# Literatur - Literature

## What Is Internalization?

By

**Jean-François Hennart**

### I. Introduction

The major advance of the last ten years in the theory of the multinational enterprise (MNE) has been the development of internalization models [McManus, 1972; Buckley, Casson, 1976; Casson, 1979; Rugman, 1981; Calvet, 1981; Teece, 1981; Hennart, 1982]. These models, although for the most part developed independently, parallel Williamson's pathbreaking work on the relative efficiency of market, hierarchies, and intermediate modes [Williamson, 1975; 1979; 1981].

To say that the firm will internalize a transaction wherever the cost of using spot markets or contractual agreements is higher than that of organizing it within the firm is a useful starting point. Yet it does not bring us far enough. Hence Buckley's [1983, p. 42] description of internalization as "a concept in search of a theory". A theory of internalization should explain *why* there are differences in the costs incurred between firms and markets in organizing a given transaction. It should, in other words, describe the advantages and defects of both types of organizations.

Internalization theory has convincingly shown why markets and contracts experience high transaction cost. It needs to explain exactly why firms can be efficient institutions to organize exchange. The goal of this article is to clarify the reasons why firms are, in some specific cases, more efficient than markets. In the course of the discussion, three main points will be made.

*(i)* Firms are not more efficient than external markets because they are better at using market processes, but because they use a totally different method of organization which we will call hierarchy. The hierarchical form of organization replaces price by behavior constraints. Hierarchy has weaknesses of its own, and these weaknesses can lead to organizational failures.

*(ii)* Contrary to what is sometimes suggested, internalization does not allow the firm to avoid the market, but shifts the firm/market interface by replacing a series of market

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(or contractual) transactions by one single employment contract.

*(iii)* The same transactional analysis used to account for market failures can thus be used to explain why firms fail. Market failures arise from the high transaction costs experienced in acquiring intermediate inputs. Firm (or hierarchical) failures are due to the high cost of contracting for factor services.

The paper will be organized as follows: Section II critically examines the reasons given in some of the internalization literature for the comparative advantage of firms over markets. Section III presents an alternative explanation of why internalization can, in some cases, reduce transaction costs. Section IV shows why firms use an untidy mixture of market and hierarchical processes. Section V discusses the cost of internalization and the strategies available to reduce them. The final section summarizes the argument.

## II. Firms as "Internal Markets"

Although they differ in details and emphasis, the major proponents of internalization agree that many international markets (and in particular those for know-how) are characterized by high transaction costs. Firms will then become a relatively efficient mode of organization. Left at this point, the argument would be a *non sequitur*. Just because markets fail does not imply that firms will succeed. One must therefore also explain why firms are superior to markets in those circumstances. And here there is no general agreement.

For Buckley, Casson, and Rugman, firms are sometimes more efficient than markets because they are able to replace the missing external market by an internal one. Rugman [1981, p. 28], for example, argues that "the internal prices (or transfer prices) of the firm lubricate the organization and permit the internal market to function as efficiently as a potential (but unrealized) regular market".

Buckley [1983, p. 45] makes the same point: "It is mistaken to equate the internalization of activities with the centralization of those activities ... One solution for an MNE is to operate as closely as possible to a perfect internal market. This is likely to involve decentralized profit centers transmitting shadow price signals to other decision makers within the organization (in costs or profit centers)". And Casson [1981, p. 18] states: "The rationale for the MNE is that it reduces transaction costs by buying up complementary assets located in different nations and integrating their operations within a single unit of control. In doing so it creates an "internal market" for the intermediate product. The concept of an internal market is particularly apt if administration within the firm is decentralized, with powers of control delegated to the managers of individual plants. In this case control over the intermediate product actually changes hands as the product moves between plants, though ownership of the product does not".

