

FIRMS, INDUSTRIAL DEVELOPMENT, AND MULTINATIONALIZATION

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1. INTRODUCTION

The theory of the multinational corporation (henceforth MNC) has undergone a great development since Hymer's seminal contribution¹. Emphasis was mostly given to the identification of the determinants of multinationalization. The range of possible explanations - based on theories of the firm or of market structure - became so vast that it somehow forced Dunning (1981) to suggest a framework that could encompass them all.

Independently of single theories, however, a common feature was that the firm was assigned a crucial role. It was, so to say, the cornerstone of a more general theory of multinationalization.

Truly, other traditions exist - including general equilibrium theorists (Helpman, 1985) and neo-marxists (Jenkins, 1987) - which have attempted to assess the nature of multinationalization, but these traditions either neglect the firm as such or, when they acknowledge its existence, they refer to the above theories.

A yet unsolved issue is what relation there is between the behaviour of firms and the productive structure of an economy. Traditionally, in a Walrasian setting, given specific assumptions, the overall outcome of the activities of single agents was provided by the sum of individual outcomes. Once the above assumptions do not hold, the relation remains to be identified.

This is surely an issue that requires further investigation, and a solution to it is certainly beyond the scope of this paper. Regularities can be observed, however, in national economies. In this respect, Ozawa's analysis of Japanese multinationalization may be of some interest. The relation he traces between (Japanese) industrial development and multinationalization suggests an explanation for the latter which is somewhat different from that of prevailing theories, in that the conduct of single firms is not the main determinant but a consequence of other processes which occur at the level of the economy as a whole. Needless to say, this "switched" relation provides some interesting insights on the effects of multinationalization.

The above approach raises various issues which the paper aims to discuss. First, is there any logical problem that prevents the prevailing theory of the MNC from drawing conclusions on the functioning of the economy as a whole? An answer to this question allows us to understand whether we are merely confronted with different emphases among scholars or Ozawa's approach is actually at odds with (prevailing) theories of the multinational corporation. The point of departure for the present analysis is precisely Ozawa's work. The next section of this paper will outline a few elements of his work which are believed to be of great interest for the discussion that will follow. Section 3, in turn, will attempt to point to a major shortcoming in prevailing theories of the MNC: they provide interesting insights on the behaviour of single firms but cannot explain more general (nationwide) phenomena. The yet unsolved theoretical issue is that of the relation between the firm and the rest of the economy: the identification of the consequences of firm behaviour on the economy as a whole is claimed to remain an open issue because no theory has provided a satisfactory

¹. A recent survey is in Graham (1994). See also Ietto-Gillies (1992).

account of what is to substitute the Walrasian market once general equilibrium conditions are assumed away. This, in turn, suggests that there still are open issues in the theory of the firm.

Once Ozawa's original approach is acknowledged, can a unifying framework be identified that allows to understand common features and differences in national patterns of multinationalization? What common explanatory elements do different patterns have? Given Ozawa's approach, the question may be thus restated: since multinationalization depends on the nature of industrial development, what are the general traits of the latter which may help to understand the former? A related question is what role is played by the theory of the firm and how can its above mentioned open issues be coped with? Section 4 focuses on these issues. It outlines what are believed to be a firm's major objectives and the possible strategies it can resort to. The implications for patterns of industrialization and patterns of innovation are then outlined.

Finally, the implications that the above approach has on a general theory of multinationalization have to be identified. Section 5 focuses on this issue by examining a stylized correspondence between two extreme strategic models and Japanese and American historical experience. Section 6, with some brief concluding remarks, ends the paper.

2. JAPANESE EXPERIENCE AND THE THEORY OF THE MNC

In 1978 Kojima (Kojima, 1978) contrasted American and Japanese foreign investment. He argued that the former consisted in a duplication of domestic industries abroad while the latter consisted in locating abroad industries that it was not convenient to keep in Japan anymore. The distinction was interesting, even though it appeared to be more an attempt to defend Japan's multinationals than an explanation of different processes².

Ozawa (1979; see also 1991) retains the specificity of Japan's pattern of multinationalization but links it to the country's industrial development. Four phases are identified, each characterized by the leading role of a technologically homogeneous group of industries. Related to these phases are three stages in Japanese multinationalization³.

Ozawa explains switches from one phase to the other in terms of the constraints to Japanese domestic development that arise within each phase. The constraints appear as negative externalities and affect overall development more than that of each single firm's. As a result, multinationalization has to be enhanced by government intervention because Japanese firms would not be prepared to go abroad otherwise, at least not to the required extent.

². "An unfortunate pro-Japanese anti-American slant", as Cantwell (1991:38) put it.

³. Japan's pattern of multinationalization today may be somewhat different from the past, as Ozawa (1991:143) acknowledges: "For Japan, the present overseas investment boom is not merely an adjustment to the internal growth pattern but an effective instrument of the current phase of industrial restructuring at home.". I will deal with more recent issues further on.

In Japan's pattern of industrial development a leading industry (or group of industries) is made the most of until a moment comes when its potentialities are deemed inadequate. From then on, it is, so to say, discarded and relocated abroad.

The potentialities referred to are the capability to prevent - or provide a solution to - the externalities related to Japan's development⁴. As an industry develops, a solution to the problems it raises will be found only by identifying, where possible, technological, organizational or social changes. When all these possible changes have been resorted to and no solution is at hand, it is time to change the leading industry. Under these circumstances, relocation abroad relates neither to single stages in a production chain nor to single firms: it is an industry specific phenomenon.

