

Reappraising the Nature of the Firm:
The Role and Influence of Lexical and Structural Ambiguity¹

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ABSTRACT

In this paper we argue that lexical ambiguity (where a word can have two or more separate meanings) and structural ambiguity (where a phrase can have two or more separate meanings) have profoundly affected the development of the theory of the firm and the economics of organization. We focus particularly on Coase's agenda as to what constitutes the nature of the firm, and argue that intellectual resources have been misallocated in this field of inquiry because of endemic problems of lexical and structural ambiguity. We suggest how the agenda could be restated and redirected. Because General Motors (GM) is oft-cited as exemplifying certain indicative or seminal issues in this area, we illustrate the reworked agenda with examples taken from resource allocation by that firm. We conclude that resource-based economics, organizational decision theory and transaction cost analysis (in the broadest sense) should not be seen as potentially competing perspectives or frameworks in analysis of the nature of the firm, but instead as valuable and complementary tools for such analysis.

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1: Introduction

The purpose of this paper is to show that lexical ambiguity (where a word can have two or more separate meanings) and structural ambiguity (where a phrase can have two or more separate meanings) have profoundly affected the development of the theory of the firm and the economics of organization. We make particular reference to the question of the nature of the firm, an agenda first clearly specified in Coase (1937) when he set himself the task of explaining why a firm emerges at all in a market economy. We argue that consideration of these issues may help resolve contentious issues in this context and help shape the development of new perspectives that may help inform and benefit research in this area.

At one level the point that problems of ambiguity exist in this context will not be a novel idea to economists. The need to define terms clearly, and the idea that ambiguity can still help confuse debate, are both ideas that are familiar to economists and indeed social scientists in general. What is less generally recognised – if indeed it is recognised at all – is that even after these basics have been acknowledged and attempts made to clarify concepts and terms in the opening paragraphs of an article, lexical and structural ambiguity typically still lurk sight unseen and unacknowledged right in the heart of academic debate on the theory of the firm and the economics of organization. It is as if these twin problems have become so embedded in normal discourse in this context that their existence is simply not typically recognised – or, when recognised, simply seen as an irritant and distraction to be quickly dealt with before returning to the real issues and problems, when in fact as we shall argue, frequently they are major issues and problems in their own right.

We should not be surprised at the idea that problems of language could take centre stage in the theory of the firm and the economics of organization. Indeed, linguistic analysis, a branch of philosophy following from work by Moore and Russell and developed by Wittgenstein held that central philosophical problems stemmed from linguistic confusion and that the proper role of philosophy was to eliminate these problems through analysis of the use of language². While it is now widely agreed that major philosophical questions remain even after problems of language have been dealt with, as we shall see it is still the case that ambiguity and imprecision can create major obstacles to academic discourse in the economics of organization.

In Section 2 we shall introduce the problems of lexical and structural ambiguity in the context of one of the most important issues in the economics of organisation, the hold up problem. Then in Section 3 we shall consider the contrast the Coasian conception of the firm with the classical textbook interpretation and consider some implications for the economics of organization. In Section 4 we consider how the agenda for the economics of organization could be restated in the light of the previous discussion. Since General Motors (especially its acquisition of Fisher Body) has been central to much debate and analysis regarding the nature of the firm, we use General Motors (GM) to explore the restated agenda developed in this paper. We finish with a short concluding section.

2: Example of Lexical and Structural Ambiguity: the hold up problem

We can begin our investigation of the potential role of lexical and structural ambiguity in the context of the economics of organization by considering the “hold up” or “hold-up” problem. It is difficult to understate the importance of this problem in modern economics of organisation: as Holmstrom and Roberts note, “the most influential work during the past two decades on why firms exist, and what determines their boundaries, has been centred on what has come to be known as the ‘hold-up problem’” (1998, p.74).

The classic version of the hold up problem is deceptively straightforward: “The logic is basically simple. Assets are highly specific when they have value within the context of a particular transaction but have relatively little value outside the transaction. This opens the door to opportunism. Once the contract is signed and the assets deployed, one of the parties may threaten to pull out of the arrangement - thereby reducing the value of the specific assets - unless a greater share of the quasi-rents of joint production find their way into the threat-makers pockets. Fear of such “hold up” ex post will affect investment choice ex ante.” (Langlois and Foss, 1997, p. 13).

The problem is that the term “hold up” has alternative meanings and these alternative meanings have very different efficiency implications. “Hold up” can mean a stoppage or expropriation.

“Hold-up ... 1 A check to progress; a stoppage or delay of traffic etc. ...2 A robbery, esp. with the use of violence or threats” (New Shorter Oxford English Dictionary)

The term was originally used in the latter sense to mean expropriation of quasi-rents (possibly with the use of threats) by Klein, Crawford and Alchian (1978), Alchian and Woodward (1987) and Klein (1988). Since such hold up involves only redistribution, Milgrom and Roberts (1992, p.307) note that where there is a potential asset specificity problem, “a hold up itself has no effect on total value ... efficiency itself is unaffected”³. All it means is that one of the transactors has benefited at the expense of the other.

However, in recent years a second stream of analysis has interpreted “hold up” in the stoppage sense in that it can lead to interrupted input supply (Hennart, 1988, p. 283); production stopping (Alston and Gillespie, 1989, p. 200); the supplier going on strike (Helper and Levine, 1992, p. 567); or delays (Maston et al , 1991, p. 9). Since hold up in the stoppage sense does lead to economic activity being directly impeded, “hold up” in this context clearly does directly impact on efficiency. This means there are significant differences in what is meant by “hold up” in the economic literature, with very different behavioural and efficiency implications, and it is an example of a phrase that is characterised by structural ambiguity. However, it is difficult to find any real recognition of these differences and their implications in the literature, quite possibly because the surface similarities in language helps conceal fundamental differences in economic analysis.

It is ironic that analysis in this area would have probably been simpler and more consistent had Klein, Crawford and Alchian talked of either “expropriation” or “stoppage” instead of “hold up” in their original 1978 article⁴, though the economic implications would have been very different depending which alternative term had been chosen. However, in a path-dependent world we are stuck with the ambiguities of “hold up” and the fact that we now have two parallel streams of analysis making very different statements about the nature of organisation and the determinants of its boundaries, the very real differences between the two streams both created and cloaked by

ambiguity embedded in a simple everyday term that just happens to have more than one meaning. If nothing else, this should serve as an indicator that lexical and structural ambiguity can seriously distort analysis in this area, and we should not be surprised to find these issues significantly influencing analysis when we probe further into the economics of organization in the next section.

3: The Coasian firm

In this section we shall explore how the Coasian conception of the firm differs from the classical textbook interpretation before going on to discuss whether these differences matter. We shall then consider further the role of structural ambiguity in the economics of organization.

Coase argued (1937, p 390): “Our task is to attempt to discover why a firm emerges at all in a specialized exchange economy”. The answer he then gave was that: “The operation of a market costs something and by forming an organization and allowing some authority (an “entrepreneur”) to direct the resources, certain marketing costs are saved” (1937, p. 392).

