions

$\mathbf{E}$ = number of employed individuals

$\mathbf{U}$ = number of unemployed individuals

- Being "unemployed" means that you 1) want a job and 2) are actively looking for work.

$\mathbf{P}$ = population of interest (*e.g.*, US residents between the ages of 24 and 64)

Labor force $\mathbf{LF}$ = total number of individuals who want a job:

$$\mathbf{LF} = \mathbf{E} + \mathbf{U}$$

Labor force participation rate $\mathbf{LFPR}$ = percentage of the population in the labor force:

$$\mathbf{LFPR} = \frac{\mathbf{LF}}{\mathbf{P}} \times 100$$

Unemployment rate

Definition

> The unemployment rate UR measures the percentage of the labor force that is unemployed:
>
> $$\mathrm{UR} = \frac{\mathrm{U}}{\mathrm{LF}} \times 100$$

Caveats

The unemployment rate you see in the news can give an incomplete impression of labor-market conditions!

- Does not include **discouraged workers** who want a job, but stopped looking for work
- Does not include **underemployed workers** who are working part-time, but want to work full-time

Changes in economic conditions can affect both the numerator and the denominator!

Unemployment

Macroeconomists distinguish between three main types of unemployment:

1. **Frictional:** Unemployment caused by job search (*e.g.*, you after graduation).
2. **Structural:** Unemployment caused by mismatch between jobs and workers (*e.g.*, layoffs from technological change).
3. **Cyclical:** Unemployment caused by variations in the business cycle (*e.g.*, recessions).

Determinants of labor supply

Q: What determines market labor supply?†

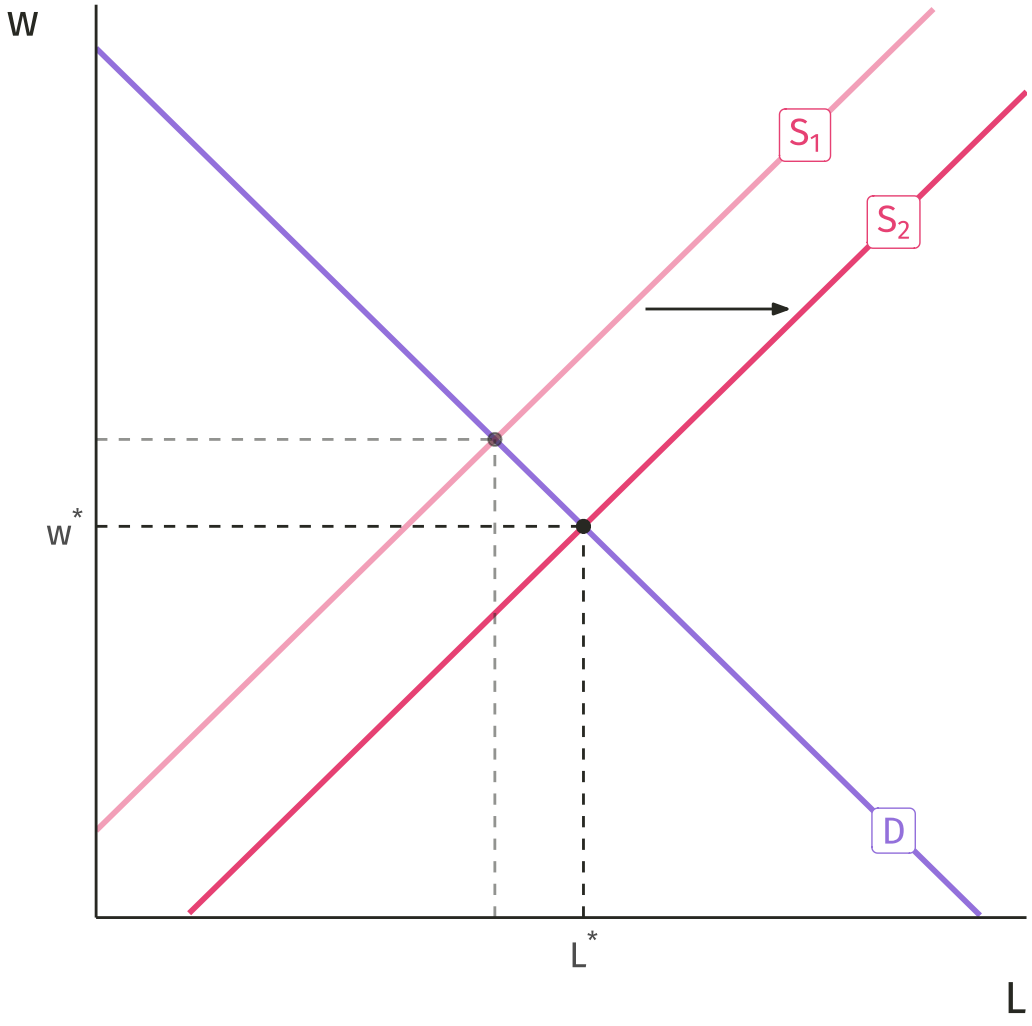
- Wages in other labor markets
- Non-labor income
- Preferences over work and leisure
- Working conditions
- "Fringe" benefits
- Number of qualified workers