The above approach raises two distinct issues. First, Ozawa points to determinants of multinationalization that have little or no relation to the behaviour of single firms. The question is whether the firm may still be conceived of as a (or the) cornerstone in the analysis of multinationalization. More precisely, the issue concerns the possibility that the firm be studied independently of the environment it is in.


As for the second issue, the difference between Japan's multinationalization and that of other countries is only weakly associated to given characteristics - such as resource endowments - of a country. Multinationalization is a process dependent on another process, that of domestic industrial development. To some extent this suggests that a theory of multinationalization should somehow relate to what makes industrialization different in single countries. In turn, this implies that what has to be identified is the key features of such a process, rather than those of single agents, firms, or countries.

3. EFFICIENCY, POWER, AND THE MARKET

In a Walrasian market, general equilibrium is achieved as a result of single agents acting independently of one another. For it to occur a set of conditions must be fulfilled. Information is (perfectly) transmitted all over the economic system by prices. Technology precludes economies of scale. The number of existing agents and the amount of transactions that take place prevents markets from being thin. No agent may attain more bargaining power than any other. Finally, a Walrasian market has no firms.

Theories of the MNC have (explicitly or implicitly) explained the existence of firms by resorting to two different sets of assumptions. The first approach followed is that of industrial economists. They assume away one or more of the conditions underlying perfect competition, and explain the MNC in terms of market imperfections.

Despite its appeal, this approach does not provide a framework for an assessment of the effects of the behaviour of firms. Given the existence of imperfections, it is rather difficult to understand what the effects of individual behaviour on the economy are. Indeed, it is straightforward that the conditions external to each agent which should lead to an efficient allocation of resources - in other terms, the Walrasian market - do not exist, so that cost minimizing behaviour on the part of individuals need not lead to general equilibrium or to Paretian efficiency.

⁴. These  broadly intended to include, among others, shortage of factory workers and of land, as well as pollution.

Neoclassical welfare economics has acknowledged the existence of market imperfections and the consequent need for measures to overcome them. But in the case of MNCs, imperfections are the very reasons for their existence. Thus, either they are removed, in which case multinationalization will disappear, or they are not, and a Walrasian market will not exist.

The relevance of the issue is not merely due to welfare considerations. Note that in the Walrasian framework the term "market" depicts two distinct, albeit related, concepts. First, it is the environment where agents act (an idealized town square). Second, it is a "coordination instance" (Dopfer, 1994) which determines the outcome of the behaviour of the above agents (the auctioneer or, more appropriately, the price mechanism). Once a perfectly competitive market is ruled out, the question is what substitutes the Walrasian price mechanism.

The second approach is the neo-institutionalist. It introduces a rather more elaborated notion of the market, whereby transactions would be determined not only by prices but also by transaction costs. A firm is, in this view, the efficient (cost-minimizing) reaction of agents to these specific features of the economy.

Transaction costs could be viewed as the result of imperfections (Buckley, Casson, 1976). If this were true, there would be little difference between the present approach and the one outlined above. The market would remain the same conceptualized by Walras. Its only distinguishing feature would consist in the imperfections identified. Coase's view appears to be different, however. He explicitly states that, by referring to a Walrasian benchmark, "analysis proceeds in terms of a comparison between a state of laissez faire and some kind of ideal world. This approach inevitably leads to a looseness of thought since the nature of the alternatives being compared is never clear." (Coase, 1960/1988:154).

Coase's remark points to a crucial methodological issue. Nonetheless, when a Walrasian benchmark is abandoned, allocative efficiency⁵ becomes a rather vague concept, whereby his own conclusions concerning the nature of the firm become - at the very least - shaky. When internalization is a response to transaction costs, a firm arises as an allocating mechanism alternative to the (market based) price mechanism. Under such circumstances, the Walrasian auctioneer will have little work to do. As a result neither (overall) equilibrium nor (overall) efficiency will be achievable. Furthermore, internalization may be a way to minimize transaction costs but it may be a means to set up entry/exit barriers, thereby attaining market power. Thus, either efficiency⁵ is defined as mere cost minimization - in which case agents do not maximize profits through strategic behaviour - or it encompasses both types of behaviour, and a different notion of efficiency is called for. But if a different notion is resorted to, the biunivocal correspondence between individual behaviour and overall (market) outcome remains to be proved.

Following an assessment of Hymer's contribution to the theory of the MNC, two strands of thought were identified, based on the emphasis given to efficiency as opposed to power⁶. This distinction appears to be the result of the unsolved issues concerning the effects of multinationalization: the above discussion of the viability of

⁵. It should be clear from the above discussion that the only notion of efficiency that is relevant here is allocative efficiency.

⁶. See Dunning, Rugman (1985) and Acocella (1988).

the notion of efficiency should be sufficient to cast doubt on the possibility of Walrasian outcomes to multinationalization. What may be of some interest is the theoretical framework that ensues once some form of power is assumed to exist.

