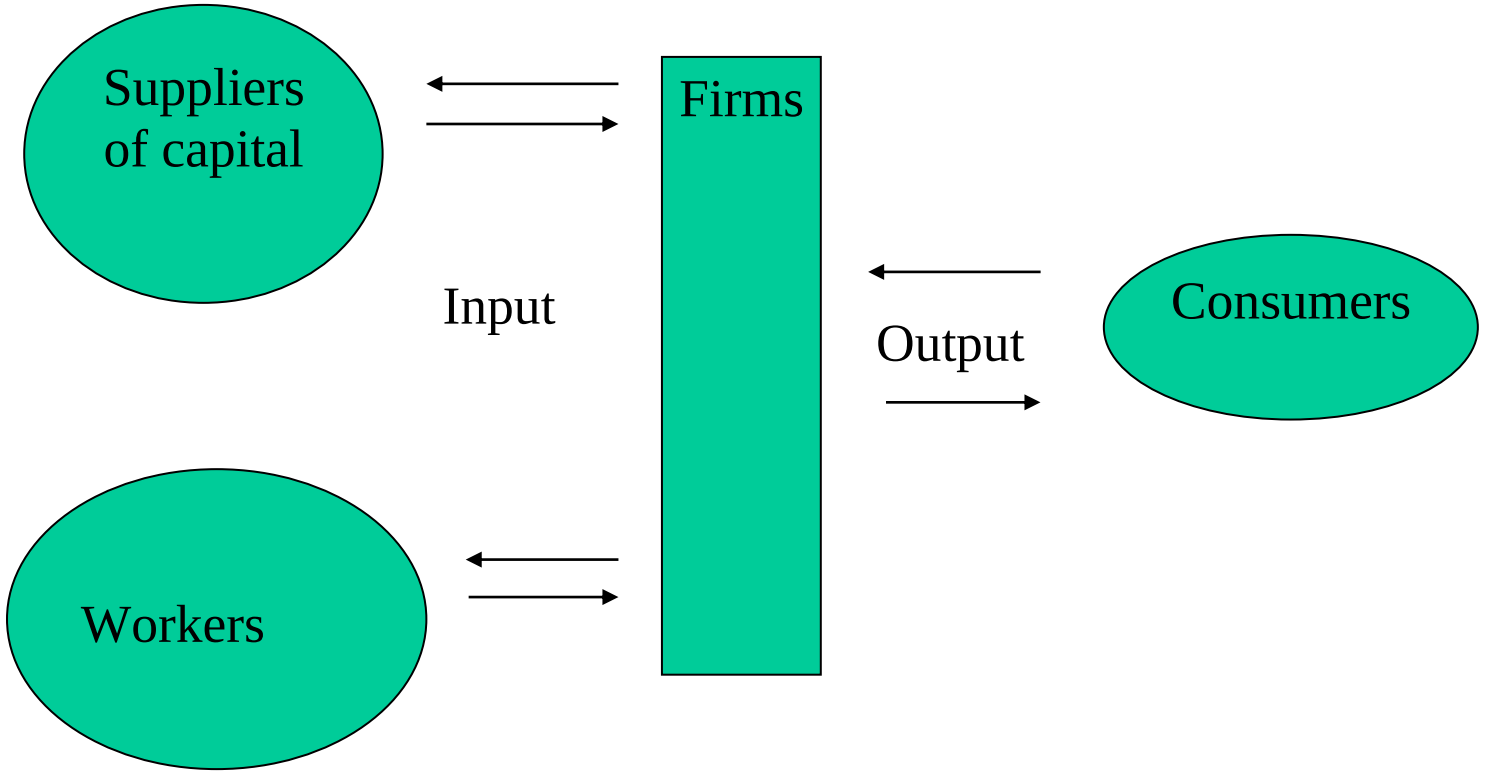
3. How does the labour market work?

Fig. 2.1. : The markets on which firms must operate



1.1. Labour demand and supply

Demand side: employers whose decisions are influenced by conditions in all three markets, namely the capital, labour and product markets.

Supply side: workers and potential workers (i.e. the labour force), whose decisions about where (and whether) to work depends on their other options on how to spend time.

Perfect competition hypotheses :

- Labour is homogeneous (i.e. workers are perfect substitutes).
- Many sellers and buyers (i.e. economic agents are ‘price takers’).
- Perfect information (i.e. economic agents have instantaneously all available information at zero cost).
- Perfect mobility of workers and other production factors (i.e. no obstacle to labour and capital mobility).

a) The demand of labour

Labour demand depends on three factors:

- the demand for the product,
- the amount of labour and capital that can be acquired at given prices, and
- the production technology that is available.

When studying labour demand, we are interested in finding out how the number of workers employed by a firm or a set of firms is affected by changes in one or more of these three factors.

