

## Economies of scale

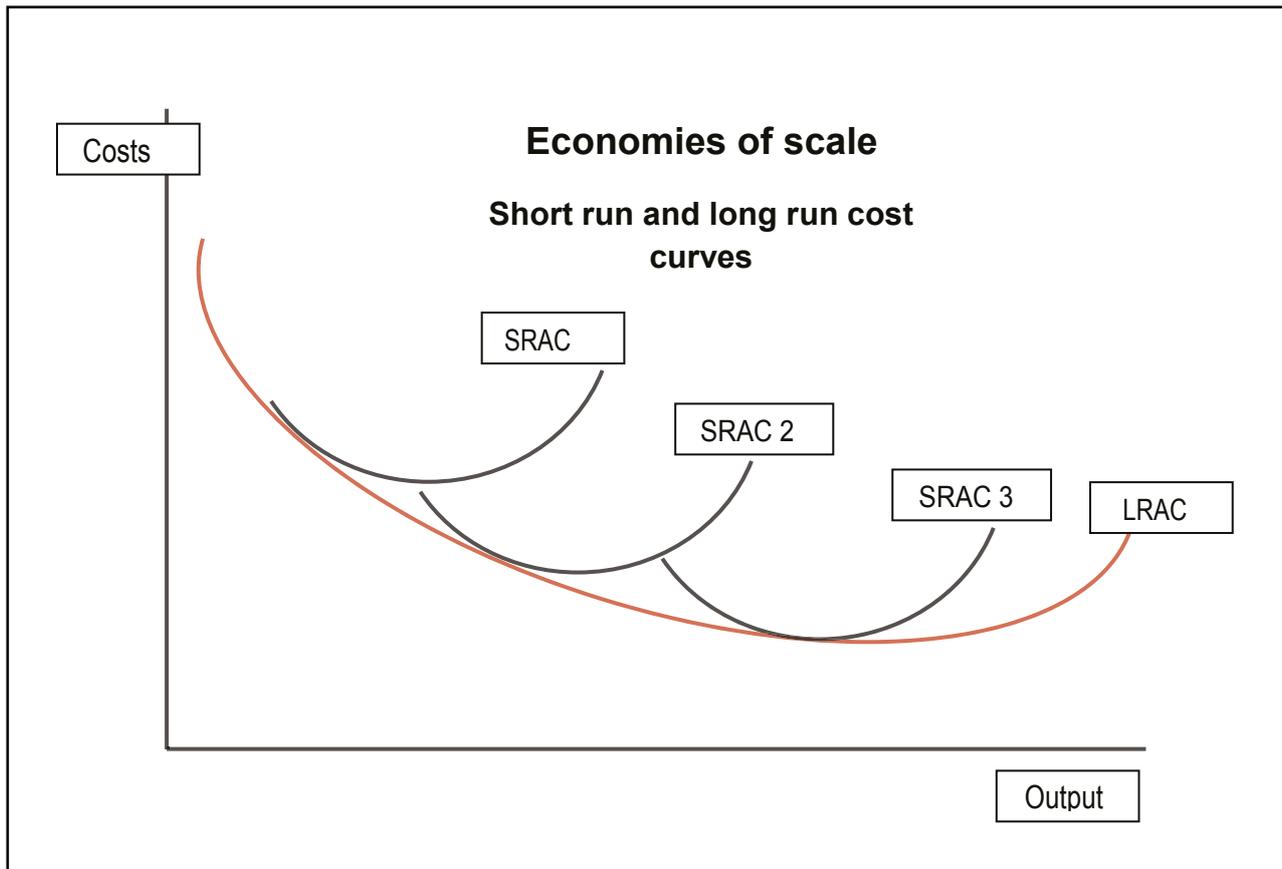
As businesses grow and their output increases, they commonly benefit from a reduction in average costs of production. Total costs will increase as output increases. However, the cost of producing each unit falls as output increases. This fall in average costs as output increases indicates that a business is benefitting from **economies of scale**. This reduction in average costs is what gives larger businesses a competitive advantage over smaller businesses.