What internal markets are, and the extent to which they differ from external markets, is not absolutely clear. Buckley [1983, p. 65] distinguishes his view of internalization from Williamson's "market and hierarchies" paradigm. He argues that "whilst an internal market may involve a hierarchical, administrative solution, it is also consistent with an allocative system based on decentralized shadow (transfer) prices". Similarly, Casson's position [1982] is that internalization does not necessarily imply shadow prices, but neither does it necessarily require hierarchy.

Buckley and Casson's views on "decentralized internalization" thus seem to draw in part from the economic planning literature [Heal, 1973]. Intrafirm coordination is achieved by letting each employee maximize his profits given internal prices. The firm then taxes those profits so as to leave its members with an income just sufficient to keep them in their present employment. This is the framework implicit in Hirshleifer's [1956; 1957] derivation of efficient intrafirm transfer pricing rules. The difference between an internal and an external market would thus seem to be that while external prices are exogenously determined by the independent actions of market agents, internal prices are centrally set at the firm's headquarters. This is a superior alternative whenever small-number conditions would result in excessive bargaining and opportunism between market traders [Casson, 1981, p. 18].

Does internalization consist in the substitution of internal for external prices? Is the distinguishing characteristic of firms the use of internal prices? Although the concept of "internal markets" accounts for some of the features observed in firms, my view is that it fails to capture their most specific characteristic. The productive activity of the overwhelming majority of employees is not directed by prices, but by directives, either formalized through company rules, directly voiced by superiors, or internalized through indoctrination. Most employees are not rewarded on the basis of their output, measured at market prices, but according to their obedience to rules, orders or traditions. At the division level, internal prices also play a limited role. Firms which are functionally organized do not make use of internal prices. Even in multidivisional firms the use of internal shadow prices is seriously limited by interdependencies and measurement problems[1].

Furthermore, the description of internalization as setting up an internal market does not seem to adequately describe business behavior. A firm that integrates vertically forward or backward does not use "internal markets" to coordinate its upstream and downstream activities. Setting up such a market would mean, in this context, using transfer prices to guide, measure, and reward the performance of the managers of its upstream and downstream divisions. A firm that integrates vertically does not make use of this coordination mechanism, for to do so would recreate the bargaining situation it has sought to avoid by taking over its supplier or customer. Instead the newly acquired operations are usually operated as cost or revenue centers [Chandler, 1962].

Although firms do sometimes rely on internal prices as a method of organization, the use of such prices is not their distinguishing mark. The firm does not displace the market because it is better at doing what the market does, but because, as we will see, it uses a completely different method of organization. To describe internalization as the replacement of an imperfect external market by a more efficient internal market seems therefore to obscure what is distinctive about internalization.

## III. Why Hierarchies Are Efficient Organization Modes

This section develops a theory of the firm based on Hennart [1982]. The argument is that markets and firms are alternative ways of organizing economic activities, but that

[1] For a detailed exposition of why true internal markets are unfeasible, see Hoenack [1983, p. 42]. As we will show in Section IV, the measurement difficulties which are inherent in using internal prices to guide and reward an employee's performance manifest themselves very clearly whenever the firm attempts, albeit in a limited way, to reintroduce some prices in its control system.

they differ in the method they use to constrain behavior and therefore they experience, for the same transaction, different levels of organization costs.

Any institution attempting to organize economic activities must perform three tasks: It must communicate to parties the impact of their decisions on others; it must curb bargaining; and it must reward individuals for taking into account the needs and preferences of others.

Markets rely on prices to perform these functions. In perfect markets (i.e., in the absence of transaction costs) prices convey information about the social consequences of everyone's actions and provide agents with the information necessary to reach optimal joint decisions. The large number of buyers and sellers makes prices exogenous, thus eliminating incentives for bargaining. In a perfectly functioning market system, prices automatically meter and reward productive behavior: Increasing output at a given market price raises gross income by the same proportion. The possibility of instantly switching business away from dishonest traders makes trades self-enforcing.