✓ Wage changes

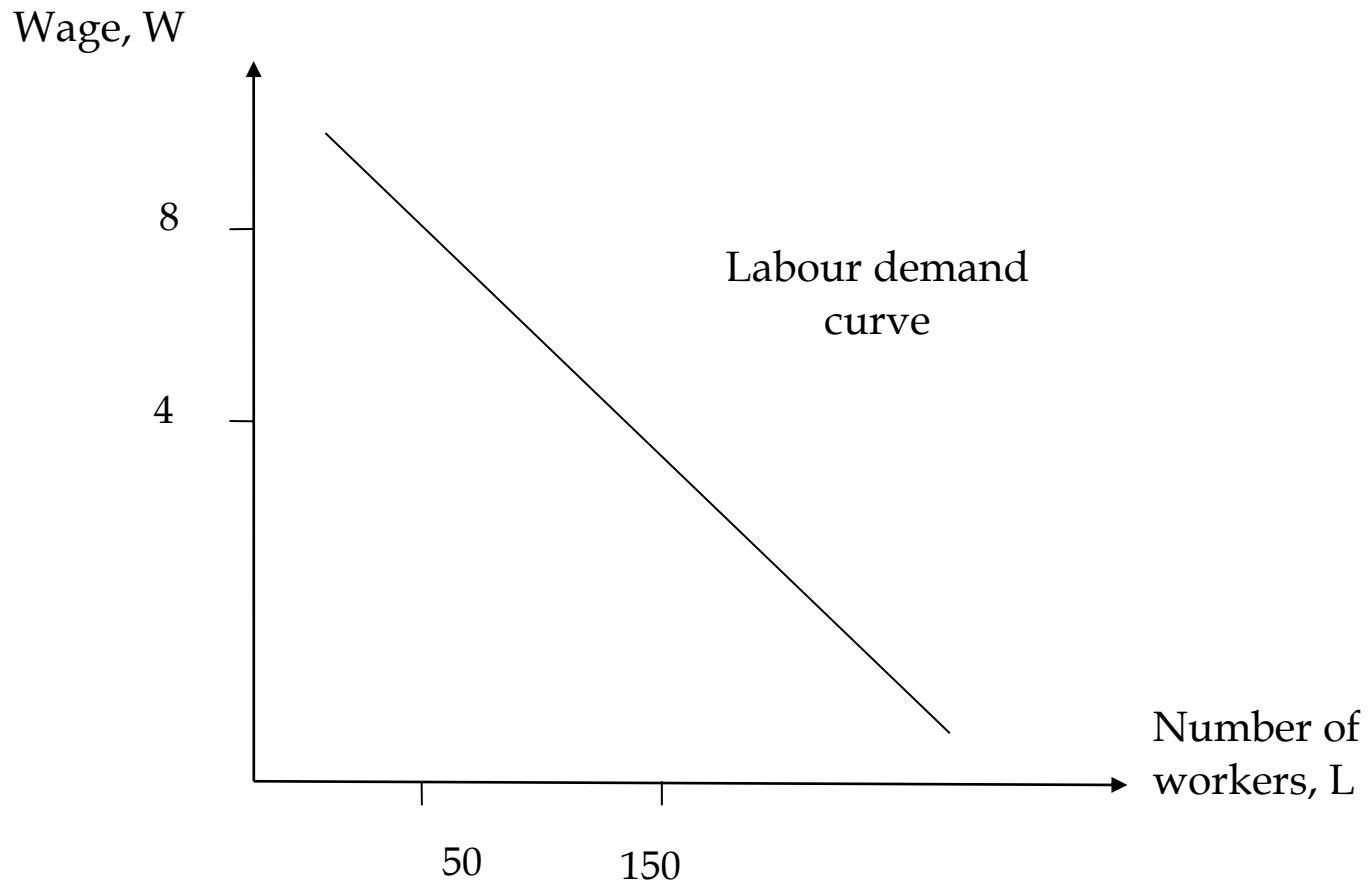
What happens to labour demand if the wage rate increases (ceteris paribus)?

Two effects :

a) W ↑ ⇒ higher production costs ⇒ higher output prices ⇒ consumers buy less ⇒ firms reduce their levels of output and employment (ceteris paribus) ⇒ **Scale effect**.

b) W ↑ and price of capital remains constant ⇒ firms adopt new technologies more capital-intensive ⇒ labour demand ↓ ⇒ **Substitution effect**.

Graph 2.1. : Labour demand curve



✓ Changes in product demand

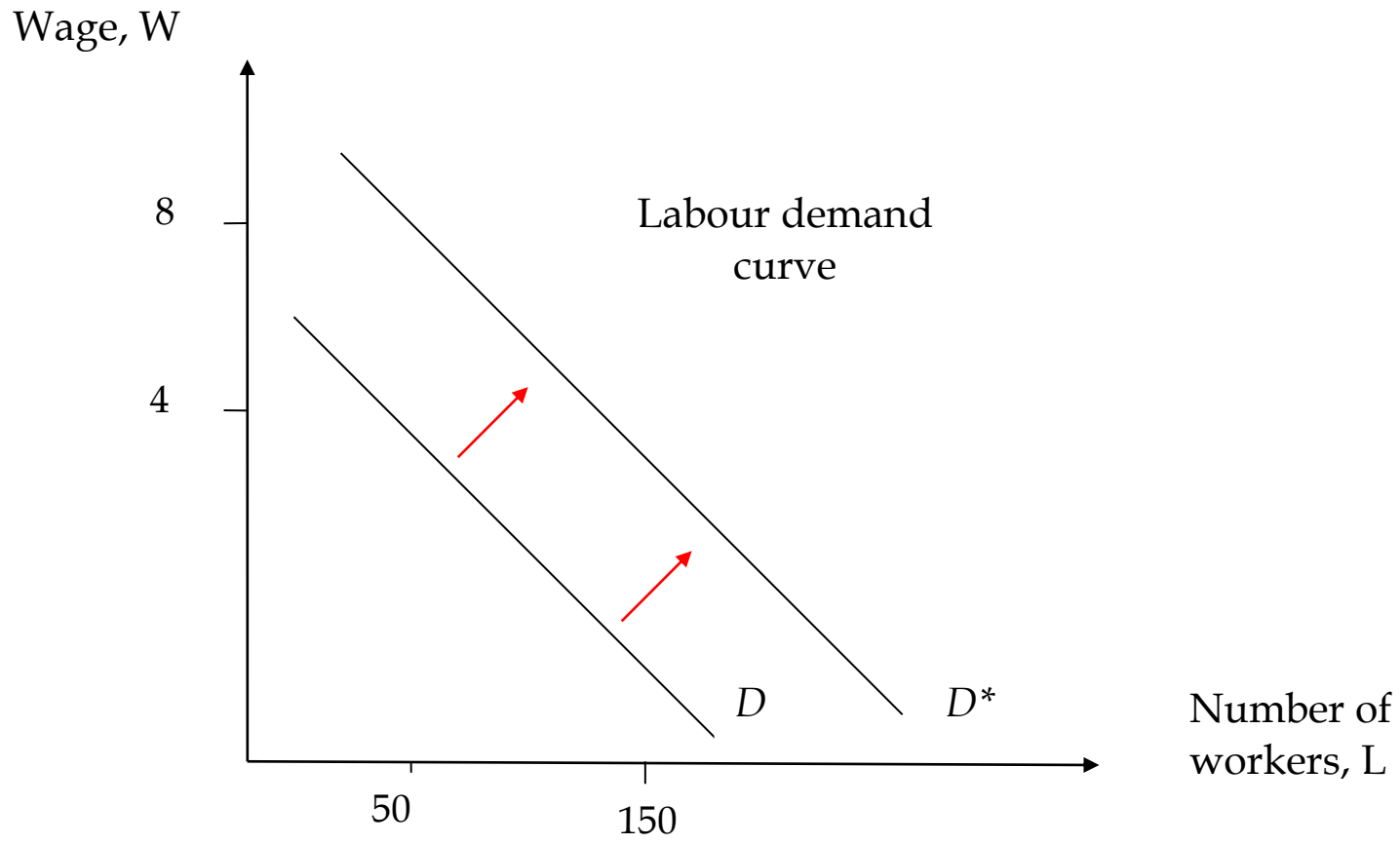
What happens to labour demand if the demand for the product of a particular industry increases (ceteris paribus), so that at any output price, more of the goods or services in question could be sold?