But Coase’s view of the firm as an organization is not the same thing as the conception of the firm in neoclassical economics as a device for transforming inputs into outputs. As Demsetz (1995) points out, the firm in neoclassical theory need not be an organization at all, it could be a single owner-manager; “organization unnecessarily complicates things, when all that is needed from the firm is that it separate production from consumption” (p.9). Fourie (1993) also points out the potential role of the one-person firm as a production unit and notes its incompatibility with Coase’s definition of the firm as an organization or hierarchy.

Hodgson (1993) flags the lexical ambiguity in this debate by pointing out that Fourie’s interpretation and definition of the firm differs from that of Coase. However, Fourie’s (and Demsetz’s) notion of the firm is firmly rooted in the economics tradition. In an economy composed of single-person producers there would be no organizations, no corporate hierarchies, and no “firms” in the Coasian sense, which might seem to limit its applicability and bias the analysis if we were looking for a theory of the firm which would serve its original mission in the analysis of productive activity and the supply-side of the economy. Indeed, Coase (1988c) himself raises the possibility of exactly such a situation when he assumes the existence of “an economic system without firms ... All transactions are carried out as a series of contracts between factors, with the services to be provided to each other specified in the contract and without any direction involved” (p. 38)⁵.

What Coase describes as a firm may amount to a minority of what would be termed firms in analysis of the circular flow of income in many economies. Official UK figures indicated that 69% of UK enterprises in 2001 were one-person businesses or sole traders, that is businesses trading with no employees (DTI 2004a). Since anecdotal evidence suggests that the black economy is likely to be disproportionately represented by one-person operators, these unofficial figures may well understate the importance of one-person producers in the UK economy⁶.

However, the inconsistencies between neoclassical and Coasian perspectives on “the firm” run deeper than this. Neoclassical economists invoked the “firm” because they needed a theoretical construct to act as the supply side correlate of the consumer or household on the demand side of the circular flow of income, while Coase wanted to explain real world “firms”. Coase (1988b) sums up his 1937 solution to the nature of the firm by concluding that “a firm had ... a role to

play in the economic system if it were possible for transactions to be organized within the firm at less cost than would be incurred if the same transactions were carried out through the market” (p. 19). But a corollary of the Coasian agenda is that if the transactions can be organized at lower cost through the market, there would be no role for “the firm” to play and indeed no reason for its existence. This means that in the neoclassical world of zero transaction costs, not only does the concept of the firm differ from the Coasian conception, there can be no Coasian firms. It is not just that the two different notions of “the firm” are inconsistent, they cannot even co-exist⁷. When Thorelli (1965, p. 249) argues⁸ “It is a fascinating paradox that the received theory of the firm, by and large, assumes that the firm does not exist”, he does not go far enough. It could more accurately be said that “It is a fascinating paradox that in the received theory of the firm, the (Coasian) firm cannot exist”.

So when Coase (1988a, p. 5) states that “the firm in modern economic theory is an organization which transforms inputs into outputs”, he is actually fusing together two very different and mutually incompatible conceptions of the firm, one from textbook theory in which the firm is a device for transforming inputs into outputs in the context of the operation of the price system, and the other, his 1937 interpretation of the firm as an organization or hierarchy. This is a major source of the difficulty and indeed confusion that surrounds this issue in conventional economics. As Demsetz (1995, p.1) has noted; “Modern treatments of the firm do not clearly separate the organization of the firm from the question of its existence ... I have become convinced that mixing these two issues is a source of confusion”. He identifies Coase 1937 as the most important example of the “comingling” of these issues.

This “comingling” is an issue which pervades much of modern economics research and teaching. For example, after Milgrom and Roberts (1992) ask “why are there firms?” (p. 28) and answer along Coasian lines, they revert in the following chapter to “the description of firms or producers in the economy” along traditional neoclassical lines as the converters of inputs into outputs (p.65). They then return to the Coasian notion of the firm as economic organization in the same chapter (pp. 78-81) before finishing the chapter with a transfer pricing example based on the neoclassical conception of the firm as the supply-side producer in a case where the price system is in competitive equilibrium. Much of the remainder of the text is characterised by flipping back and forwards between these different conceptions of the firm depending on the context, the problem being analysed, and the tools employed. But while Milgrom and Roberts are careful to contrast the neoclassical model with alternative perspectives, it is less clear from their analysis that the nature and purpose of the concept of “the firm” employed when they draw on neoclassical theory is in fact inconsistent with implicit conceptions of “the firm” invoked by them in the context of the economics of organization.

Milgrom and Roberts is an excellent text and their treatment of “the firm” is no different in these respects from many other approaches to the economics of organization. But if the student does not feel confused by the potential lexical ambiguity as to what is meant by “the firm” in such contexts then it could be argued that they are not reading the material closely enough, since, as Demsetz implies, much of the literature is itself confused on this issue.

From the perspective of economics and analysis of resource allocation processes, there are two sets of problems with the Coasian notion of the firm. The first set of problems is that it offers a partial and incomplete analysis if we are interested in studying the role of productive units in the resource allocation process. A parallel can be drawn with the role of the consumer on the other side of the circular flow of income. Had consumer theory gone an analogous road to the theory

of the firm, it would have restricted the scope of what it described as consumers to multi-person households, and explained the emergence of such households in terms of transactional failures in social relations. While it is certainly possible to go down that route, it can be argued that it is of limited use and potentially counter-productive if the objective is to study the allocation of resources on the demand side of the economy. This point is reinforced by the near-absurdity of the question “why do consumers exist?” Consumers are those units that consume goods and services, and goods and services are consumed by consumers. In that context, the existence of consumers is no more a curiosity or mystery than is the existence of the firm.

Instead, as Becker points out, consumer theory actually developed as a theory of the single-person household “The traditional theory of consumer and household behavior developed by economists ignores cooperation and conflict among members, in essence assuming that each household has only one member” (1991, p. 20).

Asking why the firm exists and then explaining why it is an organisation is like asking why the consumer exists and then explaining why it is a family. Organisations and families play important but not all-encompassing roles in the circular flow of income, but the primary reason why firms and households exist as economic units from the perspective of resource allocation is to participate in this flow process, not to become multi-member social units. To answer the latter is to confuse method and means with purpose and objectives.

So when Coase (1937) explores “why it is profitable to establish a firm” (p.390), he is in fact stating a tautology – firms exist as economic entities in the circular flow of income in market economies because it is profitable for them to exist⁹. Viewed in this perspective, the Coasian process often taken to describe firm creation as a consequence of transaction costs actually more accurately describes the elimination of actual (or potential) firms. For example, the General Motors acquisition of Fisher Body in 1926 is an oft-cited example of internalisation of economic activity due to transaction costs¹⁰. But General Motors and Fisher Body were two separate and fully-functioning firms before the acquisition, subsequently reduced to one firm post-acquisition.

