Markets out of equilibrium

* supply shock
* demand shock
* application: world market for grain
* application: immigration into labor markets
* application: labor market segments-spillovers
* application: effects of tariff

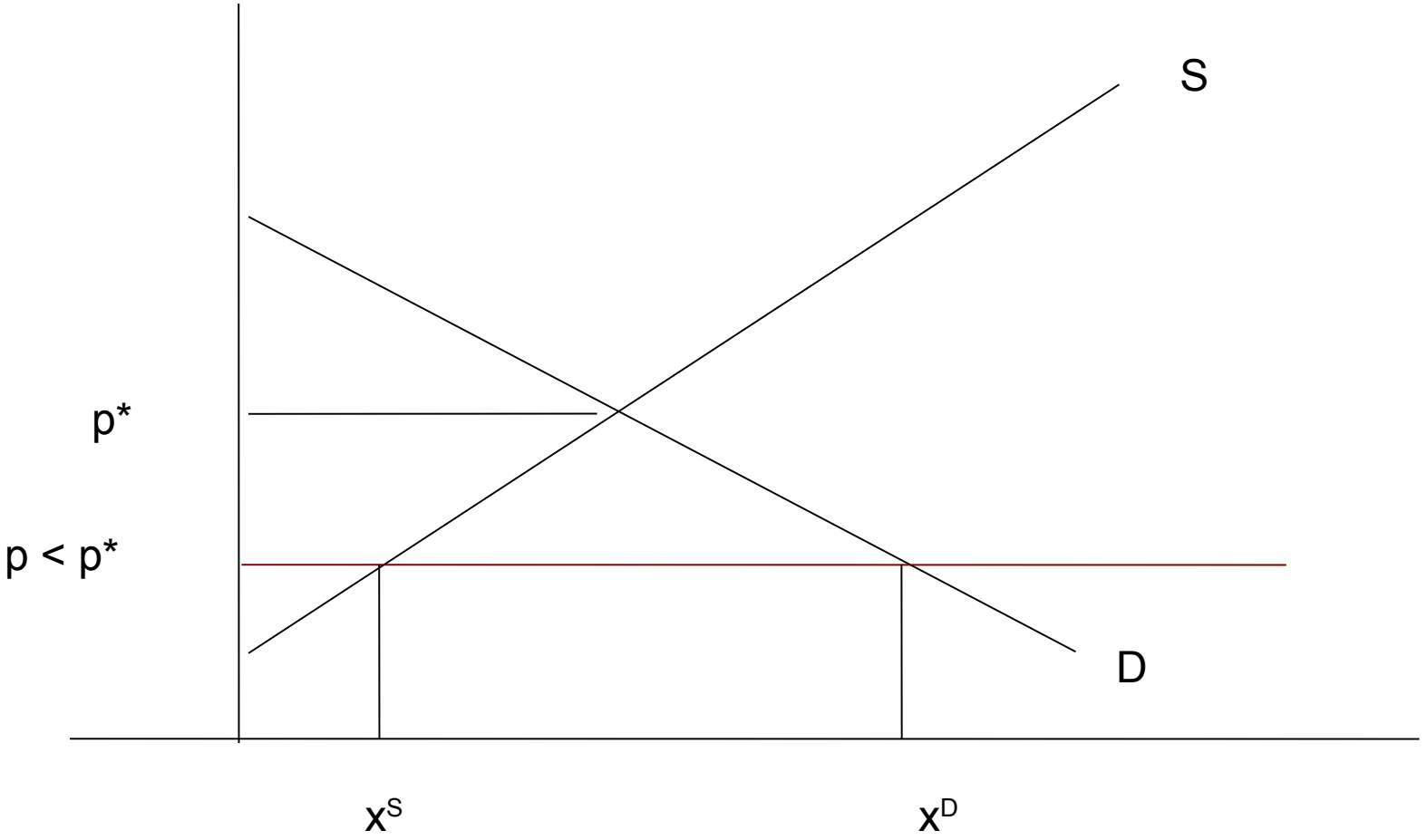
Supply shock

- One input factor becomes more expensive
  - => marginal cost increases
  - For given P, supply of x shrinks
- Import from abroad
  - Marginal cost domestic stays the same
  - For given P, supply (dom. + for.) of x increases
- Taxes on input factors or output

Demand shock

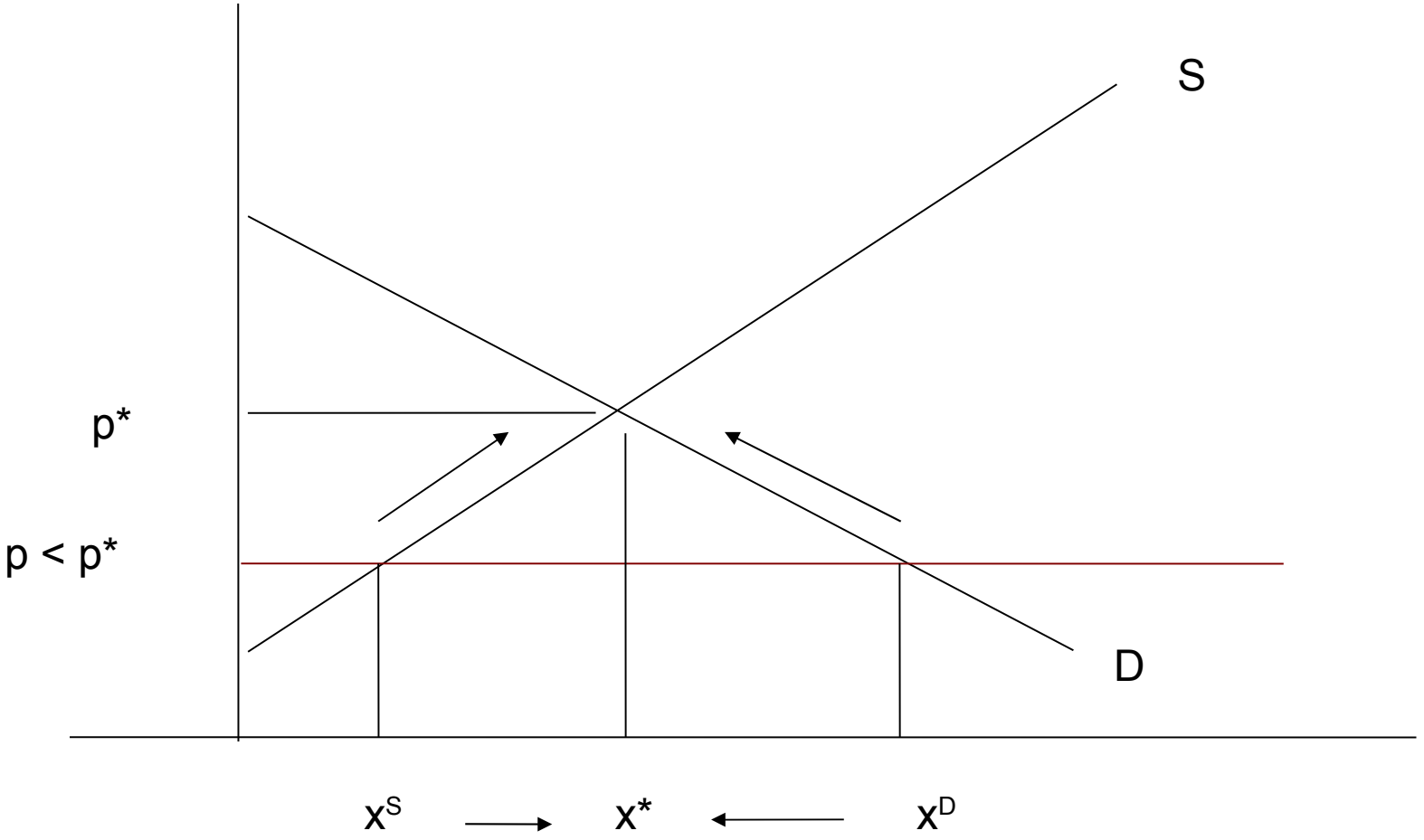
- Household income change
  - Wage increase: reservation price falls
  - Income tax (lump-sum)
- Taxes on goods
  - e.g. VAT
- Other goods (y) become more expensive
  - Substitution effect: x* increases
  - Income effect: x* decreases