Economies of scale are an important aspect of efficiency in production. Economies of scale can be defined as: **‘the reduction in average costs of production that occur as a business increases its scale of production’**.

### Costs in the short and long run

When examining economies of scale it is worth looking at both the short run and long run average costs of the business. In the short run costs can be both variable and fixed, but in the long run all costs become variable. For example, rent negotiated over a 12 month contract is a fixed cost in the short run – i.e. it does not alter in relation to changes in demand or output. However, if rent rises after 12 months, then it too is regarded as a variable cost. It is this switch to all costs becoming variable that separates the short run from the long run.

Each business’s long run average cost curve is made up of a series of short run average cost curves. As a business grows it moves from one short run average cost curve to another short run average cost curve, each one being progressively lower and so reducing average costs of output. This is represented in the graph below.



Imagine a building site with one foreman and one worker. The worker's role is digging trenches; the foreman's role is to oversee the digging of trenches. The foreman earns £10 an hour, the worker's wage is £5 an hour. The worker is capable of digging five metres of trench in an hour. With one worker, each metre of trench would therefore cost £3: i.e. the £5 wages of the worker and the £10 wages of the supervisor divided by 5 metres dug – equalling £3 per metre.

If another worker was taken on then we would now have 10m of trench per hour at a total cost of £20 (£10 + £5 + £5). Therefore the cost per metre of the trench is now £2. With three workers, we now have 15 metres of trench at a total cost of £25; which gives a cost of £1.66 per metre. This represents decreasing average costs in the short run.

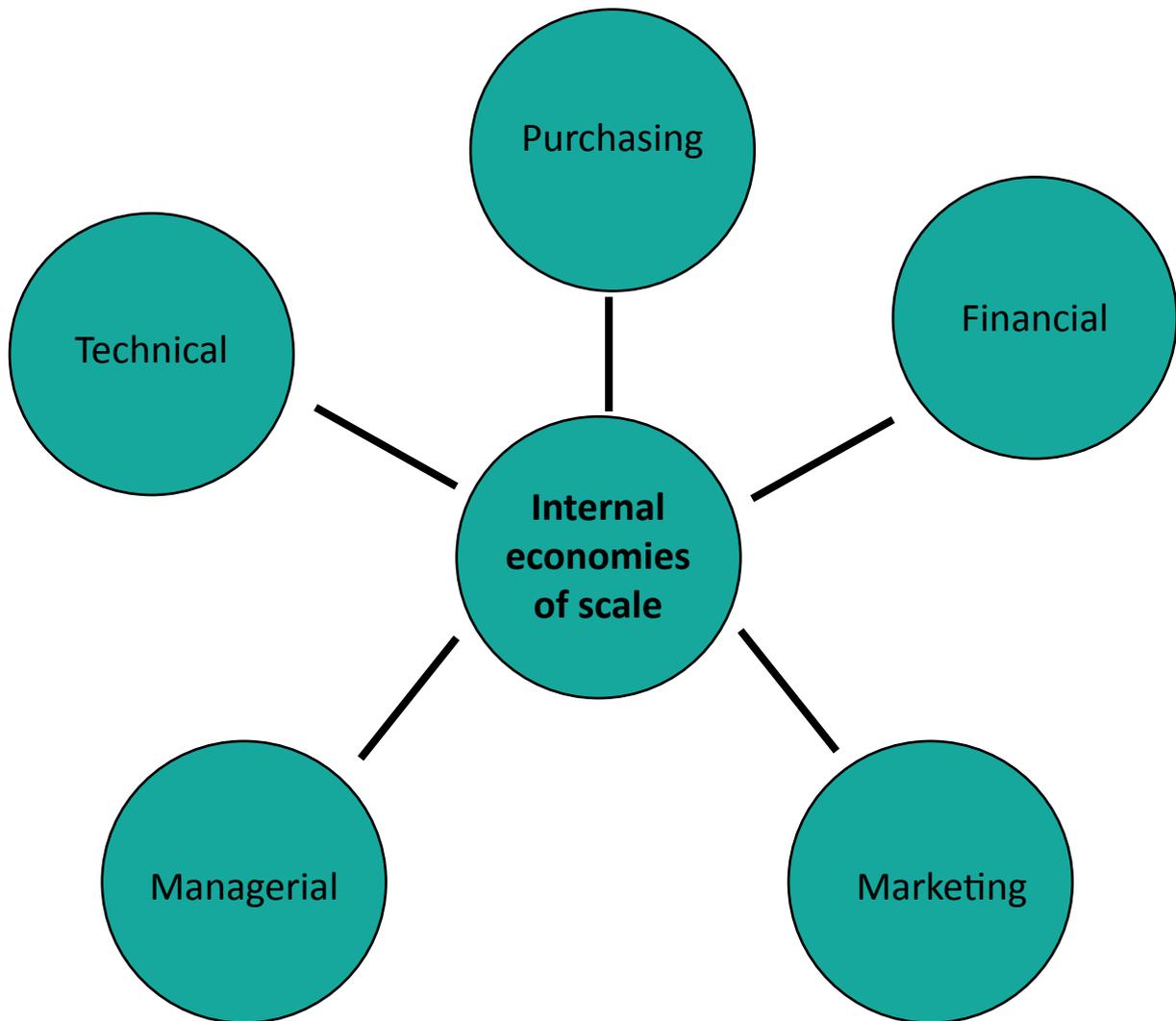
In the long run the building site could, instead of using workers and spades, use a digger. This would allow a move on to another short run average cost curve – lowering potential average costs even further. This is an example of how economies of scale reduce average costs of production.

