

Location specific advantages – principles

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The first of a series of three articles focusing on the transfer pricing challenges involved with the concept of “location savings”

“Location savings”, lacking an official definition, is in transfer pricing parlance often understood both as (net) cost savings realised by a Multinational Enterprises (MNE) exploiting price differences in the factors of production between alternative jurisdictions and as any extra profits arising thereof.

The discussion of the identification and allocation of location savings was in the past mostly related to the relocation of manufacturing activities from a “high cost” to a “low cost” location and raised interest both from MNEs, involved in business restructurings and relocation of activities, and from tax administrations in both types of countries concerned.

Despite quite visible court cases (notably in the US) and high amounts at stake, the subject appears to have attracted relatively little attention from the transfer pricing community, with some exceptions in the nineties, but again little public awareness since then. Moreover the (somewhat limited) transfer pricing and economic literature on the subject reveals the existence of rather contradicting views by the authors on the definition of location savings itself, let alone on the ensuing application of this concept in transfer pricing analyses.¹

Recently the subject appears to have regained a centre stage in the transfer pricing debate given the explosive growth of Foreign Direct Investments (FDIs) in emerging economies, with the BRICS² countries (led by China and India)³ emphasising the importance of a fair treatment (read: taxation in the location state) of location savings in transfer pricing matters.

In this context, the term location savings appears to have a broader meaning and to go beyond the situation of relocating a plant from a “high cost” location to a “low cost” location: it relates to any cost advantage that a company involved in any activity in a certain country may benefit from and the impact it should have on the transfer pricing dealings it has entered

into with other related companies. As an illustration, location savings are a key area of focus of Chinese State Administration of Taxation (SAT), as part of both tax audits and Bilateral Advance Pricing Agreements (BAPA) discussions: “*we are also reviewing how the cost advantage in China may impact the profitability of the Chinese taxpayers*” (Director Wang, head of APA programme, SAT).⁴

Currently, the absence of a consistent definition of the “location savings” concept leads to contradicting views on how any potential super-profits should be attributed to the various related parties involved. Thus, the aim of this series of articles is to provide the outline for a more systematic treatment of the subject and to emphasise the important role of economic analysis over standardised and “one-size-fits-all” paradigms.

The starting point will be, in this article, an attempt to reconcile the existing literature by introducing a consistent and more precise set of definitions of “Location Savings” as well as of related concepts such as “Location Specific Advantages” and “Location Rents”. This will then lead to the presentation of a meaningful analytical framework and economic tools for identifying, quantifying and apportioning super-profits arising from location advantages (possibly including from the “so called” market premium concept) by taking into account different profit drivers and bargaining strengths.

The article is divided into two sections. The first one provides a definition of Location Savings, Location Specific Advantages and Location Rents. The second section develops an analytical framework in three steps: the first one concerns the existence and calculation of Location Specific Advantages; step two evaluates how they convert into Location Rents; the third step examines how Location Rents can be allocated between the relevant intra-group parties.

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After reviewing the theoretical framework in the current article, the second one in the series, to be published next month, July 2011, will apply the above concepts and framework in a manufacturing context, as well as in the distribution and service provision contexts. With practical examples, the article will effectively assess in which circumstances location advantages may arise in the operations of a tax payer in various settings and how to treat these advantages from a transfer pricing perspective.

The third – and last – article of this series will focus on China and provide specific insights relevant to this Country, notably by discussing in which circumstances location advantages arise in China, and how these should be treated from a transfer pricing perspective, as well as by providing some insight on the current views of the tax authorities (at a central and local level) on these issues.

I. Definitions and analytical background

A. The multinational enterprise as the necessary starting point

A firm (or enterprise) can be defined as a combination of capital and labour, with the purpose of entering into social interactions (i.e., in the market) in order to realise profits and thus secure its continuity.