A rather restrictive notion of power is monopoly power. If a firm has a competitive advantage over other firms, it is argued, it may try to use it to force them out of the market. Thus, although a firm's conduct may actually be rational and profit maximizing, the outcome may be inefficient for the economy as a whole. Strategic behaviour, as analysed in most game-theoretic models, is based on this notion of power. Game theory provides interesting insights on how single agents will use their market power to achieve their goals. However, it is basically used for partial equilibrium analysis and it cannot provide a satisfactory explanation of how the coordination instance will be affected⁷.

A broader notion of power is in the concept of control, as suggested by Cowling and Sugden (1987). Strategically minded firms are assumed to pursue dominance of production and distribution so as to maximize⁸ profits. Following Marglin (1974, 1984), emphasis is on the fact that, when the behaviour of firms is considered, "Efficiency is not the concern" (Sugden 1991:181).

It is not clear how the above statement must be interpreted. Allocative efficiency never is a *concern* in a Walrasian context, since it is merely the outcome of profit maximizing behaviour within a particularly constrained environment. Conversely, when assumptions on behaviour are different from those of a Walrasian context, as in the case of Cowling and Sugden, the economic environment and its constraints cannot but differ as well. And differences relate not only to what is *given* but also to the possibility that *changes* occur.

This issue may be better understood by considering that, in a strategic context, agents must specifically take account of the relative power they have. They do not only use given resources in the best way possible, they try to change their budget constraints. Contrary to general equilibrium theory, Cowling and Sugden assume that "initial conditions" may be changed by single agents. As a result, a Paretian comparison between two different situations - to judge whether one is unanimously preferred by all - will seldom be possible, because the initial distribution of resources - which is assumed to be given in a Paretian context - will not be so in Cowling and Sugden's environment. A different efficiency criterion is suggested by Marglin (1974). In his study of the rise of the factory system, he resorts to "technological efficiency"⁹, whereby labour is measured in terms of working hours rather than in terms of its (monetary) cost. This suggests that resources (labour) could be better allocated if prices were not taken account of, i.e. if priorities other than those of capitalism (bosses and their price related decisions) were considered; it does not provide a criterion to assess what determines the conduct of firms, and MNCs, within capitalism.

⁷. Indeed, to the extent that it does not refer to a Walrasian context, there appears to be no unifying framework and the relation between cost minimizing and strategic behaviour remains to be assessed.

⁸. Maximization is used in a broad sense. Cowling and Sugden explicitly refer to Simon's notion of satisficing behaviour.

⁹. Marglin (1974) argues that the development of a detailed division of labour within the putting out system and the subsequent introduction of the factory system, while actually depriving workers of their control over output and the production process, could not be explained in terms of their technical superiority.

An attempt to extend Paretian analysis to the evolving nature of non-Walrasian capitalism has been made by suggesting a distinction between "ex ante" and "ex post" efficiency. It is suggested that, although some agents may suffer the consequences of power, this is not the end of the story: in the end they may turn out to be better off than they were before¹⁰. The implicit assumption is that "ex post" efficiency prevails over "ex ante" efficiency. As Bartlett (1989) argues, in his examination of the tale of the ant and the grasshopper, this intertemporal comparison is somewhat arbitrary¹¹.

When cost minimizing behaviour coexists with actions aiming at dominance of a market it is arbitrary to contrast them as if they were mutually independent. In order to provide a clarifying example, consider a firm that has to choose between a scale intensive production process with strong unions and a set of small plants which - *ceteris paribus* - are technically less profitable. The latter situation, however, divides workers, thereby curbing their bargaining power and allowing firms to pay lower wages than in the former case. Cost minimization should imply not only choosing the best technology for a given wage, but taking into account the wage that will prevail with each technology used. On the other hand, mere control over the bargaining power of the workers cannot be pushed to the point that, in the pursuit of higher profit margins, overall profits are forsaken.

The upshot of the above considerations is that, when the Walrasian-Paretian framework is abandoned, the corresponding notion of efficiency - as both the determinant and outcome of individual - behaviour must be abandoned as well. If some notion of power is assumed, it cannot be assumed to coexist with (allocative) efficiency as an independent determinant of behaviour. Power - strategic behaviour or coercion of some kind - may be, in some instances, the best way to maximize profits. In other instances, it may indeed reduce profits - at least in a given period - while reducing the risk attached to the firm's activity. What is lacking is the unifying rule that explains how the two objectives interact. A Walrasian rule is inexistent. Implicit reference to it is misleading.

One of the basic features of a Walrasian environment is that agents cannot but behave in one way and that the outcome is one of equilibrium¹². Once the assumptions underlying Walrasian equilibrium are abandoned, there is no reason to believe that this should still be true.

One would expect an alternative view to be searched for. This would require the identification of the relation between the behavioural rule of single (multinational) firms and the coordination instance traditionally represented by the market. However, such a relation is difficult to identify once situational determinism (Latsis, 1972) is forsaken. As a result, the present state of the theory of the MNC seems to be that, while

¹⁰. Pitelis (1991:32) states that "the transition from the market to the firm (putting-out first, factory after) [...] involved consensus and coercion, including state intervention. Ex ante it was often undesirable. Ex post, often (Pareto) efficient!". See also Dardi (1990).

¹¹. There is no reason to believe that what the grasshopper wants just before it dies of starvation is any more important than - or comparable to - what it wanted during the summer. In both instances the grasshopper had the same time preference. Because of it, its maximizing behaviour led it to prefer an outcome during the summer and a different one when winter came. But, just as two individuals cannot be compared in Paretian terms, the same applies to a single individual on different points in time.

