Subsidiary Specific Advantages and Multiple Embeddedness in Multinational Enterprises

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Abstract

Multinational enterprises (MNEs) have rapidly expanded over the last few decades, but the mechanisms to effectively manage the intra-firm knowledge flows within complex and dispersed MNE hierarchies and networks have remained very much a black box. This paper makes two contributions. First, it expands on the linkages between country specific advantages (CSAs), firm specific advantages (FSAs) and subsidiary specific advantages (SSAs), emphasising the different types of embeddeness. Second, it highlights that while MNEs can create SSAs in their growing portfolio of competence creating subsidiaries, there is a fundamental difficulty in turning such location bound FSAs into non location bound FSAs. Effective competence creation through a network of MNE subsidiaries requires an appropriate balance between internal and external embeddedness, leading to four interactions which we call "multiple embeddedness."

Keywords

Multinational enterprise; subsidiary specific advantage; multiple embeddedness; competence creating subsidiary; MNE networks; rebundling.

1. Introduction

The theory of the MNE has developed over the last fifty years to explain three units of analysis: the country; the parent firm; and the subsidiary. At country level there are country specific advantages (CSAs); at parent firm level there are firm specific advantages (FSAs); and at subsidiary level there are subsidiary specific advantages (SSAs). The MNE is a unique organisational form that links all three of these units of analysis, Rugman, Verbeke and Nguyen (2012).

To explain the MNE scholars of international business first explored the linkages between CSAs and FSAs, Rugman (1981). From international economics, we have explanations of how factor price arbitrage leads to international trade, and why economies of scale and trade in differentiated products approximates the activities of MNEs; these are all CSA based explanations. From Coase (1937) we have the market imperfections basis for internalization theory, Rugman (1975), Buckley and Casson (1976). This also builds on Hymer (1960) to emphasize how parent MNEs can generate FSAs based upon their home nations CSAs. This led to the product life cycle of Vernon

(1966) and related literature on the internationalisation process by Johanson and Vahlne (1977).

More recently it has been recognized that the early development of CSAs and FSAs assumed a dominant parent firm, operating in a hierarchical manner, transmitting its FSAs, in tacit knowledge, to its subsidiaries. A managerial literature has developed where the autonomy of the subsidiary has been examined, in particular the manner in which a subsidiary interacts with host country CSAs, and with its parent, Bartlett and Ghoshal (1989). The subsidiary may develop location-bound FSAs in the host country and possibly use the network of the MNE to transfer such SSAs back to the parent firm, or to other subsidiaries, in which case the subsidiary has developed non-location bound FSAs, Rugman and Verbeke (1992, 2003).

Birkinshaw (1996, 1999) has explored the manner in which subsidiaries develop autonomous "iniatives", or mandates, and how these SSAs may become best practice for the MNE network. These interactions between parent firm and subsidiary , and the unique role of the subsidiary in interacting with host CSAs is called "dual" embeddedness. The manner in which the subsidiary can turn LB FSAs into non LB FSAs in a third type of embeddedness. Finally the manner in which the parent firm has developed FSAs based on the home country CSAs is a fourth linkage to be studied. Thus this paper examines these four types of "multiple" embeddedness. For a related and more detailed discussion of these interactions, see Ferraris (2014).

2. Advancing Understanding of Multiple Embeddedness

A useful way to approach analysis of the competence creating subsidiary (CCS) is through the 2011 concept of multiple embeddedness, Meyer (2009). By this is meant the ability of a CCS to engage in "dual" embeddedness to both transfer FSAs from its parent firm (internal embeddedness) but also for the CCS to engage in recombinations with host country CSAs (external embeddedness), Narula (2014). Multiple embeddedness occurs when the CCS can possibly transfer these host country FSAs back to the parent firm, and when the parent firm itself engages with home country CSAs.

In order to model dual embeddedness it is necessary to recognize that the internal embeddedness of the CCS results from the parent firm recombinations with external complementary assets (home CSAs) in the home country. Therefore, multiple embededness embodies four sets of relationships. The CCS uniquely benefits from home and host country CSA recombinations. This is achieved through its status as a subsidiary within the MNE, where the parent MNE has built FSAs based on its home nation CSAs. Second, the CCS specializes in FSA development in the host economy, but also makes use of appropriate transfers of the parent firm's FSA. Thus the CCS has access to two sets of CSAs (home and host) and two sets of FSAs (parent and subsidiary). These relationships are shown in Figures 1 and 2.