This process hardly offers a satisfactory explanation for the emergence of these “islands of conscious power” (Coase 1937, p. 388) because in order to create a firm through this process, you usually need to start with a firm or firms in the first place (Kay 2000b); genesis is not spontaneous. Where did the General Motors that emerged in 1926 come from? Why, out of two firms called General Motors and Fisher Body. And where did that earlier General Motors come from? It emerged out of a series of vertical and horizontal mergers and acquisitions between 1908 and 1926 involving an earlier version of General Motors, and other firms such as Oldsmobile, Cadillac and Chevrolet. And where did the even earlier General Motors that was founded in 1908 come from? It emerged out of the Buick Motor company which itself had been incorporated in 1903. And where did the Buick Motor Company come from? Out of a series of companies created by David Buick which had produced horseless carriages, before that engines for boats and stationary applications, and before that plumbing supplies in partnership with a school friend William Sherwood. In turn, that firm had emerged out of the Alexander Manufacturing Company, a Detroit fabricator of plumbing fixtures which they had rescued from bankruptcy in 1882.

At this point the story begins to disappear into the mists of time, but it is reasonable to believe that the Alexander Manufacturing Company had further precursors (including possibly firms)

that contributed to its creation, growth and subsequent development, and that in turn these precursors may have been begat by earlier precursors.

While this process may have the appearance of an infinite regress, clearly there has to be various points in the past where the various constituent firms that finish up contributing to the formation of what becomes a single firm (General Motors) actually enter the economic arena for the first time – that is, they begin to contribute to the supply side of the circular flow of income. But this discussion should be sufficient to demonstrate that internalisation generally draws on pre-existing firms as the raw material for the creation of new firms and the destruction of old ones. Even Coase's examples (1937, pp. 390-91) of how a firm "emerges" demonstrates this point. Coase argues that in the firm; "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" (1937, p. 391). But if instead these "factors" (or their owners) were making contracts with "the factors" in the firm though the price mechanism, then they should be properly regarded as at least two "islands of conscious power" established and effectively operating as firms in the market prior to integration within one firm. Integration within a single firm would not be the point at which a firm emerges, rather it would be the point at which at two firms reduce to one. The Coasian process of internalisation actually gives a better account of the influences underlying the dissolution of firms than it does their emergence.

Taken to its logical conclusion, this implies an increase in transaction costs would tend to encourage a reduction in the number of firms in the economy (e.g. through merger and acquisition), while a corollary would be that anything that leads to lower transaction costs could be expected to encourage an increase in the number of firms. Demsetz (1995, pp. 10-11) makes the latter point in the context of specialization when he argues that specialization helps lower transaction costs, leading to more firms (rather than less, as Coase and transaction cost economics would suggest)¹¹.

In this context, the role of e-commerce in recent years in helping reduce transaction costs and foster the advantages of specialization has contributed to a Demsetzian process of firm creation. Lucking-Reilly and Spulber (2001) note that: "As market transaction costs fall with the maturation of business-to-business e-commerce, outsourcing and vertical disintegration will occur, resulting in more independent entities along the supply chain" (p. 65). Lucking-Reilly and Spulber cite the automobile industry in general, and General Motors in particular, as examples of just such a process. When General Motors divested its in-house parts supplier Delphi Automotive Systems, an entirely new firm was formed – or, more accurately, two new firms were formed out of one "old" firm called General Motors. As Demsetz implies, falls in transaction costs may not just help create new markets, they can help create new firms. This can lead to some torturous analysis and reasoning if one insists on sticking to the Coasian line that there is direct link between the existence of transaction costs and the existence of firms.

The second set of problems with the Coasian notion of the firm is that if we wish to study the role of organizations in the resource allocation process, the Coasian agenda may create a distorting prism through which to study the phenomenon. If the "distinguishing mark of the firm is the supersession of the price mechanism" (Coase 1937, p.389) this may tell you what the firm is not (it is not the price mechanism) but it is less clear on what the firm is and how it works. Studying the nature (and emergence) of the firm from the perspective of costs of market relations is rather like trying to analyse the nature (and emergence) of the family from the

perspective of costs of external social or community relations. It might tell you something about the family, but it will not tell you much about how the family actually manages itself. Similarly, such an approach may not tell you much about the process by which resources are coordinated and allocated within the firm.

Coase himself (1988c) recognises the incompleteness of his 1937 analysis and felt that as a result “economists have tended to neglect the main activity of a firm, running a business” (p.38)¹². But economists abhor a vacuum in the resource allocation process and when they come to fill in the mechanisms by which the coordination of resources takes place within the Coasian firm, they have tended to draw upon the tools and devices with which they are familiar in other contexts, that is, prices and markets. The result is that in modern economics, the firm tends to be analysed as an internal market or as a nexus of contracts. Whether these are entirely reasonable representations is an issue which we shall turn to in the next section.

4: Restating the agenda for the nature of the firm

If our task in the previous section could be summarised as establishing the nature of the firm in a transaction cost or Coasian paradigm, we note in passing that nature of a paradigm is itself subject to severe lexical and structural ambiguity. Masterman in her paper 'The nature of a paradigm' (1970) noted that Kuhn (1970) used the term paradigm in 24 different ways¹³.

Accepting that analysis has to start from some single point, however imperfect, and conscious of the dangers of another infinite regress in trying to trace the fundamental building blocks of linguistic meaning when words (these slippery entities) are simply defined in terms of other words, we shall pass over the nature of a paradigm to consider the Coasian agenda of the nature of the firm. But that does not mean we pass over the problems of lexical and structural ambiguity. Fritz Machlup warned of the dangers of lexical and structural ambiguity in the theory of the firm in his 1966 presidential address to the American Economic Association; “Most of the controversies about the “firm” have been due to misunderstandings about what the other specialist was doing. Many people cannot understand that others may be talking about altogether different things when they use the same words,” (1967, pp.28-29).

Machlup (1967, p. 26) cites a philosopher who enumerated 66 meanings of the word “nature” while Machlup himself was “sure there are at least 21 concepts of the firm in the literature of business and economics”. While such linguistic fungibility clearly gives substantial scope for lexical ambiguity when the two words are considered independently, on a purely combinatorial basis the scope for structural ambiguity intrinsic in the phrase “the nature of the firm” could run into many hundreds of possibilities. Even after removing obviously irrelevant or absurd interpretations of the phrase, we would expect there to be still a high risk that explorations of “the nature of the firm” are subject to problems of the type we have already encountered.

Ironically, even though Machlup (1967) could be seen as providing an extensive audit of “the nature of the firm” in what was his presidential address to the American Economic Association, there was no citation to Coase’s eponymous article, now regarded by many as the definitive analysis of the subject published some thirty years before Machlup’s article. Interestingly, neither does Machlup refer to the work of Edith Penrose, although he was supervisor of the first stage of the project which led to her 1959 work on the growth of firms. In that work she had commented; “much confusion can arise from the careless assumption that when the term ‘firm’ is used in different contexts it always means the same thing” (1959.p.10).

