Down with MNE-centric theories! Market entry and expansion as the bundling of MNE and local assets

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Abstract
Both Anderson and Gatignon and the Uppsala internationalization model see the initial mode of foreign market entry and subsequent modes of operation as unilaterally determined by multinational enterprises (MNEs) arbitraging control and risk and increasing their commitment as they gain experience in the target market. OLI and internalization models do recognize that foreign market entry requires the bundling of MNE and complementary local assets, which they call location or country-specific advantages, but implicitly assume that those assets are freely accessible to MNEs. In contrast to both of these MNE-centric views, I explicitly consider the transactional characteristics of complementary local assets and model foreign market entry as the optimal assignment of equity between their owners and MNEs. By looking at the relative efficiency of the different markets in which MNE and complementary local assets are traded, and at how these two categories of assets match, I am able to predict whether equity will be held by MNEs or by local firms, or shared between them, and whether MNEs will enter through greenfields, brownfields, or acquisitions. The bundling model I propose has interesting implications for the evolution of the MNE footprint in host countries, and for the reasons behind the emergence of Dragon MNEs.
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INTRODUCTION

Anderson and Gatignon's (1986) "Modes of foreign entry" and the Uppsala internationalization model (Johanson & Vahlne, 1977, 1990) have both played an influential role in shaping the way international business (IB) scholars look at how the multinational enterprise (MNE) chooses its initial mode of entry into a foreign market and subsequently decides whether to increase its involvement there. For those authors, MNEs make these decisions unilaterally, based on a tradeoff between their need for control and their tolerance for risk (Anderson & Gatignon, 1986), with the latter a function of their degree of familiarity with the host country (Johanson & Vahlne, 1977, 1990).

In contrast, OLI and internalization scholars have stressed that, in order to operate in a foreign country, MNEs need to bundle two

sets of assets, their transferable firm-specific advantages (FSAs) on one hand, and location, or country-specific advantages (CSAs), such as natural resources and low-cost labor, on the other (Dunning, 1988; Dunning & Lundan, 2008; Rugman & Collinson, 2006; Rugman & Verbeke, 1990; Verbeke, 2009). Accordingly, the relative strength of these CSAs determines whether firms will serve foreign markets through exports from the home country or through local production, and in the latter case, which markets they will decide to enter. But these models pay little attention to the conditions under which MNEs can access such CSAs, and how those conditions may affect their initial mode of foreign entry and subsequent operation.

A few authors have, however, recognized that CSAs have owners, that the optimal mode of entry must be one that maximizes the welfare of those owners as well as that of the MNE (Chen, 2005; Hennart, 1988, 1989, 2000; Yeung & Mirus, 1989), and that the end result may be that those local owners end up with the bulk of the profits (Teece, 1986). I build on this literature to develop a model of the optimal mode of MNE foreign market entry. The model yields a number of new insights. Unlike some studies of entry modes that have focused on an MNE's choice between a wholly owned subsidiary (WOS) and an equity joint venture (EJV), but have not included the licensing alternative (e.g., Gatignon & Anderson, 1988; Hennart, 1991), or that have focused on the choice between licensing proprietary assets or integrating into WOSs, but have excluded the EJV option (e.g., Arora & Fosfuri, 2000; Davidson & McFetridge, 1984), I am able to consider licensing, EJVs, and WOS simultaneously. Furthermore, looking at the relative efficiency of the different markets in which MNE and complementary local assets are traded, and at how these assets match, allows me to explain an MNE's establishment mode, that is, its choice between greenfields, brownfields, and acquisitions. The model also offers an interesting perspective on the evolution of the MNE footprint in host countries and on the emergence of Dragon MNEs.

I start by reviewing Anderson and Gatignon's (1986) model of the determinants of modes of entry, the Uppsala model of the dynamics of modes of operation in a host market (Johanson & Vahlne, 1977, 1990), as well as OLI and internalization theories of foreign production (Dunning, 1988; Dunning & Lundan, 2008; Rugman & Verbeke, 1990) and of entry dynamics (Buckley & Casson, 1981; Rugman, 1981). I show that these theories are

by and large MNE-centric, because they tend to overlook the role played by owners of complementary local assets. I then review two seminal articles that took, early on, a different tack, and set the foundations on which to model the role played by those assets: Hennart's (1988) transaction cost theory of joint-ventures (EJV), and Teece's (1986) model of who profits from technological innovations.

After a short discussion of the three alternative markets in which exchange can take place, and of the role of apportionment of equity in maximizing the rents derived from exchange, I integrate the Hennart and Teece insights into a model of the MNE's mode of entry, its establishment mode, and the trajectory taken by its expansion in a given market. I conclude by discussing the implications of the model for the impact of institutional contexts on foreign market entry, and whether and how the rise of emerging market MNEs calls for a revision of extant theories of the MNE.

MNE-CENTRIC THEORIES OF INITIAL AND SUBSEQUENT ENTRY MODE CHOICES
A long-accepted strand in the IB literature has modeled the choice of mode of entry as unilaterally determined by MNEs. Anderson and Gatignon's (1986) theoretical framework states that MNEs "trade various levels of control for reduction of resource commitments in the hope of reducing some forms of risk while increasing their returns" (p. 3). Their first proposition is that MNEs should insist on a WOS when exploiting highly proprietary products and processes abroad, but choose EJVs when their products and processes are not proprietary, while in their sixth proposition they argue that when MNEs have considerable international experience they should also choose a WOS. Anderson and Gatignon's framework is widely used by IB scholars studying the choice between WOSs and EJVs. Padmanabhan and Cho (1996: 47), for example, write that the choice "involves tradeoffs related to the [MNE's] level of resource commitment, the degree of control, the specification and assumption of risks and returns, and the degree of global rationalization," while Brouthers (1995: 11) states that "in selecting the appropriate entry mode firms have to answer two questions: (1) what level of resource commitment are they willing to make? (2) What level of control over operations do they desire?" Similar statements are also found in Ahmed, Mohamad, Tan, and Johnson (2002); Wei, Liu, and Liu (2005), and Sanchez-Peinado and Pla-Barber (2006), among others.

Other IB models of the evolution of an MNE in a host country also see it as determined primarily by the MNE itself, with owners of complementary local assets playing no explicit role in the outcome. The Uppsala internationalization model (Johanson & Vahlne, 1977, 1990) predicts that an MNE will progressively deepen its commitment to a specific market, moving from contractual entry to EJV and to WOS as it gains additional experience from its current activities in the host market. Other authors have argued that MNEs unilaterally choose between greenfield entry and acquisition based on their international experience (Barkema & Vermeulen, 1998; Vermeulen & Barkema, 2001) or mode-specific experience (Padmanabhan & Cho, 1999). Similarly, complementary local assets play no part in Buckley and Casson's (1981) model of the evolution of MNE entry modes from exports to licensing to foreign production, which they see as driven by differences in the level of fixed costs between these modes.[1]

Dunning's (1988) OLI paradigm of the MNE does take local complementary assets into account, since it states that firms will serve foreign markets through exports when their FSAs are best exploited in conjunction with home factors of production, and will engage in foreign production when such exploitation requires complementary inputs that are located outside their own country. The quality and quantity of these host-country assets, called location advantages by Dunning (1988), and CSAs by Rugman and Verbeke (1990), thus determine an MNE's choice between exports and foreign production. Rugman and Verbeke (1990) develop a matrix of how FSAs and CSAs interact to determine an MNE's global strategy and its chances of survival. MNEs will survive if they have strong FSAs and/or if they are located in home and host countries with strong CSAs. None of these authors explicitly consider the transactional characteristics of CSAs that may influence whether and how they can be accessed by MNEs. Yet, as I will show, the level of transaction costs involved in accessing these complementary local assets impacts the MNE's mode of entry and its subsequent footprint in the host country.

This almost exclusive focus on the MNE, and the relative neglect of the role played by local complementary assets, may account for the lack of consistent empirical support for some of the hypotheses presented above (Brouthers & Hennart, 2007). Contrary to the prediction of Gatignon and Anderson (1988) that firms with highly proprietary assets will seek WOSs, Gomes-Casseres (1989) in the case of US firms and Hennart (1991) in that of

Japanese ones found that R&D-intensive MNEs did not show a greater probability of choosing WOSs than their less R&D-intensive counterparts (in the Japanese case the results were robust to different measures of research intensity), while Kogut and Singh (1988) found that R&D-intensive firms preferred entry through EJVs. Similarly, Vermeulen and Barkema's (2001) hypothesis that experienced MNEs will choose greenfields over acquisitions has received mixed support (Slangen & Hennart, 2007). The same is true for the predictions of Johanson and Vahlne (1977) and Anderson and Gatignon (1986) that, as firms gain more experience in a particular target country, they will increase their commitment to that country. Millington and Bayliss (1990) found that UK MNEs set up plants in other European Union (EU) countries without previous experience in those countries. Hennart (1991) and Delios and Beamish (1999) found that MNEs with host-country experience were more likely to choose WOSs over EJVs, but this was not supported by Gomes-Casseres (1989) and Padmanabhan and Cho (1996).

THE EXTANT ASSET-BUNDLING LITERATURE

In contrast to those basically MNE-centric views, a number of authors have taken what I call an asset-bundling approach in which the initial entry mode and its subsequent evolution are determined by the transactional characteristics of the assets being bundled. In their empirical studies of the choice between WOSs and EJVs, Gomes-Casseres (1989); Hennart (1991), and Delios and Beamish (1999) argue that MNEs are more likely to opt for EJVs when venturing abroad in resource-based industries because local firms often enjoy privileged access to natural resources. Hennart and Reddy (1997) find that the organizational structure of the US firms that hold the complementary assets needed by Japanese entrants explains whether the latter will enter the US through greenfield EJVs or through acquisitions. Eapen (2007) shows that the absorptive capacity of Indian technology recipients determines whether technology transfer to India will take the form of a licensing agreement or that of an EJV. Chen (2005) models the choice between Original Equipment Manufacture (OEM), licensing and vertical integration as a function of the level of transaction costs in the markets for two complementary assets, technology, and manufacturing. Chi (1994) investigates the trading of imperfectly imitable and mobile resources between firms, and analyzes the choice between acquisitions of whole

firms, parts of firms, and cooperative ventures, which he defines as both contracts and EJVs. Yeung and Mirus (1989) look at the mode of market entry and the evolution of that mode as an equilibrium contract between the MNE and local factor owners. Hennart (1988) develops a theory of EJVs as resulting from the interaction between at least two owners of complementary assets. Teece (1986) models whether innovators will capture the profits from their innovations based on the nature of their interaction with owners of complementary assets. In this paper I review, integrate, and extend the insights of Hennart (1988, 2000) and Teece (1986), which, to the best of my knowledge, other authors have kept entirely separate, and show that they can provide the foundations of a more complete theory of the role of complementary local assets in foreign market entry. I start by briefly outlining the main contribution of both works before combining them into a model of the modes of foreign market entry and expansion.