Figure 1: Parent-level firm-specific advantages (PARENT FSAs) and home CSAs

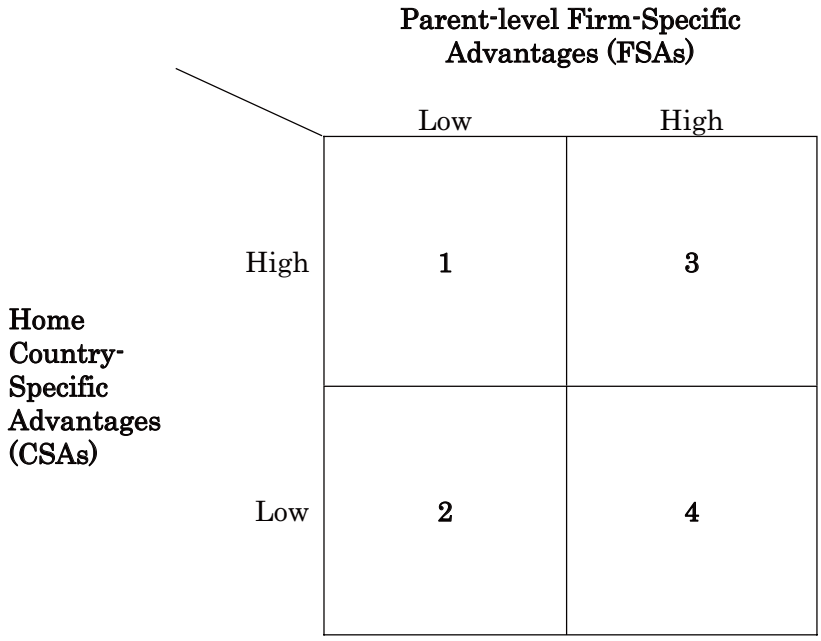
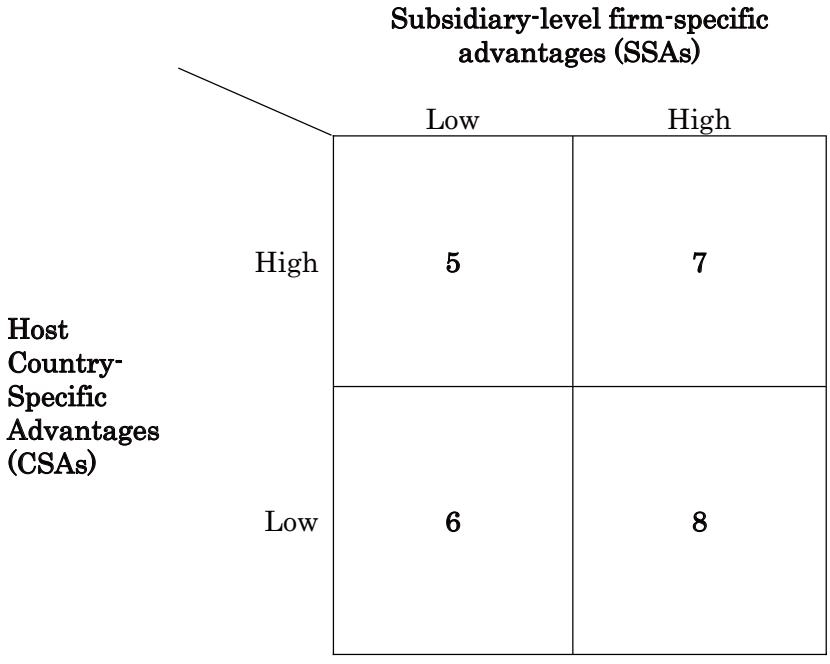


Figure 2: Subsidiary-level firm-specific advantages (SUBSIDIARY FSAs) and host CSAs



The axes of Figures 1 and 2 build upon the basic CSA/FSA matrix, first conceived by Rugman (1981) and illustrated in the Japanese edition of his International Business textbook, Rugman et al.(1987). In Figure 1 home CSAs are related to parent firm FSAs.

In Figure 2 host CSAs are related to subsidiary FSAs. The latter can be called subsidiary specific advantages (SSAs). In the basic CSA/FSA matrix, cell 1 represents successful firm level strategy built upon the harvesting, exploitation and marketing of country level advantages. There are no FSAs dependent upon the strong CSAs engaged by the parent MNE.

Here we extend this CSA/FSA framework to incorporate the three types of FSAs popularized by Verbeke (2009): stand alone FSAs; FSAs based on routines and codification; and tacit knowledge FSAs. These are shown in Figure 3. But first it should be noted that there are no FSAs in area X. This is an area of pure CSAs.