¹². Hence the biunivocal relation between the two meanings assigned to the term "market".

a great deal of effort goes to the identification of new explanations for the behaviour of firms, theoretical advances lag behind as far as processes and effects are concerned.

The risk is that the richness in hypotheses concerning the behaviour of MNCs may result in a broad taxonomy rather than in an exhaustive theory.

4. THE EXTERNAL AND INTERNAL GOALS OF FIRMS

4.1. Three goals

It is here suggested that a firm pursues the profit objective¹³ through different channels. When it focuses on the market, it can be viewed much like a team of people who pursue a common goal, as in Alchian and Demsetz (1972). However, when the distribution of value added within the firm is at issue, the team breaks up into at least two groups: the workers and what the above authors call the monitor, i.e. the person who organizes and coordinates production.

Recall that the profits may be determined in the following way:

$$\Pi = \Pi/VA * VA/Q * Q$$

where Π are profits, VA is value added, Q is output. The firm will pursue its profits by acting upon these three variables¹⁴. Π/VA represents the distribution of income within the firm, VA/Q is the result of inter-firm integration along a production chain, Q represents sales¹⁵.

In Alchian and Demsetz's model, circumstances external to the firm guarantee that distribution (within the firm) be determined according to efficiency-based criteria. The inconsistency of this assumption should be clear by now. What is suggested here, on the contrary, is that distribution is a conflict issue that the monitor - or employer, or boss - must necessarily cope with. Thus, the employer must pursue two goals: an internal goal (acting upon Π/VA) and an external goal, pursued by acting upon the two remaining variables: VA/Q and Q ¹⁶.

Q is affected by the nature of the goods sold (quality, price) and by entry/exit barriers in the market. In turn, the latter generally depend on technical features (e.g. economies of scale) or knowledge (e.g. technology)¹⁷. Although reference will be made to it, Q will not be central to my analysis. I shall focus on Π/VA and VA/Q . The underlying assumption is that organizational integration within and among firms is crucial to the determination of a pattern of industrial development. In turn, multinationalization acts upon national industries as they operate within the above pattern. Thus,

¹³. Profit need not be the prime objective of the firm. Here, it is taken into account to emphasize that it is not inconsistent but, rather, strictly related to the power relations that the firm establishes both with its workers and with other firms.

¹⁴. The outcome will also depend on macroeconomic factors. A global view, however, lies behind the scope of the present paper.

¹⁵. For simplicity's sake, inventories are assumed away.

¹⁵. There is no *a priori* reason why the two goals should converge. Recall the above example of a firm that had to choose between a technically efficient scale intensive production and technically less convenient but wage curbing small plants.

¹⁷. We are not concerned, here, with "external" barriers such as patents and protectionism.

only when we understand the basic features of industrial development can we assess the effects of multinationalization.

4.2. The External Goal

I shall first focus on the external goal. At any given moment it is reasonable and somewhat trivial to believe that a firm¹⁸ will try to use its inputs in the best of ways. The usual assumption would be that a series of elements is given, among these market structure. On the contrary, it is here assumed that a firm, when using its inputs, will not do so just within the constraints set by these external conditions; rather, it will do its best to change such constraints.

In an economy where information and knowledge are not perfectly transmitted, a firm aims at raising barriers to keep competitors out of a particular market¹⁹. In a similar fashion, knowledge barriers may be used to prevent suppliers or distributors from attaining excessive bargaining power²⁰.

Organizational integration and ownership integration are ways to protect a firm's knowledge. Internalization is a commonly used concept, and is meant to include both. However, ownership integration may imply control independently of any organizational link: the take-over of a small innovative firm by a large producer is a possible case. On the other hand, ownership integration need not always occur, provided that organizational links are strong enough. In some instances, these may reflect an asymmetric market power: subcontracting by large firms to smaller "satellite" firms may provide an adequate example²¹. In other cases, control may be achieved even in the absence of asymmetric market power, through interaction in production and/or in carrying out innovation. Such an organizational integration may establish "intangible links" such that an interlocking control is established.

For the sake of simplicity we may depict two extreme cases of control²²: market power *cum* arm's length transactions (MP)²³ and organizational integration (OI). The choice of the integration strategy may depend on specific circumstances, as in the examples provided above. At a given point in time, technology, transaction costs, etc. should be relevant factors. In general, however, when these factors are not assumed to be given²⁴, other elements must account for the choice.

It is here suggested that the choice between the above forms of integration - ownership and organizational - results from the degree of inter-firm rivalry: ownership

¹⁸. Note "firm" may refer both to the employer and to the organization. A qualification will be made in case of possible confusion.

¹⁹. In a neo-institutionalist framework, a rational firm would presumably compare (transaction) costs related to different distributions of knowledge, thereby choosing which is the most profitable. Internalization would result to the extent that it would reduce the firm's costs. Knowledge of costs, however, is a function of the distribution of knowledge, so that a complete comparison is hardly possible. In a situation of bonded rationality, a firm will merely try to achieve the best distribution of knowledge, even the constraints arising from the costs it knows or predicts.

²⁰. Cowling and Sugden (1987) cite Benetton's control of a network of suppliers. Much like in Marglin's analysis (1974, 1984), what gives Benetton its bargaining power is knowledge of the distribution network.