Changing the determinants of supply **shifts** the entire supply curve.

Changing the wage results in **movement along** the supply curve.

† *Supply* = Entire relationship between *wage* and the *quantity of labor supplied*.

Changes in labor supply



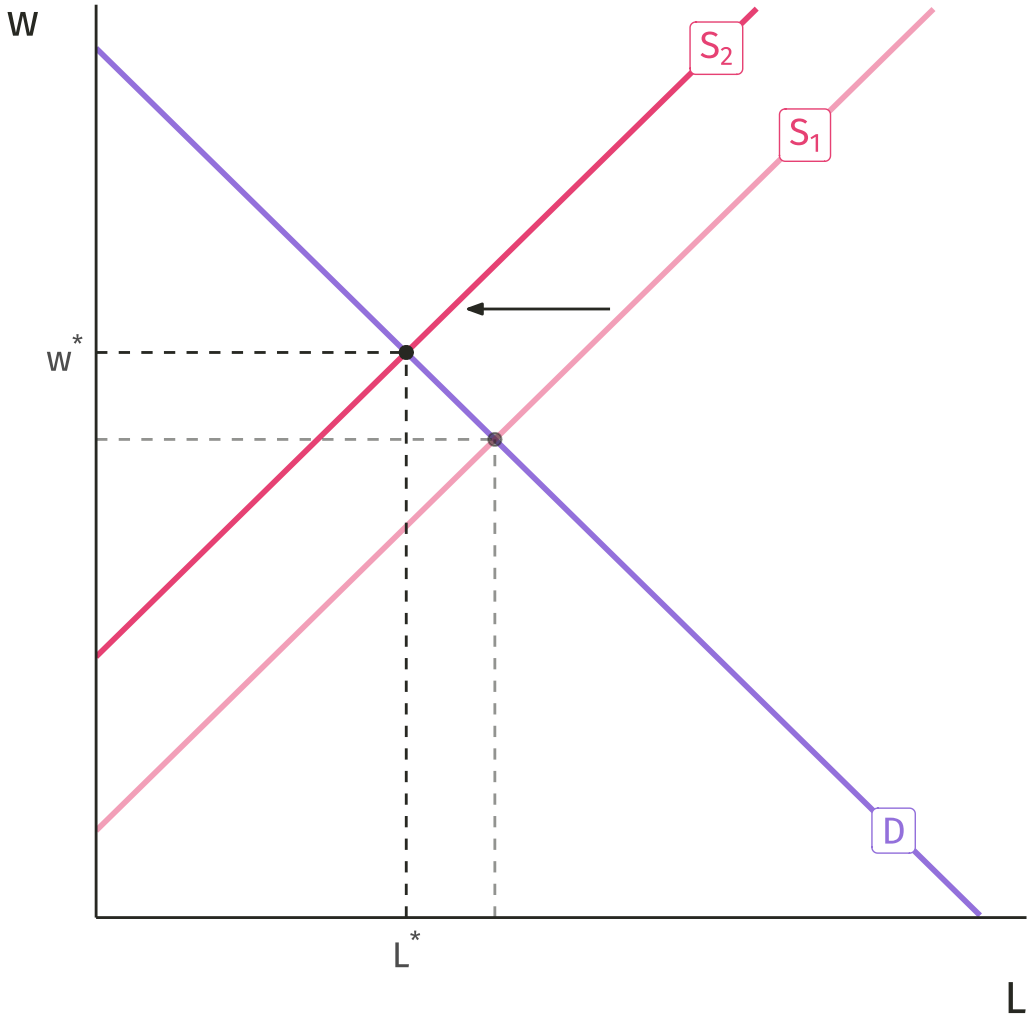
Supply increase

At every wage, more people are willing to work than before.

Equilibrium quantity of labor increases.

Equilibrium wage decreases.

Changes in labor supply