## Internal and external economies of scale

We can break down economies of scale into two broad groups – these are internal and external.

### Internal economies of scale

Reductions in average cost per unit of output as a result of increasing internal efficiencies of the business.



**Purchasing economies** – as businesses grow they increase the size of orders for raw materials or components. This may then result in discounts being given and the cost of each individual component purchased will fall. This will therefore reduce the average cost of production.

**Technical economies** – as businesses grow they are able to purchase the latest equipment and incorporate new methods of production. This increases efficiency and productivity,

reducing average costs of output.

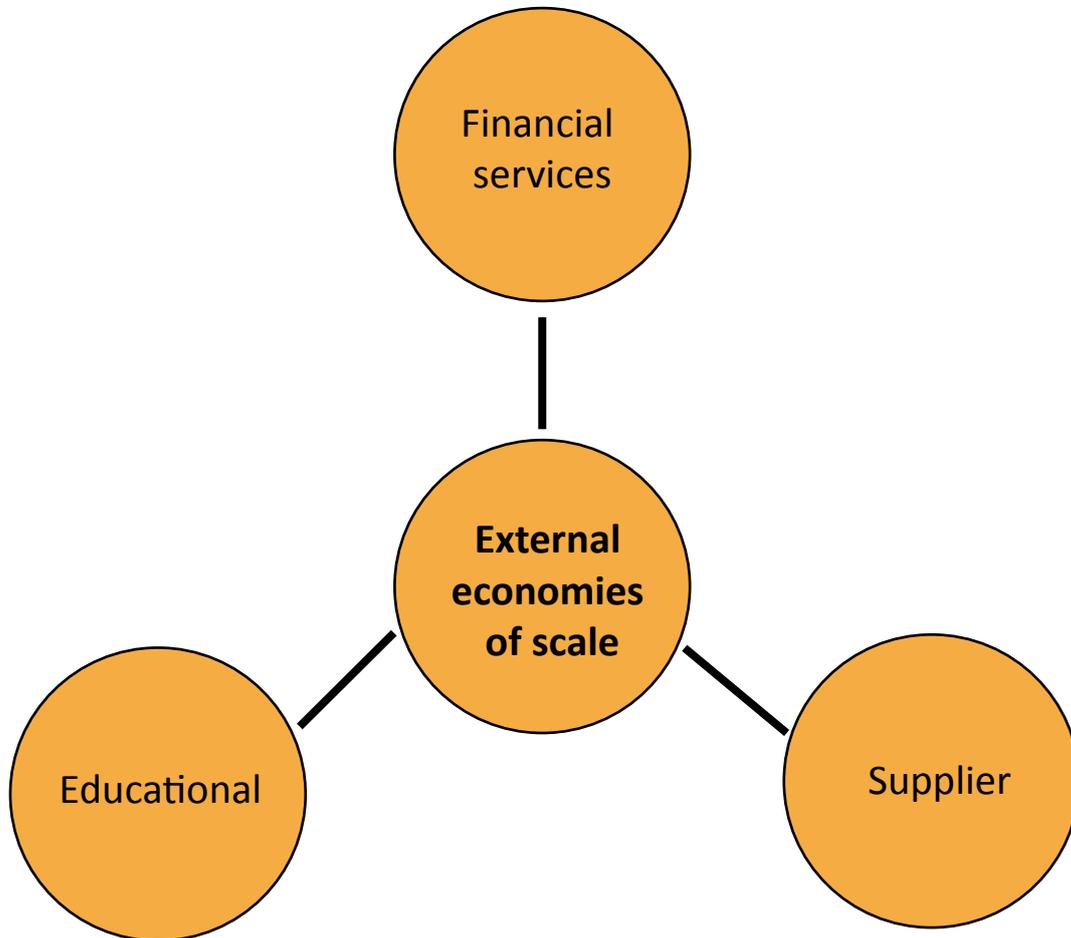
**Financial economies** – as businesses grow they will have access to a wider range of finance. As the assets of businesses grow, they are able to offer more security when seeking to borrow money – reducing the risk to the lender. As a result, larger businesses can often negotiate more favourable rates of interest on any money they do borrow.

**Managerial economies** – as businesses grow they are able to employ specialist managers. These managers will know how to get the best value for each pound (£) spent in the business, whether it is in production, marketing or purchasing. This will increase efficiency and thereby reduce the average costs of producing goods and selling the goods or services on offer.

**Marketing economies** – as businesses grow each pound (£) spent on advertising will have greater benefit for the business. Imagine a chain of local supermarkets: a TV advertisement is placed to cover the region. If there were 10 stores in the chain the cost of the advert must be borne by each of the 10 stores. However, if they have 20 stores, then the cost of the advert would be spread across each of the 20 stores and the benefit of the advert applies to each of the 20 stores.

## External economies of scale

The advantages of scale that benefit a whole industry and not just an individual business.



