

The theory of the firm

A **firm** is an organisation consisting of one or more individuals working as a decision-making unit to produce goods or services. Firms can take a variety of legal forms including unincorporated businesses, incorporated businesses, public sector firms and charities. These are firms in the sense that they are **production-distribution units**.

The alternative to the firm is the **market**.

The market is an institution for resource allocation which is based on horizontal voluntary exchanges by individual economic agents, who are motivated by preferences and price signals.

Note that markets are about **voluntary** transactions between buyers and sellers and characterised by voluntary **non-hierarchical** relationships. Production-distribution can be organised within the firm or via the market.

Neoclassical theory of the firm

The firm can be reduced to a **production function** which turns inputs into outputs. Its size and scope is determined by **profit maximisation** (or objective if in the public sector).

The firm differs from the market by the fact that in a firm there exists decision making authority rather than decentralised buying and selling. Thus, in neoclassical theory the firm can be reduced to a mathematical construct. This is 'convenient' because it allows modelling of the determination of behaviour (e.g. output choices) under specific assumptions. It also helps the modelling of firm strategies under different types of market structure and specific assumptions (equilibrium framework).

If technology or input prices change then given the nature of economies of scale and the rational pursuit of 'profit maximizing' size, the size of the firm will change. If the nature of competition in the market changes (other firms compete less strongly) this will also cause a firm to rationally increase in size in this theory (because it is profitable to do so).

Transactions Cost theory

Transactions costs are the cost of discovering prices and the cost of negotiating and concluding prices as well as making and enforcing contracts. This theory treats the firm and market as 'alternative' ways of carrying out transaction processes.

A firm consists of the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur.

The firm is characterised by an authority structure (a **hierarchy**) and **incomplete contracts**. Uncertainty leads to incomplete contracts; uncertain terms may be decided in the future by one party in a long-term contract. The alternative to this is the market which has complete contracts with legal force. Firms have flexibility of response in conditions of uncertainty about the future.

Firms exist because they offer a cheaper alternative to the market for organising production based on the ability to direct the use of employees and owned capital, due to authority structures within firm. The size of the firm is determined by the point where the cost of internal organisation of a transaction and external organisation are equal.

As a single firm gets bigger transactions are spatially dispersed, transactions are dissimilar, costs of intervention rise over time. Large firm size implies market power and hence regulation, so firm size reaches limits in certain markets.

Critique of the theory includes the following. Authority is not the essence of the firm; loyalty and identification may be more important. Market transactions not just contract based: trust matters. Thus it is possible to have flexible contracting via the market – open ended contracts do exist which can mimic the flexibility of within firm production.

The property rights view of the firm

The property rights view of the firm is set in a world with **transactions costs** and **incomplete contracts** (similarly it can explain existence and size/scope of the firm). Whereas the transactions cost view emphasized the flexibility of the employment contract, this view emphasizes the importance of **ownership of capital**.

Ownership matters because it carries residual control rights to take decisions in unpredicted/uncontracted for situations. Ownership reduces the possibility of returns to particular investments being partially appropriated by other firms. Thus particular collections of assets (firms) may represent the optimal trade-off between operational and investment incentives. Thus while it may be operationally more efficient to outsource production to a third party, the problem is they would own the assets that the first firm relies on to produce the final product.

The Marxist view of the firm

The rise of the factory system in the 18th and 19th centuries may be seen as an attempt by factory owners to gain control over the production process in order to extract a larger share of the value added in production.

In this sense transactions cost view of the firm as a hierarchy and Marxist view are similar (and explain both the existence and size/scope of firms). But purpose is not 'efficiency' but **exploitation**. It is an attempt by the owners of capital to increase their share of the value added in production by reducing the share going to wages.

This view suggests that firms may develop in ways designed to shift the **distribution of value** rather than to improve efficiency. It highlights the potential conflict of interest between owners/workers (capital vs. labour). The rise in self-employment might in this view be seen as either a result of capital owners trying to reduce the power of unionized labour by outsourcing to small competitive firms (or self-employed individuals in the gig-economy) or the desire of workers to escape from the restrictive practices of capital owners and leverage their own intellectual capital (in the knowledge economy).

Managerial theories of the firm

Managerial theories were driven by the rise of the 'Modern Corporation', characterised by dispersed shareholding and the observed separation of owners and managers.