Excess demand I

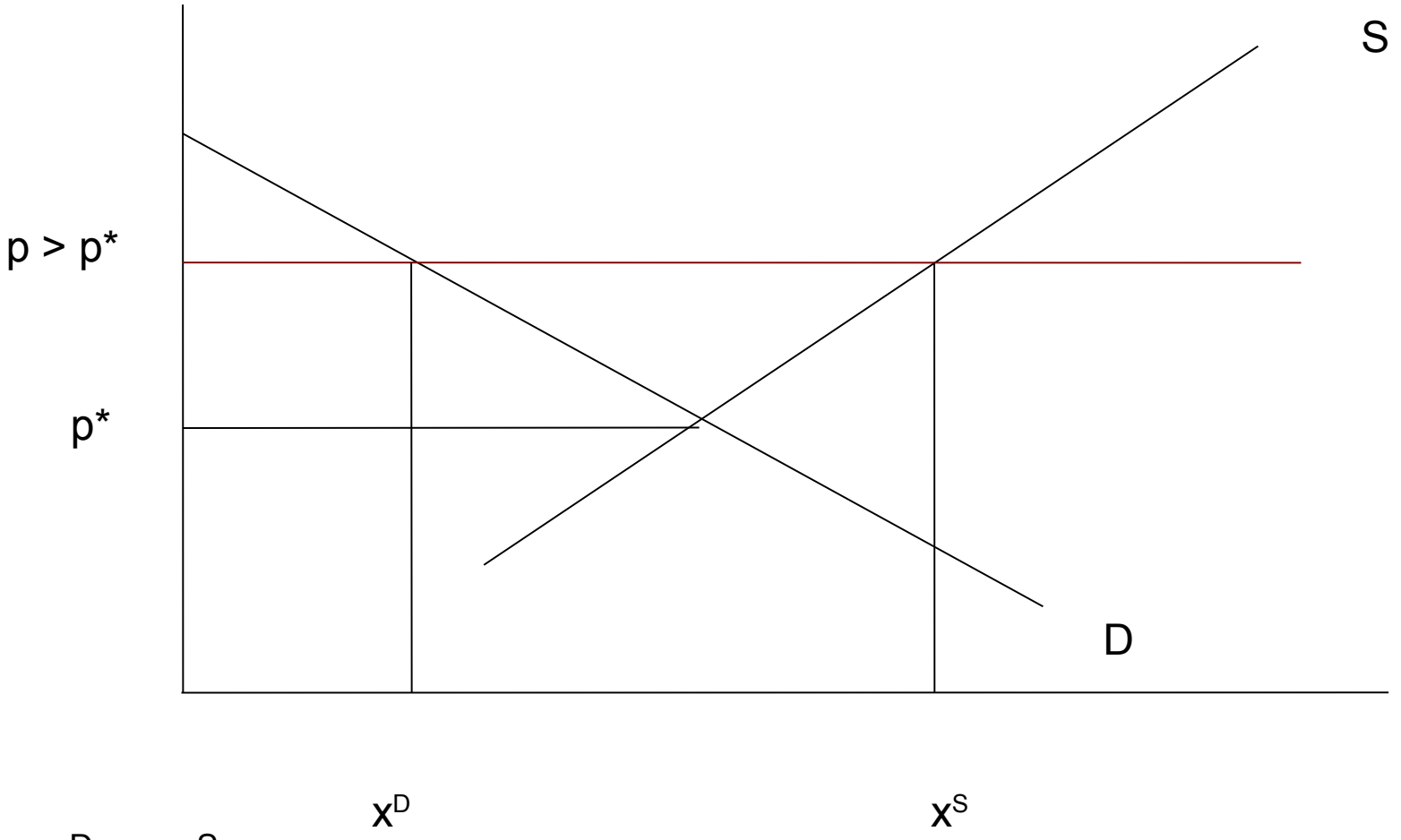


$X^S < x^D$

Excess demand II

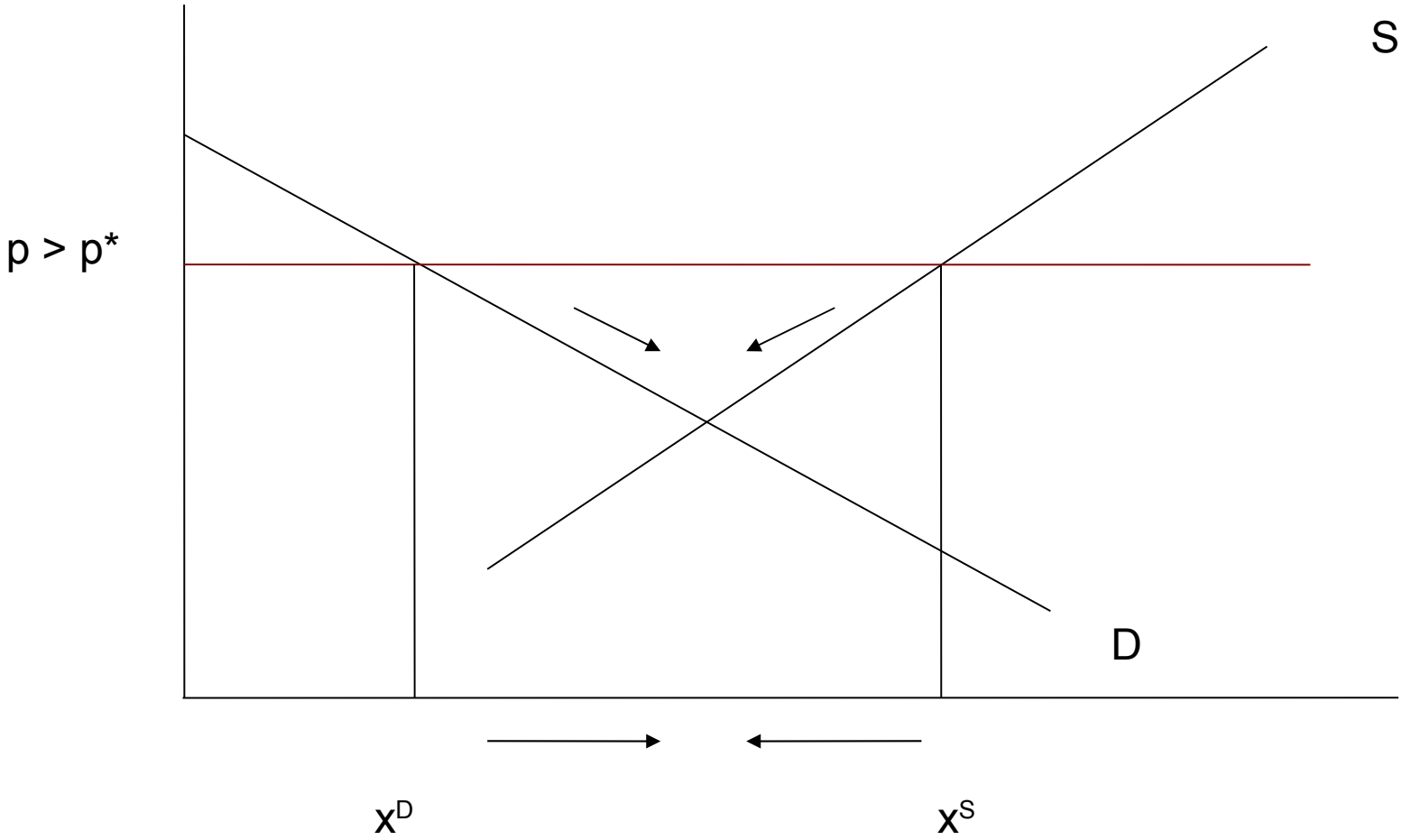


Excess supply I



$X^D < x^S$

Excess supply II



Markets

Price coordinates production plans and consumption plans in economy

Information transmitted through price; no direct communication between seller and buyer

Example: financial market crisis (derivatives disguise true risk => risk not reflected by price)

Shock versus adjustment

Shock: change 'outside' market-specific given volume(x)-price(p)-MB(D)-MC(S) system

- Change in overall economy
- Change in other (connected) markets
- Change in production technology
- Change in household assessment (preferences/budget)

=> shifts/tilts of supply or demand curves

Adjustment: change 'within' the x-p-D-S-system - movement along the curves

Application: world grain market

why did world grain price increase ?