In the real world, however, markets are seldom perfectly efficient (transaction costs are positive) and prices fail to perfectly constrain individual behavior to make it consistent with social welfare. When the number of potential buyers and sellers falls, prices are no longer exogenous, and bargaining becomes possible. At the same time the small number of potential individuals with whom to trade may make it impossible for an aggrieved trader to switch trading partners. Measurement costs will make the price of some goods and services deviate from their social value. In the case of goods such as clean air and silence there may be no prices at all. When markets fail, parties to the exchange may benefit from using an alternative organizational mode.

One can conceptually describe a firm as a set of contractual relationships (employment contracts) by which a group of agents (the firm's employees) delegates to a central party the right to constrain their behavior. When that delegation is total, we call the subsequent organization mode "hierarchical". Under hierarchy the employee totally relinquishes to a central party (the employer) his right to make decisions about the allocation of his own resources (such as his labor-time and effort) and instead agrees to do what he is told (within the constraints established by social customs). Naturally, no individual would accept to let someone else allocate his productive time and effort if he was also paid in proportion to his output measured at market prices, for he would then run the risk to be ordered to perform tasks which would not maximize his income, and he would personally bear the costs of this misallocation. Consequently, a pure hierarchical system does not reward employees in function of their market-measured output, but according to their obedience to managerial directives. Employees will thus be indifferent about the allocation of their resources within the firm because they will not bear the monetary consequences, and the detailed direction of tasks will be easily performed by managerial fiat.

It is easy to see why a shift to the hierarchical mode can remedy market failures. In a market system, each individual maximizes his income, taking prices as given. Such a system will be inefficient if market prices do not adequately reflect social costs and benefits, as agents will be incited to use too much of the inputs priced below social cost and too little of those priced below social benefits. Such a behavior will generate externalities and fail to maximize joint income. Organizing the activity within the firm (internalizing the transaction) extinguishes the externalities because it (1) modifies incentives and (2) remedies the failure of prices to provide information.

## 1. Internalization Shifts Incentives

Assume that "in the beginning there were markets". A shift to a hierarchical mode of organization means that the erstwhile traders become employees, no longer directly rewarded by market prices, but by the extent to which they obey managerial directives. Internaliziation reduces the incentives that market traders have to maximize the output of unpriced "bads" (or to minimize that of unpriced "goods") by weakening the link between their salary and their performance. Unfortunately the process also reduces incentives to maximize factors which were previously well constrained by market prices, principally the agent's initiative and work effort. Because his rewards will now be less directly linked to his market-measured output, an employee's incentive to work or more generally to maximize his employer's welfare will be weaker than that of a self-employed individual[2].

## 2. Internalization Provides the "Right" Information

Recall that, in perfectly functioning markets, prices provide the signals necessary for optimum joint decisions. Prices are a very economical way to perform this task, since in one single signal they provide all the information needed for agents to reach a Pareto-efficient outcome. When markets fail, however, prices are no longer "sufficient statistics". Agents are then guided by signals which systematically underprice or overprice some activities. The alternative is for each trader to provide every other trader with a full set of directives which substitutes for the inefficient prices. This would be very costly. In a hierarchy this problem is solved by reducing the information needs of interacting parties. Since they no longer make allocative decisions, employees need not be apprised of all the relevant information. All they need to know is their work orders. Here again hierarchy solves the problem of inefficient markets not by duplicating market methods, but by switching to a radically different information structure.

Consider for example an innovator who needs to purchase complementary inputs to manufacture his invention. Given the low probability attached by outsiders to his succeeding, high prices may be insufficient to persuade suppliers of the complementary inputs to tool up for their production. By internalizing the transaction (hiring his suppliers) the innovator dispenses himself from having to communicate to all suppliers all of the relevant information about his invention, a task made necessary by failing prices. All he has to do is to tell his new employee what to supply. The latter are no longer hesitant to produce since their earnings are now independent from the particular tasks they are undertaking [Silver, 1984]. On the other hand, they will also be less motivated to gather and make use of market and technical information than when they were on their own and stood to benefit from it.