Machlup, Penrose and Demsetz's clear warnings on the dangers of ambiguity of meaning and "comingling" of agendas in the theory of the firm have tended to be ignored or overlooked by much modern work in this area, as is evidenced by much of the discussion earlier in this paper. Holmstrom and Roberts' question (following Coase) "why do firms exist?" has structural ambiguity embedded in it. The question can be interpreted, inter alia, as asking what economic role firms perform, why they are vertically integrated (the role of horizontal expansion and diversification being neglected in much of the literature), why they are hierarchically organized, or why they represent a method of internalization of economic activity.

The "comingling" of questions of organization and existence of the firm may actually be worse than Demsetz (1995) suggested. We shall suggest that there are at least four separate agendas "comingled" in the Coasian question of why the firm exists, i.e. agendas and questions relating to: (a) the existence of the firm as economic entities; (b) the orientation of expansion of the firm (e.g. vertical versus horizontal; (c) the mode of organisation of the firm (e.g. markets versus hierarchies); (d) the domain of the firm, or the internalisation/externalisation of economic activity. We can discuss this by posing the Coasian question of "why do firms exist" qualified by appropriate subordinate clauses in each case to remove at least some of the structural ambiguity.

But before we go further we need to be clearer as to what we mean by such concepts as vertical, horizontal, market and hierarchy. From the preceding discussion we should not be surprised to find that lexical and structural ambiguity is endemic in discussion of these apparently simple concepts in economics. A recurring problem is that they are taken to be so self-evident by many authors (and the present author has been equally guilty of this) that they are not even defined in discussion. The importance and the non-trivial nature of the problem of excising ambiguity here is exemplified by Rosenbaum devoting a paper (2000) to the question of what is a market, an issue that turns out to be highly complex, with many interpretations both historically and contemporaneously.

A further example of the importance of clarity here is given by Williamson's comment (1996, p.361) that "in many respects, the multidivisional (M-form) enterprise took on the attributes of a miniature capital market", implying that there was some qualitative difference between how the M-form operated compared to the U-form, with the M-form somehow creating a new type of internal market. Yet, whatever definition of "market" is used, it is difficult to find any such qualitative distinction between the U-form and M-form in these regards; top management allocated funds to middle levels on the basis of perceived performance, middle levels competed for funds (and possibly other resources/favours) from top management in both cases. Indeed, as Williamson (1975) documents, it was this competition for scarce resources from middle management in the U-form that helped generate many of the principal-agent problems that can bedevil the U-form. It is true that the M-form may add transparency, comparability and incentives to the operation of this internal market as Williamson (1975) argues, but this just means that it may be a better performing internal capital market than the U-form, not necessarily something that is qualitatively different.

With these caveats in mind, we shall tentatively suggest some simple working definitions of each of these concepts, while bearing in mind that there will be almost inevitably be residual ambiguity in each case. A market involves an exchange relation between two or more transactors while hierarchy involves a relationship where a party can exercise authority over, and

direct the actions of another party. A vertical relationship involves a shift or move of some resource or resources from one stage to another stage (the resource or resources vacates the stage it previously occupied), while a horizontal relationship involves a sharing of a resource or resources at a particular stage.

We are using these definitions here just to develop a simple taxonomy for illustrative purposes, they are not intended to be comprehensive. For example, there are other ways that resources can be allocated other than through exchange and authority relations (Kay, 1992)¹⁴ while there are other aspects of orientation that could be explored other than just vertical/horizontal, such as domestic/international, related/conglomerate, etc.

However, applying the definitions consistently may help illustrate and resolve potential confusions. For example, “technology transfer” is an example of structural ambiguity since it can be taken to imply the intellectual property shifts or moves from one context to another (i.e. it vacates the space or stage where it originated) and so suggests it should be regarded as a vertical relation – as indeed it is in many antitrust cases. In fact, commercial technology transfer is almost always a horizontal relation involving sharing of intellectual property, and should be treated as such for analytical and antitrust purposes¹⁵. It is redolent of the linguistic ambiguity encountered in the “holdup problem” in that much confusion could be avoided if the term “technology sharing” had been used instead of “technology transfer”.

Similarly, this can help clarify why the EMI group both recorded music (such as the Beatles) and had a music retailing arm, HMV. On the face of it, this was a simple case of vertical integration, but on closer examination this seemed less obvious since most of EMI’s output went to retailers other than HMV, while most of HMV’s input came from record labels other than EMI. In fact, internalization also facilitated economies of scope from knowledge sharing between EMI and HMV regarding the music business, including its rapidly changing market and technological trends, fashions, threats and opportunities. To that extent, it was also a case of horizontal integration, though it is unclear where the balance of actual or intended gains lay between vertical and horizontal links¹⁶

A firer set of warning flags are in order before we introduce our simple taxonomy. Many cases of resource allocation in practice can involve a combination of market and hierarchy modes, for example joint venture can involve market (the joint venture contract) and hierarchy (the administration of the “child” by the “parent”) elements. Similarly, while firm’s internal transfer pricing mechanisms certainly encapsulate the “exchange” aspect of markets, Birkinshaw and Lingblad (2001) note that “the use of price mechanisms in firms and markets is qualitatively different” (p. 7), that price is typically set according to some administrative rule, and that “the use of the price mechanism within organisations is often hierarchy in disguise” (p.7).

With these caveats in mind we shall treat the examples below of different types of resource allocation within the firm as indicative rather than definitive

4.1: Agenda 1 - the existence of the firm

To answer the fundamental question of existence “Why do firms exist (as economic entities)?” we need to first define what is meant by a firm. The obvious and simple answer is to refer back to why the notion of a firm is needed in economics. The firm exists to supply goods and services. As Demsetz notes above, all that is needed from the firm in this context is that it

separates production from consumption. The supply of goods and services in the circular flow of income is provided by firms, an interpretation that pre-dates (and largely post-dates) Coase 1937. If and when we use the term “firm” in economics to refer to a specific form of economic organization we should properly use another term to refer to those entities which collectively make up the supply-side of the economy. That fact that we tend not to do this helps create much of the lexical and structural ambiguity and analytical confusion that we have explored in this paper.

Objective	Orientation	Domain	Mode	Type	Example
Expansion	Vertical	Inside firm	Market	1	Transfer price for engines to Vauxhall ¹⁷
			Hierarchy	2	Buick Plant Manager moves worker down the assembly line ¹⁸
		Between firms	Market	3	Delphi’s sales of components to GM ¹⁹
			Hierarchy	4	Shanghai GM joint venture for market access ²⁰
	Horizontal	Inside firm	Market	5	GM intersegment fees for intangible assets ²¹
			Hierarchy	6	HQ’s instructions to divisions to conform to EPA standards ²²
		Between firms	Market	7	GM licenses its trademarks to Electronic Arts ²³
			Hierarchy	8	GM Ovonic manufacturing joint venture ²⁴

FIGURE 1: A taxonomy of orientations, domains and modes

4.2: A taxonomy of strategies

We can pursue the other three agendas with the help of a taxonomy or typology first introduced in Kay (2000a) and developed further in Figure 1 above.