Hennart (1988, 2000)

The goal of Hennart (1988) is to show that transaction cost theory can be used to describe the necessary and sufficient conditions for the choice of EJVs as a first-best strategy, with EJVs defined as both greenfield joint ventures and partial acquisitions. I argue that vertical integration (i.e., owning equity in an activity) is used to bypass high-transaction-costs markets. EJVs will arise when at least two owners hold complementary assets that they want to bundle, and the market sale of those assets would incur high information, bargaining, and enforcement costs. To illustrate the argument, I consider the case where efficient production requires the combination of two types of complementary knowledge held by firms A and B. I use a 2×2 matrix (reproduced as Figure 1) to show that EJVs occur whenever the knowledge contributed by both A and B is subject to high information, bargaining, and enforcement costs, and licensing when this is the case for only the knowledge held by A or that held by B.

In the second part of my argument, I investigate the circumstances under which bundling the services of assets through EJVs is preferable to bundling them in the market for assets or asset services through greenfields, or in the market for firms through acquisitions. I argue that EJVs are preferable to acquisitions whenever bundling the assets via the market for firms would incur higher information, bargaining, and enforcement costs than other options. Besides cases where acquisitions are illegal, or would lead to ill will, EJVs are preferable to full acquisitions when the assets that each party needs are a subset of the assets held by the respective firms, but are hard to separate from the assets that are not needed. Bundling the service of assets through EJVs is preferable to bundling assets through greenfields whenever assets can be shared by many users without reducing the amount available to each (they are what economists call "public goods"), since in that case it is cheaper to obtain access to an existing asset than to replicate it.

In Hennart (2000) I suggest how my 1988 2×2 matrix could be adapted to describe an MNE's mode of entry. If firm A is the MNE, and firm B is a local firm, then cell 2 in Figure 1 corresponds to a wholly owned local firm, cell 3 to a wholly owned MNE subsidiary, and cell 4 to an EJV between the two (Hennart, 2000: 98). This reasoning is used to predict when the so-called "new forms of investment" (Oman, 1984) are likely to be efficient.[2] But there is no systematic analysis of the role played by complementary local assets, and there are no

		Firm A	
		Marketable know-how	Non-marketable know-how
Firm B	Marketable know-how	1. Indeterminate	3. B licenses A
	Non-marketable know-how	2. A licenses B	4. A joint ventures with B

Figure 1 Hennart's (1988) model of equity joint ventures.

implications for MNE survival.

Teece (1986)

Teece (1986) shows that when imitation is relatively easy, the profits from innovations may accrue to the owners of certain complementary assets rather than to the innovators. He illustrates this point with the story of the CAT scanner developed by the UK firm EMI. Eight years after EMI introduced its scanner in the US, it conceded that market to General Electric (GE) and exited the business altogether. EMI failed because it did not invest in the service network needed to train users.[3] GE, as a highly reputed distributor of medical equipment to hospitals, did have such a network, and after having successfully reverse-engineered the scanner, put EMI out of the scanner business.

Teece argues that whether innovators (e.g., EMI) or imitators (e.g., GE) capture the fruits of innovation hinges on three factors:

(1) the appropriability regime;
(2) the dominant design paradigm;
(3) the nature of complementary assets.

The appropriability regime refers to the extent to which an innovator can prevent imitation: this depends on the nature of the technology, and on the efficacy of the legal systems of protection. The emergence of a dominant design makes it easier for imitators to compete with the innovator. In almost all cases, successful commercialization of innovations requires that they be combined with other assets such as manufacturing, distribution, after-sales services or complementary technologies. These complementary assets can be generic, in the sense that they do not need to be tailored to the

innovation, or non-generic, that is, specialized or co-specialized with the innovation, as in the case of container ships and container terminals.

The interaction of appropriability regime and complementary assets determines who profits from innovations. Innovators with strong appropriability are almost sure to gain. They will license owners of generic assets, and integrate into specialized assets. If innovators do not enjoy high appropriability, then everything hinges on the terms under which they can access complementary assets. If such assets are generic, the innovator can contract for them. If they are specialized, then access to them will become a key success factor. If innovators are unable to access such assets in due time, then owners of complementary factors may end up capturing most of the gains of the innovation, as in the case of EMI and GE.

With its focus on innovations, Teece's framework is less general than Hennart's, which can be applied to any combination of assets. In fact, Teece is somewhat vague about the precise strategies to be used by innovators to integrate into complementary assets. His model is set in a domestic context, and his seminal contribution has not, to the best of my knowledge, been applied to foreign market entry and post-entry growth. Nevertheless, it is clear that the Hennart and Teece frameworks are complementary. In the following pages I combine them into a general theory of the forms of market entry, and of their evolution post-entry.

A BUNDLING MODEL OF FOREIGN MARKET ENTRY MODE

Figure 2 modifies Hennart's (1988) original 2×2 matrix (Figure 1) to address the optimal way in

		Knowledge assets held by the MNE	
		Easy to transact	Difficult to transact
Complementary assets held by local owners	Easy to transact	1. Indeterminate	3. MNE is sole residual claimant = wholly owned affiliate of the MNE
	Difficult to transact	2. Local firm is sole residual claimant = wholly owned operations of local firm	4. Joint venture between MNE and local firm

Figure 2 Optimal mode of foreign market entry.

which two parties, a foreign firm seeking to exploit innovations (an MNE) on one hand, and a local owner of complementary resources on the other, combine their assets in order to undertake value-adding activities in a foreign market. In the rest of this paper I will assume that knowledge is the main FSA that MNEs seek to exploit in foreign markets. I adopt a wide definition of knowledge, which includes ideas, information of various types, new management techniques, business models, and new products and processes. The axes in Figure 2 refer to the transaction costs that are incurred in selling knowledge and complementary local assets in the markets for the services of assets, in the market for assets, and in the market for firms owning the assets.

I start by developing two fundamental concepts:

(1) the relationship between markets for the service of assets, markets for assets, and markets for firms;
(2) the role of residual claimancy (the apportionment of equity) in maximizing rents from the exchange.

I then develop the model.

Interactions between economic agents can take place in three markets: the market for the services of assets, the market for assets, and the market for firms owning the assets. An MNE eager to exploit its knowledge has three choices: (a) sell it on the *market for asset services* by licensing a foreign manufacturer, (b) access the *market for assets*, by bundling its know-how directly with a variety of purchased assets and incorporating all of these into goods and services, thereby engaging in exporting or producing abroad close to the foreign customer; (c) access the *market for firms*, by selling itself or parts of itself to another firm. Likewise, a local firm that owns land that is needed by an MNE can rent it in the market for land services, sell title to it in the market for land, or sell itself to the MNE, and *ipso facto* transfer its land.

When one market is subject to high transaction costs, agents may switch to another (Alchian & Allen, 1977). As the theory of the MNE tells us (Buckley & Casson, 1976; Dunning, 1988; Hennart, 1982), foreign production in MNE subsidiaries corresponds to the special case where production takes place in a foreign country and firms find it more efficient to sell their knowledge incorporated in products and services than in the market for the services of their knowledge assets (licensing), or in that for firms (selling themselves to other firms).

What is the most efficient way to bundle the services of complementary assets when their sale is subject to positive transaction costs? Property rights theory (Barzel, 1989; Chi, 1996; Eswaran & Kotwal, 1985) states that the party who should be the residual claimant, i.e., who should be entitled to what remains after all contractual payments to owners of collaborating factors of production have been made, should be the one whose behavior is the most difficult to monitor, or, in other words, whose behavior can potentially impose the highest cost on the other parties. Equity is the right to the residual income of a business, and hence should be given to the party whose output is the most difficult to measure, or, in other words, who incurs the highest transaction costs, because by becoming equity owner her performance does not have to be monitored. She will make a fixed payment to the other party whose performance is relatively easier to measure and will keep the residual gain or loss of the venture.[4] Note that the model predicts the most efficient way to bundle assets, not necessarily the way economic agents will always end up doing it. Agents will make mistakes, but we would expect that inefficient arrangements would not survive in the long run.

Let us now examine the two axes of Figure 2: the transaction costs involved in transferring knowledge from MNEs to owners of complementary assets, and those of transferring local complementary assets to MNEs. I begin by discussing what determines whether the transfer of knowledge incurs high or low transaction costs, before investigating the determinants of transaction costs in the transfer of complementary local assets.

Markets for Knowledge and Appropriability

The columns of Figure 2 refer to the costs incurred in transferring knowledge from MNEs to local owners of complementary assets. To simplify, I put these costs into two categories, high and low. Also for simplicity, the MNE stands here for innovators based outside the host country. I describe below the various alternative markets in which knowledge can be traded, and show that the efficiency of its transfer varies significantly across knowledge types and institutional environments.

Knowledge is sometimes available on the licensing market. In that market, it is put into a patent and its use licensed to others. The efficiency of that market is impaired by factors that have been extensively discussed elsewhere (Hennart, 1982, 1989; Teece, 1986). Some types of knowledge, such

as formulae for chemicals and pharmaceuticals, can be efficiently transferred through licensing, but others cannot (Arora, Fosfuri, & Gambardella, 2001; Levin, Klevorick, Nelson, & Winter, 1987). In some cases, knowledge is easily available in the market for consulting services: specialized engineering firms are routinely hired to design and construct chemical plants (Arora & Gambardella, 1998), and best-practice management and advertising skills can often be bought from professional service firms (Zeng & Williamson, 2007).

Knowledge can be tacit, and consequently embedded in individuals. It can then be accessed in the employment market. Pearl River Piano, the Chinese firm that is the world's largest piano maker, was able to obtain the knowledge it needed by hiring "more than ten world-class consultants to assist in improving every aspect of piano making, from design to production to final finish" (Zeng & Williamson, 2007: 52). Tacit knowledge that resides in a group of workers or in firm routines is hard to separate from the firm in which it has been developed. If such knowledge is difficult to obtain through technical assistance agreements, an alternative is to take over the firm that owns it, or to joint-venture with it. The Chinese firm Huawei built up its expertize in optical network technologies by buying OptiMight and Cognigine, two small high-tech US firms (Zeng & Williamson, 2007: 141). Accessing knowledge by hiring experts or by taking over firms that employ them requires sophisticated management skills, because employees are free to defect at any time (Verbeke, 2009).

Lastly, knowledge is sometimes embedded in products. By buying components, laptop PC assemblers can access up-to-date PC technology and incorporate it into products sold to final users. Manufacturing technology can also be obtained by purchasing equipment and being trained in its use (Mathews, 2002). To sum up, knowledge can be accessed on three alternative markets, and at transaction costs that range from low to high.

Markets for Complementary Local Assets
The rows of Figure 2 refer to complementary local assets. MNEs that integrate into foreign markets need access to such assets, such as manufacturing and distribution. Manufacturing and distribution, in turn, require land, utilities, and labor and managerial services. Contrary to the implicit assumptions of OLI and internalization theories, these local complementary assets (country-specific assets or location advantages) are not always freely

accessible to MNEs. In some cases, contracting for the services of these local assets, for the assets themselves, or for the firms that hold them, will incur high transaction costs. A joint examination of the transactional characteristics of both MNE and local complementary assets is thus needed to explain the choice of mode of entry.