Supply decrease

At every wage, fewer people are willing to work than before.

Equilibrium quantity of labor decreases.

Equilibrium wage increases.

Determinants of labor demand

Q: What determines market labor demand?†

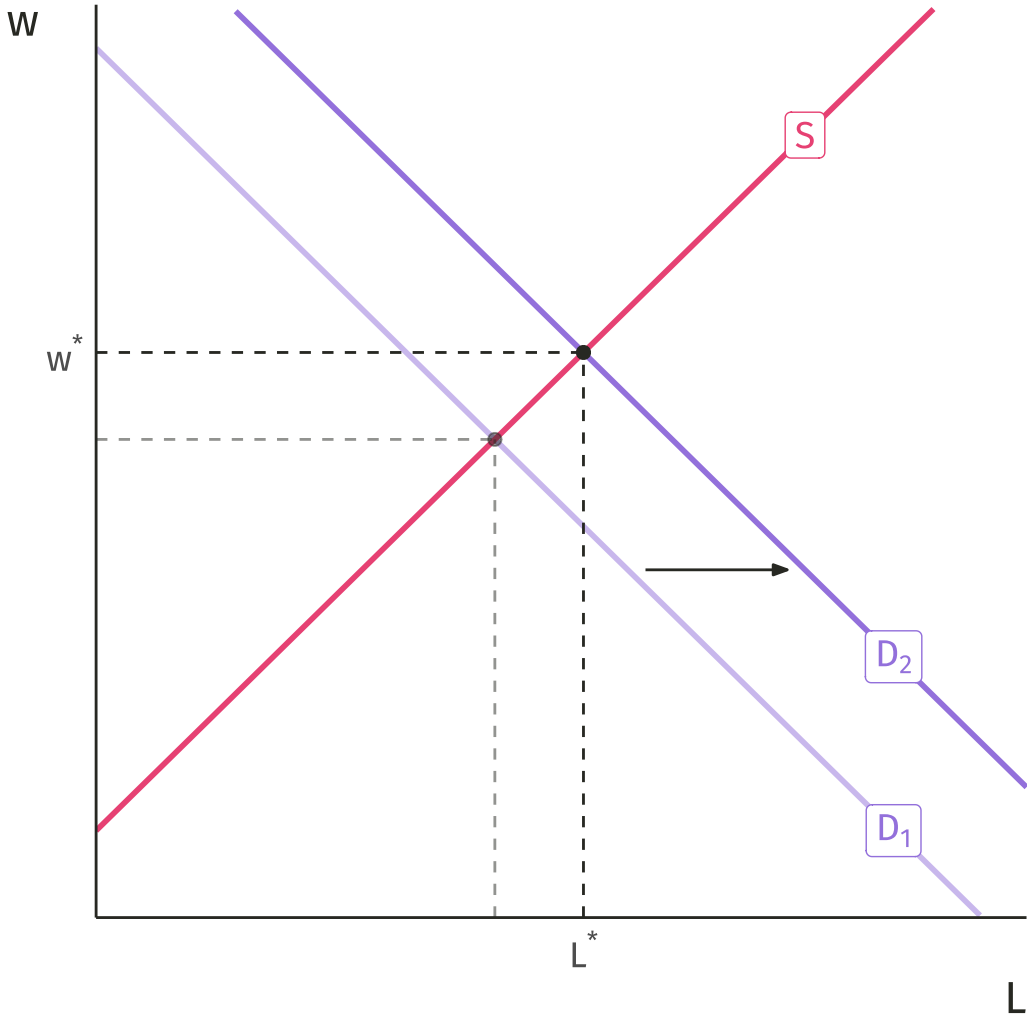
- Demand for the output good
- Productivity of capital, labor, and other inputs
- Prices of other inputs
- Number of employers

Changing the determinants of demand **shifts** the entire demand curve.