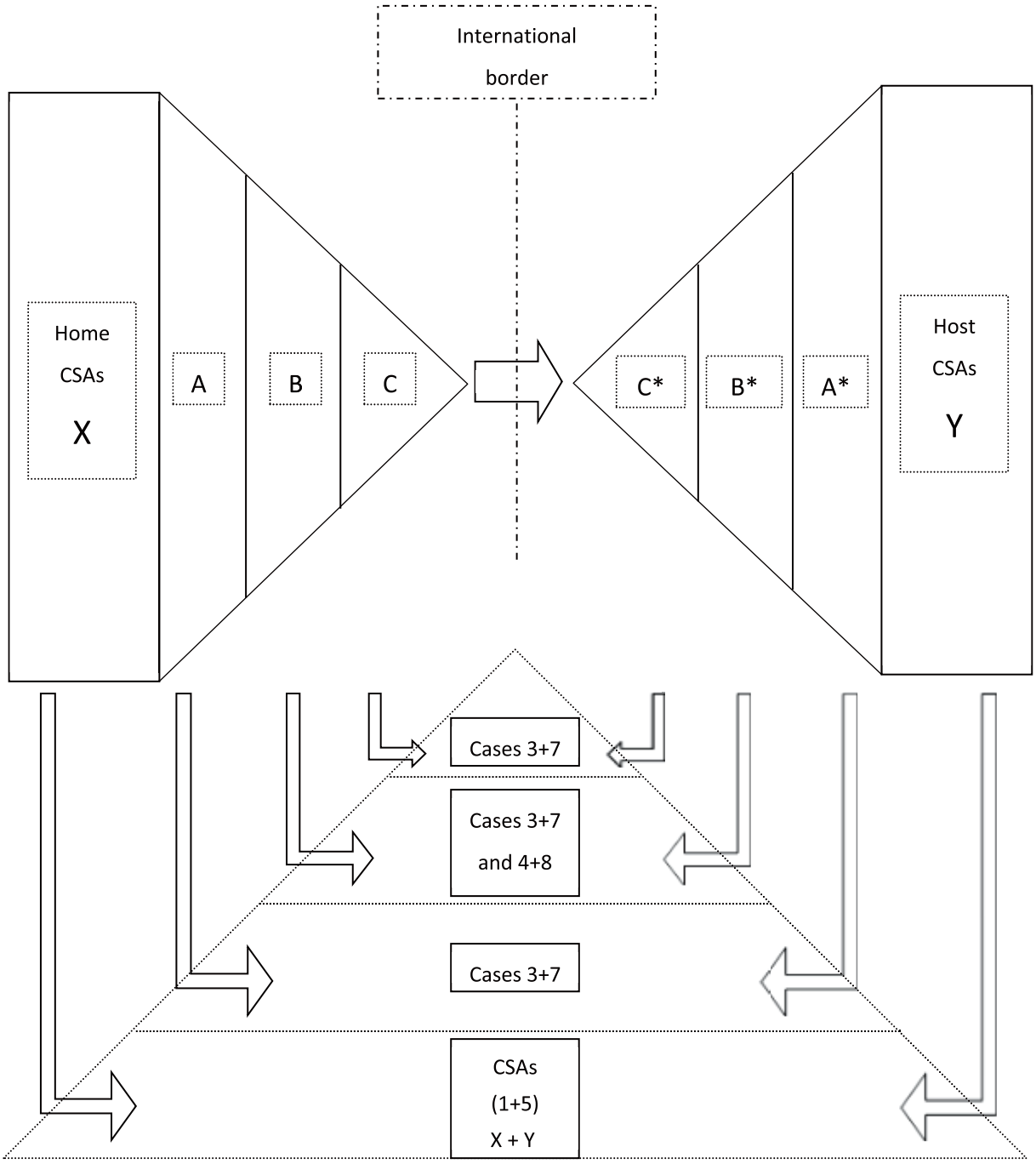
In Figure 3, area A represents stand alone FSAs for the parent firms, which are entirely derived from recombinations with home CSAs. In contrast, area B will represent FSAs due to routines and codification. Finally, area C represents the most advanced type of tacit knowledge FSAs due to the recombinations with advanced complementary assets in the home country. We now apply this thinking to embeddedness and then relate it back to Figures 1 and 2.

In principle, all three types of parent firm FSAs can be transferred to its subsidiaries. We shall now explore these cases of internal embededdness. Clearly, there is more complexity in understanding these three types of FSAs than is currently recognized in the CCS literature.

On the left hand top side of Figure 3, area A, represents stand alone FSAs which are entirely due to recombinations with home CSAs. There is weak external embeddedness as these FSAs are entirely dependent upon strong CSAs. Area B of Figure 3 represents parent firm FSAs due to routines and codification, along the lines of Kogut and Zander (1993), these yield more robust FSAs. Finally, area C represents tacit knowledge recombinations by the parent firm, which can lead to strong internal embeddedness.

This thinking can also be applied to the subsidiary. In Figure 3 on the right hand side is Area A* where there are stand alone subsidiary specific advantages (SSAs). These occur when the subsidiary interacts with host CSAs. This leads to weak external embeddedness, with a stand alone SSA. In area B* there are location bound SSAs due to the implementation by subsidiary managers of a strategy of national responsiveness. In area B* SSAs are largely driven by the need to adapt to the host country regulatory framework and to develop routines and codification for such SSAs this leans to a location-bound SSA. In area C*, the SSAs in tacit knowledge are location bound in origin but can also become non location bound if this subsidiary is part of a successful MNE network organizational structure. In such a case the best practice of the subsidiary can be transferred around the MNEs network, Rugman and Verbeke (2003).