The largest businesses often benefit from external economies of scale, especially if the industry is concentrated in one geographical area.

**Supplier economies** – a network of suppliers may be attracted to an area where a particular industry is growing. The setting up locally of supplier businesses, often in competition with one another, reduces buying costs and allows the use of systems such as Just-in-Time.

**Educational economies** – local colleges will set up training schemes suited to the largest employers' needs, giving an available pool of skilled labour. This reduces recruitment and training costs for those businesses who make up the industry concerned.

**Financial economies** – financial services can improve, with banks and other financial institutions providing services that may be particularly geared towards a particular industry. For example, for an industry where cash flow may be a particular problem, debt factoring services may be made available at competitive rates.

These economies of scale can be regarded as quantitative in nature, i.e. they can be

measured using financial methods. We know exactly how much is saved on purchasing raw materials, we know exactly how much is saved when a loan is renegotiated at a lower interest rate.

## Diseconomies of scale

**The factors that cause higher costs per unit of output when the scale of an organisation continues to increase – the causes of inefficiency in large organisations.**

When diseconomies occur, the average costs of production rise with output. Let's go back to the example of the building site.

Maybe the foreman is capable of looking after 10 workers effectively and ensuring that each digs five metres per hour; but if there were 15 workers average output may start to fall. This happens because the supervisor is not able to supervise all the workers and ensure that each is working to their maximum capacity and some may take advantage of this and work more slowly. Now there are increasing average costs of output. We have diseconomies of scale.