Changing the wage results in **movement along** the demand curve.

† *Demand* = Entire relationship between *wage* and the *quantity of labor demanded*.

Changes in labor demand



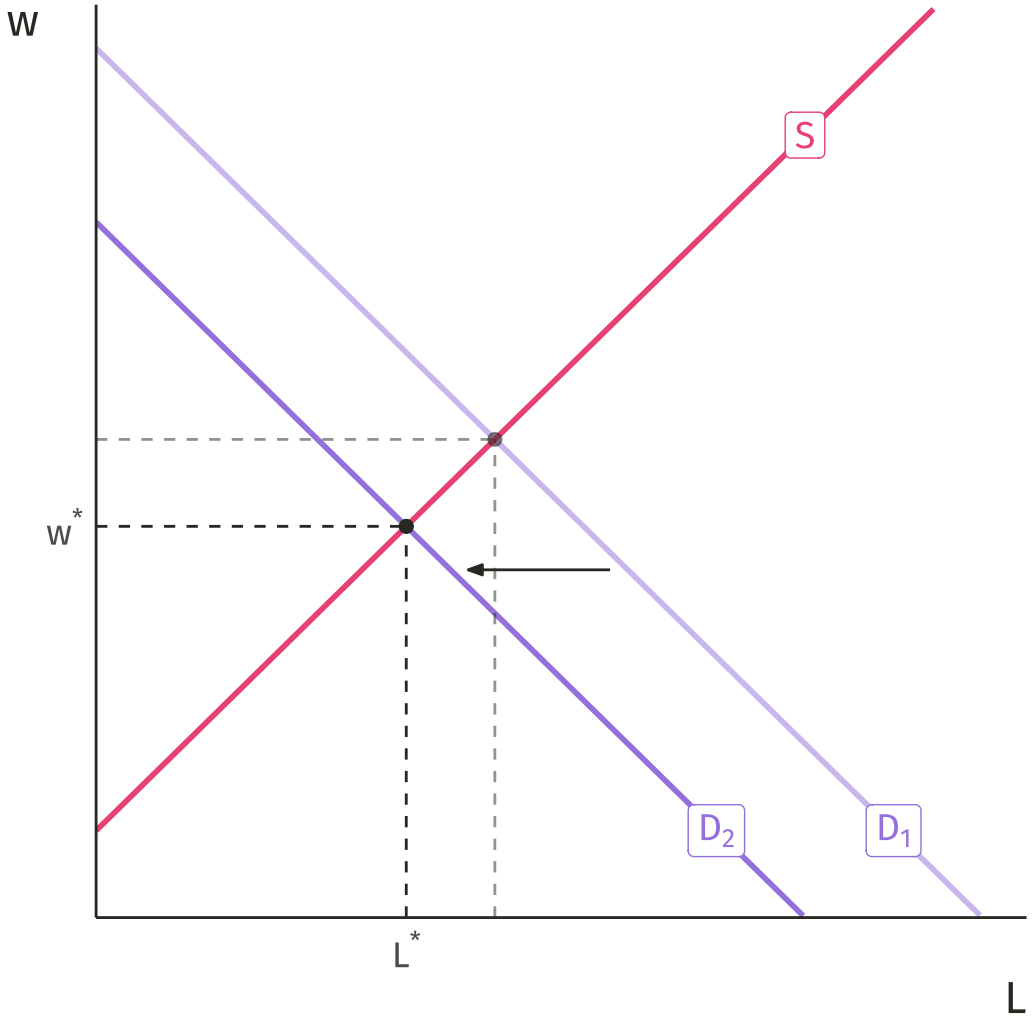
Demand increase

At every wage, employers are willing to hire more workers than before.