Figure 3: Multiple Embeddedness - CSAs and FSAs



In summary, multiple embeddedness is the transfer from the parent firm to a subsidiary of internal FSAs, of three types, yielding SSAs in areas A*, B* and C*. In contrast external embeddedness is area Y, which is the access of a subsidiary to host CSAs. Note that in area Y, there are no recombinations and no FSAs, as was the case for the parent firm in area X.

The main point of this paper is to demonstrate that most of the literature (especially the institution based view) assumes that area Y explains the CCS, even attempting to show that there exist FSAs (or SSAs in area Y). We are puzzled by this, as an earlier literature on parent FSAs (in areas A, B and C) clearly does not assume that FSAs arise for a parent MNE in area X.

Figure 3 can be linked back to Figure 1 and 2. Essentially strong external embeddedness is in the CSAs of cells 1 and 5. For the subsidiary, external embeddedness is represented in cell 5, the access to host CSAs, with no related FSAs. Stand alone FSAs are combined in cells 3 and 7. This suggests that weak external embeddedness need to focus on such FSAs in areas A plus A*. In addition cells, 3 and 7 are also relevant for the tacit knowledge recombinations of areas C plus C*. Finally, the FSAs due to codification and routines, of cells 4 and 8 need to be addressed, as in areas B plus B*.

In short, the internal embeddedness of FSAs with SSAs, is much more complex than is currently recognized in the literature. Yet much of the current literature is not even about FSAs; it looks into area Y (host CSAs) only.

3. FSAs and Dual Embeddedness

Based on the frameworks above, we need to distinguish between subsidiaries and individual 'establishments'. By 'establishment' we mean a clearly delineated and coherent individual unit of a firm that engages in value adding activity as a single and distinct organisational and managerial unit. A specific subsidiary may legally own and/or control several establishments in a given country and actively or passively coordinate these activities; in much the same way as an MNE may own and/or control the activities of several subsidiaries.

The competence creating subsidiary (CCS), may consist of one or many establishments. Our focus here is on the aggregate of the activities in one host country, and thus our focus is on subsidiaries that are in aggregate systematically and deliberately engaged in creating new competences. It will probably do so with the utilisation of competences, both new and old, which in itself will also lead to improvements in existing competences, for much learning is of an incremental rather than a radical nature. Subsidiaries rarely have single roles, as indeed is the case for individual establishments.

To summarise a distinct literature, subsidiaries and parents tend to have overlapping but nevertheless distinct sets of competences at their disposal. The MNE at large is an integrator: it seeks to combine the assets of a variety of subsidiaries together. Each subsidiary seeks to do the same, and this includes not just internally generated competences, but also externally-based location-specific assets.

Competence creation lies at the heart of the survival and sustainability of any firm's competitive advantage. Firms (and their subsidiaries) are continuously engaged in

competence-creation, even if it is 'on the margin', to improve them incrementally through learning-by-doing or learning-by-using. Productivity improvements may also come through the auspices of customer-supplier interactions, as well as by observing the activities of competitors. Firms also seek new classes of assets by deliberately engaging in systematic exploration, through formal R&D.

In theory, the concept of competence-creation is largely associated with one specific type of ownership advantage – that associated with knowledge assets in the traditional sense of technology/engineering, such as machinery and equipment, and in the personnel who operate and maintain them, and the rent-generating knowledge embodied in personnel. These asset-type ownership advantages have dominated much of the empirical literature (Dunning, 1993). They are more tangible and easier to proxy (and therefore empirically test) through data on R&D expenditures, patents, royalties and licensing fees, and so on. They are also the focus of formal R&D activities, and competence-creating subsidiaries are generally taken to imply subsidiaries that are net contributors to aggregate FSAs of this type (Cantwell and Mudambi 2005). Their value to the MNE as a whole is a function of the subsidiaries to make these FSAs available to the rest of the MNE. In other words, the generation of competences by subsidiaries needs to be complemented by an effective distribution of these assets to other constituent parts of the MNE, and their ability to internalise these assets.

Yet while the theoretical literature, correctly is focussed upon what is area C* in Figure 3, much of the empirical literature is using data about host nation CSAs, in area Y. What we are highlighting is that exploiting the benefits of multinationality from the point of view of a competence creation subsidiary requires us to revisit the concept of dual or multiple embeddedness (Meyer et al 2011). That is, for subsidiaries to be effective competence-creators they must be effectively embedded in the external, host environment ('externally embedded' in the Y space of Figure 3), and if these new competences are to be distributed and utilised throughout the MNE, they must also be firmly embedded within the MNE network ('internally embedded') in the FSAs areas A*, B* and C* of Figure 3, which, in turn, need to interact with the parent firm FSAs of areas A, B and C in Figure 3.