As posited by Caves, MNEs exist, among other reasons, “to take advantage of intangibles, scale economies and other factors that generate market power in different national markets”.⁵ Indeed, according to basic assumptions of the neoclassical theory of the firm, firms maximise profits subject to budget constraints, or minimise the costs associated with producing a given level of output. Thus it is natural that, for given market prices (of inputs and outputs), firms continuously search to lower their costs in order to increase profits. This allows the firm to strengthen its market position and to ensure its continuity.

Globalisation has led MNEs to establish operations in countries offering some sort of operational advantages such as lower costs of labour, land, transport or raw materials, often in conjunction with the existence of a pool of local expertise, growing local or regional markets, etc. When selecting a location, other important factors routinely considered include safety, regulations, taxes (in particular tax advantages such as tax holidays, lower tax rates, etc.), and possibly proximity of, or access to, the final markets. On the other hand, accessing these location-related advantages often comes with a cost. Following investment and divestment decisions, additional specialised management may have to be brought in, or quality and CSR⁶-related control efforts may need to be increased.

Given that MNEs can exploit the existence of lower costs and other operational advantages in offshore jurisdictions to earn extra-profits, the main question from a transfer pricing perspective is then: if such extra profits materialise, which group entity or entities should be entitled to the additional profits arising from a (by nature temporary) cost or other operational advantage? Or, in other words, which country should tax these profits?

As a preamble to this discussion, it is necessary to clearly define the basic concepts to be used in the analysis.

B. Location savings

In the context of transfer pricing (TP), “*location savings*” have often been defined as (net) cost savings realised by an MNE usually as a result of relocating some of its operations from a “high cost” to a “low cost” location in order to obtain a competitive advantage, because of price differences in the factors of production.

As mentioned in the introduction however, there is no formal definition for this concept, neither in the literature nor in the regulatory guidance. The 2010 OECD Transfer Pricing Guidelines, in the context of the transfer pricing aspects of business restructuring, provide a brief discussion of location savings that can be used to derive an indirect definition.⁷ According to paragraph 9.148,

“Location savings can be derived by an MNE group that relocates some of its activities to a place where costs . . . are lower than in the location where the activities were initially performed, account being taken of the possible costs involved in the relocation . . .”⁸

This view reflects the standard application of the location savings concept (including in case law) mainly to integrated MNEs relocating standard manufacturing operations or labour intensive and/or value added services to low cost locations while continuing to sell their end products in their key markets, characterised by high production costs and end-products prices.⁹

This is confirmed by the illustrations provided by the new OECD Guidelines:

- A branded clothes manufacturer in a high cost Country owning all IP (brand, designs, etc.) decides to relocate basic contract manufacturing operations to a low cost Country [9.150-9.151]
- A provider of highly specialised engineering services in high cost Country A opens a subsidiary in low cost Country B. The clients of the parent company in Country A, unaware of the sub-contracting, are charged Country A hourly rates until competition forces the parent company to pass on (some of) the savings to clients [9.152-9.153].

This is also in line with most case law which relates to cases of relocation of activities (almost exclusively manufacturing) from a high cost country to a low cost country, as shown in Table 1, overleaf:

C. Location specific advantages

The concept of (net) location savings, as treated in the case law and literature, appears to focus only on one side of location advantages, namely the net reduction of costs, and to relate to relocation circumstances only.

A broader concept, the one of (net) *location specific advantages* (LSAs), also recognises the existence and importance of other location-specific characteristics of the wider structure of the relevant markets (both on the supply and demand sides) that may lead to some form of advantage for the firm, not only in relocation circumstances.