## 3. An Example

An example will clarify our argument. Whenever the quality of a good cannot be evaluated before its purchase, as in the case of restaurant meals or hotel nights, the use

[2] Scitovski [1976, p. 95] presents data that shows that in Austria self-employed individuals worked in 1970 thirty percent more hours per week than did employed workers in the same industries [quoted in Clark, 1984, p. 1074].

of a trademark will economize on a customer's search costs, and buyers will be willing to pay a premium for such trademarked goods and services. Once established, a trademark can thus be sold to local providers of the good or service, or used by the trademark holder in its own company-owned outlets.

One problem with the sale of the trademark to independent producers is that of free-riding. If consumers are mobile, all the outlets bearing a trademark are interdependent, in the sense that the quality of the goods and services supplied to anyone using the trademark will affect the profits of all who share in that trademark. An independent purchaser of the trademark can thus maximize his income by reducing the quality of the good or service he produces. If detection of his behavior entails positive costs, a cheater will be able to capture some of the savings from producing a lower quality good, while the losses from this reduction in quality will be shared by all others using the trademark through the fall in its global value.

Market exchange could theoretically solve this problem. One could set up a market in the quality of service of those sharing the trademark, by which an outlet which lowers the quality of its services would have to pay all the other trademark users compensation equal to the marginal loss imposed on them. Naturally the high cost of detecting variations in quality and their impact on each outlet sharing the trademark makes this solution impractical [McManus, 1972, p. 81].

Another strategy is internalization. The firm which switches from selling its trademark to independent producers to owning its own trademarked outlets does not establish an internal market for the firm's reputation; it does not let its managers maximize the revenues of the outlet subject to a positive price to be paid to headquarters should they reduce the quality of the services they produce (or a subsidy should they increase it). Internalization solves the free-riding problem by shifting the incentives facing outlet managers. By paying these managers a straight salary unrelated to the outlet's returns the firm suppresses any incentive they may have to free-ride on the goodwill capital of the system by reducing quality. Reducing the link between profits and salary has, however, an unfortunate side effect. The employee has no longer any motivation to supply any effort not explicitly specified and measured by his employer. The trademark owner will thus have to invest resources in eliciting from its employees a minimum of work effort.

The comparative advantage of internalization is in this case the elimination of free-riding. But with this advantage comes an increased incentive to shirk and a decreased incentive to collect and act upon new market or technical information[3].

## IV. Market Processes within Firms

Transactions are shifted to hierarchy whenever an individual's income maximization leads him to generate an inefficiently large amount of negative externalities or an

[3] In a comparison of two sets of franchises, one operated by franchisees, the other run temporarily by experienced managers motivated by bonuses that could reach 33 percent of their salaries, Shelton [1967, p. 1202–58] found that franchisees earned higher net returns. When company employees followed franchisees, sales fell on average by 7.3 percent, whereas when franchisees followed employees, sales increased on average by 19.1 percent. Shelton also reports that the net revenue/sales ratio was 1.8 percent for company-run outlets, and 9.5 percent for owner-managed

inefficiently small amount of positive ones. Hierarchies reduce such externalities by disconnecting rewards from output, and thus eliminate incentives to produce those negative externalities which are a by-product of maximizing output. In the case of trademarked goods described earlier, a shift to company-owned outlets lowers incentives that trademark users have to free-ride on the trademark by paying them a salary which is weakly linked to their performance. The unfortunate result, however, is that managers of company-owned outlets have, in general, weaker incentives to maximize output than self-employed franchise holders.

We posit that hierarchies are also more efficient than markets whenever prices are "insufficient statistics". In that case, the shorthand of prices would elicit inefficient response. Conveying exhaustive information to all cooperating parties would be exceedingly costly. The hierarchical solution is to centralize information in the party best able to process it (the employer) and to communicate to employees by rules or directives the small piece of information relevant to their task. This system is efficient as long as the employer possesses better information than the employee, for it does not encourage the employee to gather and transmit information to the employer.