As examples of markets for local complementary assets, I will focus on just one physical asset, land, and one human asset, distribution skills. I show below that:

(1) complementary physical assets can be transacted on a variety of markets, while the employment market and the market for firms are alternative ways of obtaining the services of human assets;
(2) the efficiency by which these markets can transfer complementary local assets varies with the type of asset and the host country's institutional environment.

In some cases all markets will fail, and MNE entry will not be possible.

Let's consider first land. Land services can often be accessed in rental markets. This poses problems when there is site specificity, i.e., when the value of land is affected by the actions of the renter (Williamson, 1985). When this is the case, renters are exposed to the possible expropriation of their quasi-rents through the *ex post* abrogation or renegotiation of their lease. If consumers, for example, come regularly to a specific location to shop, the store will lose part of its goodwill if its lease is canceled and it has to relocate elsewhere.

Similar problems arise in the case of mineral deposits. In many countries, resources below land surface are government property and hence cannot be owned by MNEs. Then MNEs that make site-specific investments to develop the resource are vulnerable to being held up, and to having their quasi-rent confiscated by governments, a process Vernon (1971) has called the "obsolescing bargain."

When rental contracts fail because of site specificity, one alternative is for MNEs to buy the land on which they want to establish their business. This may be difficult if there are no private property rights in land, if land titles are insecure owing to non-existent or poorly kept land registers, or if they are not fully transferable – for example because they are subject to zoning laws. Wal-Mart left Germany because it could not acquire fast enough the large parcels of land it needed for its stores (Verbeke, 2009). A third solution is to acquire the

firms that occupy the desired land.[5] This is not always fail-safe, because it still exposes the MNE to expropriation in countries without enforceable property rights. Hence the ability and the method chosen by MNEs to access the land they need are likely to depend on the foreign country's institutional environment.

Distribution is one asset that MNEs entering a foreign country need to access to commercialize their innovations. Logistical services can usually be bought in competitive markets. However, if consumers rely on distributors for advice, demonstration, and repair, effective distribution may require that distributors make significant physical (warehouses and repair facilities), intellectual (understanding the product), and relational investments (understanding customer needs). Independent distributors may refuse to make the optimal amount of investments if they see them as specific to particular manufacturers, for fear of being held up by those manufacturers. Distribution contracts may also fail when the successful sale of a product requires its adaptation to local conditions. Independent distributors may resist providing marketing feedback if they fear that by doing so they run the chance of being replaced by employees of the manufacturer. A third reason why distribution contracts may incur high transaction costs is that successful sales sometimes require the joint effort of manufacturers and distributors, so that buyers cannot easily separate their respective contributions, and may blame one for the failings of the other. Manufacturers can in principle solve this problem by putting behavioral constraints on distributors, requiring them to make the necessary investments in stores, equipment, and stock, and to undergo proper training, but this works only if these measures are reliably correlated with performance (Hennart, 2000).

Whenever contracting for distribution services experiences these types of problems, MNEs will have to integrate into local distribution (Anderson & Coughlan, 1987; Hennart, 2000; Klein, Frazier, & Roth, 1990), either by hiring their own sales force or by taking over existing distributors. This can be quite difficult. In some countries, MNEs are prohibited from establishing a local distribution network. Even when permitted, it can be a difficult and lengthy process, as local customers may have formed strong bonds with existing local distributors. Taking over these distributors may be blocked by host-country governments. If allowed, it may require sophisticated post-integration management

skills. Hence access to host-country distribution is often a challenge, and, as we will see below, the inability of MNEs to do so has often hampered their entry and jeopardized their survival. To sum up, MNEs can access complementary local assets on alternative markets, but it cannot be assumed that there will always be one efficient market where they can obtain the services of these assets.

Determinants of MNE Equity Levels

I now turn to the cells in Figure 2. Take the case of an American MNE that has developed a new technological process that can profitably be used in Japan. Figure 2 shows that there are three possibilities. First, the American innovator could set up a WOS in Japan (cell 3), either a greenfield subsidiary firm (this means that it will contract for the services of all the complementary assets, land, permits, etc., or acquire them, and strike employment contracts with human assets, so as to build and operate the needed manufacturing and distribution facilities), or by acquiring an existing Japanese firm and transferring its new process technology internally to the new acquisition. Second, a local Japanese firm that owns complementary local assets may be able to acquire the knowledge developed by the American MNE by taking a technology license from it, by purchasing equipment from it, by hiring away key personnel from it, or by buying the American MNE in the market for firms (cell 2). Lastly, the American firm and the local Japanese firm that owns complementary assets may jointly own the operation, the US MNE contributing its process, and the Japanese firm local complementary assets (cell 4). This can be the result of the American firm taking a partial stake in an existing Japanese firm, or from both firms setting up a new greenfield EJV. I do not differentiate between the greenfield and the acquisition versions of these three basic scenarios at this point, as I will deal with this issue later.

Figure 2 makes it clear that Anderson and Gatignon (1986), Dunning (1988), and Rugman (1981) focus only on the columns of the matrix: that is, on the absolute level of transaction costs affecting the knowledge services of MNEs, with MNEs licensing local firms when knowledge is easy to transact, and integrating vertically into the local production of goods and services incorporating their know-how when it is not. For Anderson and Gatignon and Johanson and Vahlne, an MNE's choice between a WOS (cell 3) or an EJV (cell 2) will then depend

only on its level of commitment and its appetite for risk.

My bundling model shows, however, that the choice of mode of entry depends on a comparison of the costs that MNEs must incur to obtain access to the complementary assets necessary to incorporate their knowledge into locally produced goods and services relative to those that local owners of complementary assets incur in accessing knowledge on all of its markets. If the market sale of the knowledge held by the MNE is subject to high transaction costs, but the MNE can acquire complementary local assets on efficient markets, then the MNE could potentially inflict higher costs on local owners of complementary assets than those owners could inflict on the MNE. The solution that maximizes the total rents from the bundle of assets is then to give the MNE the right to the residual, and have it contract for the complementary assets. The MNE will then enter with a WOS (cell 3). Inversely, if the market for knowledge is efficient, and so knowledge sellers can be expected to reliably deliver as promised, but, because of inefficient markets for complementary assets, their owners cannot be expected to behave as reliably, then the best solution is to have those owners hold the equity. This is the case when an MNE finds it very difficult to contract with local distributors, or to manage them as employees. The optimal solution for both parties is then to have local distributors hold the equity and obtain knowledge on relatively efficient markets, for example by taking a license from an MNE, by hiring its employees, or through the purchase of parts or components incorporating the needed knowledge (cell 2).

Cell 4 corresponds to the case where the knowledge held by the MNE and the services of complementary local asset owned by the local firm are costly to access on the market for assets and asset services, or on that for firms owning the assets. The solution that maximizes total rents is then to have each input provider become a residual claimant, that is, to have the operation jointly owned by the MNE and the local owner of complementary assets. It is easy to see why such an arrangement is efficient. If the market for its knowledge is inefficient, then the MNE needs to internalize the transaction by integrating into foreign manufacturing. Otherwise, significant costs would be imposed on the owners of complementary local assets. If the market for local complementary assets is also inefficient, then local owners of such assets must also integrate into making the products that make

use of their difficult-to-sell assets. Otherwise they would impose significant costs on the MNE. Hence both parties must simultaneously own equity, and the best solution is therefore a "residual sharing arrangement" (Hennart, 1988). In that case, giving reduced incentives to both parties is preferable to allocating higher incentives to either party. Examples of such arrangements are greenfield EJVs, partial acquisitions, partnerships, and sharecropping, among others.

Looking at market entry from the point of view of both MNEs and local owners of complementary assets allows us to use a single framework to model the choice of MNEs between licensing their FSAs, integrating vertically into WOSs, or integrating into EJVs. Our approach also shows that a failure of the market for the MNE's FSAs is not sufficient to explain the form taken by market entry, because it cannot discriminate between a WOS and a partially owned affiliate of the MNE. This may be the reason why, as noted above, empirical research fails to support a clear connection between an MNE's R&D intensity and its preference for WOSs. If complementary assets are sold on inefficient markets, then the MNE will have to enter into a joint-venture to access them.

A bundling approach also makes it clear that the distinguishing characteristic of EJVs is the method it uses to reward input suppliers. In contrast to market contracts, where one of the interacting parties is paid a fixed amount *ex ante* and the other keeps the residual, the owners of complementary assets in an EJV are paid for their contribution through a share of the residual, in other words they are joint residual claimants. This differs from the view that EJVs are efficient because the equity stakes taken by the EJV partners provide mutual hostages (Kogut, 1988), or because they allow for greater administrative controls than market transactions because EJV parents have the right to monitor and control each other through the EJV board of directors (Oxley, 1997). Because in an EJV input suppliers are residual claimants, they will also demand residual control rights. This sharing of residual control rights in EJVs can lead to better decisions, but can also be a source of serious problems if the parties have conflicting goals.

Another implication of the model is that there is no theoretical reason to reserve the term "EJV" to, as Das and Teng put it, "new legal entities that are created separately from but jointly owned by the partner firms" (Das & Teng, 2002: 453; see also Oxley, 1997: 390). Both jointly owned new legal

entities (greenfield joint ventures) and partial acquisitions should be called EJVs, because they have the same basic incentive structure and the same efficiency properties. I discuss the differences between these two types of EJV in the next section.

Williamson (1996: 51) and some transaction cost theorists believe that governance forms can be placed along one dimension, usually called "hierarchical intensity," and that EJVs are halfway along that continuum (Gulati & Singh, 1998; Oxley, 1997). In other words, EJVs are hybrids of market and hierarchy (Boerner & Macher, 2003; Kreps, 1990). Oxley (1997: 390), for example, calls EJVs "the classic form of hybrid organization." My analysis, however, shows that EJVs are not hybrids, at least not in the way I define them in Hennart (1993), that is as institutions where agents are simultaneously subject to both behavior and price constraints, as in the case of franchising where outlets owners are subject to price constraints because they are the residual claimants, but are also subject to behavior constraints imposed by their franchisor (Brickly & Dark, 1987). By contrast, individuals working for an EJV are either employees of the EJV or employees of the parents, but in either case there is no reason to believe that they are subject to more behavior constraints at the EJV than colleagues working directly for the parent firms.[6] The essence of EJVs, along with partnerships, sharecropping, and other residual sharing contracts, is joint hierarchy.

Because Williamson (1991) has argued that hybrids are chosen when both asset specificity and uncertainty are at intermediate levels, some authors, for example Erramilli and Rao (1993) and Brouthers, Brouthers, and Werner (2003), have modeled the choice between WOSs and EJVs in terms of differing levels of asset specificity. My model shows that this choice is not one between an intermediate and a full-level hierarchy, and hence does not depend on the level of asset. My model shows that this choice is not one between an intermediate and a full-level hierarchy, and hence does not depend on the level of asset specificity. Rather it is one between two types of hierarchy, joint vs unitary.