Managers want to maximise their own welfare. Shareholders want to maximise profit. This gives rise to the principal agent problem, where the principal (the shareholders) wants the agent (the management) to maximise profits in conditions of a lack of observability of their actions. Various writers imagined what managers might have been maximizing if not profits: sales, slack (private jets, time on golf course etc.) maximisation, and growth.

Behavioural theories of the firm

Behavioural theories of the firm suggest that bounded rationality and uncertainty make optimisation impossible.

Large firm organisations have multiple objectives reflecting interest groups in organisation (setting of targets). Managers reconcile the competing objectives of interest groups within the firms subject to a 'satisfactory' level of profits. Thus large firms spend their time playing off the interests of the finance group, the marketing group, the engineering group etc within the firm and periodically indulging them to keep them happy. The need to adjust to an uncertain environment may lead to **organisational slack**.

The capabilities approach to the firm

In this theory the modern capitalist firm exists because it 'knows' how to do certain things, and can exploit this ability. Those capabilities may reflect/arise from core competencies based on: management skill, history in the industry, specific assets (tangible and intangible) and a particular location. These capabilities generate **competitive advantage**.

Evolutionary theories of the firm

This is a dis-equilibrium approach and bounded-rationality is assumed (as in behavioural theories). There is a firm population dynamics and firm heterogeneity ('fitness'). Some firms are going to get lucky and discover a new technology which is out there or which is now possible to be discovered given other technological advances. In this view competition is a process which gives rises to variation, selection and retention (**creative destruction** – some firms fail, others take their place). Innovation drives structural change ('dynamic' capabilities) in the economy.

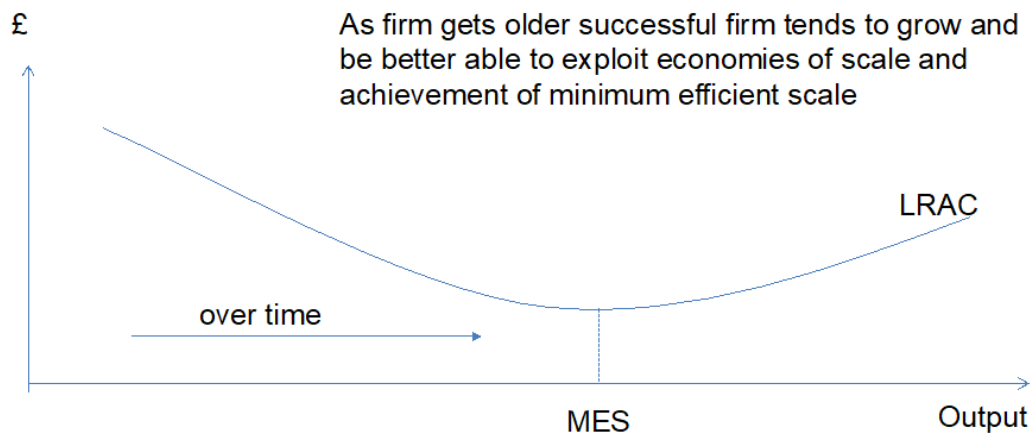
We have firms as part of the discovery process and what determines their success (size and scope) is largely their success in the discovery and exploitation of innovations/opportunities.

The growth of the firm

Firm growth and profitability

We can think of firms being driven by shape of their long run **average production cost** curves to produce at the minimum of their long run average cost. At this point the firm will be as efficient as it can be and will be best placed to survive in a competitive market. If the minimum occurs at a low level of output then firms will not seek to grow beyond this.

The output level at which long run average costs are first minimized is referred to as the **minimum efficient scale (MES)**. The quest for lower average cost and the achievement of minimum efficient scale can drive growth. Similarly, changes in the shape of cost curve can drive longer run trends in scale in an industry (towards smaller or larger minimum efficient scale). Firms enter an industry small and then grow and reduce long run average costs. As demand expands and dominant designs emerge for products than larger scale production is both possible and cost effective.



LRAC – long run average cost
MES – minimum efficient scale



However **demand** is also important. The standardization and increased desirability of the product facilitates growth. Some products are inherently scalable while restaurant meals are pretty difficult to scale up. Many firms can diversify their products at relatively low cost in an attempt to increase the size of their market. This sort of diversification exploits economies of scope: which arise from producing differentiated products using shared assets/inputs.