Table 1: main court cases - summary*

Cases	Fiscal years	Countries involved
Eli Lilly & Co v US	1971-2	US - Puerto Rico
Sundstrand Corp. & Subs v Comm.	1977-78	US - Singapore
National Semiconductor Corp.v Comm	1976- 81	US - Asia
Bausch & Lomb v Comm	1980	US - Ireland
Compaq Computer Corp & Subs v Comm.	1986-92	US - Singapore
* All cases arose following the relocation of manufacturing		

In particular, to use the words of Patton and Quick, it can be said that LSAs refer to

“location specific advantageous access to factors of production and distribution that can be exploited to produce a particular product or service cheaper, better and/or with less risk, or to increase the ability of a company to sell more products, at a higher price and/or achieve a larger market share”.¹⁰

But, if we look at the wider market structure and demand side, LSAs could be understood to include also any other form of location specific advantage in a certain market leading to the ability of a company to increase its sales and margins. Thus, as an illustration, one can consider the existence of legal, regulatory or administrative restrictions, as well as physical or other constraints, limiting the number of competitors and inducing an artificial scarcity in the relevant market. These location specific advantages may then lead to excess demand and the capability for the incumbents to sell more products at a higher price. Typical examples may include restrictive government policies that distort competition (licensing requirements, restrictions on Foreign Direct Investments, access to subsidies) or that raise entry barriers for potential competitors. Relevant examples from the microeconomics literature may include:

- legal restrictions applied to foreign companies that wish to operate or enter into some specific economic sectors in certain territories without a local partner (Middle East, China);
- severe licensing restrictions for supermarkets in particular areas that may give a quasi-monopoly power to the incumbent(s); or,
- licence restrictions to taxi operators in main cities.

Other sources of location-specific imbalances between supply and demand may also translate into LSAs, such as, for instance, in the case of limited supply of prime retail distribution locations in major cities, leading to advantages for those companies who secure them.

As a different type of example, one can consider the effect of clusters of companies in specific locations. Porter defines clusters as “concentrations of highly specialised skills and knowledge, institutions, rivals, related businesses, and sophisticated customers in a

particular nation or region”. According to Porter (and in line with the relevant literature) “proximity in geographic, cultural, and institutional terms allows special access, special relationships, better information, powerful incentives, and other advantages in productivity and productivity growth that are difficult to tap from a distance. As a result, in a cluster, the whole is greater than the sum of the parts”.¹¹ On this basis, securing accessibility to a cluster can confer some competitive advantages.

Thus, the concept of (net) LSAs is far more general than the one of mere location savings as these advantages may be obtained by MNEs in their normal course of business (not only when relocating functions and activities) and not necessarily in relation to manufacturing or the provision of labour-intensive services. Given that Location Savings constitute only a limited subset of location specific advantages, the latter constitute a far broader field of issues, requiring a more powerful and flexible set of tools of analysis, potentially applicable to a wider range of transfer pricing issues faced by MNEs.

Based on the above discussion, we can conclude, in line with Patton and Quick¹² that LSAs can be considered as additional, location-specific intangibles, with a potentially important role in the joint value creation process. As will be specified later in the article, the relative value of these peculiar, location specific, intangibles (when compared with the value of other intangibles used by a firm) together with their ownership, will be important factors in determining the bargaining position of the parties and, therefore, who should be entitled to any extra profits arising from their use.

D. Location rents

Then, following McKee and McDonald,¹³ we introduce the concept of “*location rents*”. It describes the super profits (if any) deriving (mostly or exclusively) from the existence and exploitation of *net* location specific advantages.¹⁴ The importance of introducing this concept is due to the need to differentiate between location savings (and location specific advantages more generally) and any potential incremental profits deriving (mostly or exclusively) from them. The former are necessary but insufficient conditions for the existence of super-profits. As a matter of fact, depending on several factors such as, in particular, the competitive conditions in the market for the end product or service, location rents may or may not ultimately exist even in the presence of locations specific advantages. This may be the case, for example, when the advantages translate into lower prices for the end customers, rather than in extra profits for the firm, because of the intense competition in the market for the end product.