Internalization thus lowers external costs of trading in inefficient markets, but, in so doing, it generates new and different problems, namely it reduces incentives to work and to collect and use information. These two defects, which are inherent in hierarchy, constitute what we shall call "internal organization costs".

The method used by firms to control internal organization costs will vary according to two main variables: *(i)* the knowledge that employers have of the worker's production function; *(ii)* the employer's ability to measure output [Ouchi, 1979].

Whenever management's knowledge of the transformation process is superior to that of the workers, but output is difficult to measure, the firm's control system will most closely resemble that used in a pure hierarchical organization (for example the army). Workers will be told specifically what to do, their behavior will be monitored, and they will be rewarded by the extent to which they have obeyed the directives of their superiors.

The most difficult control case is when the worker's knowledge of his own production function is better than that of management's, and his output is costly to measure. This situation is characteristic of most professional work. Efficiency requires that production decisions be left with the employee, yet output checks are ambiguous or impossible. The best strategy is then to persuade workers to internalize the employer's values so that they act, without specific directions, in the employer's best interests. Through careful hiring and extensive socialization and training the goals of the employee are made congruent with those of the employer. As a result employees voluntarily choose not to shirk [Ouchi, 1981, pp. 414–415].

The last case is when management has an information disadvantage vis-à-vis the worker, but output can be measured at reasonable cost. Close supervision would be inefficient, and observing behavior is a poor prediction of performance. Giving workers specific orders would be suboptimal, since the worker himself knows better than his boss the best way to achieve management's goals. The firms will then selectively reintroduce a market mechanism by establishing a link between rewards and output

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ones. Eleven of the twenty-four establishments managed by employees made losses, vs. two of the twenty-nine managed by franchisees.

[Ouchi, 1979, p. 843]. Examples are piecework schemes, commission payments, and bonuses paid to division managers on the basis of the profits achieved by their sub-units.

Linking rewards to outputs measured at internal prices, i.e. setting up an internal market, is thus only one of three possible methods that management can use to reduce internal organization costs. This method, however, suffers from one major limitation. To the extent that it reduces shirking, it also increases external effects. The use of output-linked rewards in firms is therefore limited. The firm has internalized market transactions because all dimensions of performance could not be adequately measured through market prices. Output-based incentive payments will incite employees to maximize output in order to maximize their income, but in so doing they will also maximize or minimize those dimensions of performance which are not easily measurable.

Control in MNEs illustrates all the preceding points. MNEs experience particular problems in this regard for the following reasons: *(i)* observation of behavior of subsidiary managers is made difficult by geographical distance; *(ii)* foreign environments are so different from domestic ones that local managers usually have a substantial information advantage over headquarters, thus central direction would be inefficient; *(iii)* volatile conditions make it difficult to routinize rules, while distance hinders rapid responses by the head office; *(iv)* the presence of foreigners among the firm's employees increase the cost of socialization[4].

The difficulty of monitoring the behavior of foreign subsidiary managers from the head office and the fact that locals usually have much better knowledge of local conditions than headquarters makes it very costly to use a purely hierarchical system by which local subsidiary managers would be left with no discretion as to local production and allocation decisions. These factors would, by themselves, argue for decentralizing the operations of the firm by setting up each foreign subsidiary as an independent profit center, leaving these units free to negotiate internal transfer prices, and rewarding each subunit manager on the basis of its profits.

Although there is no doubt that these schemes strongly motivate foreign subsidiary managers to increase their effort and to be alert and responsive to local market conditions, the externalities generated are often so large that many management writers [for example Shapiro, 1984, p. 19; Robbins, Stobaugh, 1973, p. 511] advise against evaluating and rewarding the performance of managers of foreign subsidiaries on the basis of the subsidiary's profits. Instead they suggest that managers should be evaluated by comparing actual results with budgeted figures.