4. External Embeddedness

External embeddedness for the competence subsidiary differs from the internal SSAs at the subsidiary level (Rugman and Verbeke 2001). MNE subsidiaries are generally always externally embedded with local customers and suppliers, an aspect of area Y. Offshoring is an example of area Y. Here the MNE is part of a supply chain, or a production network, using cheaper host country labour, or other elements of host country CSAs in area Y. In contrast, SSAs arise if the CCS is continuously engaged in adaptations and modifications to meet specific needs, since its products and services must use complementary host CSAs in a unique manner to create location bound SSAs.

For external embeddedness, in area Y, subsidiaries engaged in competence creation need "flagship" relational contracts and access to specialised actors that make up the local innovation system, that are linked to the subsidiary either directly or indirectly. This includes universities, public and private research institutes, government research councils, as well as competitors, collaborators and suppliers, (Rugman and D'Cruz, 2000). The importance of collocation with the other actors in an innovation system when conducting R&D activities cannot be overstated. Important synergies can exist, and at its most optimal, such collocated institutional knowledge infrastructure can possibly move from area Y into area C* when a 'club' or community of practice provides access to specialised knowledge to those who are locally embedded, and excludes those who are not (Tallman and Chacar 2011, Narula and Santangelo 2012). Thus then should generate a proprietary SSA.

Competence creation by subsidiaries located abroad presumes that the location itself provides distinct host CSA benefits deriving from that location, (area Y) that are suitably different from those of other locations, including its parent (area X). Such host CSA benefits are broadly classified as implying local external embeddedness, but naturally there is considerable variation in the degree to which they locally embedded. Local embeddedness can mean being integrated more broadly with the innovation system of the host country. Such local embeddedness may be organic, in that the subsidiary has grown roots over a long period of time, perhaps as a part of a multi-domestic strategy, either currently, or in the past, and is operationally and strategically autonomous. It may also occur through an acquired subsidiary, although greenfield entrants have greater difficulty becoming externally embedded; because membership is especially difficult (McCann and Mudambi 2005). Both situations imply, intensive, deep external embeddedness with an extensive set of actors, such that it is considered as a local firm (Cantwell and Mudambi 2011).

On the other hand, a subsidiary can be a less embedded, because local linkages are intensive, but not extensive. For instance, a subsidiary that forms part of a locally concentrated cluster around a flagship firm will have intensive linkages with the other firms within this geographic enclave, possibly even only with the flagship firm (or key partners), at whose behest it engages in creation of competences specific to this customer, Rugman and D'Cruz (2000). Local embeddedness, of course, remains a gradual process, and newly established greenfield subsidiaries are expected to be 'outsiders' at initial entry. Local embeddedness is a slow process, since it requires building up a certain degree of social capital to establish ties with the key local players in the innovation system (Narula and Santangelo 2012), (Cantwell and Mudambi 2011). As Andersson et al (2014) point out in their paper on external embeddeness, the extent to which subsidiaries are able to leverage location-specific assets in the host country is driven by the competitive dynamism of the host country market conditions, a type of CSA.

One of the primary FSAs of the MNE is its ability to utilise stand alone FSAs (areas A and A* in Figure 3). The ability to monitor and sift through information and identify (and subsequently exploit) market imperfections of areas X and Y, in a timely fashion underlies the capacity of firms to develop FSAs. Such activities presume considerable knowledge of markets, and the ability to acquire such knowledge on an ongoing basis, and the ability to integrate information from various markets together. Such markets include markets for knowledge, which though imperfect, do exist. This class of FSAs in areas B and B* thus implies a degree of local internal embeddedness.

5. Internal Embeddeness, Internalisation and Recombinations

A high degree of local embeddedness is required for most forms of knowledge creation; this is largely an activity that requires the combining and implementing of various existing knowledge sets. Some of these multiple sets of knowledge are normally associated with the FSAs of specific firms embedded in the host innovation system, or it is extracted from other non-firm actors within the knowledge infrastructure through formal and informal collaborative processes. Such complementary knowledge assets are essentially location-bound SSAs, in areas A*, B* and C*. Geographical proximity is often essential for the exchange of area C* tacit information, and the greater the embeddedness of the subsidiary, the greater the likelihood of achieving the recombination. Indeed, MNEs have the ability to combine and internalise location-specific assets associated in the home CSAs, along with the host country CSAs in which it is engaged, plus its existing FSAs, Hennart (2009).