Equilibrium quantity of labor increases.

Equilibrium wage increases.

Changes in labor demand



Demand decrease

At every wage, employers are willing to hire fewer workers than before.

Equilibrium quantity of labor decreases.

Equilibrium wage decreases.

Q_1: How would a construction boom in downtown Portland affect the market for welders in Portland?

Q_2: How would a construction boom in downtown Portland affect the market for welders *in Eugene*?

Immigration

Q: How does immigration affect equilibrium wages and employment?

- How might we model the effects of immigration? What determinants of labor supply or demand change?

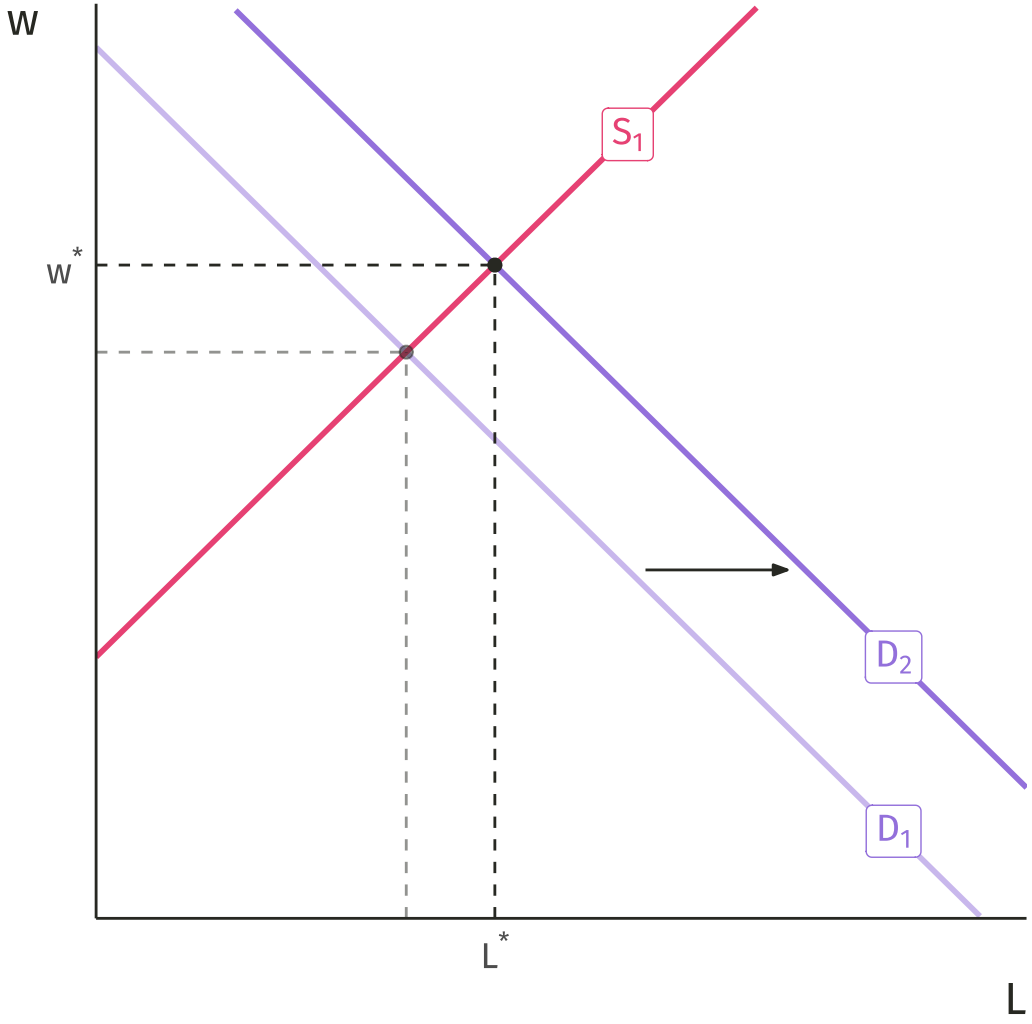
A_1: If immigrant workers and native workers are **complements**, then they **do not compete in the same market.**

- An increase in immigrant labor would make native workers more productive $\longrightarrow$ demand for native workers would increase!