The neoclassical firm is trying to maximize profitability by growing. Thus we might expect that firms entering the market become more profitable over time as output grows and costs fall. However the ability to grow relies on finance being available to pay for investment in growth. Thus growth depends on profitability and growth affects profitability. It is also important to remember that growth is not always a profitable or desired strategy. Many firms will reduce profitability by growing too quickly and many very profitable firms exist in niche markets and only grow in line with the market growth.

Constraints on firm growth

The growth of the firm is determined by the levels of and changes in: management skills, management objectives, available finance, technology, opportunities for learning, market size, macroeconomic environment and chance.

If a firm expands its organization more rapidly than the individuals in the expanding organization can obtain the **experience** with each other and with the firm that is necessary for the effective operation of the group, the efficiency of the firm will suffer.

If firms expand faster than the capacity of resources left allows then they need to take resources away from current output and this increases management input of expansion. At some point the marginal growth achieved (e.g. in pursuing new products/markets) from diverting existing managers time will turn negative (e.g. because the ability to serve existing markets will be sufficiently reduced), leading to **diseconomies of expansion**.

Permanent growth is possible due to natural learning and the optimal growth rate can be increased but requires organisational change and management development. A possible problem is that there is a conflict between profit-maximising growth versus managers' wealth-maximising growth such that it is not necessarily profitable to expand at the maximum possible growth rate.

Entry, innovation and industry growth

Role of new firms in the economy: they challenge the monopolistic positions of larger firms through the introduction of new technologies and new ways of doing business into the market. New and small firms find more efficient ways to satisfy existing needs or identify new needs to be satisfied implying more efficient firms survive and grow, less efficient firms shrink and exit (the principle of creative destruction).

Innovation is the best (or only) chance for smaller firms to gain a competitive edge. SMEs (small and medium sized companies) may have original capabilities and skills that established firms have not developed. They are more adaptable than larger firms in rapidly changing environments with smaller capital outlays and leaner (established) production capacity at risk of obsolescence.

Small firms and jobs growth

Small and medium sized enterprises (SMEs) make a contribution to net job creation which is more than proportional to the size of these firms. However, as many jobs may be lost among SMEs as they are created ('revolving doors' effect) and it is mostly new firms that create new jobs. Among small firms, the smallest generally do not have the resources to grow and among new entrants that grow, many firms are spin-offs from larger firms.

Thus increases in the number of SMEs and associated employment do not correspond to proportional increases in the share of economy-wide turnover accounted for by SMEs. This is because higher shares of value added are captured in large firms who have the capacity for high valued expansion or outsourcing of potentially competitive inputs.

Growth skewness and heterogeneity among firms

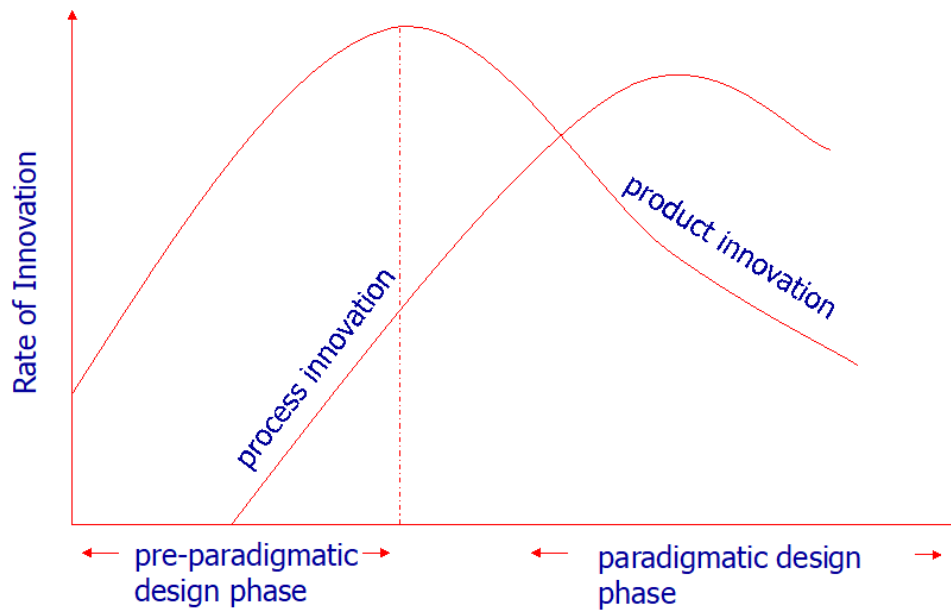
Recent research on the dynamics of firm growth emphasizes the enormous **heterogeneity** found among populations of firms. There are very clear indications that the distributions of both growth rates and innovation are extremely **skewed**, with a small minority of firms responsible for most of the overall (positive) contribution of all SMEs to the economy.