The reason is that the use of a decentralized system of the internal market type will incite managers to maximize the subsidiary's income at the expense of those company-wide objectives which are poorly - or not at all - reflected in shadow prices. There are two main reasons why shadow prices will fail to completely reflect these goals. First, since subsidiaries are not free-standing entities, and since they are usually not quoted on local stock markets, there is usually no indication of the impact of a subsidiary manager's present decisions on the subunit's future profit stream. As a result, bonuses paid to affiliate managers are often related to the subsidiary's annual profits, thus inciting managers to maximize present income at the expense of future profits by, for example, reducing maintenance or research and development budgets, jeopardizing long-term

[4] Using expatriate managers is not a clear-cut solution to this problem, as they tend to "turn native" if assigned to the same country for any length of time.

government relations, or making such high profits as to invite future entry.

The second reason why internal prices may fail to constrain perfectly the behavior of managers of subsidiaries is that many interdependences within the MNE are difficult to price. To return to our earlier example, it is impossible to put a price on the net marginal loss inflicted on the MNE system whenever a subsidiary using the parent's trademark reduces quality below the norm. The Table lists a number of other spillovers which are difficult, if not impossible, to mediate through internal prices. How does one price, for example, a subsidiary's use of a parent guarantee in raising funds, or a subsidiary's investment in standby facilities to be used by the parent in an emergency? What price should be assigned to a manager for the loss of reputation incurred by the firm when he follows unethical or illegal practices?[5]

*Resources Used and Benefits Generated Which Are Difficult to Price*

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|---|
| *Resources Used:* |
| 1. Parent's management commitment in the establishment of the subsidiary and in its subsequent operation |
| 2. Subsidiary's use of parent's guarantee in raising funds |
| 3. Subsidiary's use of accumulated information and procedures of the enterprise |
| 4. Subsidiary's use of trademark and trade names of the enterprise |
| *Benefits Generated:* |
| 1. Subsidiary's availability to parent and affiliates as a source of supply or an outlet |
| 2. Subsidiary's availability as an alternative source of supply in an emergency |
| 3. Subsidiary's contribution to information regarding the local economy or similar economies for the benefit of parents and affiliates |
| 4. Subsidiary's contribution to parent and affiliate in extending the use of trademark and trade name |

*Source:* Vernon, Wells [1981, Table 3-3, p. 62].

Recall that prices also serve to provide information to agents to guide their behavior so as to maximize joint income. An inability to assign correct prices to some spillovers implies that subsidiary managers will act upon incomplete information, and will remain unaware of the consequences of their actions on the MNE as a whole.

The difficulty of pricing these spillovers has led headquarters of MNEs to impose nonprice constraints on affiliate managers. These constraints limit their freedom to generate external effects. For example, headquarters generally establish minimum quality standards to be followed in the production of goods bearing the MNE trademark, specify how much and where subsidiaries can borrow, and decide which

[5] If one is to believe top management's assertions that they did not explicitly direct the behavior of their subordinates, then the two recent examples of E.F. Hutton and Union Carbide show the dangers of inciting subordinates to maximize their unit's income while simultaneously failing to constrain some dimensions of their behavior.

subsidiary will export to whom and at what price. Control, however, is costly: it increases shirking by managers and lowers their incentive to gather and act upon local information. The MNE will therefore centralize (i.e. control through rules which constrain behavior) only those dimensions of performance which cannot be specified in internal prices[6].

Consequently, there will be great variations in the extent to which MNE are centralized. At one extreme are the subsidiaries which interact weakly with other operating units of the MNE because they use few unpriced corporate resources and contribute little to the rest of the system; they will be left relatively autonomous. At the other extreme are the foreign operations of vertically integrated companies where production will be subject to explicit rules emanating from headquarters.

In the preceding pages we have argued that firms shift transactions from the firm to the market because market prices fail to efficiently guide and reward behavior. For a whole range of transactions, no internal prices can be set so as to solve this problem. The only method available to internalize these externalities is to use a different mode of organization. The essence of internalization is not, therefore, the replacement of external by internal prices, but that of (inefficient) prices by behavior contraints[7].