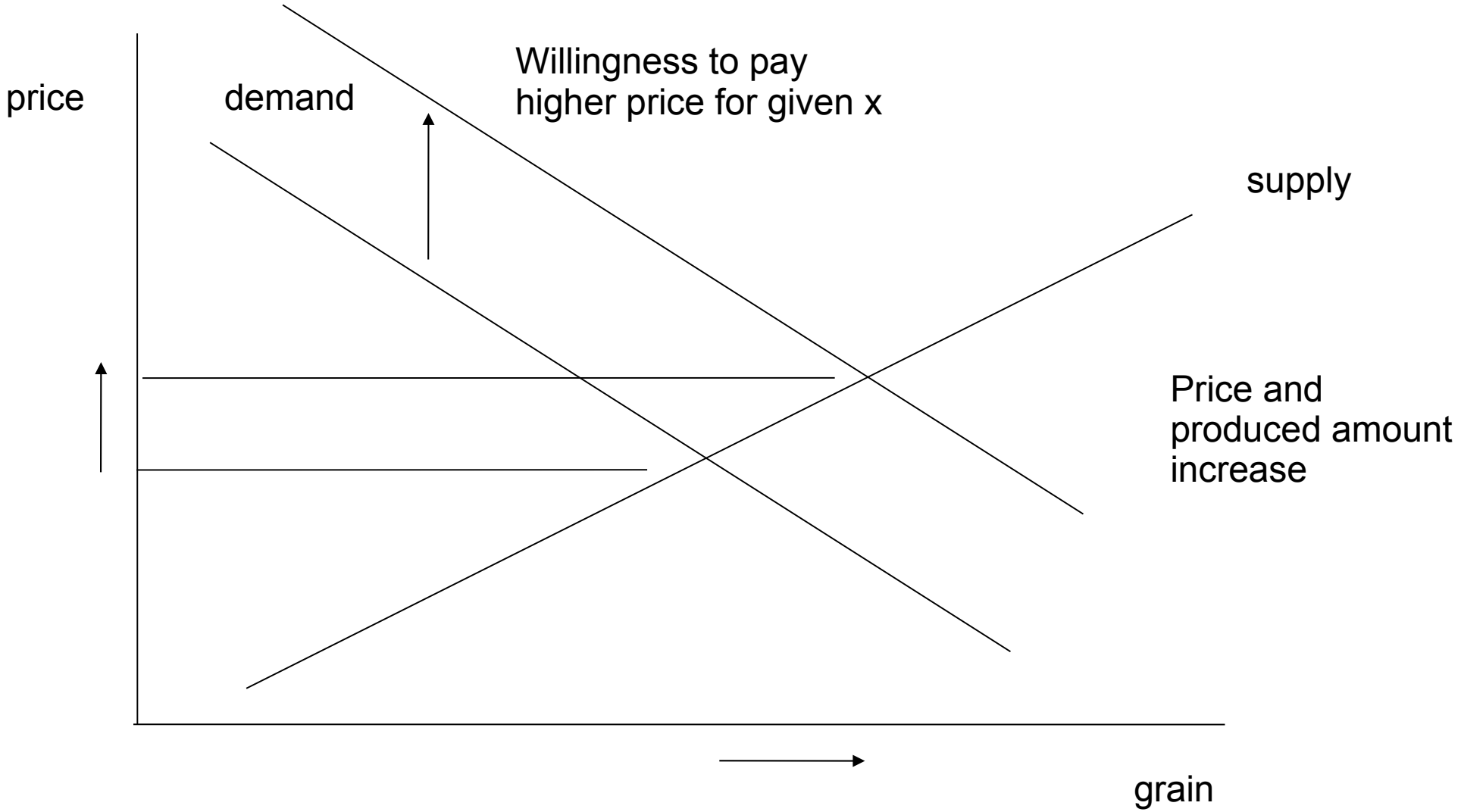
* ecological fuel – grain as input for its production
* meat production – grain as input

(7kg grain → 1 kg meat)

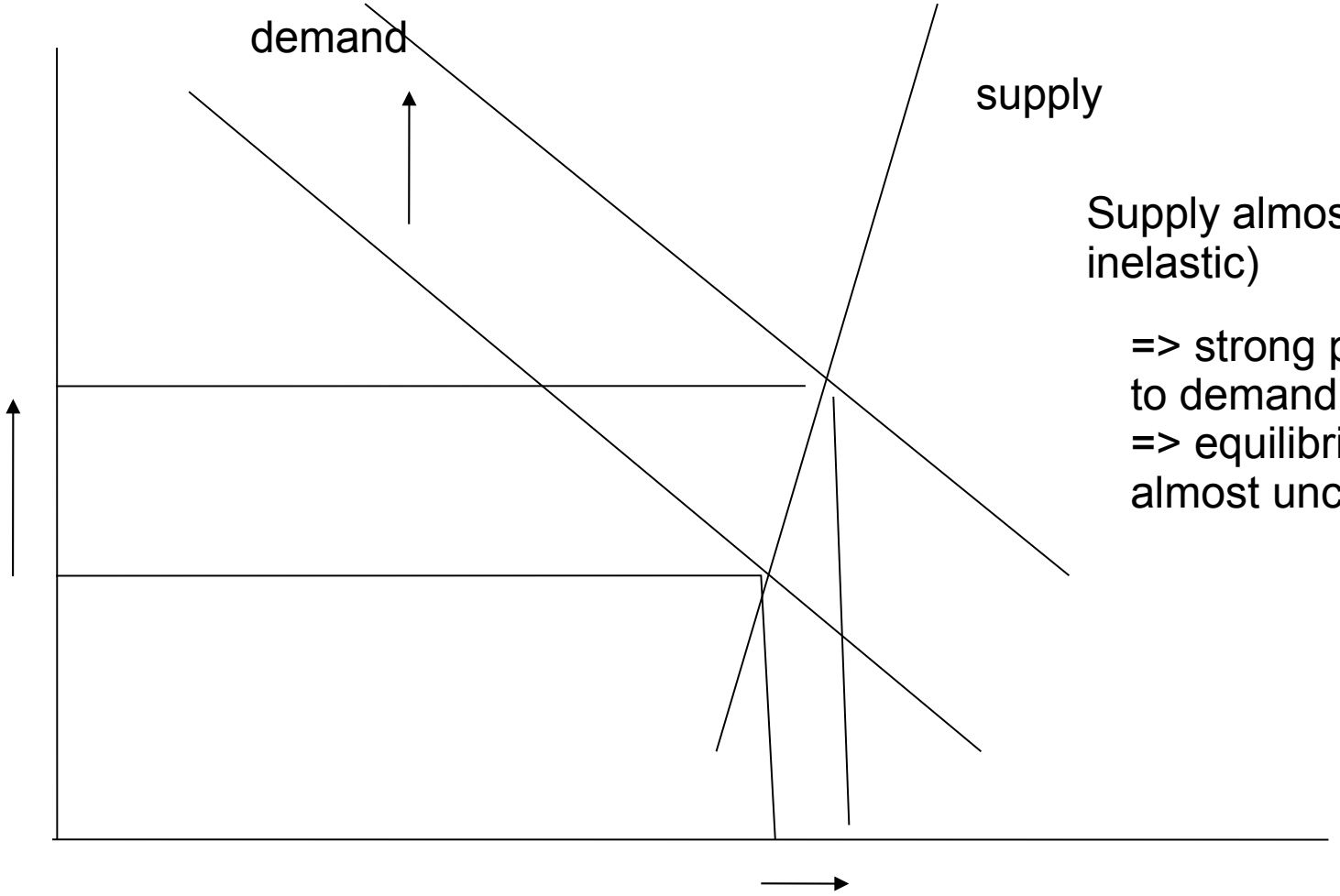
- => demand shock for grain

* fixed number of plots: is supply price-inelastic?