High-growth firms (both in terms of employment and sales) disproportionately more likely to be innovators. Innovators seem to grow twice as fast as non-innovators. However, most innovation is concentrated in approximately 20 percent of firms, and while innovation is highly persistent through time at the firm level, firm growth is far less predictable and often akin to a random process.

Industry dynamics and dominant designs

In the early stages of industry growth there is a fluid design specification and lots of experimentation / new entry. Over time we see the emergence of a **dominant design**. The competitive process switches from being about product innovation (to establish the dominant design) and over to price and cost factors, which are driven by scale and learning effects in production. There is increased emphasis on cost cutting process (leading to process innovation).

Innovation and Product/Industry Life Cycle



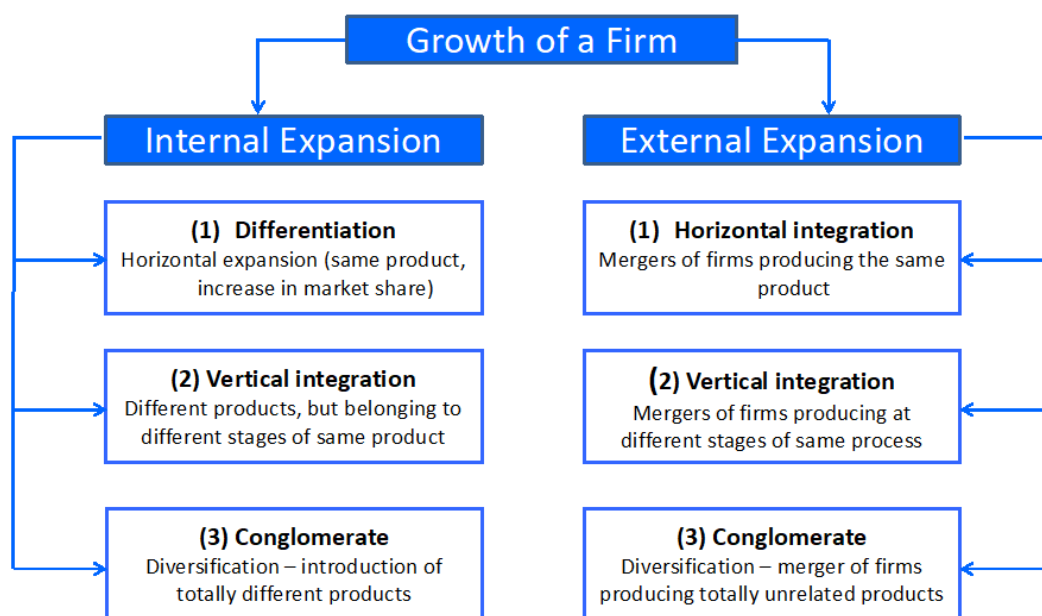
Source: Teece 1986



This sort of effect is most powerful in mass markets with first mover effects. This allows easy imitation/ design modification/ access of rivals to key complementary assets. A follower, not a pioneer, frequently appropriates profits (skills/capabilities other than pioneering innovation skills dominate).

Growth strategies of firms

Alternative Growth Strategies



Note that growth strategies for a firm depend on the definition of "firm".



The regulation of the firm

Markets and the Role of Government

Governments have views about what sort of outputs should be encouraged and which sort of outputs should be discouraged in the economy. Governments should have the objective of maximising social efficiency (rather than private profit). This occurs when **marginal social benefits** (MSB) equals **marginal social costs** (MSC), i.e. when the social benefit of one more unit of production = the social cost of one more unit of production.

Types of Market Failure

Market failure arises where markets deliver a sub-optimal quantity of production or consumption from the perspective of social welfare.

Public goods exhibit non-rivalry and non-excludability in consumption. This creates a free-rider problem where the good will be under-supplied if left to the private sector. Governments often have to intervene to collect payment via taxes or compulsory charges.

Market power is a problem where monopolists can raise prices and profits, reducing output such that too little of a good is produced (the $MSB > MSC$). This is socially inefficient. There is what is known as a deadweight welfare loss under monopoly (of social welfare). If the government could stimulate output somehow this would raise social welfare and reduce deadweight losses.