A_2: If immigrant workers and native workers are **perfect substitutes**, then they **compete in the same market.**

- Immigration would increase labor supply.
- However, **immigrant workers are also consumers** $\longrightarrow$ demand for goods and services would increase $\longrightarrow$ labor demand would increase!

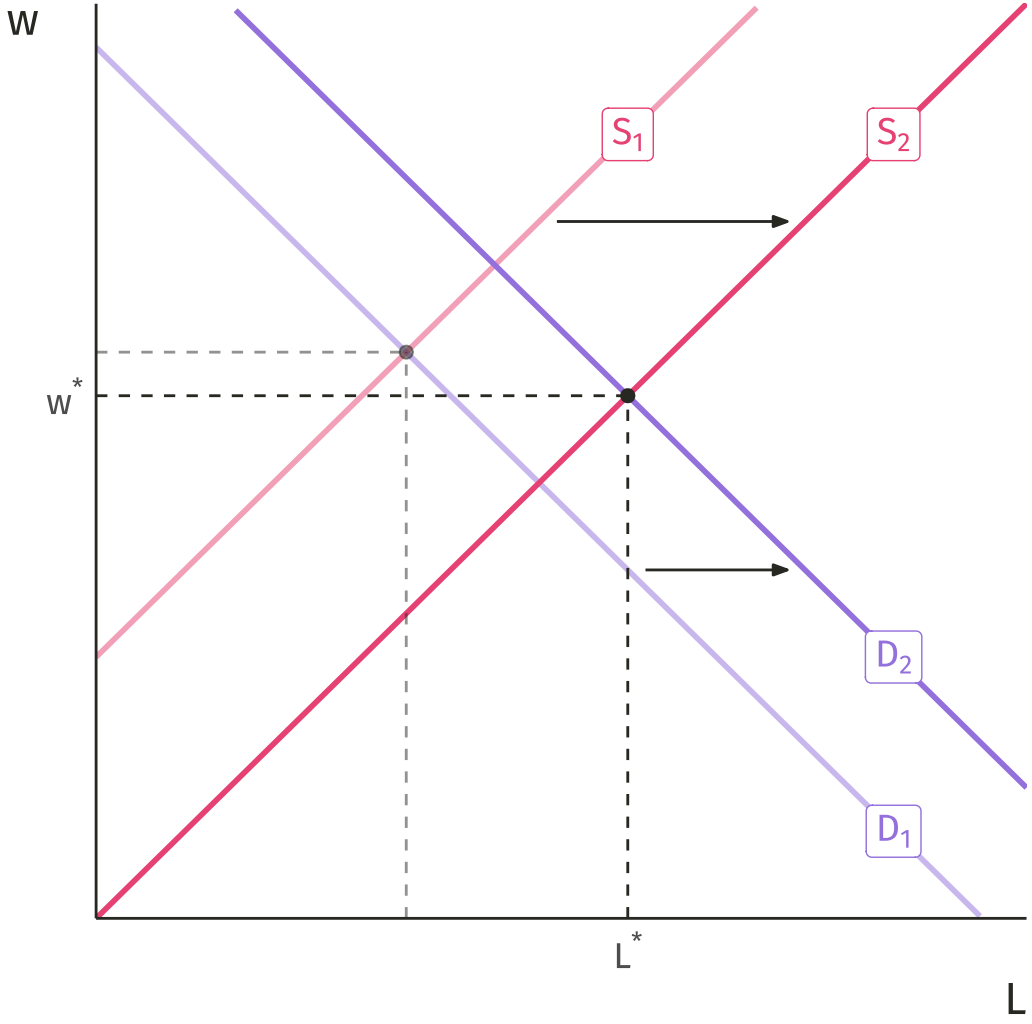
Case 1: Immigrant workers and native workers are complements.