Local embeddedness is a means to an end, the end being the creation of new competences. The subsidiary's ability to create new competences depends on the ability to recombine (or 'bundle') the FSAs or location-specific assets associated with the host location's innovation system with its existing assets (Verbeke 2009). The ability to recombine is itself a crucial set of FSAs that not all firms possess in equal measure. That is, while the subsidiary acts as a 'mechanism' to convert location-specific assets to FSAs, it is by no means a set of assets that all firms possess.

Recombination advantages are FSAs, which represent capabilities for the recombining (Verbeke, 2009) or 'bundling' (Hennart, 2009) of complementary assets to improve their performance. As shown in Figure 3, such FSAs come in several different classes, not all of which may be needed by any given firm. Different firms will have varying combination of strengths in the various asset classes of areas A*, B* and C* of Figure 3. Firms require a certain threshold of assets to successfully compete in any given milieu, and this threshold of FSAs consist of several different classes of complementary assets which must be 'bundled' together, some of which are location-bound and to which a firm may have privileged access. Where a firm is deficient in one type of FSA, it can nonetheless continue to be competitive, overcoming this weakness by leveraging other assets (whether associated with a specific location or a firm). This requires expertise

that is not easily acquired, nor transmitted. Such expertise is therefore a firm-specific asset in its own right (Rugman and Verbeke 2003, Narula 2014).

There are several ways to overcome such limitations.

i. compensating with a stronger portfolio of assets in another category – say, if it has superior technological skills that give it a cost advantage which is greater than the disadvantage of having poor brand recognition;
ii. seeking to utilise the complementary assets from the portfolio of another firm, say by acquiring or licensing, or by engaging in a joint venture;
iii. seeking privileged access to location-specific advantages which compensate for the disadvantage, and where its current location does not provide such access, in a new location.

Rebundling FSA-type advantages are establishment-specific, and reflect the absorptive capabilities of the establishment. They require the ability to value the firm's internal assets. To value an asset requires objective information about tangible and intangible assets but such information is often un-codified, embedded in routines, equipment, and brands, in individuals, and is often variously protected (Narula, 2014). Rebundling advantages have an important location-bound aspect. There is a considerable proportion of the FSAs of an given subsidiary that are location-bound, and are therefore subsidiary-specific advantages (Rugman and Verbeke 2001). This host country 'stickiness' is still a CSA, to do with institutions, and this forms another type of multiple embeddedness. Deep external embeddedness in the local innovation system (of host CSAs) implies familiarity with institutions, and provides the benefit of access to specific knowledge sources not available to outsiders (such as the parent of the MNE being located elsewhere), but at the same time, it implies that the new competences have an important location-specificity.

Not all institutions directly affect market transactions of firms. There are other activities essential for the survival and functioning of the firm on a day-to-day basis, as well as those that ensure the long-tem survival of the firm. Firms must interact with markets for 'support' inputs, such as capital markets, labour markets, etc. For instance, selecting and training suitably qualified employees means that firms must develop flagship relationships with universities, and not just to hire the best graduates Rugman and D'Cruz (2000). More embedded firms are able to shape the curriculum, select the best graduates, and establish joint research activities with universities. They also tend to invest in long term cooperation, sponsoring visiting professors and researchers from other countries in research themes that they felt needed to be developed (Narula and Santangelo 2012). Formal and informal institutions bind firms to other non-firm actors, including those established by governments. This includes research funding organisations, standards institutes, and regulators.

Given that there is a tendency for firms in a given industry to be spatially proximate to each other, they also benefit from informal networks between firms, allowing for a greater flow of knowledge between firms and between firms and non-firms (Nachum and Keeble 2003).

Economic actors in any location may have close relationships with other economic actors in the same location. In many cases, the knowledge infrastructure has evolved around and with their own domestic activities, often over a long period of time (Granovetter, 1973; 1985). Such linkages confer the basis to generate economic rent for incumbents, and are a cost to new entrants or those less entrenched in the domestic milieu. Establishing 'membership' in business and innovation networks in new locations is not costless, and each location requires a similar investment. Knowledge to overcome or reduce the liability of outsidership, once acquired can be used and updated at low marginal cost. Building up this knowledge for another location takes considerable time and investment, and explains the propensity of firms to show a tendency to maintain the more knowledge-intensive value adding activity in the home location or region, particularly where they are optimally embedded. Even where the local system is sub-optimal or incomplete, firms are reluctant to venture abroad given the high cost of exit. Nonetheless, firms that do not enjoy high levels of these type of FSA are likely to use outward FDI also be a means to exit institutional constraints at home.

High levels of institution-based FSAs, because they are context and location-specific, paradoxically means that new competences generated are more likely to be location-bound, and ultimately makes them difficult to 'export' to sister subsidiaries, even with a good MNE network capability.