## V. Hierarchical Failures

It is important to realize that internalization is not a total substitute to external markets. Internalization does not eliminate the firm/market interface. It merely shifts it, by replacing a transaction for intermediate inputs by an employment contract. The decrease in market transaction costs is therefore always mitigated by an increase in internal organization costs.

Consider the case of a domestic company which has discovered a new process applicable in the manufacture of a particular good (for example automobiles) in a foreign country. The firm could license its innovation to a foreign manufacturer.

Internalization proponents point out that markets for know-how are, however, highly imperfect because intellectual property rights are poorly enforced by national

[6] Note that the problem of specifying internal prices discussed here is conceptually different from that of having to set such prices centrally to maximize enterprise-wide objectives, such as the minimization of worldwide taxes. Tax savings can be obtained if the firm's internal prices can be made to diverge from arm's length prices. As a result, a subsidiary's reported profits will differ from its "real profits", and rewarding managers on the basis of these reported profits will have strong disincentive effects. A widely used solution is to keep two sets of books. One will be for the tax authorities. The other, used to judge the profitability of subsidiaries and to reward their managers, will record results at arm's length or unbiased internal transfer prices. See for example Brooke, Remmers [1972, p. 20].

[7] Williamson [1984] argues along similar lines in a rich and insightful article which I saw after I had finished this piece. For Williamson, the limits of firms come from the fact that they do not make use of the "high-powered incentives" offered by markets. Williamson does not provide, however, a *general* theory of why firms cannot provide such high-powered incentives. Another specific contribution of this paper is the identification of the cases where the lack of high-powered incentives is likely to be especially costly. Lastly, Williamson's analysis is centered around the concept of asset specificity, while my explanation of market failure is broader. Asset specificity does not seem particularly helpful in understanding vertical integration between research and development and manufacturing, an integration which gives rise to horizontal foreign direct investment.

authorities. A licensor thus runs the risk of seeing his knowledge capital dissippated through unauthorized leakage to third parties or imitation[8]. If the cost of selling know-how is particularly high, the firm will internalize the transaction. This means that it will hire local workers and managers to manufacture cars, using its proprietary process. The firm has skipped the inefficient market for know-how and chosen instead to sell it embedded in cars in the automobile wholesale market, which presumably experiences lower transaction costs.

But this is not the whole story. As Parry [1985] perceptively argues, high transaction costs in international markets for know-how do not provide a sufficient condition for the internalization of knowledge. The firm now incurs the market transaction cost involved in hiring workers and managers in the foreign country. It runs the risk of having its employees not honor the letter or the spirit of their employment contract by, for example, leaving the firm's employ with its know-how and trade secrets.

More generally, the presence of significant transaction costs in international markets is a necessary, but not a sufficient condition for the emergence of MNEs. Markets and firms may both fail. Whether firms displace markets depends on their ability to reduce internal organization costs below market transaction costs.

One can therefore describe internal organization costs as the transaction costs the firm experiences in the market for factors of production, and especially labor. If those costs were negligible, the firm's owners would always know the quantity and quality of labor services they are buying; purchasing those services would not entail protracted and expensive bargaining; and it would be possible to perfectly measure work effort and instantaneously adjust wages to performance[9]. Because this is generally not the case, employees will be able to collect full pay for less than full work, to divert to their own benefit the authority and the resources provided to them by the firm, and to engage in socially costly (but privately efficient) bargaining at wage setting time.

The comparative advantage that the firm has as an organization mode thus hinges on its ability to reduce the costs it incurs in transacting in factor markets, and especially in its success in reducing shirking and eliciting cooperation from the workforce. Transaction costs in international markets may be high, and so the potential benefits from their internalization, but the MNE may be unable to capture them if it experiences even higher internal organization costs. No explanation of why and when firms internalize transactions can be complete without explicitly considering the variables which govern a firm's efficiency in reducing shirking and controlling the internal loss of information.