World grain market II



World grain market III



Supply almost fixed (price-inelastic)

=> strong price reaction to demand change
=> equilibrium amount almost unchanged

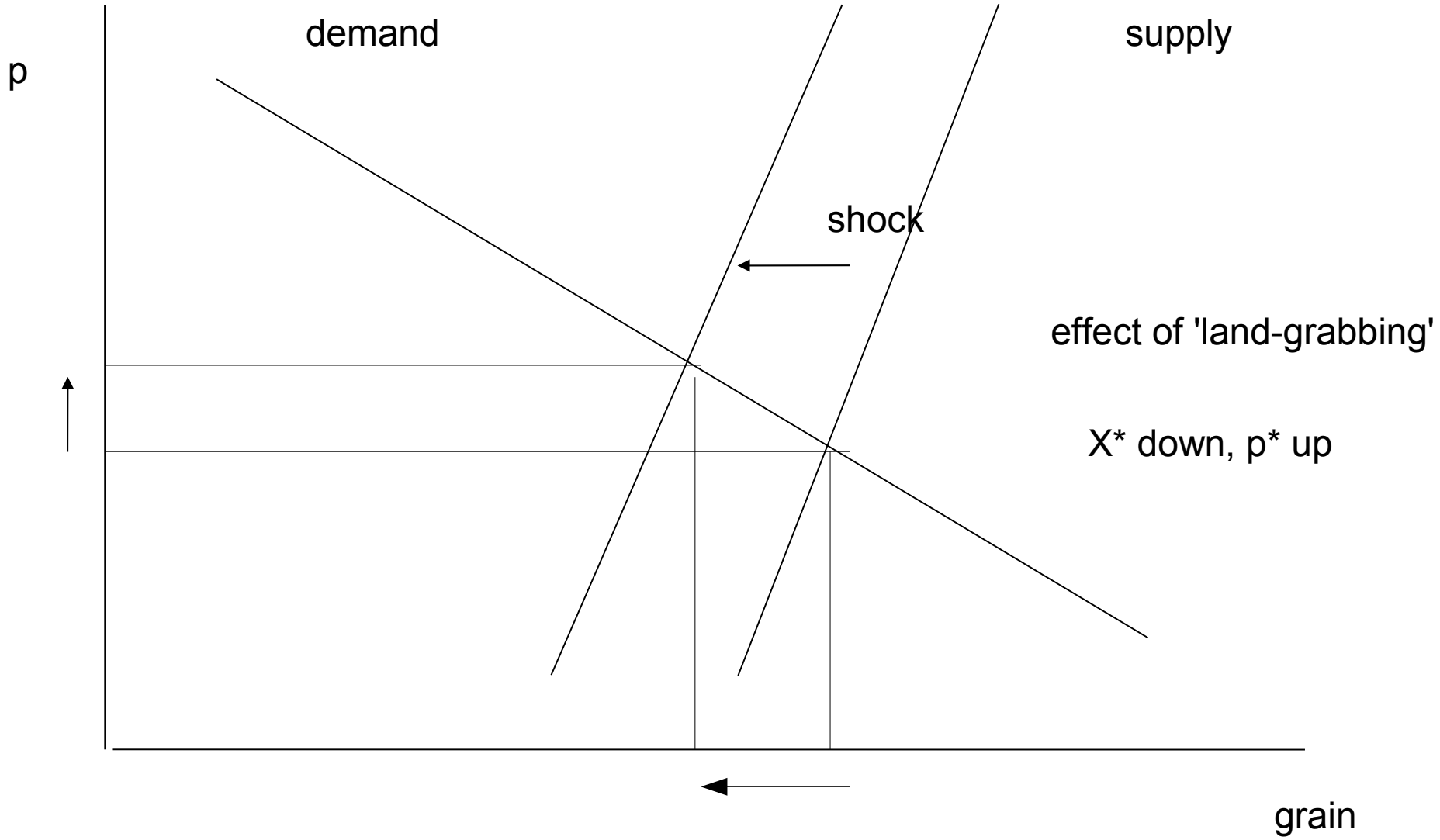
World grain market

* natural disasters, world climate change
* civil wars, wars, political instability
* plots used for other production (cosmetics, flowers)
    - “land grabbing”

    => supply shock (shortage in land) for grain

Land-grabbing
India, China, Saudi-Arabia buy huge fields in Africa
Local peasants´preferences often disregarded (property rights problem)
Capital-intensive production, often for exports (wood, flowers), mostly for bio-fuel