6. Rethinking Subsidiary Internal Embeddedness

As we have already emphasised, it is one thing for the subsidiary to create competences; it is entirely another that they benefit the MNE at large. This requires *internal embeddedness,* for areas A*, B* and C* in Figure 3. That is, there must be tangible and cogent mechanisms by which both the parent and the subsidiary (presuming for simplicity a stylised MNE composed of a dyadic single-subsidiary and single HQ):

1. The HQ needs to identify assets at the subsidiary level that it can potentially utilise.
2. The subsidiary must be willing to make these assets available to the parent on mutually acceptable terms. Even where such assets are identified by the parent, the subsidiary may not wish to make them available.

3. Determine whether such assets are in fact transferrable, and not location-bound. Are the competences created by the subsidiary 'useful' to the rest of the MNE?
4. Transfer these non-location-bound FSAs efficiently from the subsidiary to the HQ, and to integrate these assets with the HQ's existing location-bound and NLB FSAs. i.e., how do transferred assets progress from being 'useful' or 'usable' to being 'used' through integration? This is the essence of recombinations in cells 1 and 7; 3 and 7; and 4 and 8 of Figures 1 and 2.

HQ-subsidiary relationships in reality are complex, and much of the research in this area presumes highly stylised set of interactions (Rugman and Verbeke 2001). At the very least, there is a principal-agent problem, and even wholly-owned subsidiaries do not always act in the best interests of the parent. This relates to the classic centralization/autonomy paradox (Tavares 2001).

These challenges are further exacerbated when one thinks of the rapid expansion of MNE activity over the last 20 years. The growing multinationality,- both in terms of numbers of subsidiaries, and the intensity of their activities in multiple locations – of both established MNEs, as well as new MNEs has created large hierarchies (or networks) of subsidiaries that are geographically dispersed, with differing degrees of local embeddedness, and a wide and varying scope and scale in each location. While new technologies make it easier to monitor activities across distances, and to transfer information, not least because of information and communication technologies, the sheer volume of such information means that there is bound to be 'internal market failures'. That is, MNEs have simultaneously expanded geographically and the scope, scale and competence levels of these subsidiaries. Information sharing systems and intra-MNE control mechanisms that act as arteries between the dispersed constituent establishments of the MNE, have not expanded at a pace to handle the ever-greater information flows between these dispersed activities. In short, the demand greatly outstrips supply for intra-MNE knowledge management systems. Narula (2014) calls this a lack of MNE internal market "bandwidth." It also explains that most MNEs operate mainly in their home region of the triad, and not globally, Rugman and Vebeke (2004).

MNE internal markets are rightly considered to be more efficient than independent firms in engaging in expropriating the opportunities of cross-border markets for knowledge, but this does not mean that they do not suffer from endemic imperfections or failure.

To be sure, the challenges of optimising knowledge flows between HQ and subsidiaries are especially complex in the case of innovation, because of the intangible nature of knowledge. Not all knowledge can be affordably codified (think of writing a book to explain how to competently play the violin; the cost required to codify all the relevant knowledge would be prohibitive). This tends to be more so when the

knowledge being transferred is some distance away from the market, or is complex in that it requires a variety of complex complementary sets of knowledge to utilise. In addition, we know that knowledge is context-specific, and even within the same operating unit, there is need for common contexts of experience amongst employees to convert their individual tacit knowledge to explicit knowledge.

It is recognised in the IB and strategy literature that the MNE is an efficient mechanism to transfer assets to and from its various geographically dispersed subsidiaries (e.g., Bartlett and Ghoshal 1989, Kogut and Zander 1993, Andersson et al, 2014). That is, the internal embeddedness of knowledge flows within the MNE are assumed to be efficient, although such knowledge is very scarce, and is itself an important source of managerial-type FSAs. These advantages are capabilities for the creation and coordination of efficient internal hierarchies and markets within MNEs that span a complex diversity of geographic locations. Managerial FSAs associated with efficiently running a complex organisation encompass leadership, human resource capabilities, logistics, creating and implementing organisational structures. Some of the FSAs are about creating and maintaining routines within an MNE, and establishing bureaucracies (Kogut and Zander 1993). Organizational structures evolve in response to the organizational need to maintain both reliability and accountability, and in order to achieve these objectives, the institutionalisation of routines and standardisation of processes is required.

Optimising knowledge flows within the boundaries of the economic actor (and this applies equally to non-firms as well) is a subject of much research. The literature on social capital (e.g. Nahapiet and Ghoshal 1998; Tsai 2002) has highlighted the importance of the creation of social structures in the diffusion of knowledge within and across organizational units. if MNEs want to increase their technological performance by adopting a geographically dispersed and diversified network of R&D units, they must overcome a number of managerial challenges to ensure that the knowledge produced in the differentiated network is not only diffused internally, but is also recombined and integrated.