Complements $\longrightarrow$ productivity of native workers increases $\longrightarrow$ demand increases.

- Equilibrium employment of native workers increases.
- Equilibrium wages increase.

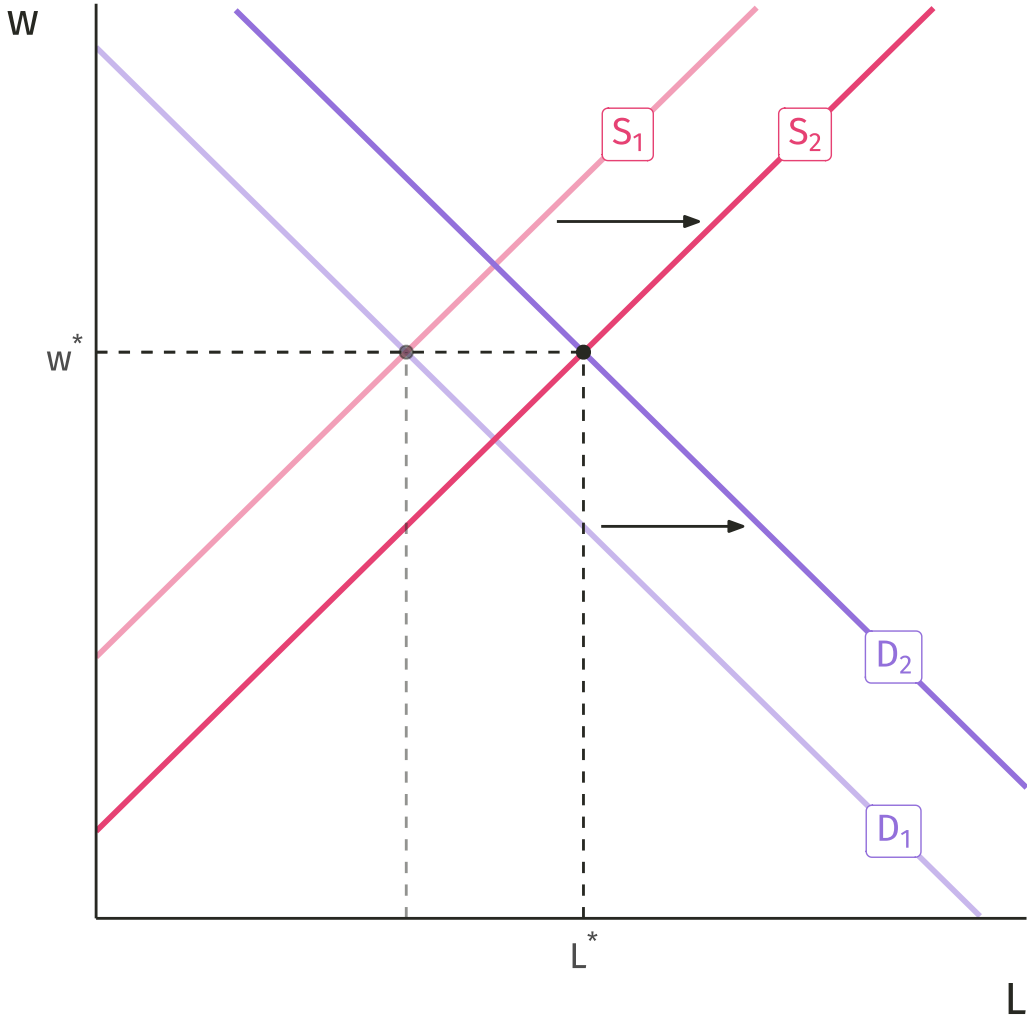
Case 2: Immigrant workers and native workers are perfect substitutes.



Supply shift > demand shift

- Equilibrium employment increases.
- Equilibrium wages decrease.