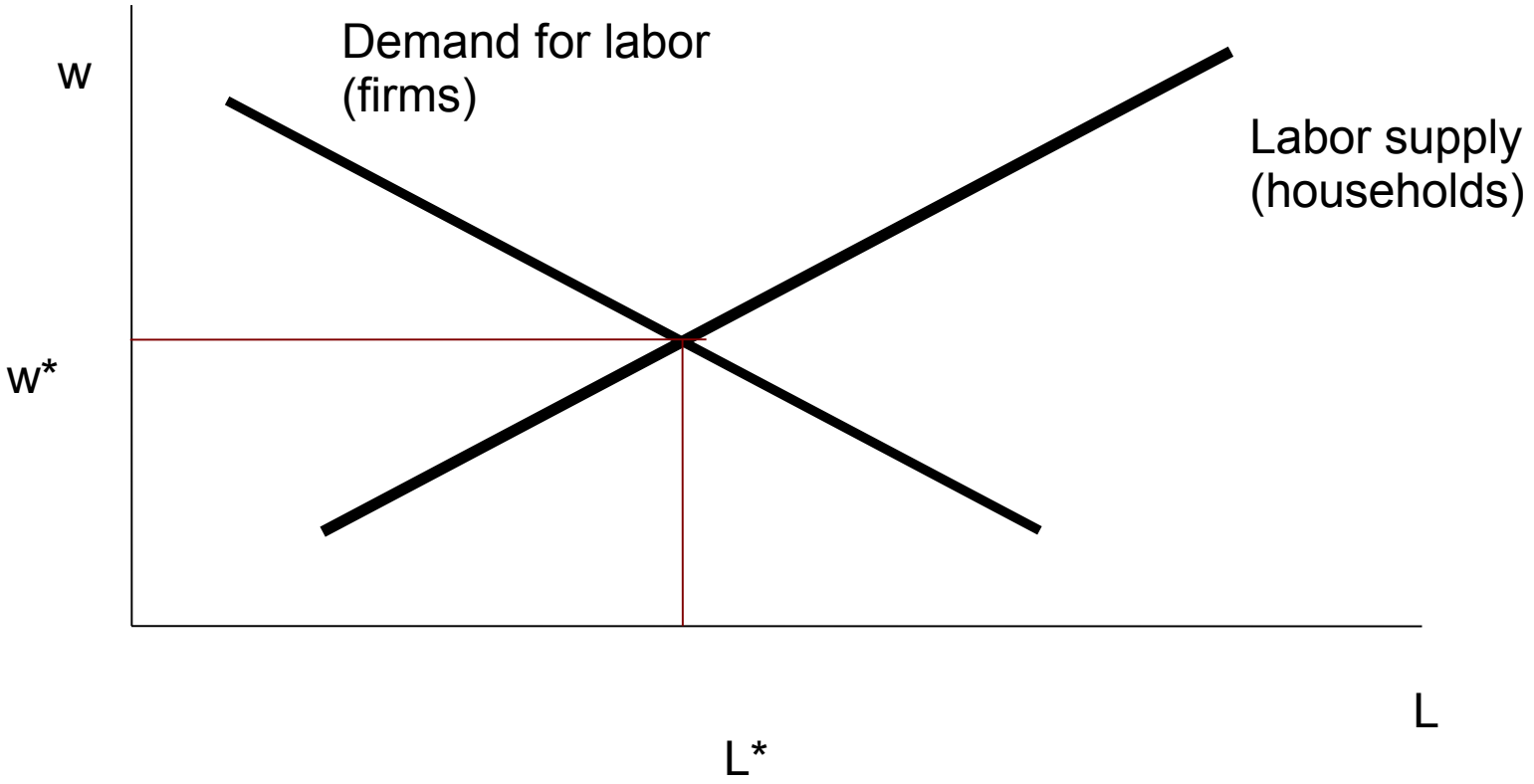
World grain market IV



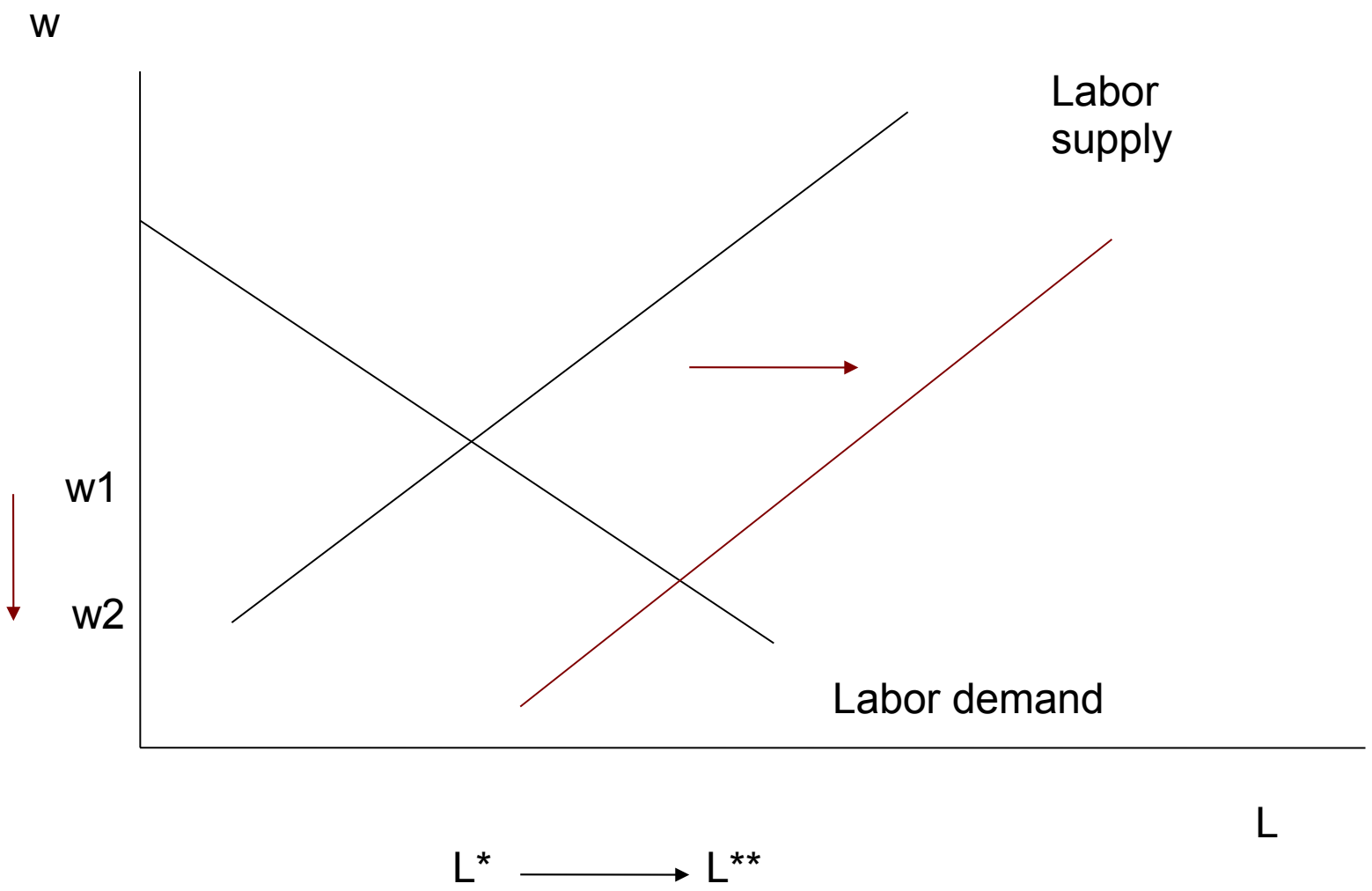
Application: labor market

- Labor input factor in firm´s production Y = (L, K)
- Profit maximization: $p*(dY/dL) = w* \Rightarrow L^D$
- => Demand: firms
- Supply: households max U(I,e) with I = wL
- But e(L) with dU/de < 0 (disutility)
- e: effort
- => L^S
- ´price` of labor: wage

Labor Market



Immigration as supply shock I



Labor supply increases => L* to L** with w1 > w2

Immigration as supply shock

Who gains/who loses ?

Observation: equilibrium wage falls, but demanded labor increases

Producers: gain. Lower wage => lower costs

Employed workers: loose. Wage falls

Immigrant workers: not all get employed

(depends on elasticity of demand)

Consumers: gain, lower costs => lower price

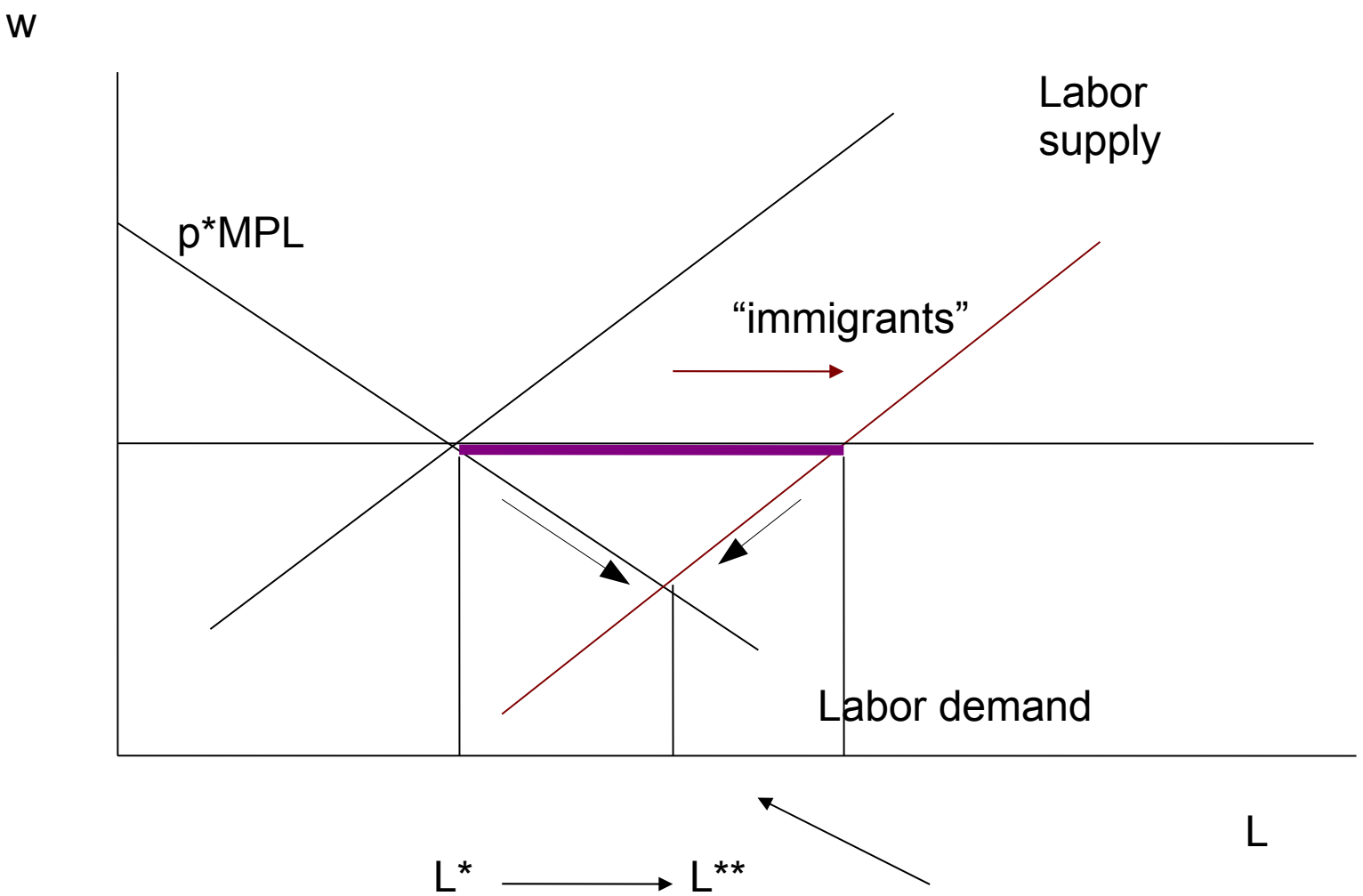
Perfect Markets

* maximize welfare

Prerequisites:

* no market power (no monopoly, oligopoly)
* no information asymmetry between buyers and sellers
* no externalities
* institutional context (rule of law)

Immigration as supply shock I



Labor supply increases => L* to L** with w1 > w2

Spill-overs across segments I

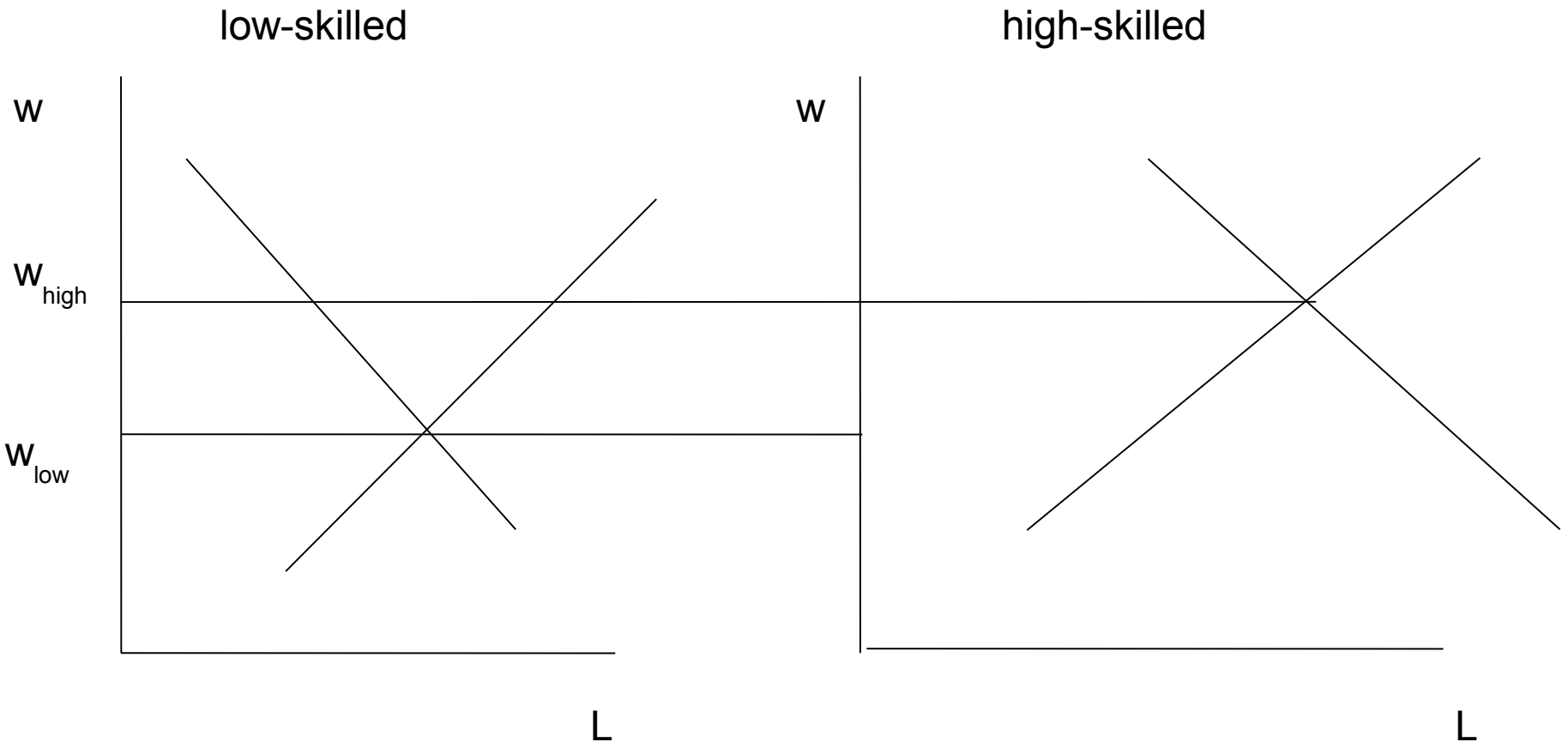
* Two labor market segments
* High-skilled versus low-skilled

  Secretary versus truck driver

  Engineer versus assembly line worker

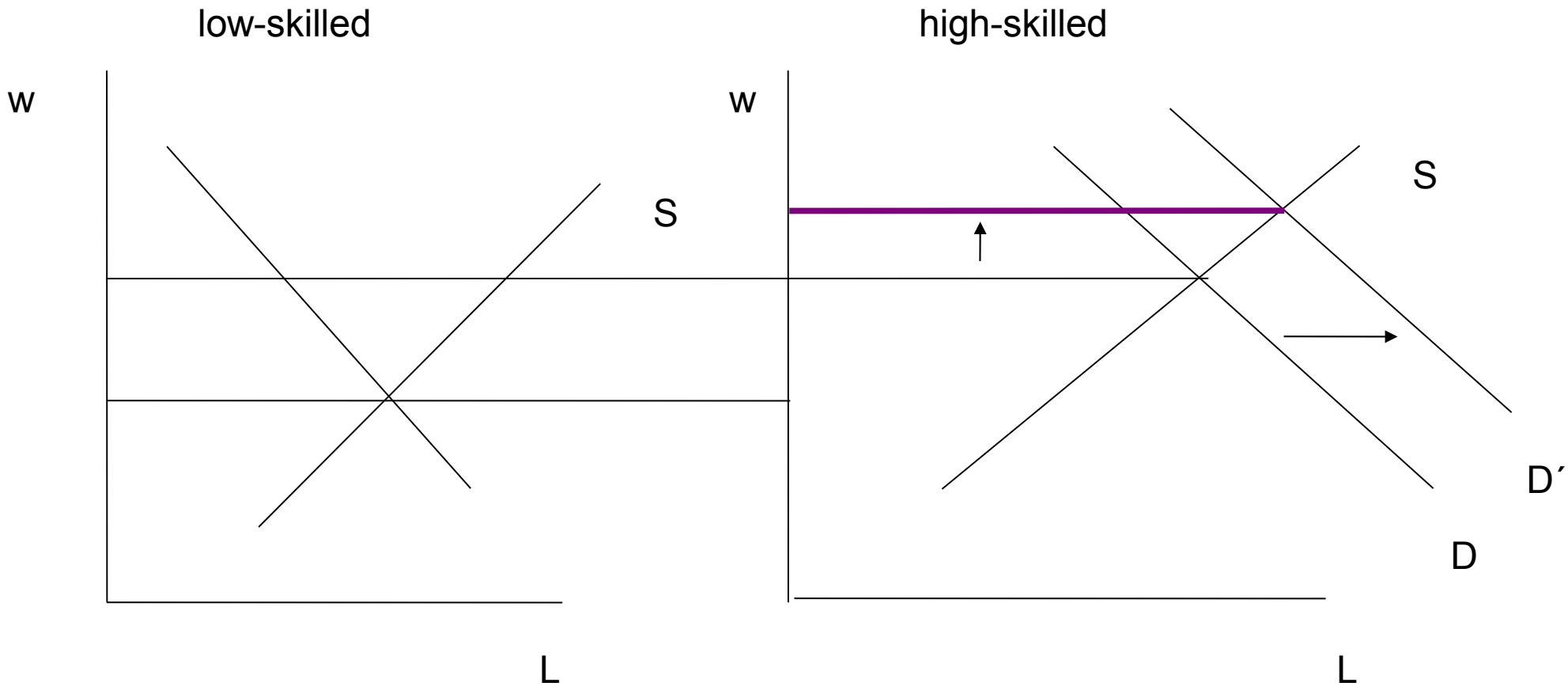
Idea: education investment – both segments are not fully isolated