Ignorance and uncertainty exists among consumers. Firms can be ignorant too (especially small firms), not knowing what the best price-quality combinations of products they buy are. Companies may have weak incentives to point out to consumers the truth about their product or to advise them of the best deal for them. Hence the need for compulsory information provision or regulation of advertising messages.

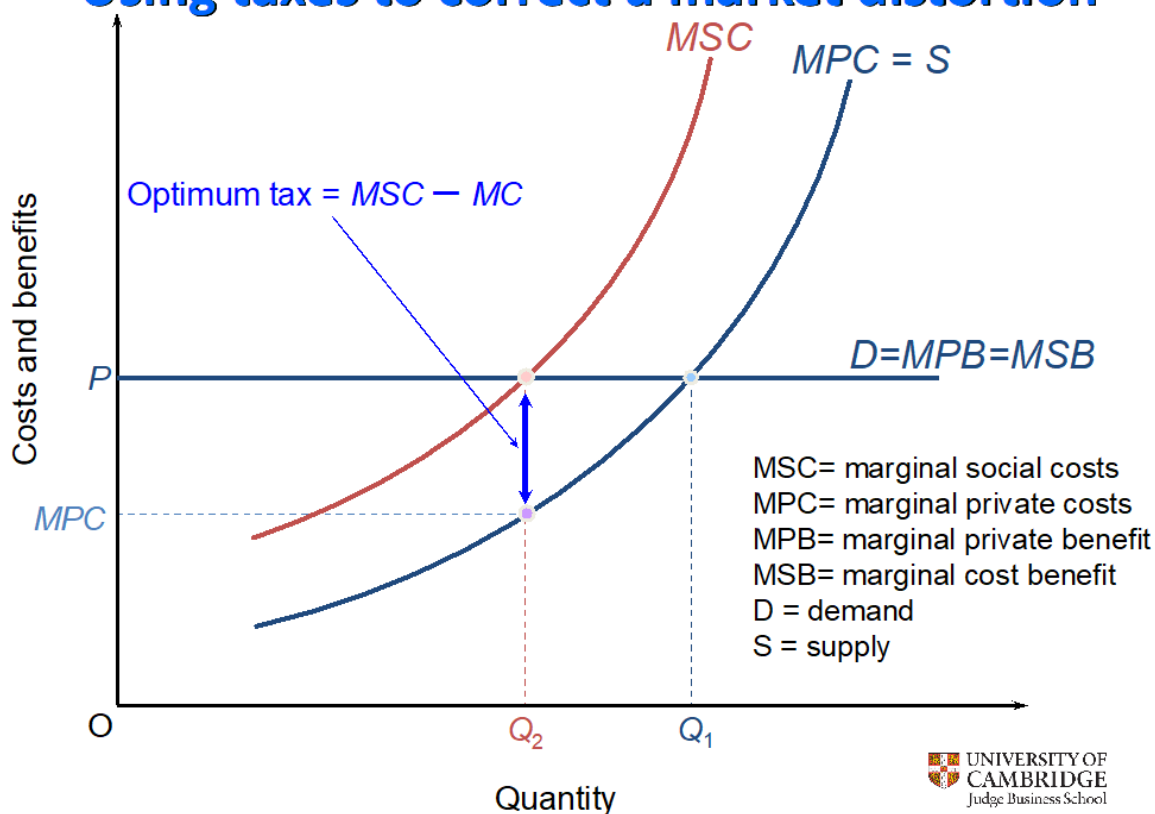
Immobility of factors and time lags are an issue in the market economy. Labour and capital are not easily moved from place to place. So a rapid downturn in one industry located in one town may give rise to structural unemployment which may mean subsidising economic activity in that area is a good idea, with grants to new or remaining firms.

Protecting people's interests. Governments want to direct consumption to particular individuals (often children and mothers), but this may be frustrated by the fact that the benefit recipient is not the ultimate target. This may mean that some thought is given as to how to reduce consumption of some goods and increase the consumption of others (lower VAT rates). Some goods are merit goods (have positive social desirability) and hence may be subsidised.

Government Intervention in the Market

In line with the desire to maximise social efficiency, governments can use taxes and subsidies to reduce or increase production towards the social optimum.

Using taxes to correct a market distortion



Taxes and subsidies can also be used to correct for the output reduction due to monopoly by subsidising each unit of production and taxing total profits.

Competition policy consists of government measures aimed at stimulating competition and protection against monopoly. Competition policy may be regarded as a policy instrument which can be varied by the government.

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