Like economies of scale, diseconomies can be both internal and external.

## Internal diseconomies of scale

**Coordination issues** – The larger an organisation becomes, the more difficult it is to coordinate. Inevitably there is a good deal of delegation and this empowerment of more and more managers to make their own decisions can result in different departments heading in different directions. To counter this, numerous management meetings have to be held. The time that managers spend in meetings, in an attempt to ensure better coordination within large organisations, can be viewed as a significant overhead cost.

**Communication issues** – As an organisation grows and levels of hierarchy increase, the efficiency and effectiveness of communication breaks down. This leads to increasing misunderstanding and inefficiency as each level of hierarchy grows further and further apart and messages become distorted, resulting in increasing average costs.

**Motivation issues** – With larger businesses it is harder to satisfy and motivate workers as many may feel that their views are ignored, as they are distanced from the organisation's decision makers. This means that they may not give of their best as they are not focused on the organisation's aims and objectives.

These diseconomies of scale are often **qualitative** in nature and are difficult to measure financially – nonetheless, they still reduce the efficiency of the organisation.

## External diseconomies of scale

**Overcrowding in industrial areas** – Traffic congestion may occur – resulting in late deliveries and staff arriving late for work. Local residents may resent this and public relations may suffer.

**Increased price of resources** – More businesses in an area means increased demand for labour to work in that industry and the best employees may be harder to recruit and keep. Land, services and materials may all become more expensive as the industry grows and demand for such resources increases.

## Economies of scale and stakeholders

- Economies of scale have led to significant price drops in some market segments which have been advantageous to consumers. Electronics, clothes and phone services are just three of the sectors that have seen real price falls over the last 20 years. Therefore, consumers do benefit from the fall in a business's costs if they are reflected in lower prices.
- **Shareholders** may well benefit if economies of scale have helped businesses prosper as they have increased in size, resulting in increased share values.
- Some businesses have increased their scale to such an extent that they have become monopoly suppliers and eliminated their **competitors**. These were no longer able to compete as their larger competitors took more and more advantage of the economies of scale available to them.
- **Suppliers** are increasingly finding themselves under pressure to provide cheaper goods and services to businesses who operate on a large scale. This has proven to be the case with large supermarkets, resulting in many farmers going out of business as the profit margins that they were operating proved to be unsustainable.

## Survival of small businesses

Small businesses are unlikely to benefit in any major way from economies of scale, so they will be less efficient and have higher costs than their bigger competitors. How do they survive? Well of course many don't. We have all seen local businesses and independent stores close as a result of larger competition moving into the area. However, many still do well, and there are a number of possible reasons for their success.

They provide a service that is difficult to scale up. Most plumbers, electricians and roofers are local small businesses. They seem better able to deal with fluctuations in demand, adapting their target market to changing market conditions. In this case it seems that flexibility is the key. Other factors leading to the survival of small businesses are:

- **Target market size** – sometimes the potential sales are suited to small businesses, for example dog grooming services or kennels.
- **Population density** – large businesses need large target markets: if these don't exist then the market is left to small businesses.
- **Quality of service and product** – often it is this added value aspect of the business that justifies the higher prices charged.
- **Customer loyalty** – even in the modern retailing environment there are customers that remain loyal to local shops and service providers.
- **Niche markets** – sometimes the segment the small business is targeting is just too small to be worthwhile to big business or the product is legally protected for a period of time.

## Discussion themes

Watch the economies of scale video to identify the main types.

<https://www.youtube.com/watch?v=6ihehRMtRWc>

Explain how Apple benefits from economies of scale. Does Apple suffer from any disadvantages from being so big?

Apple – Economies and diseconomies of scale

<https://fayblack.wordpress.com/2012/09/11/economies-of-scale-apple/>

What are diseconomies of scale?

Some small businesses survive and thrive even though they are unable to benefit from economies of scale. Explain why this happens.