Firms in this sector will maximize their profits by increasing their level of production ⇒ labour demand increases ⇒ **Scale effect**.

Substitution effect ?

Given that the relative prices of capital and labour remain unchanged, there is no substitution effect.

Graph 2.2. : Shift in demand for labour due to increase in product demand



✓ Changes in capital prices

What happens to labour demand if capital prices fall (ceteris paribus)?

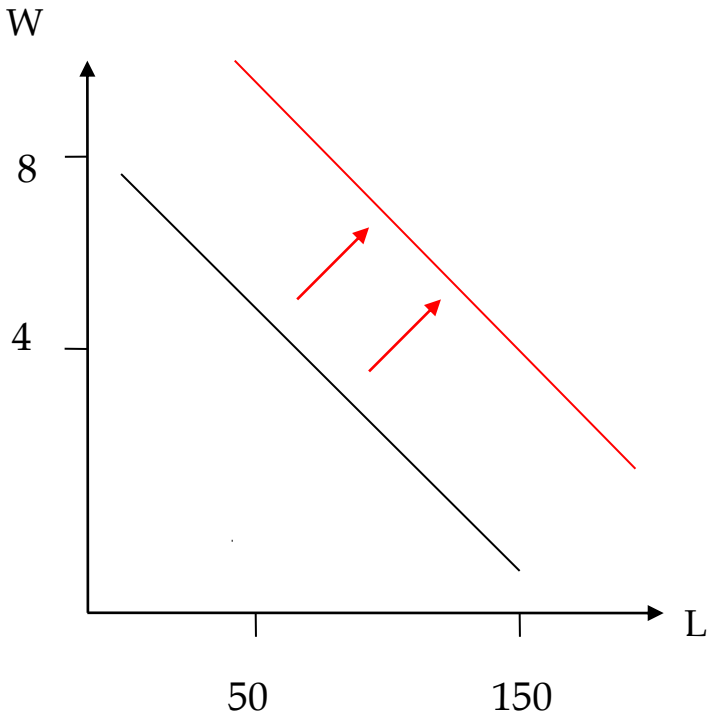
Two effects :

a) r ↓ ⇒ production costs diminish ⇒ firms ↑ their level of output and employment (at any given wage rate) ⇒ **Scale effect** (labour demand curve shifted to the ***right***).

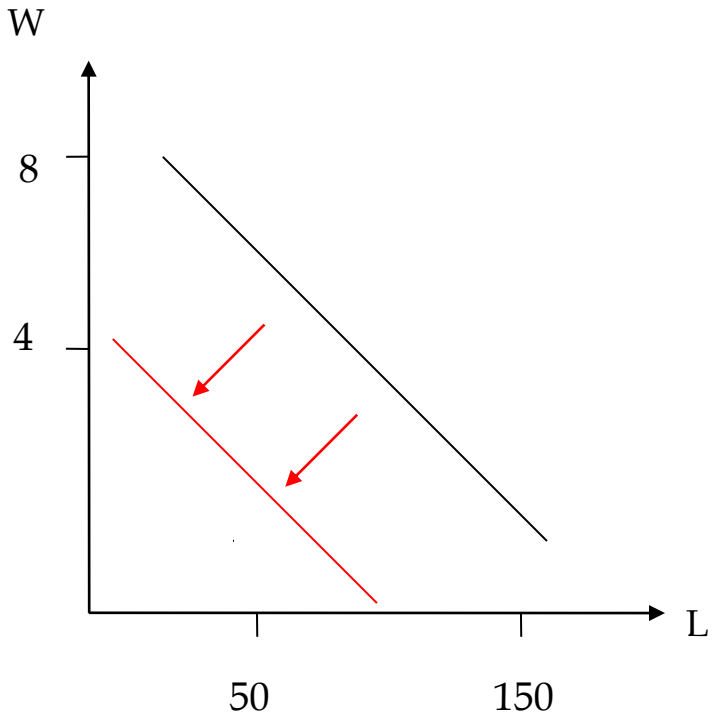
b) r ↓ and price of labour constant ⇒ firms adopt new more capital-intensive technologies ⇒ demande of labour ↓ ⇒ **Substitution effect** (labour demand curve shifted to the ***left***).