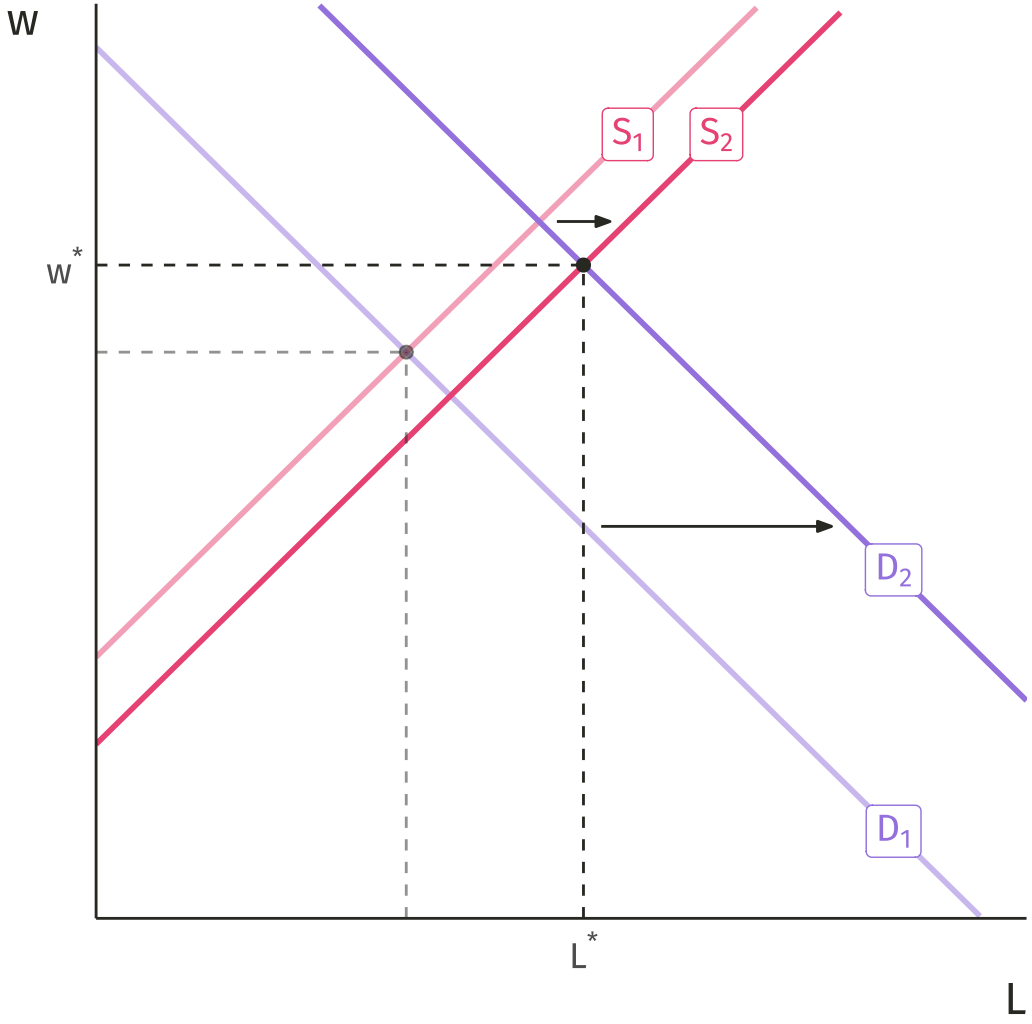
Case 2: Immigrant workers and native workers are perfect substitutes.



Supply shift = demand shift

- Equilibrium employment increases.
- Equilibrium wages remain constant.

Case 2: Immigrant workers and native workers are perfect substitutes.



Supply shift < demand shift

- Equilibrium employment increases.
- Equilibrium wages increase.

Immigration

Q: How does immigration affect equilibrium wages and employment?

A: Employment will increase, but the effect of immigration on wages is theoretically ambiguous.

- Whether immigration increases or decreases wages is an **empirical question!**

Housekeeping

Assigned reading for Monday: The Economic Impact of Migrants from Hurricane Maria by Giovanni Peri, Derek Rury, and Justin C. Wiltshire (2020).

- Read the non-technical sections and the first two figures (details in quiz instructions).
- Reading Quiz 5 is due by **Monday, February 14th at 12:00pm (noon)**.