The taxonomy is mostly self evident, for example the notion that markets can exist within firms as well as between them is a familiar one. Many larger firms operate internal markets in labour, capital, and even intangible assets such as technology and consultancy services. Perhaps less obvious is the notion that hierarchical organization can exist between firms, but this is exactly what can be involved in joint ventures such as Shanghai GM and GM Ovonic where two or more “parents” jointly own, control, and direct a “child” subsidiary, typically with an explicit formal organizational structure that includes and spans all the members of the joint venture “family”. The command and control aspects involved in having a servant of two (or more) masters may be more complex and problematic than M-form and U-form hierarchies, but the joint venture is a hierarchical solution no less than these more conventional arrangements²⁵.

A useful aspect of the above taxonomy is that it naturally implies several distinct agendas if we wish to explore questions relating to the nature of the firm. If we look at question of the strategic orientation²⁶ of the firm, that implies a comparison of Type 1, 2, 3 and 4 entities (vertical relations and expansion) with horizontal alternatives (Type 5, 6, 7 and 8 entities). If we wish to compare modes or method or form of organization, we are comparing Types 1, 3, 5 and 7 (market organization) with Types 2, 4, 6 and 8 (hierarchy). If we wish to look at the question of whether and how internalization of economic activity does or does not take place, we are comparing Types 1, 2, 5 and 6 (economic activity inside the firm) with Types 3, 4, 7 and 8 (economic activity conducted between firms).

The typology helps illustrates the problems of comingled issues in the Coasian agenda. When Coase argues that “within a firm... market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur-coordinator who directs production” (1937, p.388), he is describing Type 2 versus Type 3 arrangements and as Demsetz notes this tends to comingle and confuse questions of the existence of the firm (arising from the “supersession of the price mechanism”; Coase 1937, p. 389) with questions of its organization (as a hierarchy, with the entrepreneur as peak coordinator).

In fact, there is a third agenda or set of issues “comingled” with the other two since the Type 2 versus Type 3 choice implies a choice not only between hierarchy and market but also a choice between organizing activity within and between firms. As noted above, hierarchies can exist between firms and markets can exist within firms, adding a further dimension and agenda to the question of the nature of the firm.

What is interesting is the existence of a fourth agenda which should be implicit in any search for the nature of the firms and its boundaries, but which was neglected in Coase and has also been largely neglected in subsequent pursuit of the Coasian agenda in transaction cost economics, that is the question of the orientation of expansion of the activities of the firm. Coase (1937, pp. 388-89) describes the supersession of the price mechanism as involving vertical integration but does not develop the notion that there could be alternative orientation in which the boundaries of the firm could be redrawn. While this might be understandable for Coase given that he wrote at a time of relatively specialized firms, it is less forgivable for modern transaction cost theorists who have failed²⁷ to come to terms with or explain the evolution of the modern diversified firm²⁸.

We can use the typology in Figure 1 to help disentangle the “comingled” agendas implicit in the Coasian question of “why do firms exist?”

4.3: Agenda 2 – the orientation of the firm

The answer to the question of orientation “Why do firms exist (in terms of the range of their activities) and comparison of Type 1, 2, 3 and 4 (vertical) with Type 5, 6, 7 and 8 (horizontal) relations is best pursued through Penrosian lenses which picture a world of scarce managerial and capital resources in the context of opportunity cost of alternative forms of expansion.

A key issue here is the difference between vertical and horizontal relations. A firm must have direct or indirect relations with all elements in a vertical chain of production, all the way back upstream to raw materials and downstream to the final consumer if it wishes to survive. Even if the firm does not deal directly with a particular upstream or downstream element in its vertical chain, if something happens to that unit it can have repercussions for the firm itself. That does not mean to say that it is tied to specific elements in the vertical chain (e.g. firms can switch suppliers and distributors), but it does mean that vertical relations, whether conducted through internal or external coordination, are obligatory for the firm. It cannot declare autarky and only deal with a specific stage of the vertical chain in isolation. Whether or not the capabilities and competences are similar upstream and downstream does not in any way remove the need to participate in a vertical stream of production.

But if vertical relations are obligatory, horizontal relations are optional. The firm can choose the scope of horizontal links with whether or not it wants to create new horizontal links, e.g. through joint ventures or diversification. This is likely to reflect the match between its present capabilities (Richardson, 1972) and opportunities for expansion, and is an area where the resource-based theories of the firm may be of relevance (e.g. Penrose, 1959)²⁹. However, while the possibility of exploiting economies of scale and/or scope by linking and sharing resources across value chains may be important in this context, the opposite incentive of moving away from present capabilities to guard against obsolescence may also be in evidence here, for example in some diversification into new market and technologies (Kay, 1982). For these reasons, there may be more scope for applying resource-based perspectives and analysis of the role of firms competences and capabilities to horizontal relations than to vertical relations involving the firm, though it may still have some relevance in this latter context as well³⁰.

This agenda contrasts with the narrower Coasian agenda which essentially was concerned with why Type 2 entities substitute Type 3 entities³¹.

4.4: Agenda 3 – the mode of organisation

By contrast, the answer to the question of choice of mode “Why do firms exist (as organized entities)?” is likely to be about the nature of decisions (Kay, 1999 and 2000b) and Types 1, 3, 5 and 7 (market organization) contrasted with Types 2, 4, 6 and 8 (hierarchy).

Whether the choice of mode is characterized in terms of market versus hierarchy, organization versus contract, or any other dichotomy, choice of mode is likely to be influenced by two complementary elements of decisions: (1) their nature in the form of characteristics and features (e.g. long run strategic versus short run operational, the role of uncertainty and the interrelatedness of decisions and; (2) the process of decision, or the way it is conducted (e.g. garbage can processes³², satisficing³³, optimizing etc.). The answer to the question of choice of mode is likely to first reflect questions of bounded rationality and the emergence, specialisation

and division of labour, then to reflect consideration of the nature of decision making that may encourage one form of mode as opposed to another. It also must allow for the special case where hierarchy (or organization) collapses into a single self-directing individual, as in the case of self-employed individuals.

The characteristics of the decisions that remain to be made help influence the choice of mode or organizational form for the venture itself. Joint venture implants a decision-making capability into the “child” and generally reflects the fact that important technological and/or market issues are not fully resolved and that major strategic decisions remain to be made, whether by the child, or by the child in consultation with the parents. This in turn invites the maintenance or creation of a decision-making capability and associated organizational infrastructure to support these capabilities. By way of contrast, licensing and franchising tend to reflect the fact R&D/design decisions and outcomes been settled to the extent that the opportunity and its technical/operational parameters can specified in a market contract. Again, the nature of the decisions that remain to be made (in this case typically operational rather than strategic decisions) help influence the choice of appropriate mode to support the decisions.