GREENFIELDS, BROWNFIELDS, ACQUISITIONS, AND EJVs

I have argued in the previous section that the optimal choice of entry mode depends on the relative efficiency of markets for both imported and local inputs: hence Figure 2, where I predicted whether the optimal entry mode would be a WOS of a foreign MNE, a wholly owned local firm, or an EJV between a local firm and a foreign MNE. But I did not predict whether these wholly owned firms would be established by bundling disembodied inputs obtained in markets for asset services or assets, i.e., through a greenfield operation, or by buying the firms that control these needed inputs, that is, through an acquisition. I now address this issue. To simplify, I set aside two other important determinants of the choice between greenfield entry and acquisitions, the differential speed of entry afforded by these two modes, and their differing impact on installed production capacity, and hence on competition (Caves & Mehra, 1986; Hennart & Park, 1993). In the following developments the term "acquisition" means a full acquisition, and the term "greenfield" means a fully owned greenfield, whereas the term "EJV" refers to both a partial acquisition and a greenfield EJV.

Figure 3 summarizes the argument, and shows that the choice between greenfields and acquisitions depends on how efficient the markets for asset and asset services are relative to those for firms, in other words, on the extent to which assets are more easily available in disembodied form than embedded in firms. Acquisitions will be the most efficient solution when:

(1) assets are embedded in firms, and accessing them by acquiring the firms that hold them is efficient, because
(2) the market for firms is efficient, and
(3) their access through acquisitions involves low management costs.

Firm Embeddedness
The first thing to be determined is whether the market for assets or asset services is efficient. If markets for assets and asset services are efficient, then the MNE will be able to access them in disembodied form on these markets, and will enter through a greenfield investment. Whenever markets for assets or for asset services are inefficient, assets will be embedded in firms, that is, they will be owned by firms and bound to them. Then it may be easier to access them by acquiring all or part of the firm that owns them, or by setting up a greenfield joint venture with that firm.

We have seen earlier that knowledge is often embedded in firms. This is also the case with complementary local assets. When there is site specificity, owning the land becomes crucial. When
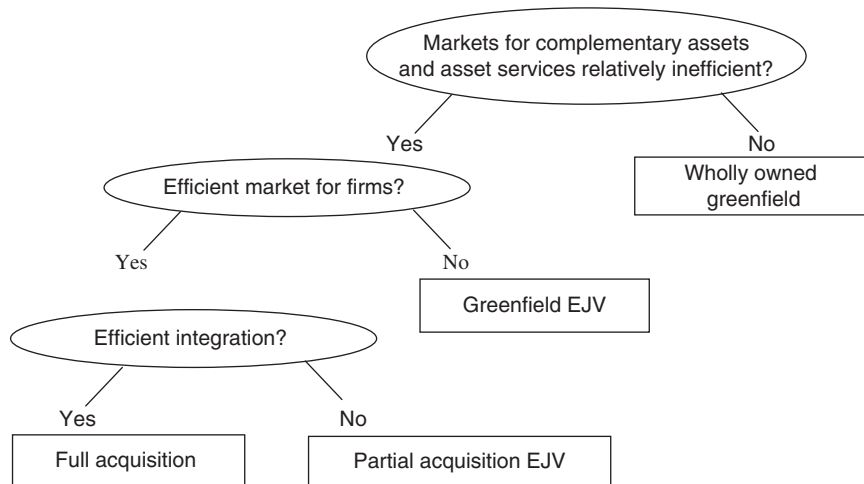
Figure 3 Greenfields, acquisitions, and joint-ventures.

land titles are insecure, the most efficient way to acquire land may be to acquire the firms already sitting on it (Estrin, Hughes, & Todd, 1997). Permits, licenses, and quotas may also not be tradable, and the only way to acquire them may be to acquire, or joint-venture with, the firm that holds them. Meyer and Møller (1998) cite the acquisition by Danisco, a Danish sugar producer, of eight small and technologically obsolete East German sugar refineries that had been given non-tradable sugar quotas by the EU when East Germany joined the EU. The only way Danisco could expand was by acquiring the firms that held the quotas, or by joint-venturing with them.

There are also less obvious cases of firm-embedded assets, i.e., of assets that cannot be acquired separately from the firm to which they are bound. In some cases customers are mobile, and MNEs can pry them away from local firms through marketing effort. But when customers have made physical or relational investments that are specific to a particular manufacturer, they become tied to it, and the easiest way to obtain them is to buy the firm to which they are tied. Efficient printing, for example, requires tight coordination between printers and ink manufacturers. Given high customer-switching costs, the most efficient way manufacturers of printing ink can gain customers is by buying other printing ink manufacturers. This is the reason why Japanese ink makers entered the US in the 1970s through the acquisition of US firms, even though this was a mode of entry with which they were unfamiliar, since acquisitions were then relatively uncommon at home (Ikeda, 2007). Customers may also have strong emotional attach-

ment to existing brands, as seems to be the case with beer. Then the easiest way to obtain customers is to acquire the firms that own the brands. This may explain why entry in the beer industry often takes the form of acquisitions (Marinov & Marinova, 1998).[7]

Managerial resources may also be embedded in firms if employees face substantial costs in changing employers. Until recently, Japanese managers in large firms were assured of permanent employment in their firm. The downside was that those who lost their jobs in mid-career had little chance of finding new employment. Experienced managers were therefore extremely reluctant to change employer, and especially to work for an unproven foreign MNE. In other words, the Japanese lifetime employment system embedded managers and skilled workers into Japanese firms. Because of this embeddedness, MNEs entering Japan through greenfields found it difficult to hire experienced managers (Jones, 1991).

Embeddedness is a question of degree. It increases the cost of acquiring resources in the market for asset services or in that for assets relative to that of acquiring firms or joint-venturing with them. We must therefore also consider the costs involved in accessing the service of assets through the purchase of firms.

The Costs of Accessing Assets Embedded in Firms
The costs of accessing assets embedded in firms fall into two categories: (1) those of carrying out acquisitions (i.e., is the market for firms efficient?), and those of accessing the services of the acquired

assets after the acquisition has taken place: in other words, (2) is integration efficient?

What makes the market for firms efficient? The costs of carrying out acquisitions are the costs of finding, evaluating, and taking over firms. Those costs vary across countries and industries. In some, acquisitions are barred or frowned upon by national authorities. Where acquisitions are allowed, the market for firms is more efficient if their shares are quoted on stock exchanges and their ownership is widely dispersed, something that occurs in very few countries (Healy & Palepu, 1993). In most countries there are structural barriers to acquisitions, such as family or government ownership, cross-shareholdings, and exceptions to the one share, one vote rule (Pedersen & Thomsen, 1997; Slangen & Hennart, 2007).

Embedded assets and a relatively efficient market for firms are not sufficient conditions for acquisitions to be the preferred mode of entry. The costs to the acquirer of accessing the services of the acquired assets must also be sufficiently low. These costs are essentially management costs, because many of the capabilities sought through an acquisition are controlled by the employees of the target firm. The level of management costs depends on:

(1) the degree to which the acquired assets match those of the acquirer, which itself depends on the modularity of the acquired assets; and
(2) the incentive losses that come from having the acquirer appropriate the residual claims held by the owners of the target firm.

Everything else constant, acquisitions will be preferred to EJVs when the acquired assets are modular, and when the resulting incentive losses are minimal.

Modularity

Modularity means that the assets that are embedded in acquired firms can be easily integrated with other assets held by the acquirer. This was the case for many of the acquisitions of Eastern European food companies made by Western MNEs in the 1980s and 1990s. The acquired assets were usually modular, because MNEs could superimpose their superior advertising and distribution skills over local manufacturing facilities and locally-established brand names without having to make substantial changes to these assets (Estrin et al., 1997; Marinov & Marinova, 1998).

Acquisitions will be chosen over greenfields and EJVs even if the needed assets embedded in a local firm make up a relatively small part of the total assets acquired, as long as the acquired assets are modular, in the sense that the desired assets can be easily separated from the non-desired ones without reducing the value of the latter. In that case, the acquirer may thoroughly restructure the acquisition, sometimes fully replacing its plant and equipment, its employees, and even its products, without damaging the value of the retained assets. This type of acquisition has been called "brownfield," because of its similarity to greenfield investment (Meyer & Estrin, 2001). It occurs whenever there is a critical local asset that can be more efficiently acquired in the market for firms than in that for the asset itself, even though that asset makes up a rather limited part of the package of assets needed for local production. This was the case in the Danisco acquisitions mentioned above: Danisco needed to acquire the firms to get the sugar quotas, but was subsequently able to close all the acquired plants and to transfer the quotas to one of its large modern plants.

Meyer and Estrin (2001) wonder whether brownfields are specific to emerging markets, but there is no good reason why this should be the case. Indeed, the brownfield acquisitions made by Western MNEs in Eastern and Central Europe have their parallel in some of the recent Chinese acquisitions of US and European firms. Just as Western MNEs bought Central European firms for some of their assets, and then sold or closed off the parts they did not need, Chinese firms have acquired Western firms for their technology, brands, and customers. They have transferred these assets to their Chinese operations and closed or sold the acquired manufacturing facilities. Wanxiang, a Chinese maker of universal joints, bought its US competitor Schiller in 1998 for its brand, patents, and US distribution channels. It was able to separate these from Schiller's US manufacturing plants, which it did not want because of their high costs. It sold the plants to a US firm, and is filling all US orders from its low-cost Chinese facilities (Zeng & Williamson, 2007: 45).

Whenever acquired assets are not modular, and hence the integration of acquisitions would be costly, MNEs will favor greenfields if asset services can be accessed in non-embedded forms, and EJVs if they cannot. The Japanese manufacturers of automobiles, tires, televisions, and bearings that entered the US in the 1980s are a good example of the first case. Their main competitive advantage was superior quality, obtained through sophisticated

shop-floor, factory, and corporate management practices. These practices, which are based to a large extent on employee commitment and discipline, have been called the "Japanese management system," or JMS (Liker, Fruin, & Adler, 1999). Greenfield entry has allowed Japanese entrants to carefully select and train a labor force that is receptive to these practices (Kenney & Florida, 1993). Entering through acquisitions, on the other hand, has required retraining the workforce to make them unlearn many of their existing practices so as to allow them to learn new ones. This is difficult, because practices reflect values, and values are hard to change. As a result, the Japanese firms relying on JMS that have entered the US through acquisitions have experienced serious problems. Brannen, Liker, and Fruin (1999) describe the difficulties the Japanese firm NSK experienced in transferring its practices to the Ann Arbor plant it acquired from Hoover. NSK later established a greenfield factory in Clarinda, Iowa, and in 2005 closed the Ann Arbor plant to consolidate production in Clarinda. Of the 14 television plants established by Japanese manufacturers in the United States in the 1980s, two – Matsushita's Franklin Park and Sanyo's Forrest City – were acquisitions; all the others were greenfields. In contrast to the greenfield plants, both acquisitions experienced serious labor problems (Kenney, 1999).