They are important for MNEs because they define the capacity for the firm to become an MNE in the first instance. Without these FSAs, a firm will be unable to benefit from the economies of multinationality, because knowledge transfers within the MNE will be hindered (in the absence of such capabilities, the firm will operate as a federation of free-standing subsidiaries, linked only through common ownership). The lack of such FSAs will also inhibit the growth of reverse knowledge transfers. These FSAs are, by and large, non location-bound.

7. Multiple Embeddedness and the Subsidiary

The truly *multinational* enterprise must, almost by definition, be able to exploit the benefits of multinationality (Dunning 1993) Otherwise it is simply a multi-locational

collection of free standing companies held together by common ownership. Indeed, a few MNEs are single organisations in name only, consisting of a set of free standing companies loosely (and nominally) held together by a parent by virtue of a common ownership. Not all firms function – or seek to function- as integrated MNEs, operating, for instance, as multi-domestic firms. Subsidiaries may function as independent entities in such instances.

At the same time, it is certainly not the case that subsidiaries are always subservient to the will of the MNE. The subsidiary may not want to reveal the nature of its asset base to the HQ, for fear that the HQ will appropriate its technology at a minimal price, possibly also depriving it from exploiting the new competence itself. Also, MNEs have transfer pricing mechanisms, and a price must be established for any asset to be exchanged. If the asset is novel it will have an as yet-unproven market value. By their very nature, the a priori value of new competences, is hard to determine. A subsidiary may be reluctant to 'sell' an FSA to the HQ whose value may be underestimated by the parent, because it has less complete information about the asset. It may also be, of course, that the FSAs of the subsidiary are highly context -specific. That is, they are truly SSAs, because they are location-bound.

Subsidiaries need to find ways to utilise competences created internally, either themselves, or by making these available to others, since they must be seen to generate rent (or at least recover costs) on their innovative activity. However, subsidiaries are not free agents: they do not have the freedom to make their assets available to other firms through external markets without the express permission of the parent. As such, the default 'customer' remains the parent firm, or a sister subsidiary.

As such, as Ambos et al (2006) and Hoenen et al (2014) point out, subsidiaries need to make efforts to 'sell their wares' to the rest of the MNE, and in order to do so they need to have entrepreneurial capabilities. It helps to bring their competences to the attention of the parent if they are formally recognised as being competence-creating subsidiaries, either through a designation as a centre of excellence, or otherwise having been granted an appropriate mandate, for instance, because one of the establishments that form the subsidiary is a stand-alone R&D facility. In any case, as Mudambi et al (2014) argue, there are costs to the subsidiary in trying to make their competences relevant to the MNE; such promotional activity requires resources, which creates a trade-off between resources to generate knowledge and resources need to transfer and promote their activities.

Nonetheless, there are considerable pressures for the boundary-scanning capabilities of the parent firm to be enhanced. Some MNEs are more capable of being able to monitor and select promising new competences and leverage them for use by HQ, or by other subsidiaries, but this requires considerable systematic effort. Monteiro et al (2008) point out the important role of specialised technology scouting operations. Such specialised boundary scanners are one of several intermediary agents, such as regional

headquarters and centres of excellence that are formally designated to act as honest brokers (Hoenen et al 2014).

Parents must be persuaded that the knowledge of its subsidiaries is relevant (Ambos et al 2006), and it is a mistaken assumption made that the HQ actions are omniscient. Indeed, especially where the organizational structure centralises much of the decision making, HQ may be slow at taking up new competences, as illustrated in the paper by Athreye et al (2014). Fiat did not seem interested in internalising the new competences developed by the R&D facilities in its Indian and Turkish operations.

This, may, of course, reflect the fact that the Indian and Turkish subsidiaries were joint ventures. But it also reflects the home-country-biased techno-centric view commonly described as the 'Not-Invented-Here' syndrome, where competences generated in other, peripheral subsidiaries are judged to be inferior, simply because of their provenance. Athreye et al (2014) illustrate the fundamentally different view taken by the parent firm and the subsidiary.

Naturally, subsidiaries are likely to overvalue their own newly created assets, or indeed underestimate the extent to which they can be transferred with ease. It is for this reason that Palmie et al (2014) make the rather useful point that not all competences generated by subsidiaries are 'useful'. This is in addition to the fact that even where HQ finds the subsidiary's knowledge useful, it may not be 'useable', because they do not have the necessary rebundling FSAs to do so.

8. Conclusions

In this paper we reviewed the interactions between MNE parents, their subsidiaries, and the respective rebundling activities of parent firms with the home country-specific advantages (CSAs) and the subsidiary recombinations with host CSAs. The large literature in this area has often focused upon dual embeddedness, which has the subsidiary/host CSA focus and potentially the subsidiary-parent interaction. But dual embeddedness frequently ignores the parent firm/home CSA interaction. I synthesize these literatures with a focus upon multiple embeddedness. This paper suggests that future empirical work in this area needs to be both broadened and deepened to take into account the full range of such interactions.

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