²¹. See the above mentioned Benetton case.

²². Intermediate forms are obviously possible, such as long term contracts.

²³. Ownership may be viewed, here as a special type of market power.

²⁴. We shall return to this further on.

integration prevails when rivalry is high; the obverse applies with organizational integration. This does not mean that there is a strict correlation between the two. As historical studies on the decline of the economic dominating countries of the past suggest, institutional rigidities may often prevent changes in external integration to take place (Lazonick, 1991). Technological evolution plays a role, as we shall see further on. But a crucial determinant both of these institutional rigidities and of technological accumulation is what occurs within the firm, i.e. management strategies that pursue the internal goal. It is to these strategies that we now turn.

4.3. Knowledge within the Firm

Knowledge barriers may be introduced as a means to cope with the internal goal of the employer. In order to prevent workers from having excessive control over the production process, hence excessive bargaining power over distributional disputes, their knowledge of the process ought to be reduced to a minimum.

Knowledge of the production process by single workers depends on how the latter occurs, that is, on the technical and organizational division of labour within the firm. Following Marx, Radicals and Marxists have outlined these issues. The crucial ideas are that division of labour was pursued not (only) for technical but for social reasons (Marglin, 1974) and that, to this end, knowledge was transferred from workers onto the technology incorporated in the machines (Braverman, 1974). As a result, ever more deskilled workers were dominated (subsumed) by machines, thus by the profit motive of employers.

A problem arises with this approach, namely, to what extent is a thinking human being willing to comply with requirements that are not his/hers? Why should he/she not (voluntarily or, like Chaplin in *Modern Times*, involuntarily) wish, and attempt, to escape domination from such a mechanism? To put it in more traditional terms, shouldn't the propensity to shirk rise along with the alienating nature of the technology used? Indeed, technology does not appear to warrant any involvement of the labour force, although it does constrain the actions the latter can take. Thus, not one but two problems have to be dealt with by the employer. On the one hand workers have to be controlled; on the other, their consensus has to be maintained.

This leads us to organization of production within the firm. Indeed, control requires that the skills of workers be bounded by technology. Consensus requires that workers be involved in the pursuit of the firm's profit objective. For any given technology, this will depend on the organization and coordination of labour.

We are not too far from what neo-institutionalists claim. They acknowledge that shirking is a problem, and suggest that a solution may be found by resorting to governance and/or contracts, i.e. some sort of management strategy. What is argued here is that neither technology nor transaction costs are given (or, at least, exogenous). Shirking is the outcome of an alienating technology. In turn, technology ensues from the profit motive of the employer and evolves so as to prevent excessive control of the firm's activities by workers. Management strategies, concerning the organization of production within the firm, deal with the shirking problem.

A note of caution is necessary when dealing with technology and organization of production. Despite the need for an adequate distinction between these two concepts, it is rather difficult to trace one, either in functional or conceptual terms. Functionally, technology is related both to the internal and external goals. It must allow an unequal

distribution of knowledge to occur: within the firm (to affect distribution); within the market for the firm's products (to affect the degree of monopoly), and; among vertically related firms (to affect the bargaining power of the firm with regard to its suppliers, clients, etc.). It may not meet all these requirements and, in fact, in most instances, it does not. Management strategies centred on the organization of production may thus supplement technology in pursuing the above goals.

Apart from the functions they perform, technology and the organization of production are also difficult to distinguish from a conceptual point of view. As we shall see further on, the division of labour determined by a management strategy may lead to the introduction of new machinery. In turn, this may change the bargaining power of the agents involved, thus feeding back on the organization of production.

4.4. The Internal Goal

It is now possible to outline how organization of production may be carried out within the firm. Following A.L. Friedman (1984) we may consider two extreme cases: "Responsible Autonomy" and "Direct Control". In the former "managers try to accentuate the positive peculiar aspect of labour capacity: its malleability"²⁵ (p. 179). In the second, "managers try to reduce the amount of responsibility of each individual worker by close supervision, and by setting out in advance and in great detail the specific tasks individual workers are to do" (p. 179)²⁶.

Provided that there is a continuum between the two, it is the extreme cases here outlined that we shall focus on²⁷. It is fairly easy to see that Direct Control (DC) reflects major concern for dominance whereas Responsible Autonomy (RA) is mostly concerned with consensus. DC is, therefore, based on a functional division of labour that splits up individual tasks, thus individuals' knowledge of the production process. RA, on the other hand, favours integration among tasks, thus furthers learning by doing by single workers as well as by teams, albeit within the constraints set by the given technology.

The division of labour determined by the organization of production affects the wage setting rules which, in turn, feed back on control within the firm. In fact, even if overall distribution between wages and profits were not to differ between a DC firm and an RA firm, wage setting rules do. With DC, workers may be easily classified according to their individual skills, which are strictly related to the specific task they perform. Wages depend on individual tasks.

With RA, workers are expected to gain an overall knowledge of the production process - or, at least, of a significant part of it²⁸. Interaction among individuals prevents

²⁵. Malleability consists in the fact that "you can get somebody to do something, once employed, beyond what may have been specified in the original employment contract" (Friedman, 1984:179).

²⁶. Friedman's interest is on how market conditions and expectations related to them affect the organization of the labour process. A similar approach may be found in Morroni (1991). Given that the purpose of this paper is different from Friedman's, my elaborations on his classification may differ from his original thinking.