Graph 2.3. : Possible shifts in demand for labour due to fall in capital prices

(a) Scale effect dominates



(b) Substitution effect dominates



- **Remarks :**

a) Shift of the demand curve vs. movement along the curve.

b) Labour demand in the short and long run :

In the short run :

- Often difficult for employers to substitute capital to labour (and vice versa).
- Consumers' demand generally less sensitive to product prices.

↳ Adjustment of consumption and production behaviours takes time. Labour is thus generally more sensitive to changes in wages and other market conditions in the long run.

b) The supply of labour

Assumption : Workers have already decided to work and that the question facing them is what occupation and employer to choose.

✓ The supply of labour to the entire market

How does the supply of labour for a particular occupation (research positions in finance at universities) respond to changes in wages ?

If wages in other occupations are held constant and that the wages of researchers rise, we would expect to find more people wanting to become researchers.

Intuition:

Suppose that each of 100 students graduating from a business school has the option to become a financial analysis in a bank or to do research in finance at university.

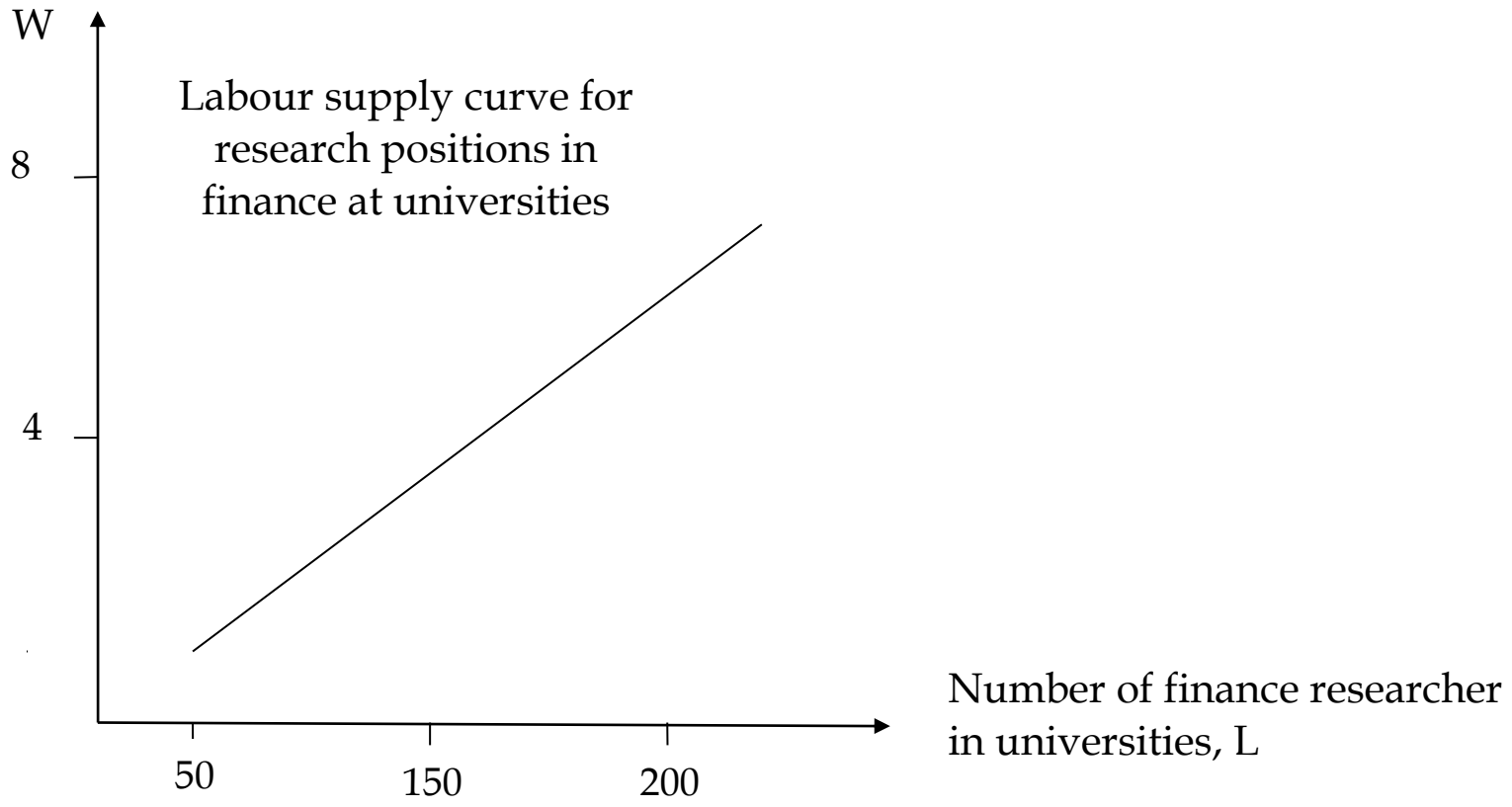
Some of these 100 people will prefer to be financial analysts even if university researchers are better paid, simply because they like working in a bank.

In contrast, some people might prefer to be researchers even if they earn relatively less, because they like to do research and to publish.

However, it is reasonable to believe that many of these 100 people could see themselves doing either job. And in this case, the compensation in each occupation will be the major factor in their decision.