## VI. Conclusion

The development of internalization models represents a quantum leap in our understanding of the MNE. Internalization provides a powerful and comprehensive framework in which many of the issues, heretofore treated in an ad-hoc basis, can now be successfully integrated. The recent work of Rugman [1982], Casson [1983] and others shows the fruitfulness of the approach.

[8] For a detailed treatment see Casson [1979] and Hennart [1982].

[9] Transaction costs in the labor market are often high because these markets are frequently characterized small-number conditions. The latter arise because workers acquire skills on the job which make them more valuable to their employer than outsiders [Williamson, 1975, p. 68].

Nevertheless, significant work remains to be done. Specifically, while internalization theory has persuasively argued that many international markets suffer from very high transaction costs, it has not convincingly show why a firm could efficiently internalize these externalities. Explanations in terms of "internal markets" suffer from two basic limitations. First, they do not show why firms are able to establish a system of efficient shadow prices when markets are not able to do so. Second, they do not account for the most distinctive characteristic of firms, the use of hierarchy.

This paper proposes an alternative set of reasons why firms internalize externalities. Market transaction costs originate from the inability of prices to perfectly constrain performance. Shifting the transaction to the firm reduces the incentives that market traders have to generate externalities by weakening the link between their pecuniary reward and their output as measured by the prevailing inefficient market prices. Internalization can only be achieved by replacing price by behavior constraints. The costs of internalization are exactly the converse of their benefits. Loosening the connection between salary and performance encourages employees to shirk. Whenever shirking is difficult to detect and output is relatively easy to measure, the firm may selectively re-introduce quasi-market modes of organization. The theory predicts - and the managerial literature confirms - that the use of price incentives tends to recreate the externalities that the firm sought to internalize in the first place. The use of internal prices can thus be seen as a palliative for the most obvious defects of hierarchy. Such prices can be used in conjunction with hierarchy, but cannot in themselves internalize market externalities.

The approach suggested in this paper highlights the nature and the costs of organizing economic activities within firms. It identifies the efficiency gains and losses incurred when internalizing a transaction. It specifies the advantage and defects of hierarchy as a mode of organization, makes some predictions about its use in firms, and outlines its connection with the concept of internalization.

Our model, for example, answers Parry's [1985] criticism that internalization cannot account for the existence of "quasi-independant" subsidiaries. Parry [1985, p.567] argues that "the objectives of local management may be very different from management in the parent hierarchy, and there is no *a priori* reason for quasi-contractual control via an internal hierarchy to be easier (or less costly) than via contractual arrangements with related parties in market transactions".

It is indeed difficult to see how internalization could achieve better control than contracts if it consisted in setting up an internal market. Our model, on the other hand, explains how headquarters can influence the behavior of subsidiary managers (in other words, exercise control) by changing the incentive that they face. It also explains why control is costly, and therefore used parsimoniously. This is not only because control requires communication costs and on the spot visits, as argued by Buckley and Casson [1976, p. 42], but more fundamentally because it unavoidably lowers the incentives that subordinates have to maximize the subsidiary's long-run performance. We would therefore expect the degree of control by headquarters (i.e. the degree to which the subsidiary is subject to non-price directives from headquarters) to vary directly with the level of externalities that would result from an unconstrained maximization of the subsidiary's income. Some affiliates will be left relatively independent, while others will be tightly controlled. Thus the existence of "independant subsidiaries" is fully consistent with our model.

Lastly, the theory of "firm failure" developed in this paper makes internalization

theory less tautological. The presence of significant transaction costs in international markets is no longer a sufficient condition for internalization by multinational firms, for internalization also has its costs. The firm will compare the level of market transaction costs to that of the internal organization costs it expects to experience, and make its decision to organize the transaction within the firm or to leave it to the market. In some cases, both market transaction costs and internal organization costs may be so high that trades will not take place at all.

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