EJVs will be the most efficient choice whenever desired assets are embedded, and hence are costly to access in disembodied form, but are not modular, and hence cannot be separated from non-desired assets. Consider for example a local manufacturer of household appliances who is vertically integrated into distribution because distribution assets are firm-specific. An MNE eager to sell personal computers (PCs) in that market might be able to use that channel at very low marginal cost. Acquiring the local firm would, however, propel the computer MNE into the manufacture of household appliances, thus raising management costs. But because of high transaction costs in the market for distribution services, the computer MNE would find it difficult to sell the household appliances plants without giving the buyer of these plants an equity stake in the distribution assets. Figure 4a illustrates this case: firm A is the computer-manufacturing MNE and firm B is the local manufacturer of household appliances. Figure 4a shows that the most efficient solution is a greenfield EJV between the computer MNE and the local household appliance manufacturer, by which the two parties co-own the distribution assets (Hennart & Reddy, 1997; Kay, 1999). Note that an EJV solves the modularity problem by making the services of the distribution assets modular, in the sense that sharing their use with the MNE does not reduce the value of the local firm's other assets.

Incentive Loss
In contrast to acquisitions, greenfield EJVs make it possible for an MNE to access the local complementary assets it needs without removing them
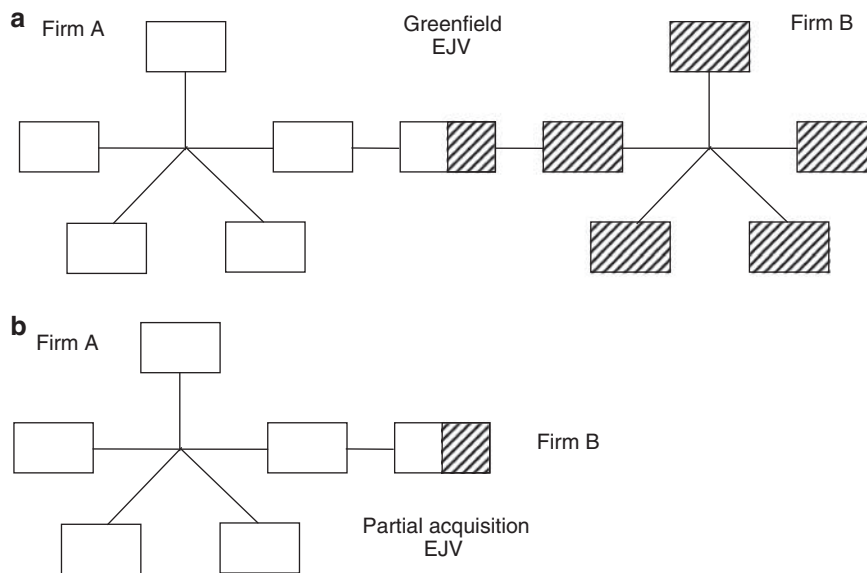

Figure 4 Two types of equity joint ventures: (a) greenfield equity joint ventures; (b) partial acquisition equity joint ventures.

from the ownership of the local firm and transferring them to itself. Accessing assets without owning them is efficient when the needed assets are tied to unneeded ones (Figure 4a). There is, however, another reason why EJVs may be efficient, and that is when the target firm possesses embedded assets that are difficult to replicate through greenfield entry, but a full acquisition would lead to a loss of motivation on the part of the owner-managers or employees of the acquired firm (Figure 4b). When a firm is acquired, its owner-managers, who were previously self-motivated because they were being paid out of the residual, become employees of the acquirer. The greater the tacit knowledge held by these owner-managers, the more important it is to elicit their cooperation. One way to do this is to leave a part of the residual to them, that is, to do a partial acquisition EJV (Hennart, 1988; Ichikawa, 2009). The argument can be extended to employees if these employees value their independence. Then a partial acquisition may encourage them to continue to provide the needed services, while a full acquisition might lead to a mass exodus, as has occurred in so many cases of full acquisitions of high-technology or professional firms (Inkpen, Sundaram, & Rockwood, 2000).

Everything else constant, the cost of managing integration will be a function of the degree of post-acquisition integration that the MNE needs to bundle assets efficiently. The greater the required degree of integration, the greater the management costs of implementing it, and the more attractive EJVs, both greenfield joint ventures and partial acquisitions, relative to full acquisitions.

To illustrate the preceding discussion, consider the case of Western MNEs entering Japan in the 1980s. They needed a local manufacturing base, but Japanese managers were embedded in firms, making greenfield entry difficult. Acquiring a local firm was made difficult by cross-shareholding between Japanese firms, and by considerable public resistance to acquisitions. Given the above, the most efficient mode of entry was a greenfield EJV, and Western firms continued to use this mode even after the Japanese government lifted restrictions on foreign WOSs (Jones, 1991).

This analysis may explain why most studies have found that MNEs that are product-diversified prefer acquisition over greenfield entry (Slangen & Hennart, 2007: Table 3), since such firms can easily superimpose their marketing and general management skills over local manufacturing and distribution assets without the need to thoroughly modify the latter. It also explains why Vermeulen and Barkema's (2001) hypothesis that internationally experienced firms will opt for greenfields has not been empirically supported (Slangen & Hennart, 2007: Table 3), since MNE experience has no direct bearing on the match between local and imported assets.

Chen (2008) argues that, in contrast to full acquisitions, partial-acquisition EJVs are not motivated by capability procurement, but by other strategic motives. My model and Figure 4 show that this is not the case, as both types of EJVs are undertaken to bundle MNE and local assets, in other words to acquire complementary capabilities, but that greenfield EJVs are undertaken when an acquisition would substantially increase management costs by adding to the size and complexity of the combined firm (Figure 4a), whereas partial acquisitions EJVs are chosen when a full acquisition would not necessarily lead to that outcome, but might reduce the motivation of the target's owners and key employees (Figure 4b). Greenfield EJVs will be chosen when the target is large and non-divisionalized, so that the parts of the potential target that the MNE wants cannot be separated from the parts it does not want, while partial-acquisition EJVs will be sought when it is important to safeguard the motivation of the managers of the acquired firm, for example in the case of acquisitions of high-technology firms.

Harzing (2001) has hypothesized that the strategy followed by MNEs is an important determinant of their choice between greenfield and acquisition entry. Based on extant arguments (e.g., Hennart & Park, 1993: 1056) that MNEs find it easier to transfer their routines to greenfield affiliates than to acquisitions, she argues that MNEs that follow global strategies will choose greenfields, whereas those that opt for multidomestic strategies will enter through acquisitions. MNEs follow global strategies because their investments in intangibles, both knowledge and reputation, are subject to economies of scale, and need to be amortized through a high volume of internationally homogeneous output. Greenfield plants are supposed to facilitate such strategies because of their compatibility to the parent. My bundling model shows, however, that the match between global strategies and greenfields on one hand, and multidomestic strategies and acquisitions on the other, is not a perfect one, since some firms following global strategies may still choose acquisitions. While the Japanese case described above shows that it may be necessary

to set up greenfield plants to exploit innovations based on human resource management, the case of Western investments in Eastern Europe indicates that the international exploitation of product innovations or of reputation is compatible with acquisitions, because it requires only limited changes to the target. Hence what matters is not so much whether MNEs follow global or local strategies, but rather the specific match between local and MNE assets.

This view gets some support from the fact that Japan and Germany, two countries known for producing high-quality products based on superior human resources, seem to have an unusually high proportion of greenfield entries. While the evidence is limited, data in Kogut and Singh (1988) show that the percentage of WOSs in the US that were greenfields was 44% for German and 48% for Japanese affiliates, vs 12% for UK affiliates and 22% for Dutch ones.

THE DYNAMICS OF FOREIGN EXPANSION

What happens after entry? We have seen that both Anderson and Gatignon (1986) and the Uppsala internationalization model (Johanson & Vahlne, 1977, 1990) predict that as MNEs accumulate experience in a host market they will move from licensing to EJV and to WOS, but that no robust large-sample empirical evidence supports these claims.[8] Figure 2 shows why.

Both Anderson and Gatignon and Johanson and Vahlne's Uppsala internationalization model predict that MNEs will move from cell 2 (licensing or contractual sale of technology to wholly owned local firm) to cell 4 (EJV with local firm) and finally to cell 3 (WOS). Figure 2 clearly shows that such an evolution is only one of many that are possible, and suggests that a necessary condition for a move from cell 2 (licensing) to cell 4 (EJV) is that the complementary assets held by the local firm remain difficult to transact, while those held by the MNE change from easy to transact to difficult to transact. Likewise, Figure 2 tells us that for MNEs to move from cell 4 to cell 3, and hence to take over their local EJV partner and transform their EJV into a WOS, the market for the complementary assets held by local firms must become more competitive, while the technological advantages held by the MNE must remain difficult to sell.

But divergent evolutions are possible. For example, it may be that with the passage of time the efficiency of the market for MNE knowledge improves faster than that for local complementary

assets, with knowledge moving from difficult to transact to easy to transact while complementary assets remain difficult to transact. Then the evolution will not conform to Anderson and Gatignon, nor to the Uppsala internationalization model. The MNE footprint will shrink rather than expand, with MNEs switching from EJVs (cell 4) to contractual relationships with local asset owners (cell 2) rather than to WOSs (cell 3). In spite of their greater experience of the host country, MNEs will switch from *high* (wholly owned affiliates) to *low* control modes (licensing or other forms of contractual technology transfer).

This is not an unusual pattern. Consider the experience of Borden in Japan. Borden, a US manufacturer of dairy products, entered the Japanese market in 1971 by licensing Meiji Milk to make and sell ice cream (cell 2). The following year the two companies formed a 50/50 greenfield EJV, Meiji-Borden, to produce and market cheese, margarine, and ice cream (cell 4). Meiji was a major Japanese milk producer, with an extensive distribution network, but, as with other milk producers in Japan, had no experience processing cheese and ice cream, which were then still unfamiliar to Japanese consumers (Ono, 1991). Borden helped Meiji-Borden manufacture these two products in a factory leased from Meiji, with the output distributed through Meiji's vast distribution network. Together the partners created a market for premium ice cream, and their brand, Lady Borden, had by 1990 a 70% market share in that product segment (Yuasa, 1990).

In 1990, Borden decided to go on its own, and attempted to buy back Meiji's share of the EJV to form a WOS (cell 3). The partners were not able to come to an agreement, and the EJV was dissolved. As a result, Meiji was faced with the loss of the Lady Borden brand name and of Borden's technical help, while Borden lost access to Meiji's factories and distribution system. As in the EMI – GE case, local complementary assets proved to be harder to replace than MNE knowledge. Meiji quickly came up with two competing premium ice creams, Aya and Breuges (Ono, 1991). Borden began importing Lady Borden ice cream from Australia and New Zealand, and enlisted Meiji's rival, Morinaga, and Mitsui Trading to distribute it (Yuasa, 1990). But while Meiji was able to capitalize on its extensive distribution system, and quickly gained market share for its premium ice creams, Borden's strategy of enlisting Morinaga and Mitsui backfired. In 1994 Borden left Japan, licensing the technology,

formulation, and trademark of Lady Borden to Lotte, a Japanese firm, and hence moving back to cell 2. Not surprisingly, industry observers attributed Borden's exit to its failure to build its own distribution (Kilburn, 1994).

The story of what happened to Borden shows that the increased MNE footprint predicted by MNE-centric theories is far from inevitable. When distribution is manufacturer-specific, its contractual purchase will be inefficient. If vertical integration into distribution is not possible, the MNE will be shut out from distribution. It will then revert to licensing its FSA if appropriability is strong, or, as in the EMI case, will lose the business if it is weak.