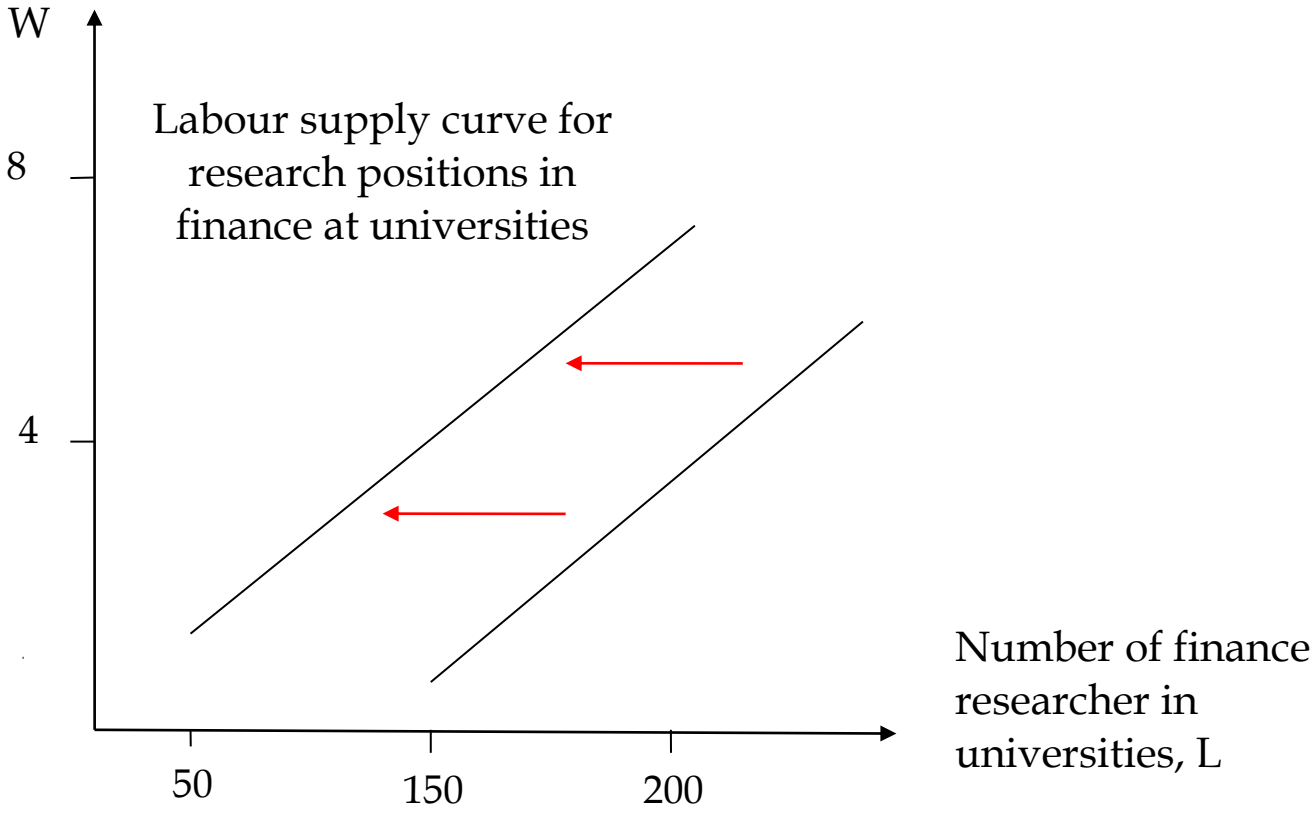
Overall, the supply curve to a particular market (or occupation) is positively related to the wage prevailing in that market, holding other wages constant.

Graph 2.4. : Market labour supply for research positions in finance at universities



Each labour curve illustrates the relationship between the labour supply to a given occupation and the corresponding wage, all other wages being equal.

If the wages of other occupations rise, for instance that of financial analysts, than some people will change their mind about becoming researchers and choose to become financial analysts



✓ The supply of labour to an individual firm

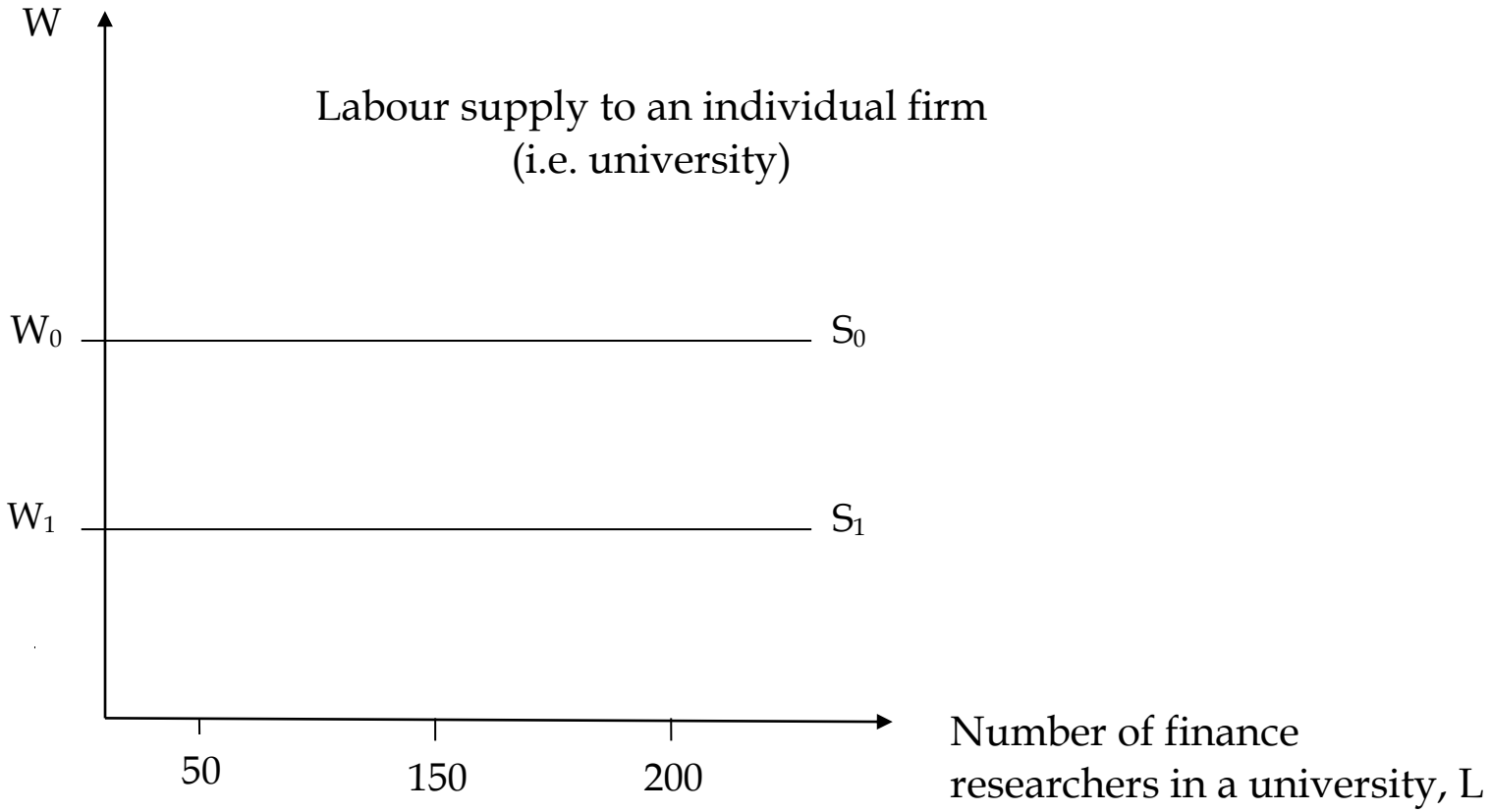
When someone has decided to become a finance researcher in a university, he still has to decide in which university he wants to work.