One problem in this context is that the mental set and pre-conditioning of economists encourages them to see markets and contracts everywhere and bias identification and interpretation of mode, irrespective of whether or not nominal acknowledgement is made of the role of “hierarchy “in resource allocation within the firm (Kay, 1997, pp. 51-52). The short-term market-oriented myopia of economists helps obscure the nature and process of long-run strategic decision making in resource allocation and the role that different organizational arrangements can play in accommodating, facilitating and inhibiting such decisions. In extreme cases the firm may be regarded as little more than a “privately owned” or “surrogate” market (Alchian and Demsetz, 1972) or a “nexus of contracts” (Cheung, 1983)³⁴.

In fact, markets are very infrequent devices for allocating resources. Most resource allocation takes place because of autonomous decision or instruction (Kay, 1992) and not market responses, as any census of the decisions involved in making a Buick from raw materials to the final consumer would show. As Simon (1991, pp. 27-28) points out, a visitor from Mars would likely observe the “ubiquity of organisations” and more likely find “organizational economy” a more fitting description than “market economy” for much of the developed world.

Despite this, there has been much work of potential relevance to the relationship between decisions and organisational modes, notably the nature and processes underlying complex decisions. (e.g. Burns and Stalker (1961), Cyert and March (1963), Hickson et al (1986), March and Olsen (1976), Mintzberg (1979), and Nelson and Winter (1982)). In turn, these studies have potential implications for how such decisions are organized and resources allocated for their formulation and execution. In addition, B. J. Loasby (1967, 1976) is one of the few economists to have made a serious study of strategic decisions and the implications for the nature of the firm (Kay, 1997) as well as the formulation and execution of such decisions³⁵. These studies provide valuable signposts for potentially fruitful lines of inquiry into the relationships between decisions and organizational modes.

4.5: the domain of the firm

Finally, the answer to the question of domain “Why do firms exist (as entities which internalize economic activity)?” and comparison of Types 1, 2, 5 and 6 (inside the firm) with Types 3, 4, 7

and 8 (between firms) is more likely to be related to the nature of transactions. We can deal briefly with these connections because they may be taken to represent the conventional wisdom in economics as to why firms may internalize transactions rather than conduct these relations through market transactions (e.g. Williamson 1975, 1985, 1996). However, transaction and transaction cost issues should be defined more widely than in transaction cost economics to include a broader interpretation of transaction costs (e.g. Dahlman 1979 and Buckley and Casson, 1991) and the role of property rights issues.

It is important to stress that these decisions regarding orientation, mode and domain (and involving resources, decisions and transactions) are not independent but interdependent. For example, if we were to ask the question, “why did GM form the Shanghai GM joint venture”, the answer should involve answers to subsidiary questions about orientation (e.g. why China and not India; why not diversify instead?), mode (e.g. why joint venture hierarchy and not simple contract?) and domain (e.g. why involve a third party, why not just do it yourself?). Since each of these subsidiary questions may be best approached using different perspectives or frameworks (e.g. resource-based economics for orientation, organizational decision theory for mode and transaction cost analysis - in the broadest sense - for domain), each perspective may be seen as having a potentially important contribution to make. For that reason, we do not see resource-based economics, organizational decision theory or transaction cost analysis (in the broadest sense) as competing frameworks but as valuable and complementary tools for the analysis of the nature of the firm.

5: Conclusions

Coase introduces his 1937 paper by arguing that; “economic theory has suffered in the past from a failure to state clearly its assumptions. Economists in building up a theory have often omitted to examine the foundations on which it was erected” (1937, p.386). That point is accepted and endorsed here, and it is hoped that the preceding analysis has shown how important these issues are in the context of the economics of the firm.

As far as the first two questions in Holmstrom and Roberts’ (1998) agenda are concerned, there is no puzzle in determining why firms exist and identifying their function if we stick to their original place in the circular flow of income. Firms exist to supply goods and services and that is also their function, the puzzle that Coase identifies exists with respect to that subset of firms that are also organisations. His 1937 article could more properly have been titled “the Nature of the Firm that is also an Organisation”.

As for broader questions relating to the nature of the firm, we have argued that there are different but complementary agendas relating to the orientation the firm is pursuing, the mode or method of organization chosen to allocate resources and the degree to which resource allocation is internalised within the firm. It was also argued that the role of resources and capabilities were central to the question of the orientation of the firm; the nature and process of decision-making central to the issue of mode of organization; and the characteristics of transactions central to questions of internalization. While it is important to separate out these issues for analytical purposes, in practice firms would be expected to make decisions regarding venture opportunities in which questions of orientation, mode and domain would be resolved simultaneously and in complementary fashion.

Perhaps one of the most striking features of economic analysis identified by this paper is the sheer persistence and indeed pervasiveness of problems of lexical and structural ambiguity despite the periodic rediscovery of the problem by analysts and a resulting determination to do something about the problem. It is noted that this is despite the increased formalization of many areas of the theory of the firm and the economics of organization. One of the oft-cited benefits of mathematization of disciplines is its supposed ability to remove ambiguity and looseness of expression, but there is not much evidence of this happening in economics, quite possibly because lexical and structural ambiguity is embedded in the variety of (often implicit) premises held by different approaches to the firm and the economics of organization.

As a final point it should be noted that the main title of this paper “Reappraising the Nature of the Firm” is itself structurally ambiguous. Have we been reconsidering the nature of the firm itself (however defined)? Or have we been reconsidering the implications of Coase’s eponymous article?³⁶ That is the thing about structural and lexical ambiguity, once we become aware of their existence, they can be seen to be an all-pervasive feature of academic as well as everyday discourse. But such awareness is a pre-condition to moving the debate forward and exploring “the nature of the firm” in economics. It is hoped that this paper may have gone some way to help contribute towards such awareness

REFERENCES

- Alchian, A, and H. Demsetz (1972) Production, information costs and economic organization American Economic Review, 62, 777-95.
- Alchian, A. and S. Woodward (1987) Reflections on the theory of the firm, Journal of Institutional and Theoretical Economics, 143, 11-36.
- Alston, L. and W. Gillespie (1989) Resource coordination and transaction costs: a framework for analysing the firm/market boundary, Journal of Economic Behavior and Organization, 11, 191-212.
- Becker, G. S. (1991) A Treatise on the Family (enlarged edition), Cambridge Mass, Harvard University Press.
- Birkinshaw, J, and M. Lingblad (2001) An evolutionary theory of intra-organisational competition, unpublished paper
- Buckley, P. and M. Casson (1991) The Future of the Multinational Enterprise, 2nd edn. London Macmillan.
- Burns, T. and G. M. Stalker (1961) The Management of Innovation, London, Tavistock.
- Casadesus-Masanell, R. and D. F. Spulber (2000) The fable of Fisher Body, Journal of Law and Economics, 43, 67-104.
- Cheung, S. N. S (1983) The contractual nature of the firm, Journal of Law and Economics, 26, 386- 405.
- Coase, R. H. (1937) The nature of the firm, Economica, 4, 386-405
- Coase, R. H (1988a) The Firm the Market and the Law, Chicago, Chicago University Press.
- Coase, R. H. (1988b) The nature of the firm: meaning, Journal of Law and Economics, 4, 19-32.
- Coase, R. H. (1988c) The nature of the firm: influence, Journal of Law and Economics, 4, 33-47.
- Cyert, R. M. and J. G. March (1963) A Behavioral Theory of the Firm, Englewood Cliffs, New Jersey, Prentice Hall.
- Dahlman, C. (1979) The problem of externality, Journal of Law and Economics, 22, 141-62.
- Demsetz, H. (1995) The Economics of the Business Firm, Cambridge, Cambridge University Press.
- DTI (2004a) An Government Action Plan for Small Business: Making the UK the Best Place in the World to Start and Grow a Business, London, Department of Trade and Industry.