Spill-overs across segments II



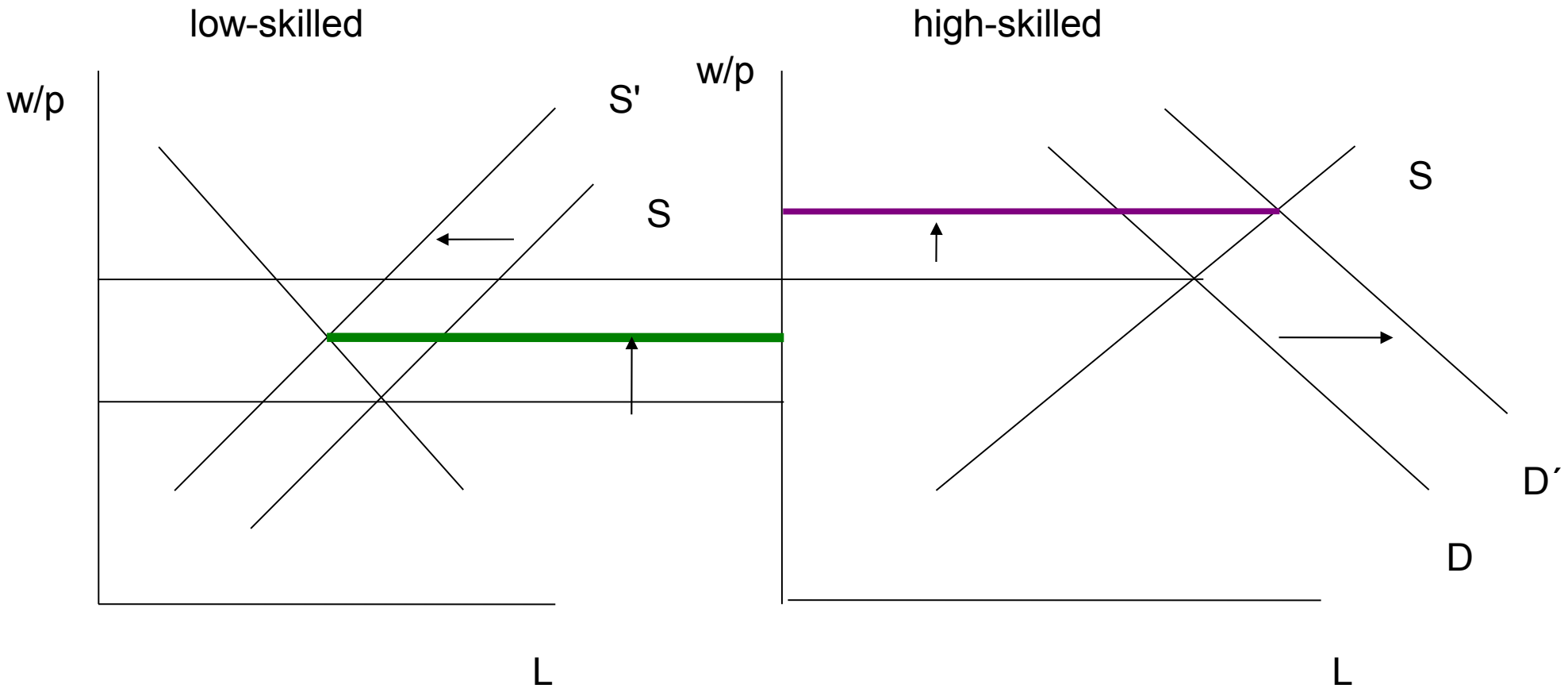
Specific wage differential mall enough to make costly investment of low-skilled for obtaining high skills not feasible

Spill-overs across segments III



Situation: new export markets/new production technologies need more high-skilled workers
=> demand shifts outwards D => D'
=> wage in high-skilled sector increases (violet line)

Spill-overs across segments IV



Wage gap enlarged => low skilled invest and become high-skilled
Labor supply shrinks in low-skill segment => wage increases
Supply increases a bit in high-skill segment (negligible) => new equilibrium with no labor movement across two labor market segments

Spill-overs across segments V

What do we learn ?

Non-isolated labor market segments: wage increase in one segment triggers overall wage increase

Higher wage in low-skilled sector => competitiveness of sector ?

More labor employed in high-skilled sector compared to before the change

=> expansion through export in one sector at the expense of the other leads to specialization

Migration and wages I

Analogous application.

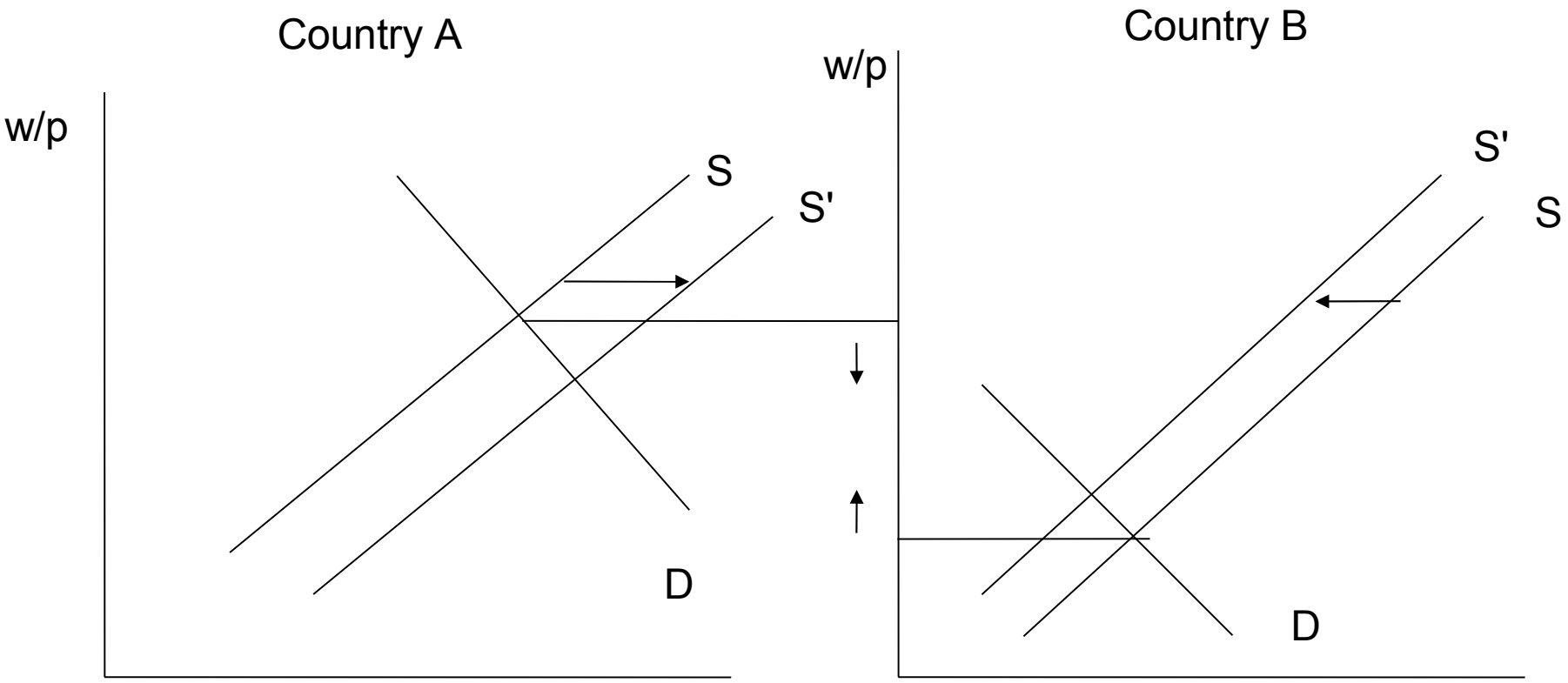
Two labor markets in two countries which start to economically open up

=> Immigration and emigration because of wage differentials

Some wage difference due to costs of migration remains; but: general convergence of wages

=> globalization: decrease in wage in high-wage countries, increase in wage in low-skilled countries (law of one price)