If all employers (i.e. all universities) offer exactly the same jobs, than the choice will be entirely based on compensation.

If wage in the firm < market wage : labour supply to the firm will be null.
If wage in the firm > market wage : labour supply to the firm will be infinite.

↳ If all jobs are identical and labour supply homogeneous, firms will offer the same wage, i.e. the market wage.

Graph 2.5 : Labour supply for research positions in finance in a particular university



c) The determination of the wage

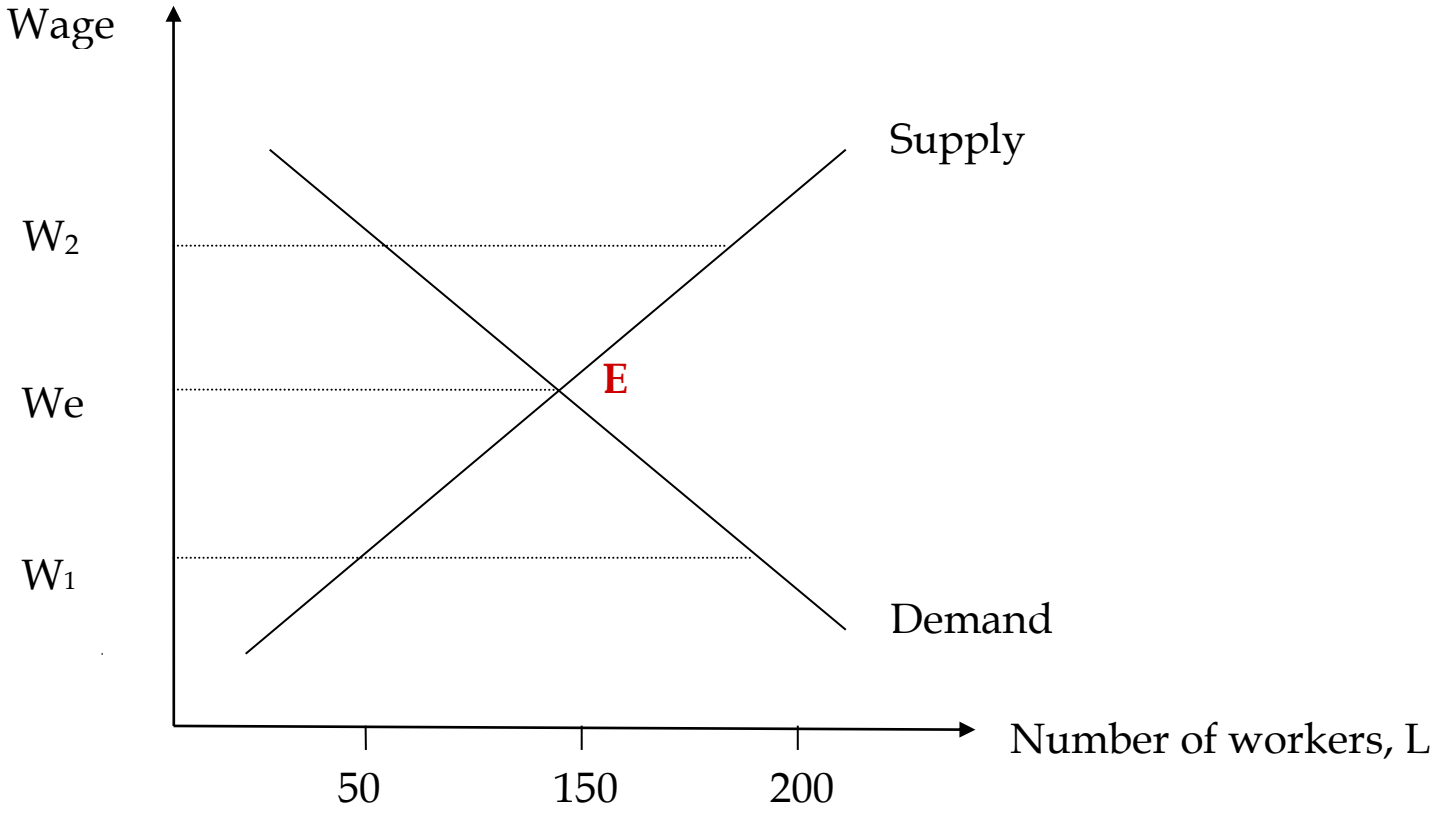
✓ The competitive equilibrium

The wage that prevails in a competitive labour market is determined by the interplay between labour supply and demand.