- DTI (2004b) Small and Medium-Sized Enterprise (SME) Statistics for the UK 2001, SBS-Related Press Release, London, Department of Trade and Industry.
- Foss, N. J. (1997) (ed.) Resources Firms and Strategies, Oxford, Oxford University Press.
- Fourie, C. v N. (1993) In the beginning there were markets? in C. Pitelis (ed.) (1993), 41-65
- Goldberg, V. P. (1976) Regulation and administered contracts, Bell Journal of Economics and Management Science, 7, 426-41
- Hart, O. and J. Moore (1990) Property rights and the nature of the firm, Journal of Political Economy, 98, 1119-1158.
- Helper, S. and D. S. Levine (1992) Long term supplier relations and product market structure, Journal of Law and Economics, 8, 561-81.
- Hennart, J. F (1988) Upstream vertical integration in the aluminium and tin industries, Journal of Economic Behavior and Organization, 9, 281-99.
- Hickson, D. J., R. J. Butler, D. Cray, G. R. Mallory and D. C. Wilson (1986) Top Decisions: Strategic Decision-Making in Organizations, San Francisco, Jossey-Bass.
- Hodgson, G. M. (1988) Economics and Institutions, Cambridge, Polity Press.
- Hodgson, G. M (1993) Transaction costs and the evolution of the firm in C. Pitelis (ed.) (1993), 77-100.
- Holmstrom, B. and J. Roberts (1998) The boundaries of the firm revisited, Journal of Economic Perspectives, 12, 73-94.
- Kay, N. M. (1982) The Evolving Firm: Strategy and Structure in Industrial Organization, London, Macmillan.
- Kay, N. M (1992) Markets, false hierarchies, and the evolution of the modern corporation, Journal of Economic Behavior and Organization, 17, 315-33.
- Kay, N. M. (1997) Pattern in Corporate Evolution, Oxford, Oxford University Press.
- Kay, N. M. (1999) Loasby and decisions: a non-Coasian perspective on the nature of the firm, Contingency, Complexity and the Theory of the Firm: Essays in Honour of Brian J. Loasby, 67-91
- Kay, N. M. (2000a) The growth of firms, in Foss, N. and V. Mahnke, (eds.) Competence, Governance and Entrepreneurship, Oxford, Oxford University Press, 187-206.
- Kay, N. M. (2000b) Searching for the firm: the role of decision in the economics of organizations, Industrial and Corporate Change, 9, 683-707.

- Klein, B. (1988) Vertical integration as organizational ownership: the Fisher Body - General Motors Relationship revisited, Journal of Law, Economics and Organization, 4, 199-23.
- Klein, B., Crawford R., and A. Alchian (1978) Vertical Integration, Appropriable rents and the competitive contracting process, Journal of Law and Economics, 21, 297-326.
- Kuhn, T. S. (1970) The Structure of Scientific Revolutions, Chicago, University of Chicago Press.
- Langlois, R. N. and N. J. Foss (1997) Capabilities and governance: the rebirth of production in the theory of economic organization, Working Paper No. 97-2, Copenhagen, DRUID
- Langlois, R. N. and P. L. Robertson (1995) Firms, Markets and Economic Change: a Dynamic Theory of Business Institutions, London, Routledge.
- Loasby, B. J. (1967) Long range formal planning in perspective, Journal of Management Studies, 4, 300-08.
- Loasby, B. J. (1976) Choice, Complexity and Ignorance: an Enquiry into Economic Theory and the Practice of Decision-Making, Cambridge, Cambridge University Press,
- Lucking-Reiley, D. and D. F. Spulber (2001) Business-to-Business Electronic Commerce Journal of Economic Perspectives, 15, 55-68
- March, J. G. and Olsen, J. P. (1976) Ambiguity and Choice in Organizations, Bergen, Universitetsforlaget.
- Machlup, F. (1967) Theories of the firm: marginalist, behavioural, managerial, American Economic Review, 57, 1-33.
- Mansfield, E. (1982) Technology Transfer, Productivity, and Economic Policy, New York, W. W. Norton & Co.
- Masten, S. E., Meehan, J. W. (Jr.) and Snyder, E. A. (1991) The costs of organization, Journal of Law Economics and Organization, 7, 1-25.
- Masterman M. (1970) 59-89 in I. Lakatos and A Musgrave, 1970, Criticism and the Growth of Knowledge, Cambridge, Cambridge University Press.
- Milgrom, P. and J. Roberts (1992) Economics, Organization and Management, Englewood Cliffs, New Jersey, Prentice Hall.
- Mintzberg, H. (1979) The Structuring of Organizations: A Synthesis of the Research, Englewood Cliffs, New Jersey, Prentice Hall.
- Nelson, R. R. and S. G. Winter (1982) An Evolutionary Theory of Economic Change, Cambridge, Mass., Harvard University Press.
- Penrose, E. T. (1959) The Theory of the Growth of the Firm, Oxford, Blackwell

Pitelis, C. (ed) (1993), Transaction Costs, Markets and Hierarchies, Oxford, Basil Blackwell.

Richardson, G. B. (1972) The organization of industry, Economic Journal, 82, 883-96

Rosenbaum, E. F. (2000) What is a market? On the methodology of a contested concept, Unpublished Paper

Shelanski, H. A. and Klein, P. G. (1995) Empirical research in transaction cost economics: a review and assessment, Journal of Law, Economics and Organization, 11, 335-61.

Simon, H. A. (1991) Organizations and markets, Journal of Economic Perspectives, 5, 25-44.

Teece, D. J. (1980) Economies of scope and the scope of the enterprise, Journal of Economic Behavior and Organization, 1, 223-47.

Thorelli, H. B. (1965) The political economy of the firm: basis for a new theory of competition? Schweiz Zeitschr. Volkswirtschaft und Stat. 101, 248-262.

Williamson, O. E. (1975) Market and Hierarchies: Analysis and Antitrust Implications, New York, Free Press.