China's PC industry provides another example. In 1992, the two largest sellers of PCs in China were AST, with 27% of the market, and Compaq, with an 18% market share. Today Lenovo is the market leader in China, with one-third of the market, well ahead of Hewlett-Packard and Dell (Xie & White, 2004). Lenovo started in 1987 as Legend, a distributor of AST and other foreign-branded PCs and peripheral products (Chen, Qin, Ye, & Yin, 2001; Pan, 2005; Xie & White, 2004). At that time foreign-owned PC makers were not allowed to own their own distribution in China. In 1988 Legend started to manufacture motherboards and add-on cards in Hong Kong, and in 1991 its own PCs, which it sold under its own brand in mainland China (Xie & White, 2004). Through its experience distributing PCs for others, Legend was able to gain an in-depth knowledge of the requirements of Chinese consumers, and to respond quickly to changes by offering customized products (Pan, 2005; Xie & White, 2004). By 1997 Legend was China's top PC seller, a position it has been able to hold onto up to this day. The bundling model shows why. In the PC industry, technology is basically embedded in components and in manufacturing equipment, which are available on competitive markets (Xie & White, 2004). In other words, knowledge is easy to transact. On the other hand, Lenovo's first-mover advantage in setting up what is the largest and most efficient dealer network in the IT industry in China is harder to imitate. According to Guo Wei, the architect of Legend's distribution network, "the distribution business in China is not as scalable as outsiders might think: it will take many years for any international player to develop such a network" (Chen et al., 2001: 14). Lenovo's position in cell 2, a wholly owned local firm, and its dominance of the Chinese market, can be explained by the fact that its main asset, control of Chinese distribution, is harder for foreign MNEs to access than it is for Lenovo to access the knowledge necessary to compete in the industry.

By considering both MNE and local resource owners, I have shown that the evolution of MNE presence in a specific industry in a specific country will hinge on the relative change in the level of transaction costs for the assets held by *both* MNEs and local firms, and not only on that for MNEs assets, as predicted by extant theories. The bundling model suggests that if the FSAs held by MNEs become increasingly available on the market or easier to imitate, while MNEs still experience difficulty in acquiring complementary assets held by local firms, the MNE footprint in the foreign market may shrink, either because the MNE ends up selling its knowledge through licensing contracts or embedded in exports, or because local firms will copy it and the MNE will lose the market. The result is that firms with access to distribution will end up owning the equity, because it is harder for technology- or reputation-exploiting MNEs to control the performance of distributors than it is for local distributors to control the performance of the MNEs that sell them technology, or license them their brand names.[9]

The bundling model also shows that, just as in the EMI domestic case studied by Teece (1986), the possession of hard-to-access complementary assets, such as distribution, is an important advantage that can allow local firms to defend their home turf successfully against attacks by MNEs. These local firms can later consolidate their initial position by accessing the necessary knowledge assets, whether in the market for machinery or components, or in the market for knowledge services through licensing or technical assistance contracts, or in the market for firms.

Such attempts by emerging-market firms to acquire the firms that hold the technological inputs that complement their own firm-specific distribution assets is ostensibly behind some of the increase in outward foreign direct investment flows by emerging countries (Goldstein, 2007; Mathews, 2002; Morck, Yeung, & Zhao, 2008; Narula, 2006; Zeng & Williamson, 2007). Some of those investments involve the acquisition of technology-intensive or brand-intensive Western firms by emerging market firms that have a strong hold on their domestic markets (Zeng & Williamson, 2007: 5). Besides Lenovo's acquisition of IBM's PC division,

Chinese firms have made numerous acquisitions of German, American and Korean high-tech firms (Zeng & Williamson, 2007). Huawei has bundled its strong Chinese distribution assets (Rui & Yip, 2008) with technology acquired through the purchase of two US optical network leaders and an investment in a third (Zeng & Williamson, 2007). The bundling model suggests that this combination of strong domestic market position and easy-to-transact complementary knowledge is behind the growth of MNEs from emerging markets, the Dragon MNEs (Mathews, 2002; Zeng & Williamson, 2007).

The model also suggests that the outcome of the competition behind Western and Dragon MNEs is likely to hinge on the relative cost incurred by the Dragons in acquiring advanced technology and brand names vs that which Western MNEs will face in obtaining access to emerging market distribution. As my earlier developments suggest, a number of factors may work out to the Dragons' advantage. First, the increased codification and modularity of technology and the emergence of a global market for experts have reduced the transaction costs involved in acquiring technology (Zeng & Williamson, 2007). The part of Western technological knowledge that is tacit and embedded in firms can be acquired in the market for firms, and here also the Dragons are at an advantage. Recall that assets end up embedded in firms when the market for them, or for their services, is inefficient. The greater efficiency of markets for assets and asset services in developed economies makes Western firms less diversified, and hence their assets more modular. This facilitates their integration. The Dragons are thus able to access the knowledge they need by taking over small or middle-sized R&D-intensive Western firms without the major management problems involved in acquiring unneeded vertically linked assets. One major challenge the Dragons still face is that of managing the integration of their high-technology acquisitions (Zeng & Williamson, 2007), a task that has proven difficult even for the more managerially competent European acquirers of Silicon Valley firms (Inkpen et al., 2000).

At the same time the in-depth knowledge of emerging market consumers and of their changing needs that is held by local distributors is likely to remain tacit, and hence difficult for MNEs to access through contract (Arora et al., 2001). As we have seen, often the only way to access such knowledge is to take over the firms that hold it. Here Western MNEs are at a disadvantage. Markets for firms in emerging countries are often embryonic, and the acquisition of local firms is frequently discouraged or prohibited by host governments. Furthermore, inefficient markets for assets and asset services cause firms there to be vertically integrated (Fan, Huang, Morck, & Yeung, 2007; Silver, 1984). Their assets are therefore less modular, and more difficult for MNEs to integrate. Joint-venturing with local distributors may then be the next best solution, but this solution has its own problems, as shown by the Meiji/Borden case discussed earlier.

CONCLUSION

MNEs that enter foreign markets to exploit their FSAs must bundle those advantages with local complementary assets. Hence one would expect the entry mode used, and what happens afterwards, to be simultaneously determined by the MNE and the owners of these local complementary assets. In other words, whether MNEs enter through a licensing agreement, an EJV, or a WOS, and whether they find it efficient to acquire the necessary complementary assets already bundled up in an existing firm or in disembodied form in competitive markets, should be the equilibrium outcome of their own decisions and of those of owners of local complementary assets. Furthermore, whether MNEs continue to expand their host-market activities after entry or subsequently reduce their footprint should also depend on both their own actions and those of owners of local complementary assets.

Surprisingly, this is not the way extant theories model market entry. Anderson and Gatignon (1986) and the Uppsala internationalization school (Johanson & Vahlne, 1977, 1990) see the choice of initial mode of foreign market entry and its subsequent evolution as unilaterally determined by MNEs. For Anderson and Gatignon it is the result of a tradeoff between an MNE's desire for control and its appetite for risk, and for Johanson and Vahlne it is determined by the MNE's host-country experience. Dunning's OLI paradigm (Dunning, 1988) and the internalization school (Rugman, 1981; Rugman & Verbeke, 1990) recognize the importance of complementary local assets, which Dunning calls "location advantages" and internalization scholars call "CSAs." But they do not explicitly recognize that the transactional characteristics of those assets affect whether, and how, they can be accessed by MNEs, and hence influence the MNE's mode of entry and subsequent expansion.

In this paper I argue that the choice between different modes of market entry is essentially one of

different assignments of residual rights between MNEs and local resource owners, and that the configuration eventually chosen will be the one that maximizes total potential rents by assigning residual rights to the party whose behavior is the most difficult to constrain. When both behaviors are equally difficult to constrain, the outcome will be an EJV.

This formulation clarifies the connection between transaction costs, property rights, and agency theory: high information and measurement costs in the sale of asset services make it possible for sellers to inflict substantial costs on buyers. Giving sellers title to the residual of the joint buyer–seller output saves on the costs that buyers would have to incur to measure the seller's output. Hence when parties bundle complementary assets, the one who will take the residual will be the one whose output is the most difficult to measure. The residual claimant will then contract with the other party or parties. For example, whenever knowledge is tacit and there is a high degree of information asymmetry between knowledge sellers and potential buyers (knowledge is difficult to transact), but the services of complementary assets such as land and labor can be contracted for on efficient markets (they are easy to transact), giving title to the residual of the joint product of the bundle to the knowledge seller will yield a higher level of rents than the alternative of giving the residual to owners of local complementary resources, or that of sharing the residual between these owners and the knowledge owner. What drives our model is the relative level of transaction costs in the markets for all necessary inputs. Note that having title to the residual is a mixed blessing, since it entails getting both the upside and the downside of the venture.

The model builds on Teece (1986) and Hennart (1988). I apply to foreign market entry Teece's insight that owners of specialized complementary assets play a much greater role than generally acknowledged by the literature on innovation, and that they may end up capturing the bulk of the profits from the introduction of the innovation if the innovator's knowledge suffers from poor appropriability. I combine this insight with Hennart's (1988) model of EJVs as resulting from high market transaction costs in the sale of complementary inputs. I use this model to predict how the relative efficiency of all markets for knowledge and complementary local assets can explain how equity rights will be apportioned between a MNE con-

tributing technology and a local firm controlling complementary assets, that is, whether the optimal solution will be a WOS of the MNE, a wholly owned local firm obtaining knowledge from the MNE through markets or contracts, or an EJV between the MNE and a local firm. This yields some interesting insights into the nature and properties of EJVs, for example that EJVs are not hybrids.

I also expand on Hennart's (1988) treatment of the choice between EJVs, wholly owned greenfields, and acquisitions, and show how the choice between these modes depends on the relative level of transaction costs for both knowledge and complementary local assets in three alternative markets: the markets for assets, for asset services, and for the firms holding the assets. I argue that even when markets for firms are efficient, greenfields and EJVs may be chosen when there is a mismatch between the assets of the acquirer and those of the potential target. I also show that brownfields are a special type of acquisition, and not solely a product of the East European institutional environment.

Finally I use the model to predict how entry modes will evolve over time. I show that the predictions of Anderson and Gatignon and of the Uppsala internationalization model that MNEs gradually deepen their commitment with experience all rest on the very specific assumption that, with the passage of time, the market for complementary local assets becomes more efficient while that for MNE FSAs remains inefficient. I use the examples of Borden and Lenovo to show that the reverse can also occur. When it is more difficult for MNEs to access distribution, or to garner local market knowledge, than it is for local distributors to acquire technological knowledge, local distributors will end up owning the equity, and the MNE footprint in the host market will contract rather than expand. If the MNE's FSAs have poor appropriability, they will be imitated by local firms. If they enjoy strong appropriability, local distributors will access them through the purchase of parts and machinery, through licensing and technical assistance contracts, or through the acquisition of the firms that possess these FSAs. Acquisitions of foreign technology-intensive firms by emerging market firms with a strong domestic market position are, in part, behind the recent surge in foreign direct investment from developing countries and the emergence of the so-called Dragon MNEs.