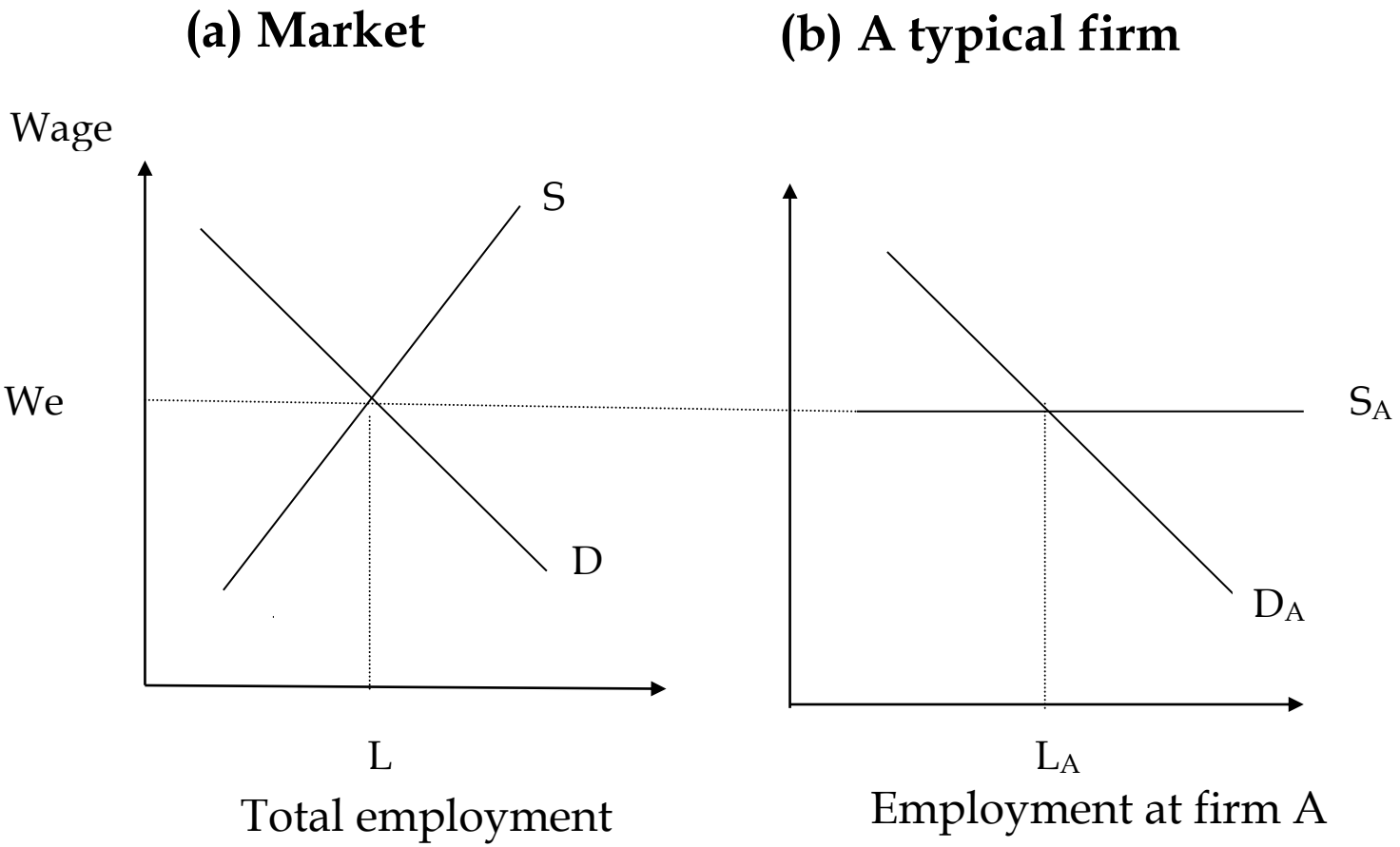
The market demand curve indicates how many workers employers are willing to hire at each wage rate, holding capital prices, technology and product demand constant.

The market supply curve indicates how many people are willing to work at each wage level, holding the wages in other occupations constant.

