UNIT EC425, LEVEL 2

FIRMS AND MARKETS

MICROECONOMICS 2: ECONOMICS AND ORGANISATIONS

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Lecturer: K. Hinde
Room: 427 Northumberland Building
Tel: 0191 2273936
Email: kevin.hinde@unn.ac.uk
Web Page: http://www.kevinhinde.com/

Firms and Markets

Introduction

If markets are efficient mechanisms for allocating scarce resources why do we need the organisation? Some would argue that 'firms are markets'. Others pursue the view that markets fail and that the organisation, via the entrepreneur(s), provides the best means of minimising the transaction costs associated with exchange. There is also the view that organisations reflect social, cultural and political processes as well as economic arrangements.

The Firm as Market

Alchian A and Demsetz H (1972) suggest that there is no fundamental difference between market exchange and the allocation of resources within the firm. Essentially,

> "The Firm is a legal fiction that serves as a nexus of contracts"

Jensen M. C and Meckling W. H (1976).

It is a 'legal fiction' because it has been created by the legal system and it is a 'nexus of contracts' because of the relationships formed between stakeholders. Specifically, for Alchian and Demsetz it is the employment contract that provides the basis of the organisation.

> "Telling an employee to type this letter rather than to file that document is like my telling a grocer to sell me this brand of tuna rather than that brand of bread" (p.777).

Further, internal authority relations based upon power of employer over employee do not exist. In their words, the firm

> "has no power of fiat, no authority, no disciplinary action any different in the slightest degree from ordinary market contracting between any two people…. ***To speak of managing, directing, or assigning workers to various tasks is a deceptive way of noting that the employer continually is involved in renegotiation of contracts on terms that must be acceptable to both parties"*** (p.777, my emphasis)

There is an assumption that contracts can be continually re-negotiated and that either party can agree to terminate the contract. This, of course, suggests that all individuals have freedom of choice.

Team Production

An important difference between the firm and the market is the existence of team production. Workers are interdependent in the production of output. They exist as a team and require their effort to be metered and rewarded because of the possibility of shirking by an individual. But metering is difficult where the production function is non-separable.

For a self-employed person increases in effort are rewarded with increase in income. The amount of effort put in will increase until the marginal utility of having an additional unit of leisure equals the marginal utility of an additional unit of income. Now if n people form a team and share earnings from their production activities. Then each person knows that an extra unit of effort will only realise 1/n of the additional earnings generated by this effort. For this reason every member of the team is liable to engage in shirking.

Monitors are therefore required to analyse information on workers. But, if all individuals have the incentive to shirk, who should these monitors be? To Alchian and Demsetz the monitor must be the owner and will be rewarded by obtaining the residual after the team has been paid. In effect the monitor owner has created a simple hierarchy and orchestrated a market within the firm.

Transaction Costs

Hyman (1992) defines transaction costs as those costs "incurred in enforcing property rights, locating trading partners and actually carrying out the transaction".

Coase R H (1937) The Nature of the Firm, *Economica*, 4, p. 386-405.

For Coase the firm existed because it superseded the price mechanism. A key player in this was the entrepreneur-co-ordinator who allocated resources by command rather than price. The inability of the firm to act like a market arises because of the complexity of exchange. Firms are established to internalise transactions. So why are external transactions so complex?

> "The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism…(particularly the cost) of discovering what the relevant prices are….The costs of negotiating and concluding a separate contract for each exchange transaction which takes place on the market must also be taken into account. (p.390)"

Thus, Coase is stating that firms (and, more to the point, multi-function firms) exist because there are search, design and policing cost associated with market contracts. In contrast, to the Alchian and Demsetz perspective,

> "contracts are not eliminated when there is a firm but they are greatly reduced. A factor of production (or the owner thereof) does not have to make a series of contracts with the factors with whom he is co-operating within the firm, as would be necessary, of course, if this co-operation were as a direct result of the working of the price mechanism (p.391)".

O.E. Williamson (1975, 1985) has developed Coase's original work.

We take up Williamson's work in some detail below. Williamson blends human attributes and environmental characteristics to show how transaction costs arise and so how transactions may be organised.

Behavioural Assumptions

(i) Bounded Rationality

This is a weak form of rationality that arises because there are limits to human capacity and uncertainty and complexity in the external environment.

An implication of this is that people are unable to take full account of or imagine future transactions. Indeed, transactions are not merely short term but also very long term.

E.g. buying petrol
buying a new weapons system

(ii) Opportunism

This is a devious kind of self-interested behaviour by some individuals who 'act with guile'.