Like Chi (1994), I explain modes of entry as the outcome of the optimal apportionment of

residual rights, but there are important differences between Chi's model and mine. One of them is that I take an explicit IB perspective. Another is that while Chi analyses the choice between acquisitions of full or parts of firms vs collaborative ventures (EJVs and contracts), I compare wholly owned acquisitions, wholly owned greenfields, partial acquisitions, and greenfields EJVs. Chen (2005), building on Chen and Hennart (1997), also sees the choice of optimal governance structure as determined by interactions between MNEs and local actors, but in contrast to the present model, where I look at how the optimal bundling of MNE knowledge and local complementary assets determines the level of equity and the choice between greenfields and acquisitions, he analyzes the choice between licensing, OEM, foreign direct investment, and various marketing arrangements. Lastly, along with Yeung and Mirus (1989), I am, as far as I know, among the first to show how a bundling approach can explain the evolution of the various modes of MNE operation in host countries.

This bundling model is only a first pass, and the evidence put forward is only illustrative. Much more work is required to fully assess its relevance and applicability. Looking at acquisitions as favored when assets are both embedded in firms and modular may account for unexplained regularities in the relative use of greenfield and acquisitions across industries and parent MNEs, but this clearly deserves further study.

Nevertheless, the bundling model has a number of interesting implications for IB theory and practice. The model suggests that practitioners should take into account the goals and interests of owners of complementary local assets when setting up MNE strategy. The most obvious implication for IB theory is that all IB phenomena should be analyzed from the point of view of all parties involved. For instance, one cannot model foreign market entry and expansion, and more generally the role played by local and foreign firms in a host-country industry, without considering the transactional structure of complementary local assets. Predicting whether it will be the MNE or the local owners of complementary assets who will end up owning the equity of local businesses requires the simultaneous consideration of the level of transaction costs in various substitute markets in which MNE FSAs and local complementary assets can be transacted. The familiar case of the MNE establishing an overseas greenfield WOS corresponds to the special one where knowledge is imperfectly appropriable, so innovators need to incorporate it into products and services; and where exports are not possible, so access to local complementary assets is necessary, and the foreign firm is able to access them on efficient local markets. My bundling model shows that many other cases are possible. Acquisitions of local firms will be the preferred mode of entry when an MNE's FSAs have poor appropriability so that operation in the foreign market is necessary, complementary local assets are embedded in local firms, the market for these firms is efficient, and the assets they hold are modular. But if appropriability is strong, MNEs may be able to exploit their FSAs without the need to set up manufacturing operations in foreign countries. Instead they will sell their knowledge to foreign owners of complementary assets incorporated into machinery and components or through licenses or technical services agreements.

The model also has implications for the debate on how institutional contexts affect both the ability of MNEs to enter foreign countries and the modes that they will choose to do so (Gaur & Lu, 2007; Wright, Filatotchev, Hoskisson, & Peng, 2005). The specialized complementary assets an MNE needs to access will vary across industries. Their transactional characteristics are likely to hinge on the specific regime of property rights in that host-country industry. Hence the evaluation of the impact of host-country institutions on MNE entry requires going beyond macro country factors, such as political or social institutions, and needs to focus more on the detailed study of the actual barriers that MNEs face when accessing these needed specialized complementary assets. Germany has highly developed institutions, yet local barriers to the acquisition of sufficiently large plots of land have discouraged Wal-Mart from doing business there (Verbeke, 2009). All possible markets for complementary local assets should also be considered, since MNEs shut out from the market for complementary asset services or from that for complementary assets may, for example, access them in the market for firms.[10]

The model also throws light on the recent debate on the rise of Dragon MNEs (Mathews, 2002, 2006). Mathews claims that "their sudden appearance cannot be explained by conventional multinational strategies" and that "the Dragon multinationals help to expose the weaknesses and limits of traditional accounts of MNEs and of existing theories and framework of international business," because, contrary to the predictions of OLI theory

that MNEs expand abroad based on intangible-based FSAs, the Dragons started without initial technology resources (Mathews, 2006: 8). Mathews proposes instead that the Dragon's expansion is driven by resource linkage, leverage, and learning, a framework he contrasts with OLI. Nonetheless, Mathews does not make a break with the dominant IB viewpoint that assumes that a firm's internalization is driven by its transferable knowledge and reputation assets (its FSAs), while complementary local resources (CSAs) are implicitly assumed to be freely available, and hence do not provide any advantages to local firms. As I have shown, an explicit consideration of the transactional characteristics of complementary local assets suggests that control of such assets, distribution for example, may in fact endow the Dragons with strong advantages, which they can leverage in order to access the technology that they need. Both the local-asset seeking investments of Western MNEs and the knowledge-seeking investments of their Dragon counterparts thus fit comfortably within my bundling model.

NOTES
[1]This is not strictly true in the case of Rugman (1981), who models the evolution of entry modes on the relative cost of exporting, licensing, and running foreign operations. Owners of local complementary factors play a limited role in that model, since the cost of licensing is that of running the risk of having the licensee resell the licensor's knowledge to third parties.

[2]In the 1970s and 1980s a number of authors, such as Oman (1984), argued that contractual arrangements between MNEs and host countries could always advantageously substitute for equity control by MNEs. Hennart (1989) argues against this point of view.

[3]Bartlett and Ghoshal (1986) argue that EMI's over-centralized and UK-centric organizational structure explains why it was late in recognizing GE's threat and in setting up an adequate distribution system in the US.

[4]The reasoning is similar to the property rights theory of vertical integration, which discusses the allocation of residual rights of control (Grossman & Hart, 1986; Hart & Moore, 1990). In fact, it makes sense for residual claimancy and residual rights of control to be aligned. I thank an anonymous referee for help on this point.

[5]On the premise that "possession is nine-tenths of the law."

[6]One could argue, however, that in an EJV both parents impose behavioral rules on each other, and that in that sense they are hybrids. I am indebted to an anonymous referee for this insight.

[7]Leasing a brand is also possible, but the lessee runs the risk that some of the goodwill investments it makes to build the brand will be held up by the lessor at contract renewal time.

[8]In contrast to Anderson and Gatignon (1986) and Johanson and Vahlne (1977), who model the switch from licensing to EJVs to WOSs, both Rugman (1981) and Buckley and Casson (1981) model the evolution from exports to licensing and to foreign production, but do not consider EJVs. For the sake of comparability I focus on the comparison between the first two theories and my model

[9]Morck et al. (2008) argue along similar lines, but for them equity ends up being vested in Chinese firms because their skills in manufacturing and cost control are less contractible and more crucial to creating value than the MNE's technology or brand names.

[10]Wal-Mart's initial entry into Germany was through the acquisition of 21 Wertkauf stores and 74 Interspar hypermarkets, but these acquisitions were insufficient to provide the volume Wal-Mart needed to be profitable (Verbeke, 2009).

REFERENCES
Ahmed, Z., Mohamad, O., Tan, B., & Johnson, J. 2002. International risk perceptions and mode of entry: A case study of Malaysian multinational firms. *Journal of Business Research*, 55(10): 805–814.

Alchian, A., & Allen, W. 1977. *Exchange and production: Competition, coordination, and control*, (2nd ed.) Belmont: Wadsworth.

Anderson, E., & Coughlan, A. 1987. International market entry and expansion via independent or integrated channels of distribution. *Journal of Marketing*, 51(1): 71–82.

Anderson, E., & Gatignon, H. 1986. Modes of foreign entry: A transaction cost analysis and propositions. *Journal of International Business Studies*, 17(3): 1–26.

Arora, A., & Fosfuri, A. 2000. Wholly owned subsidiary vs technology licensing in the worldwide chemical industry. *Journal of International Business Studies*, 31(4): 555–572.

Arora, A., & Gambardella, A. 1998. Evolution of industry structure in the chemical industry. In A. Arora, R. Landau & N. Rosenberg (Eds), *Chemicals and long-term economic growth*: 379–414. New York: John Wiley.

Arora, A., Fosfuri, A., & Gambardella, A. 2001. Markets for technology and their implications for corporate strategy. *Industrial and Corporate Change*, 10(2): 419–451.

Barkema, H., & Vermeulen, F. 1998. International expansion through start-up or acquisition: A learning perspective. *Academy of Management Journal*, 41(1): 7–26.

Bartlett, C., & Ghoshal, S. 1986. Tap your subsidiaries for global reach. *Harvard Business Review*, 64(6): 87–94.

Barzel, Y. 1989. *Economic analysis of property rights*. Cambridge: Cambridge University Press.

Boerner, C., & Macher, J. 2003. Transaction cost economics: An assessment of empirical work in the social sciences. Working Paper, Georgetown University.

Brannen, M., Liker, J., & Fruin, W. M. 1999. Recontextualization and factory-to-factory knowledge transfer from Japan to the United States: The case of NSK. In J. Liker, W. M. Fruin & P. Adler (Eds), *Remade in America*: 117–153. New York: Oxford University Press.

Brickly, J., & Dark, F. 1987. The choice of organizational form: The case of franchising. *Journal of Financial Economics*, 18(2): 401–420.

Brouthers, K. 1995. The influence of international risk on entry mode strategy. *Management International Review*, 35(1): 7–28.

Brouthers, K., & Hennart, J.-F. 2007. Boundaries of the firm: Insights from international entry mode research. *Journal of Management*, 33(3): 395–425.

Brouthers, K., Brouthers, L., & Werner, S. 2003. Transaction cost-enhanced entry mode choices and firm performance. *Strategic Management Journal*, 24(12): 1239–1248.

Buckley, P., & Casson, M. 1976. *The future of the multinational enterprise*. London: Macmillan.

Buckley, P., & Casson, M. 1981. The optimal timing of a foreign direct investment. *Economic Journal*, 91(361): 75–87.

Caves, R., & Mehra, S. 1986. Entry of foreign multinationals into US manufacturing industries. In M. Porter (Ed.), *Competition in global industries*: 449–481. Boston: Harvard Business School Press.

Chen, H., Qin, H., Ye, G., & Yin, G. 2001. *A technology legend in China*. Harvard Business School case 9-701-052.

Chen, S.-F. 2005. Extending internalization theory: A new perspective on international technology transfer and its generalization. *Journal of International Business Studies*, 36(2): 231–245.

Chen, S.-F. 2008. The motives for international acquisitions: Capability procurements, strategic considerations, and the role of ownership structures. *Journal of International Business Studies*, 39(3): 454–471.

Chen, S.-F., & Hennart, J.-F. 1997. When is original equipment manufacture the most efficient way to source foreign-made products? Paper presented at the Academy of International Business Annual Meetings, Monterrey.

Chi, T. 1994. Trading in strategic resources: Necessary conditions, transaction cost problems, and choice of exchange structure. *Strategic Management Journal*, 15(4): 271–290.

Chi, T. 1996. Performance verifiability and output sharing in collaborative ventures. *Management Science*, 42(1): 93–109.

Das, T. K., & Teng, B. S. 2002. A social exchange theory of strategic alliances. In F. Contractor & P. Lorange (Eds), *Cooperative strategies and alliances*: 439–460. Amsterdam: Pergamon.

Davidson, W., & McFetridge, D. 1984. International technology transactions and the theory of the firm. *Journal of Industrial Economics*, 32(3): 253–264.