²⁷. To simplify matters, in this section I assume away international relations. Indeed, delocalization of production could be a third possible strategy. I shall discuss this issue further on.

²⁸. This may appear inconsistent with what was said about technology as a means to deskill workers. Truly, to the extent that workers gain knowledge of different stages of the production process, the organization of production contrasts the function assigned to technology. This strategy will therefore be

wages from being strictly related to specific tasks. Wages depend on faithfulness to the firm's goals, a proxy of which is seniority.

As a result of the division of labour within the firm, internal creation of knowledge (including technology) follows different paths. As the production process is split up into independent tasks, differences between departments within the firm become stronger and interaction drops. A DC firm's R&D laboratory need not have much relations with the shop floor; indeed, it may be located elsewhere. The opposite case is that of the RA firm, whose strategy will consist in favouring interaction among departments or even "using the factory as a laboratory"²⁹.

Differences in knowledge creation are most likely to lead to differences in patterns of innovation. When the R&D department is left on its own, it will be easier for it to develop products which are independent of shop floor constraints. When the factory is used as a laboratory, on the other hand, on job learning will favour rapid process innovation within the above constraints. Thus, all other things given, it may be suggested that, within a firm, major breakthroughs and product innovations are favoured by DC while process innovation is enhanced by RA.

4.5. Firms and Industries

Management strategies are relevant as determinants of the boundaries of a firm. Even if we assume that technical (static) economies of scale apply independently of the type of management strategy, other internal economies exist. This is rather straightforward and much in line with neo-institutionalist literature. As Leijonhufvud (1985:218) suggests, "We might find a market gap between firms along the production chain at some stage where the market in the intermediate product issuing from the stage is thick enough so that firms on both sides of the gap are safe from hold-ups.". What is less straightforward is that "thickness"³⁰ is not exogenous but depends on how standardized single stages of the production chain are. This, in turn, depends on the extent to which DC strategies are pushed³¹.

The vertical and horizontal division of labour within an industry - thus inter-firm integration - is the result of the above strategies. Individual firms, however, are not independent of each other: their strategies must be compatible with the vertical division

possible only when firms are confident that workers do not use their knowledge against the firm's (employer's) interests. Technology, however, retains its function: the techniques and machinery underlying an automobile assembly plant remain substantially the same with DC and with RA.

²⁹. Y. Baba, quoted in Freeman (1994)

³⁰. Usually thickness refers to the number and value of transactions and to the number of (potential) transactors. The hold up problem may also arise in relation to the complexity of the transaction - which may involve several interdependent actions - and to the time range over which it occurs. As far as the present discussion is concerned, however, the crux of the matter does not change.

³¹. Note that, as Leijonhufvud points out, the process is not linear. "As one subdivides the process of production vertically into a greater and greater number of simpler and simpler tasks, some of these tasks become so simple that a *machine* could do them. [...] Although the tasks that become mechanized tend to be quite simple, completely standardized tasks, the machines very often will be extremely specialized to doing just this one task (or series of tasks) in the production of just one product." (Leijonhufvud, 1985:215; emphasis in the original).

of labour of their integrated sector; they must be compatible also with the horizontal division of labour of their economy as a whole³².

4.6. Path Dependence

We may summarize the discussion of this section by recalling that control is pursued within the firm and without. Control of the production process external to the firm - that is, of transactions between two firms operating on the same production chain - may occur in two extreme ways: through some sort of market power, which allows transactions to be carried out at arm's length (MP), or through organizational integration (OI). Control of the production process internal to the firm requires that its knowledge be withheld from workers (DC) or that, given their interdependence with the intangible assets of the firm, they be dependent only on that very firm (RA).

The pursuit both of the external and the internal goals may therefore entail either dominance-centred or cooperation-centred strategies. What may be worth stressing is that, whatever the strategy followed by single firms with regard to technology and the organization of production, path dependence precludes continuous changes. Apart from sunk costs related to machinery and equipment, a given organization of production determines a pattern in the interaction among individuals, as well as expectations, that cannot be drastically changed without causing serious disruption in future activity (Friedman, 1984).

As for cooperation-centred strategies, they require relatively greater continuity in terms both of the transactions carried out and of the transactors involved. Intangible links entail high sunk costs. Confidence is therefore essential, but it needs time to be established. Technology creation and innovative activity is based and, at the same time, requires such intangible links.

Given the above considerations, patterns of economic development are most likely to reflect regional regularities and specificities in the above strategies. Historical circumstances may lead to differences at the outset. Path dependence maintains them over time.

A final remark regards the relation between internal and external strategies. These strategies may be combined in various ways, leading to different patterns of industrial organization. We shall not examine these combinations in detail but focus on a specific issue, namely the relation between these strategies and competitiveness. When discussing technology, reference was implicitly made to the production process, rather than to specific goods³³. Even though the distinction between process and product technology is not wholly satisfactory, we may assert that a given product may be obtained through different processes. To the extent that different processes may coexist within a productive technology, it can be argued that each firm may find a specific synthesis - or a compromise - between the goals it pursues on the goods market and its strategic requirements.

³². The conceptual relation between vertical (within a manufacturing process) and horizontal (among processes) division of labour is discussed in Leijonhufvud (1985).