Migration and wages II



High-wage country

immigration

Low-wage country

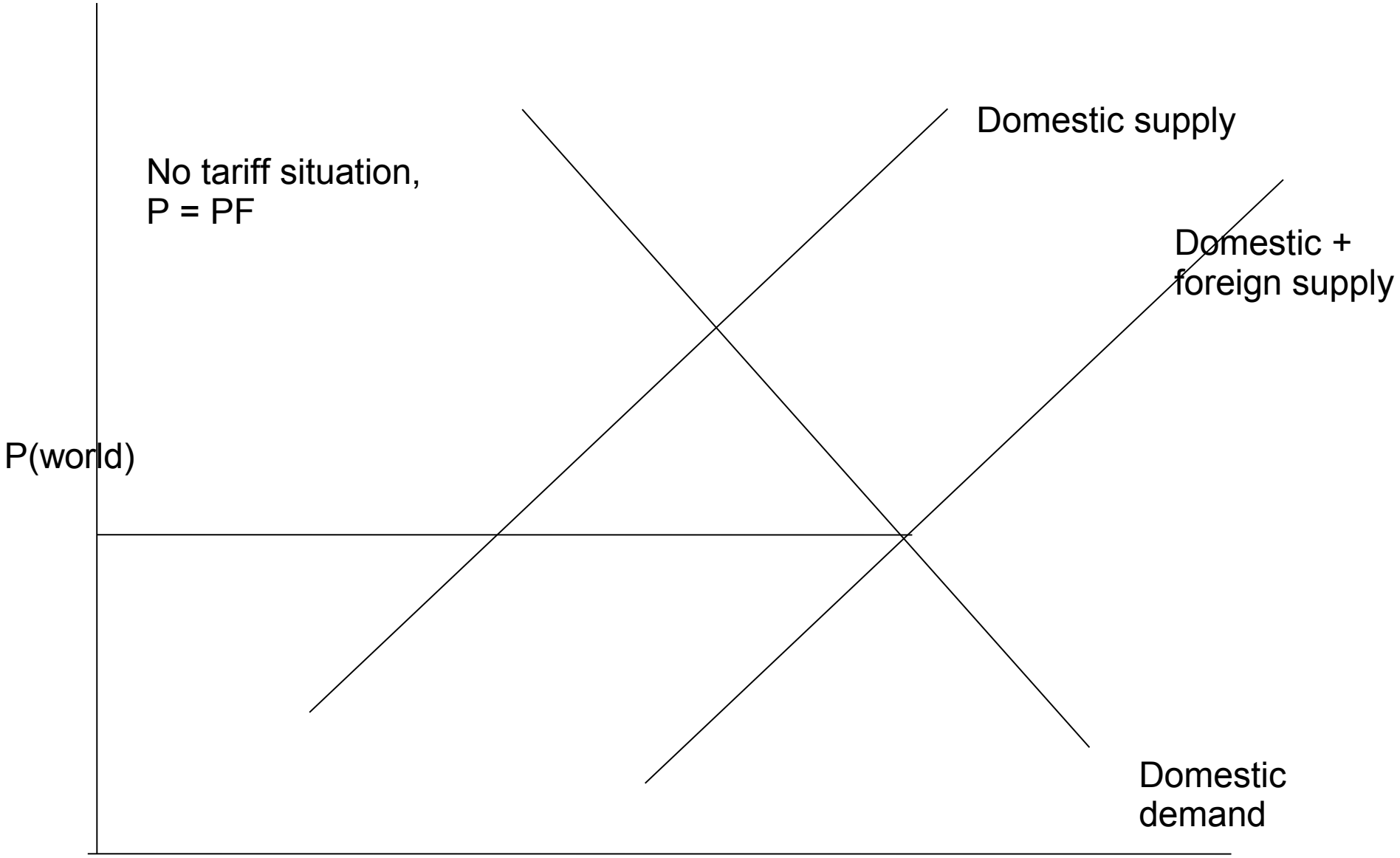
emigration

=> wage levels of two open countries converge

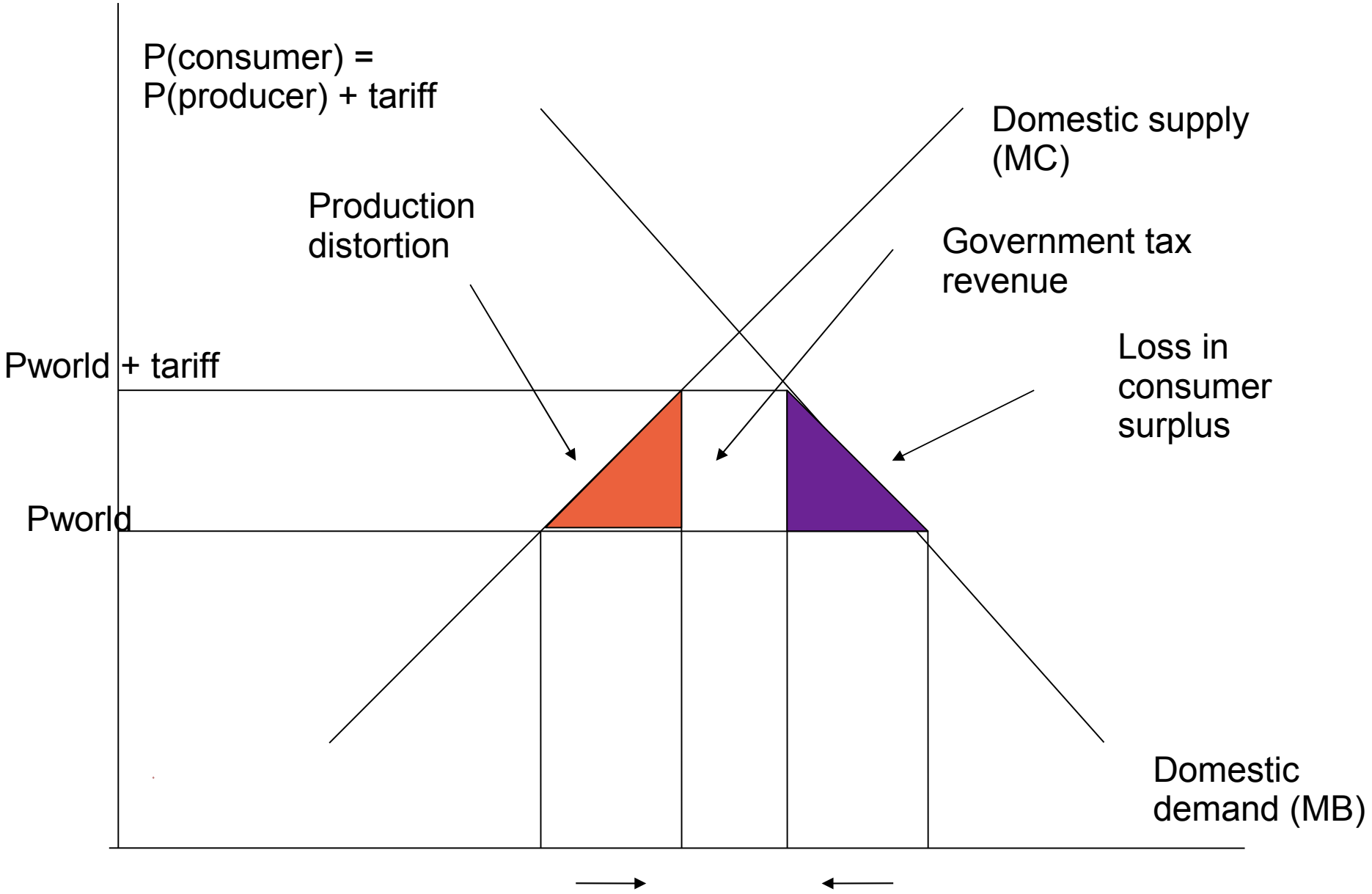
Effect of Tariff I

- So far: P(consumer) = P (producer)
- Tariff: import tax to foreign producers
- Pconsumer pays P(producer) + tax
- Producer obtains P(consumer) - tax
- Tax as additional production cost
- Small country: P(world) not affected
- =>wedge between consumer and producer prices at home

Effect of Tariff III



Effect of Tariff: home, small country



Reasons for imposing a tariff

* protection of uncompetitive industries (overaged industries)
* protection of infant industry (with phasing out of tariff)
* protection against dumping policies of foreign firms

Strong distributional effects from tariffs ← outcome of lobbying (workers, producers) and collective action

Effect of Tariff I

On the exporting country (graph: importing country):

* raises production costs at home in export industry
* exports and thus sales/output shrinks
* workers are laid off
* decline in economy-wide consumer demand for goods
* => recession ?

Economic effect of import tariff II

Imposing country: Restrains imports

Less competition in markets

Prices rise

Sales of domestic producer rises

Unemployment goes down, consumer income up

Government revenue from tariff

Price increase: income + substitution effects

but: economic inefficiency in consumption and production