So though transactions may be potentially advantageous they may not take place unless some form of protection is afforded to buyers. There are particular problems with "small numbers exchange".

It is important to recognise that opportunism is likely in certain circumstances, namely where

- there is limited competition ('small numbers in exchange'),
- assets involved in the transactions are idiosyncratic,
- the transactions are frequent
- transactions involve some uncertainty

Opportunism and, to some extent, bounded rationality lead to information impactedness. That is, parties to an agreement must be wary of

Hidden Information more commonly known as adverse selection, which is an ex ante phenomenon, arising because the seller has more information than the buyer. Thus, a potential purchase is more likely to attract a seller of a poorer quality product (a 'lemon') for a given return.

Hidden Action more commonly known as Moral Hazard, which is an ex post phenomenon arising because either party may act differently after a contract has been determined.

(iii) Dignity

An undeveloped concept. Thus, people in organisations should not merely be seen as economising on transitions. However, there are trade-offs between dignity and other valued objectives (wages, prices) so dignity costs.

Environmental Characteristic

Atmosphere

This refers to the value that a mode of transaction provides for the participants involved in that transaction.

e.g. people may prefer self-employment rather than a hierarchical arrangement. So, an employer with 17 employees may be unable to compete against a group of 18 self-employed people even if the transaction costs of the latter are higher than the former.

So transactions differ in the strains they place on decision-making ability, the scope they give for opportunism and the degree to which they involve human dignity. Consequently, the best institutional arrangement to use depends on atmosphere.

Critical Dimension of Transactions

Asset Specificity

The **Asset Specificity** of a transaction refers to the degree to which the transaction needs to be supported by transaction-specific assets.

An asset is transaction-specific if it cannot be re-deployed to an alternative use without a significant reduction in its value.

So, highly specific assets have low alternative use values. Consequently, owners have a strong interest in continuing the transaction because of the high quasi-rents received.

Examples of transaction-specificity.

(i)	Physical Durable Assets equipment designed to make components that will fit the product of only one buyer (e.g. exhausts for Rolls Royce) or Dispensing machines that will only handle pack sizes peculiar to one supplier. Motorcars moved by rail which require special racks so that other model of car can be carried on the carriage. In addition, chemical tankers, require specialist liners that prohibit their use by other chemical products.
(ii)	Human Capital A manager's knowledge of the idiosyncrasies of the firms administration system or a teams knowledge of the comparative advantages of its members and thus the efficient allocation of tasks within the team.
(iii)	Site Specificity where separable stages of production are placed in close proximity to economise on transport costs and their relocation costs are high .
(iv)	'Dedicated' Asset specificity where resources are usable elsewhere but for which no effective demand exists .

Source: Based on McGuiness, (1987)

This latter example is clearly related to (I) and (iii) Note that asset specificity with zero alternative uses is a sunk cost to a business.

Why is asset specificity important?

It has implications for the organisation because of the reluctance of parties to terminate transactions to which they have committed specific assets.

Given potential losses from re-deploying assets parties become 'locked in'.

This creates scope for opportunism and contract re-negotiation.

Bargaining becomes confined to a small group and a "fundamental transformation" takes place as initially the transaction was negotiated in an environment of large numbers.

Uncertainty

Planning for the future is difficult given bounded rationality. Uncertainty must be resolved if external transactions are to take place.

Frequency

When asset-specificity is high, transactions are more likely to be carried out within organisations rather than across markets.

However, setting up a specialised governance structure (such as a firm) involves certain fixed costs.

The costs of a specialised governance structure are more easily recovered for high frequency transactions.

Williamson (1979) summarises the inter-relationships between frequency and asset specificity using the following diagram

	Investment Characteristics		
	Non-Specific	Mixed	Idiosyncratic
Transaction Frequency			
Occasional	Market Governance (Classical Contracting)	Tri-Lateral Governance (Neo-classical contracting)	
Recurrent	Market Governance (Classical Contracting)	Bi-Lateral Governance (Relational Contracting)	Unified Governance

Williamson is linking systems of contract law to forms of exchange. Thus, market exchange is associated with classical contract law where remedies to contract failure rest upon clearly delimited agreements with predictable outcomes. However, where occasional exchange is more long term and the asset specificity higher, the possibility of arbitration provides an outlet to the parties. Where asset specificity is high and the transactions are frequent the possibility of relational contracting occurs. This outcome relies heavily on trust between parties. Though trust can be monitored. Nissan, for example, has developed a network of suppliers. Nissan depends upon its suppliers to deliver at the right time, at the right price and at the right quality. Both parties are locked into an exchange that could end in disaster if either party embarked on opportunistic behaviour. Nissan has tried to overcome this by