Williamson, O. E. (1985) The Economic Institutions of Capitalism, New York, Free Press.

Williamson, O. E. (1996) The Mechanisms of Governance, Oxford, Oxford University Press.

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² I am grateful to Jim H. Love for drawing my attention to the relevance of logical positivism in this context.

³ However if the possibility of hold up is anticipated by transactors, it may have efficiency implications in that it can, for example, deter investment (Milgrom and Roberts, 1992, p. 307) or lead to standby facilities being set up as a safety net. In the sense in which the term was originally used, the possibility of hold up could also absorb resources and have efficiency implications with guards being employed to ride shotgun on stagecoaches.

⁴ However, while Klein, Crawford and Alchian may have introduced “hold up” in this context, they themselves appropriated the term from Goldberg’s (1976) use of it in the context of government regulation (Klein Crawford and Alchian, 1978, p. 302).

⁵ To assume, as the Coasian agenda does, that the existence of firms needs the prior existence of markets may be to put the cart before the horse. As Hodgson (1988 pp. 209-210) the Coasian question may be the wrong way round – it could as legitimately be posed in terms of why do markets exist?

⁶ Even though the overall contribution of one-person firms to economic activity is of course not proportionate to their numbers, it can still be significant, for example accounting for about 13% of employment and 7% of turnover in the UK (DTI 2000b)

⁷ Demsetz (1995) also points out that the concept of the firm in neoclassical theory differs from contemporary literature on the firm and the older works of Coase and Frank Knight in that in the latter the firm and market are substitutes, but in the former “From this (neoclassical) perspective markets and firms are not substitutes, if there is a relationship between the two it is a complementary relationship. Markets do not produce goods for others, because they do not produce” (p.9)

⁸ See Machlup (1967, p. 10) for further discussion of Thorelli’s point

⁹ It is true that in practice various principal-agent problems may conspire to distort or influence resource allocation in the firm, but these are different and subsidiary questions to the fundamental reason for the existence of the firm as supply-side correlate to the consumer.

¹⁰ The 1926 acquisition of Fisher Body by General Motors is one of the most widely debated and analysed cases in the transaction cost literature. See Casadesus-Masanell and Spulber (2000) for a recent review of the extensive literature on this subject and a reconsideration of the issues.

¹¹ I am grateful to Jim H. Love for drawing my attention to Demsetz's arguments in this context.

¹² However, Coase argues the incompleteness was specific to the lack of adequate analysis of the use and direction of capital and that the key idea in the 1937 article was still the need for comparative analysis of coordination costs of firm versus market.

¹³ I am grateful to Peter Earl for this point

¹⁴ For example, see Mintzberg (1979) for a discussion of various ways that coordination can take place within organizations.

¹⁵ Mansfield (1982, p.28) noted "Vertical technology transfer occurs when information is transmitted from basic research to applied research, from applied research to development, and from development to production. Such transfers occur in both directions, and the form of the information changes as it moves along this dimension. Horizontal transfer of technology occurs when technology used in one place, organisation, or context is transferred and used in another place, organisation, or context"

¹⁶ See Kay 1997, pp.119-20. EMI sold HMV in 1998.

¹⁷ For example, Vauxhall (GM's UK division)'s arrangement to buy engines from GM's German division at Kaiserslautern.

¹⁸ This perhaps comes closest to Coase's original statement of how internal resource allocation is carried out within the firm: "if a workman moves from department Y to department X, he does not go because of a change in relative prices, but because he is ordered to do so" (1937, p. 387).

¹⁹ Delphi, now a separate company, was formerly GM's inhouse component parts maker

²⁰ The Shanghai GM joint venture (JV) between GM and Shanghai Automotive was formed in 1997 to facilitate market access in China for Buick products. While this 50/50 JV might be expected to exhibit some market (contract) elements, the hierarchical aspect would be embodied in the shared control and administration of the venture between the two separate firms.

²¹ GM evaluates performance based on stand-alone operating segment net income and generally accounts for intersegment sales and transfers as if the sales or transfers were to third parties, that is, at current market prices.(see annual reports). Many (but not all) GM internal sales of intangible assets and intellectual property such as knowhow, trademarks, copyright, patents, educational and training services involve sharing these assets across internal segments and so would count as horizontal trades potentially generating economies of scope.

²² For example, the EPA (Environmental Protection Agency) sets standards for testing cars fuel economy. Whether or not HQ gives explicit or implicit instructions to operating divisions to conform to these regulations, HQ would still have a hierarchical role and responsibility for monitoring compliance.

²³ The trademark is used by Electronic Arts in a computer game "Speed Underground 2".

²⁴ The GM Ovonic manufacturing joint venture was formed between GM and Ovonic Battery in 1994 to produce batteries for electric vehicles. It was later terminated following GM's decision to concentrate on its core vehicle business.

²⁵ See Kay (1997, pp. 177-207) for further discussion of the role of hierarchy in joint ventures.

²⁶ I originally used the word "direction" here instead of "orientation" but Ivo Zander pointed out in a note to me that there is potential for lexical ambiguity and confusion with Demsetz (and Coase's) use of "direction" meaning instruction.

²⁷ It is sometimes argued that Teece (1980) provided a transaction cost explanation of the diversified firm. However, Teece drew on other perspectives (e.g. Penrose) to explain diversification by the firm, and should not be seen as a strict transaction cost account in the sense developed by Williamson.

²⁸ The problem of mental set is compounded by possible confirmation bias in economics in that there is temptation to look only for evidence that supports the views of the inquirer. For example, it is difficult to read a review of empirical studies of transaction cost economics (as set out in Williamson, 1985) such as that by Shelanski and Klein (1995) without feeling that confirmation bias has infused the transaction cost agenda, albeit subconsciously. Where are the studies of the boundaries of the multinational enterprise, the diversified firm and the internalisation decision regarding functions other than production, such as advertising and R&D? If transaction cost economics genuinely offered the solution to the question of the boundaries of the firm, then we should expect to see the theory venturing beyond safe havens such as the make-or-buy decision in the production department, or a few vertical integration moves in operations upstream and downstream

²⁹ See also, for example, Langlois and Robertson (1995) and various readings in Foss (1997)

³⁰ Though it could influence the decision whether or not to enter a market, and the choice of specific supplier/distribution channels in that market.

³¹ Though Coase did recognize that contracts may not be fully eliminated by internalizing activity within the firm (1937, p.391).

³² See March and Olsen (1976)

³³ For example, see Cyert and March (1963)

³⁴ There is also a continuing debate between the nexus of contracts perspective and the property rights approach (e.g. Hart and Moore, 1990) in which ownership is the key issue. See Langlois and Robertson (1995 pp. 9-10) for further discussion.

³⁵ See especially the discussion of: the distinction between operating and innovative decisions; the Briggs manufacturing company; and the Swindon project in Loasby (1976, pp. 85-88)

³⁶ This is a case where ambiguity can serve the objective of economy (in the everyday sense of the word) in that both interpretations are of course legitimate.