Delios, A., & Beamish, P. 1999. Ownership strategy of Japanese firms: Transactional, institutional, and experience influences. *Strategic Management Journal*, 20(10): 915–933.

Dunning, J. 1988. The theory of international production. *The International Trade Journal*, 3(1): 21–66.

Dunning, J., & Lundan, S. 2008. *Multinational enterprises and the global economy*. Cheltenham: Edward Elgar.

Eapen, A. 2007. Essays on international market entry: Strategic alliance governance and product segment entry. PhD Dissertation, Tilburg University.

Erramilli, M., & Rao, C. 1993. Service firms' international entry mode choice: A modified transaction-cost analysis approach. *Journal of Marketing*, 57(3): 19–38.

Estrin, S., Hughes, K., & Todd, S. 1997. *Foreign direct investment in Central and Eastern Europe*. London: Pinter.

Eswaran, M., & Kotwal, A. 1985. A theory of contractual structure in agriculture. *American Economic Review*, 75(3): 352–367.

Fan, J., Huang, J., Morck, R., & Yeung, B. 2007. *Institutional determinants of vertical integration: Evidence from China*, Unpublished manuscript.

Gatignon, H., & Anderson, E. 1988. The multinational corporation's degree of control over foreign subsidiaries: An empirical test of a transaction cost explanation. *Journal of Law, Economics, and Organization*, 4(2): 305–336.

Gaur, A., & Lu, J. 2007. Ownership strategies and survival of foreign subsidiaries: Impacts of institutional distance and experience. *Journal of Management*, 33(1): 84–110.

Goldstein, A. 2007. *Multinational companies from emerging economies*. New York: Palgrave.

Gomes-Casseres, B. 1989. Ownership structures of foreign subsidiaries: Theory and evidence. *Journal of Economic Behavior and Organization*, 11(1): 1–25.

Grossman, S., & Hart, O. 1986. The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of Political Economy*, 94(4): 691–719.

Gulati, R., & Singh, H. 1998. The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly*, 43(4): 781–814.

Hart, O., & Moore, J. 1990. Property rights and the nature of the firm. *Journal of Political Economy*, 98(6): 1119–1158.

Harzing, A. 2001. Acquisitions versus greenfield investments: International strategy and management of entry modes. *Strategic Management Journal*, 23(3): 211–227.

Healy, P., & Palepu, K. 1993. International corporate equity acquisitions: Who, where and why? In K. Froot (Ed.), *Foreign direct investment*: 231–254. Chicago: University of Chicago Press.

Hennart, J.-F. 1982. *A theory of multinational enterprise*. Ann Arbor: University of Michigan Press.

Hennart, J.-F. 1988. A transaction costs theory of equity joint ventures. *Strategic Management Journal*, 9(4): 361–374.

Hennart, J.-F. 1989. Can the 'new forms of investment' substitute for the 'old forms'? A transaction costs perspective. *Journal of International Business Studies*, 20(2): 211–233.

Hennart, J.-F. 1991. The transaction costs theory of joint ventures: An empirical study of Japanese subsidiaries in the United States. *Management Science*, 37(4): 483–497.

Hennart, J.-F. 1993. Explaining the swollen middle: Why most transactions are a mix of 'market' and 'hierarchy'. *Organization Science*, 4(4): 529–548.

Hennart, J.-F. 2000. Transaction costs theory and the multinational enterprise. In C. Pitelis & R. Sugden (Eds), *The nature of the transnational*, (2nd ed.) 72–118. London: Routledge.

Hennart, J.-F., & Park, Y. R. 1993. Greenfield vs. acquisition: The strategy of Japanese investors in the United States. *Management Science*, 39(9): 1054–1070.

Hennart, J.-F., & Reddy, S. 1997. The choice between mergers/acquisitions and joint ventures: The case of Japanese investors in the United States. *Strategic Management Journal*, 18(1): 1–12.

Ichikawa, T. 2009. Chairman, Toyo Cotton (Japan) Co. personal interview, Osaka, Japan, 23 March.

Ikeda, K. 2007. Deputy general manager, corporate marketing and development division. Sakata Inx, personal interview, Osaka, Japan, 17 May.

Inkpen, A., Sundaram, A., & Rockwood, K. 2000. Cross border acquisitions of US technology assets. *California Management Review*, 42(3): 50–71.

Johanson, J., & Vahlne, J. 1977. The internationalization process of the firm: A model of knowledge development and increasing market commitments. *Journal of International Business Studies*, 8(1): 23–32.

Johanson, J., & Vahlne, J. 1990. The mechanism of internationalization. *International Marketing Review*, 7(4): 11–24.

Jones, K. 1991. The dilemma of foreign-affiliated companies: Surviving middle age in Japan. In J. Bleeke & D. Ernst (Eds), *Collaborating to Compete*: 145–163. New York: Wiley.

Kay, N. 1999 (Ed.). Collaborative strategies of firms. *The Boundaries of the Firm*: 177–198. Basingstoke: Macmillan.

Kenney, M. 1999. Transplantation? A comparison of Japanese television assembly plants in Japan and the United States. In J. Liker, W. M. Fruin & P. Adler (Eds), *Remade in America*: 256–293. New York: Oxford University Press.

Kenney, M., & Florida, R. 1993. *Beyond mass production*. New York: Oxford University Press.

Kilburn, D. 1994. Borden's hopes melt in Japanese market. *Advertising Age*, 18 July.

Klein, S., Frazier, G., & Roth, V. 1990. A transaction cost analysis model of channel integration in international markets. *Journal of Marketing Research*, 27(2): 196–208.

Kogut, B. 1988. Joint ventures: Theoretical and empirical perspectives. *Strategic Management Journal*, 9(4): 319–332.

Kogut, B., & Singh, H. 1988. The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19(3): 411–432.

Kreps, D. 1990. *A course in microeconomic theory*. Princeton, NJ: Princeton University Press.

Levin, R., Klevorick, R., Nelson, R., & Winter, S. 1987. Appropriating the results from industrial research and development. *Brookings Papers on Economic Activity*, 18(3): 783–820.

Liker, J., Fruin, W. M., & Adler, P. 1999. Bringing Japanese management systems to the United States: Transplantation or transformation? In J. Liker, W. M. Fruin & P. Adler (Eds), *Remade in America*: 3–35. New York: Oxford University Press.

Marinov, M., & Marinova, S. 1998. Investor strategy development and adaptation: The case of Interbrew. *European Management Journal*, 16(4): 400–411.

Mathews, J. 2002. Competitive advantages of the latecomer firm: A resource-based account of industrial catch-up strategies. *Asia Pacific Journal of Management*, 19(4): 467–488.

Mathews, J. 2006. Dragon multinationals: New players in 21st century globalization. *Asia Pacific Journal of Management*, 23(1): 5–27.

Meyer, K., & Estrin, S. 2001. Brownfield entry in emerging markets. *Journal of International Business Studies*, 32(3): 575–584.

Meyer, K., & Møller, I. 1998. Managing deep restructuring: Danish experiences in Eastern Germany. *European Management Journal*, 16(4): 411–421.

Millington, A., & Bayliss, B. 1990. The process of internationalization: UK companies in the EC. *Management International Review*, 30(2): 151–161.

Morck, R., Yeung, B., & Zhao, M. 2008. Perspectives on China's outward foreign direct investment. *Journal of International Business Studies*, 39(3): 337–350.

Narula, R. 2006. Globalization, new ecologies, new zoologies, and the purported death of the eclectic paradigm. *Asia Pacific Journal of Management*, 23(2): 143–151.

Oman, C. 1984. *New forms of international investment in developing countries*. Paris: OECD.

Ono, Y. 1991. Corporate divorce, Japanese style. *The Globe and Mail*, 23 February.

Oxley, J. 1997. Appropriability hazards and governance in strategic alliances: A transaction cost approach. *Journal of Law, Economics and Organization*, 13(2): 387–409.

Padmanabhan, P., & Cho, K. 1996. Ownership strategy for a foreign affiliate: An empirical investigation of Japanese firms. *Management International Review*, 36(1): 45–65.

Padmanabhan, P., & Cho, K. 1999. Decision specific experience in foreign ownership and establishment strategies: Evidence from Japanese firms. *Journal of International Business Studies*, 30(1): 25–44.

Pan, Y. 2005. *Lenovo: Countering the Dell challenge*. Asia Case Research Center case 905-020-1.

Pedersen, T., & Thomsen, S. 1997. European patterns of corporate ownership: A twelve-country study. *Journal of International Business Studies*, 28(4): 759–778.

Rugman, A. 1981. *Inside the multinational: The economics of internal markets*. New York: Columbia University Press.

Rugman, A., & Collinson, S. 2006. *International business*, (4th ed.) Harlow: Prentice Hall.

Rugman, A., & Verbeke, A. 1990. *Global corporate strategy and trade policy*. London: Routledge.

Rui, H., & Yip, G. 2008. Foreign acquisitions by Chinese firms: A strategic intent perspective. *Journal of World Business*, 43(2): 213–226.

Sanchez-Peinado, E., & Pla-Barber, J. 2006. A multidimensional concept of uncertainty and its influence on the entry mode choice: An empirical analysis in the service sector. *International Business Review*, 15(3): 215–232.

Silver, M. 1984. *Enterprise and the scope of the firm*. Oxford: Martin Robertson.

Slangen, A., & Hennart, J. F. 2007. Greenfield or acquisition entry: A review of the empirical foreign establishment mode literature. *Journal of International Management*, 13(4): 404–429.

Teece, D. 1986. Profiting from technological innovation: Implications for integration, collaboration, and public policy. *Research Policy*, 15(6): 285–305.

Verbeke, A. 2009. *International business strategy*. Cambridge: Cambridge University Press.

Vermeulen, F., & Barkema, H. 2001. Learning through acquisitions. *Academy of Management Journal*, 44(3): 457–476.

Vernon, R. 1971. *Sovereignty at bay*. New York: Basic Books.

Wei, Y., Liu, B., & Liu, X. 2005. Entry modes of foreign direct investment in China: A multinomial logit approach. *Journal of Business Research*, 58(11): 1495–1505.

Williamson, O. 1985. *The economic institutions of capitalism*. New York: Free Press.

Williamson, O. 1991. Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36(2): 269–296.

Williamson, O. 1996. Economic organization: The case for candor. *Academy of Management Review*, 21(1): 48–57.

Wright, M., Filatotchev, I., Hoskisson, R., & Peng, M. 2005. Strategy research in emerging economies. *Journal of Management Studies*, 42(1): 1–33.

Xie, W., & White, S. 2004. Sequential learning in a Chinese spin-off: The case of Lenovo Group Limited. *R&D Management*, 34(4): 407–422.

Yeung, B., & Mirus, R. 1989. *On the mode of international expansion: The role of agency costs in an expanded framework*, Unpublished manuscript.

Yuasa, K. 1990. Meiji Milk, Borden to end tie. *Japan Economic Journal*, 23 June.

Zeng, M., & Williamson, P. 2007. *Dragons at your door: How Chinese cost innovation is disrupting global competition*. Boston, MA: Harvard Business School Press.

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