- having representation on the Boards of Directors of these supplying firms
- sending out buyers with supplier buyers to show the consequences of higher raw material prices

This, of course, suggests that the bargaining power of Nissan is greater than that of its suppliers. However, there may also be some risk-sharing reason for the smaller firm accepting such arrangements. A small firm, being risk-averse, would be willing accept a reduction in the price it receives in exchange for some of the risk being taken away from it (in effect, it is willing to pay an insurance premium). The larger firm, being risk-neutral and thus indifferent to any risk, may be willing to accept the amortisation charges associated with specific investments made by the supplier in, say, jigs and dies. If product demand is less than predicted the larger company

passes on these charges in the price paid. McMillan J (1992, ch. 13) shows that this is common practice among Japanese firms, including automobile manufacturers. He notes that Ford has a similar policy in the USA and that GM tends to produce in-house rather than expose it subcontractors to such risk.

Finally, if asset specificity is high and frequency of transactions is great then the possibility of vertically integrated structures arises.

Economising and Internal Organisation

Internalisation of transactions overcomes problems of using markets. Protracted bargaining is reduced.

- there is unity of purpose in an organisation and this reduces disputes
- managers have the right to demand information from workers and can restrict opportunism
- management have the authority to guillotine any dispute before it becomes protracted.

Hierarchies

Hierarchies allow efficiencies in transactions. Indeed, for Williamson, efficiency considerations usually transcend power issues in hierarchies, particularly if the firm is profit making.

In pursuing the efficiency argument Williamson argues that hierarchy increases as authorised decision-making becomes more concentrated among people in an organisation.

There is an alternative to hierarchical structures, notably peer groups (e.g. partnerships), but as the size of peer groups grow shirking is likely.

Big partnerships do exist but these usually have managing partners, i.e. a simple hierarchy develops.

Simple hierarchies provide opportunities for improved communication flows.

What of team production (a la Alchian & Demsetz) where a monitor was brought in to reduce shirking?

Williamson argues that shirking can be partly overcome by establishing hierarchies. Production processes can be highly disaggregated so rather than simple hierarchies complex hierarchies have developed.

U-Form and M-Form Hierarchies

Unitary and Multi-stage hierarchies have been seen to develop. The M-Form serves to economise on the bounded rationality and opportunism problems that begin to arise in U-Form. Bounded rationality is less of a problem because information is transferred less

often. Opportunism is attenuated in the M-Form as goal congruence is achieved by giving sub-goals to each division. What of H Forms? etc.

Some Issues for Transaction Cost Economics

Williamson uses Arrow's characterisation of Transaction costs as the "costs of running the economic system" (1969, p.48) but there is no definition. This imprecision makes for difficulty in empirical assessments.

Indeed, transaction costs might seem tautologous: every time we see a firm then apparently internalisation is more efficient than externalisation.

Further, as Dietrich (1994) points out, the over-reliance on the ex ante calculation of costs suggests that markets and firms makes for alternative governance structures in which exchange transactions are carried out. However,

> "To claim that the attributes of a transaction must not change when governance structures are compared is equivalent to saying that the benefits to be derived remain unchanged - the units or economic agents involved must maintain their essential characteristics. In short, orthodox transaction cost economics must be based on *ceteris paribus* assumptions to rule out any changes in governance structure benefits. This…forecloses investigation of many important facets of the firm involving in particular idiosyncratic organisational capabilities and issues of economic power (p.4)"

Dietrich suggests that transaction cost methodology would be strengthened by an examination of the benefits arising from alternative governance structures. If competitive and organisational logic change then the relative strengths of alternative governance structures will change reflecting new competitive advantage and changes in organisational power.

An important issue for Institutional Economists such as Dietrich (1994) and Hodgson (1988) is to distinguish between firms and markets. As Hodgson points out

> "There are at least two major differences. First, market institutions create and legitimate norms through the interaction of relatively autonomous traders typically without long-term commitments to each other. By contrast, the firm is a social institution which generates other

> conventions and rules (e.g. loyalty) on a more permanent basis. Second, the norms and conventions of the market relate, most crucially, to the matter of price. Within the firm, however, there is no single, clear quantitative expression of a price norm or convention to which actors can relate" (p. 206).

This leads us to think about the behavioural 'opportunism' assumption made in traditional transaction cost economics. For if it holds how do we explain altruism and the development of social networks. The rational calculus of costs is insufficient.

Reading

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