Graph 2.6 : Market labour demand and supply



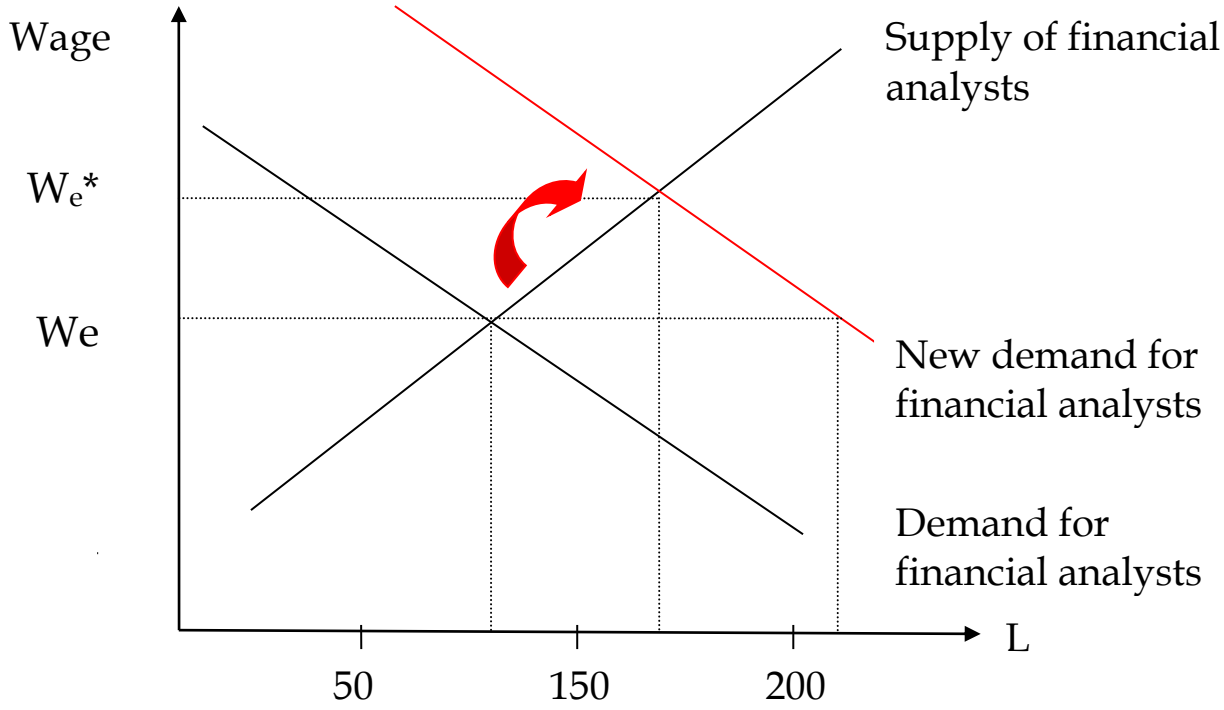
Graph 2.7 : Demand and supply and the 'Market' and 'Firm' levels



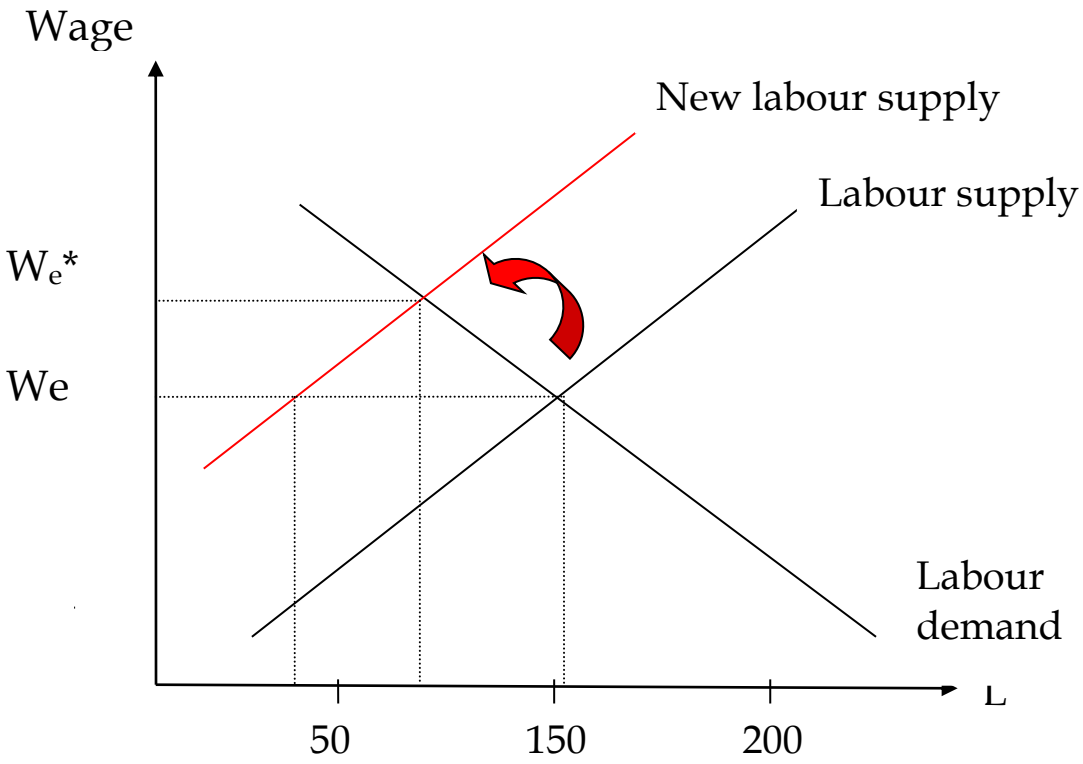
The 'market-clearing wage', We, becomes the 'going wage' that employers and employees must face, i.e. wage rates are determined by the market and 'announced' to individual market participants.

✓ Changing the equilibrium

a) Demand curve shifted to the right (e.g. financial market boom)



a) Supply curve shifted to the left (e.g. population ageing)



✓ Disturbing the equilibrium

It is not because a market-clearing wage exists in theory that it is actually reached, or at least reached rapidly, in practice.

In practice there are numerous barriers impeding the adjustment of wages and employment to changes in supply or demand:

a) **Economic forces** (e.g. investments in new skills may be costly, hiring and firing costs).

b) **Nonmarket forces** : laws, customs or institutions constraining the choices of individuals and firm (e.g. minimum wage laws).

Nonmarket forces usually keep wages above market levels. Minimum wages and unions are typical examples of influences explicitly designed to raise wages beyond those dictated by the market.

Likewise, if there is a widespread belief that cutting wages is unfair, laws and customs may arise that prevent wages from falling in markets experiencing excess labour supply, that is unemployment.

Labour markets adjust more quickly when market forces are calling for wages to rise as opposed to pressuring them to fall.

As a result, markets that are observed to be in disequilibrium for long periods will be more likely to be ones with above-market wages.

In this case, there will be excessive labour supply. Put differently, there will be a relatively high number of unemployed.