³³. Technology relates both to production techniques and machinery and to types of products: steel manufacturing implies given production techniques, although these may coexist with different internal organization strategies. It is nonetheless a wholly distinct technology with respect to cast iron. See Aoki (1990) for a description of different organization strategies within the steel manufacturing technology.

A relation was identified, however, between the organization of production within the firm (DC or RA) and the innovations most likely to occur (product or process respectively). This suggests that competitiveness in industries where product innovations are searched for, and where the R&D department has a prime role, will presumably be fostered by DC and MP³⁴, while competitiveness in industries where product differentiation is most important may require RA and OI.

In the section that follows I shall focus on two extreme cases: the "American" (DC-MP) and the "Japanese" (RA-OI). Although I do not intend to discuss the other two, I do wish to point out that they may also be found. RA-MP is implicitly discussed by Friedman (1984) and explained in relation to the expectations that managers have over market demand. As for DC-OI, it is often the outcome of a strong process of technological competition, whereby firms establish joint ventures or other cooperative agreements in specific areas of their business activities.

5. PATTERNS OF MULTINATIONALIZATION

We may now return to multinationalization. Leaving aside intermediate situations, I wish to focus on the two extreme cases, which are named "Japanese" and "American" but obviously do not represent the richness of these nations' historical experiences.

Japanese multinationalism, as depicted in section 2, is consistent with the prevailing strategies adopted by Japanese firms in the pursuit of their internal and external goals. The model of the Japanese firm (Aoki, 1990) is basically founded on Responsible Autonomy (internal goal) and on strong Organizational Interdependence among firms operating along the production chain (external goal). The above discussion pointed out that such strategies favour process innovation and, in general, innovations within a given technology. When the technology associated to the dominating industry is "mature" in the above sense, there is little capability to switch to a new technology within the same industry. Furthermore, since firms are so interlinked, should only one part of the (production) chain be removed, the whole system would be disrupted³⁵. Thus, it is the industry as a whole that has to be relocated.

The obverse applies to the (extreme) American model, based on Direct Control strategies (internal goal) and on monopoly power *cum* arm's length transactions with other firms (external goal). Here, it is product innovation and overall changes in technology that are favoured. So an industry is not abandoned but, rather, changed. Multinationalization consists in the duplication of productive plants abroad, independently of a specific industry. At the very least, it may consist in relocating plants that produce obsolete goods or apply obsolete processes, but the industries will be the same as in the home country.

³⁴. With DC the R&D department is left unconstrained. Similarly it may be suggested that, with MP, venture capital leaves small innovative firms unconstrained. A DC-OI combination may nonetheless be effective: this is a frequent case with firms of the same size cooperating in hi-tec sectors.

³⁵. Obviously this need not be the case if multinationalization regards the marketing of the goods produced or customer related services.

Historical characteristics of the two countries may have favoured these two models. Cultural traditions such as individualism in the US and the feudal heritage in Japan favoured the adoption of different management strategies. These, in turn, provided a pattern of innovation that was consistent with the technological potential of the two countries³⁶. But the crucial point is that the models had a momentum of their own in that they retained and reproduced the basic features of these historical characteristics³⁷.

Ozawa points out that the ultimate cause of Japanese multinationalization is Japan's pattern of industrial development. Obviously, one might look at multinationalization from a single firm's point of view, whereby each MNC would have a determinant (or set of determinants) of its own. A great deal of information and theoretical understanding would be lost, however. The approach suggested here is that if we try to establish a link between prevailing management strategies - as they are reflected in the pattern of industrial development - and multinationalization, not only will a more thorough view of the above processes be possible but it may be easier to appreciate the very effects of multinationalization.

Consider the two cases, here depicted as Japanese and American. Assume an industry lacks the innovative potential to overcome the problems it raises so that market prices and/or shadow prices rise relative to the single firm's prices. In the former case the single firm may find it convenient to switch to new activities, at least at home. In the latter case, public measures might be taken to merely raise private costs³⁸. Either way, in the absence of other government interventions, the choice whether to go multinational or not will depend on single firms.

In the Japanese model, this mechanism may disrupt intra-industry relations. The whole system of innovation would be affected. This, in turn, would feed back on the firm's competitiveness. To make this point clear consider the following example, which allows us to focus on recent changes in Japanese multinationalization.

The industries that tend to become leaders in Japan's most recent phase of industrial development are on what is generally named as the technological frontier. Relevant innovations in these industries are less adaptive and process oriented than radical and product oriented. This implies far-seeing and financially demanding R&D investments. Innovations may have to be sought in international centres of excellence, far from where production is located (Cantwell, 1989). The rationale of technology acquisition is different from the past, when an original technology was obtained abroad and competitiveness was pursued through adaptations. Today competitiveness lies in the very novelty of the technology.

Thus the Japanese model of management strategies fits awkwardly with the competitive requirements its industrial development has led it to. A change is called for. One possible outcome is that cooperation with other firms at the international level is pursued to the point that it substitutes those in the home country. Should this occur, Japanese MNCs would possibly gain in rapidity of novelty acquisition, but the overall

³⁶. At the end of World War II the US had a technological leadership while Japan had little technological capacity.

³⁷. "Despite the existence of militant unionism in Japan at various points in the first half of the twentieth century, there was never any attempt by Japanese workers or organizations to establish *craft control* on the shop floor." (Lazonick 1991:43; emphasis in the original).

³⁸. Other measures are possible, obviously, but we wish to focus on the outcome of individual strategies.

competitiveness of the Japanese economy could be jeopardized, with negative feedbacks on the very MNC.

The American model appears not to be subject to these problems, because inter-firm cooperation is not crucial to its pattern of industrialization. Other problems, symmetrical to those that apply to Japan exist, however. Consider the consequences of an exogenous phenomenon such as monetary policy. When high interest rates prevail, firms focus on short-term returns. The division of labour associated to DC implies that everyone focus on his/her specific goal. Historical experience shows that, as a result, "the most successful middle managers became those who cut costs on the basis of existing technologies, as distinct from those who could contribute to process and product innovation." (Lazonick, 1991:49-50).

Under these circumstances, multinationalization as a cost cutting strategy might be effective in the short-run and it would do little harm to inter-firm relations in the USA. However, by shifting priority from innovation to cost cutting, it would certainly weaken the firm's and the country's technological capacity in the long-run. Multinationalization would enhance a loss of a general view of the firm's objectives. The same would not apply in Japan, where cost cutting goes along with process innovation and is therefore not inconsistent with the firm's long-run goals.

Such different effects of multinationalization are identifiable only because the latter is viewed in relation to the pattern of industrial development of the country (or countries) concerned, i.e. in relation to the prevailing patterns of integration in production. As in Cowling and Sugden these are not restricted to ownership, but include less formal links as well.

Note, however, that resorting to a broader concept of integration is not enough: effects cannot be properly assessed if prevailing patterns are disregarded. Consider, for instance, a "divide and rule" strategy. Here, the consistency between a firm's strategy and what occurs in the home industry is not taken into account. The assumed effect tends to be univocal, e.g. the curbing of union power and consequent increase in the (multinational) firm's overall control. Conversely, the above examples show that multinationalization may be detrimental both to industrial systems and to the profitability of the firms involved³⁹. The patterns of inter-firm relations and/or those of innovation may be disrupted within the country or area of origin. The global trade-off between the objective pursued and the effect on the overall productive structure may turn out to be different from what the single firm expected, especially when the latter's time preference was reduced by exogenous circumstances.

Since effects depend on the underlying process of industrial development, a theory of the determinants which were to neglect such a process would preclude a full understanding of the phenomena under exam. Such an approach might even be misleading, should multinationalization result directly from industry- or nation-specific circumstances. Truly, firm-specific determinants would always be identifiable, but the actual nature of the process would not be grasped.

6. FINAL REMARKS

³⁹. Obviously a "ceteris paribus" condition is assumed. This need not imply that negative effects will actually occur, but that, as a first approximation, things may not turn out as expected.

At the outset of this paper I drew on Japanese experience to point out that there is a gap between theories of the MNC on the one hand and explanations of multinationalization processes on the other. I claimed that prevailing theories identify determinants of multinationalization within an implicit Walrasian framework, thereby assuming the applicability of the notion of allocative efficiency and the biunivocal relation between firms and markets that is typical of situational determinism. Even when Walrasian assumptions are abandoned, a univocal relation is assumed between a firm's behaviour and the ensuing environment, where determinants seem to be independent of the surrounding coordination instance.

Drawing on Ozawa's approach, I suggested that a different framework should be envisaged. Multinationalization would then be an outcome of the pattern of industrial development of a country. By industrial development I meant not only what industries are prominent in an economy but, above all, the prevailing forms of integration in production.

A major role in the determination of these patterns was assigned to the way firms pursue their internal and external goals. Technology and the organization of the production process were viewed, in this regard, as crucial features in strategies that attempt to determine distribution, innovation, and the very boundaries of the firm. Firms, however, were not viewed as mutually independent but, rather, as dependent both on existing patterns of integration and on institutional and technological conditions.

The ensuing framework, albeit tentative, tries to relate an economy's features to the behaviour of the firm but it does not attempt any reductionist microfoundation. It allows to understand differences in national patterns of industrialization and multinationalization and it also suggests that the effects of multinationalization need not be those expected by a single firm. Indeed, they may turn out to be detrimental both to the home country and to the home firm.

The American and Japanese cases have been considered as two extremes. The relation between pattern of domestic industrialization and pattern of multinationalization may be extended to other situations, however. Reference to national environments need not imply that the latter are homogeneous in terms of patterns of integration. Italy is an interesting case, in this regard, since it is characterized by a peculiar mixture of the two above depicted systems. Some industries developed according to Direct Control and Market Power *cum* arm's length strategies and are presently confronted with the need to keep their technological standards in line with international technological competition. Other industries developed according to Responsible Autonomy and Organizational Interaction strategies, thereby gaining a competitive edge by resorting to process innovation. Two distinct patterns of industrialization may be depicted, in this regard (Becattini, Rullani, 1995). Patterns of multinationalization also vary a great deal. In some instances they may consist in a geographical decentralization of production to cut unit costs (Acocella, Ramazzotti, 1995) while in others they may be a means to achieve "transnational technological cross fertilization" (R. Grandinetti, E. Rullani, 1994).

The above discussion suggested that the two extreme models could be affected in opposite ways by exogenous events such as technological competition or monetary policy. The rough and ready conclusions drawn for these extreme cases require a great

deal of adaptation if more complex environments are to be explained. No single exit solutions are available. The above framework may nonetheless be helpful.

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