Overall, the article addresses situations where an MNE, whether as part of a relocation of activity or in its normal course of business, benefits in certain locations from a location specific advantageous access to factors of production and distribution that can be exploited to produce a particular product or service cheaper, better and/or with less risk, or to increase the ability of a company to sell more products, at a higher price and/or achieve a larger market share, resulting

in the short or the medium run in super profits (location rents) for the MNE, i.e., profits above the normal profits that the MNE earns in its normal course of business. Under this definition, the super profits resulting from location rents should be treated distinctly from the return on intangibles that the MNE earns in comparable other locations. The location rent can however be considered as an additional, location-specific intangible by itself.

II. Analytical framework for identification, quantification and apportionment of location rents

Having introduced the basic concepts, this section proposes an analytical framework to evaluate the existence of location savings and other location specific advantages, quantify them and assess whether they translate into location rents and, if so, to whom they should be attributed.

Step 1: Analysis of the existence of net LSAs

Evaluating LSAs involves an analysis aimed at identifying and quantifying potential net cost savings in relation to running operations in a certain country (supply side) and/or potential sales advantages such as the ability of a company to sell more products – or achieve a larger market share – at a higher price (market structure and demand side).

The supply side involves the computation of *net* cost savings because, when comparing the costs of operating in low-cost versus high-cost jurisdictions, cost advantages and savings are typically coupled with disadvantages and dis-savings. Typical *cost savings* include, among others, lower total labour costs per unit of output (although these should be adjusted to take into account different levels of productivity); possibly raw material costs; land and rent costs; possibly access to cheaper (e.g. subsidised) capital; possibly reduced environmental constraints, government-subsidised technical assistance, lower taxes, tax holidays, etc. These cost savings can be however partially offset by *dis-savings* in the form of, among others higher utility costs, less reliable services than in the home country (leading to reduced productivity), higher logistics and transportation costs; higher quality control and technical support costs; potentially more expensive capital costs due to higher political risks and other factors that increase the risks of investment; costs linked to an adverse business environment (e.g., corruption, dysfunctional legal systems, etc); higher costs linked to the potential adoption of alternative technologies (e.g., less capital intensive) when locating in a country with low labour costs. Also savings due to lower input costs should be clearly distinguished from those due to greater efficiency.¹⁵

After considering the existence of net location savings, the impact of other location specific advantages and disadvantages on the wider market structure and demand side should be ascertained and quantified, by looking for example to the effect on prices and margins of the existence of regulatory or other constraints on the competition, etc.

Any of these calculations should be done by reference to a benchmark. This is because, clearly, as noted

by Eden, LSAs are to be intended as a relative measure (as it is case for the other two concepts introduced, location savings and location rents) as they are calculated for a particular business activity in a particular location at a certain point in time and relative to another (or other) alternative location(s).¹⁶ This comparison is necessarily made with certain “*realistic alternatives*”. From this sentence it is easy to see that the quantification of these measures raises quite a few methodological issues: to start with, for instance, in relation to establishing what is the relevant comparison base or counterfactual benchmark against which to measure savings, extra profits, etc.

In summary, given that LSAs are in essence relative, correctly identifying and computing the appropriate benchmark to be used in the calculation of the location savings and LSAs is a critical step in the process.

Finally, in order to conclude on the existence of (net) LSAs and proceed to their calculation, one should consider the sum of all location specific advantages and disadvantages together. The techniques involved in estimating the contribution of each component and in quantifying total LSAs may vary from case to case, (due to the type and sources of LSAs, data availability and so on), ranging from a simple algebraic sum of cost savings and dis-savings based on accounting and financial data in traditional location savings cases to more complex estimation of gains derived for example from higher productivity or the existence of market frictions and other non price related dimensions of competition. What is required in any case is to carefully quantify net LSAs based on the sum of all the relevant positive and negative components rather than just assuming the existence of LSAs because of the presence, for example, of lower factor costs (typical location savings arguments) in the local factors market.

Step 2: Evaluation of the existence of location rents

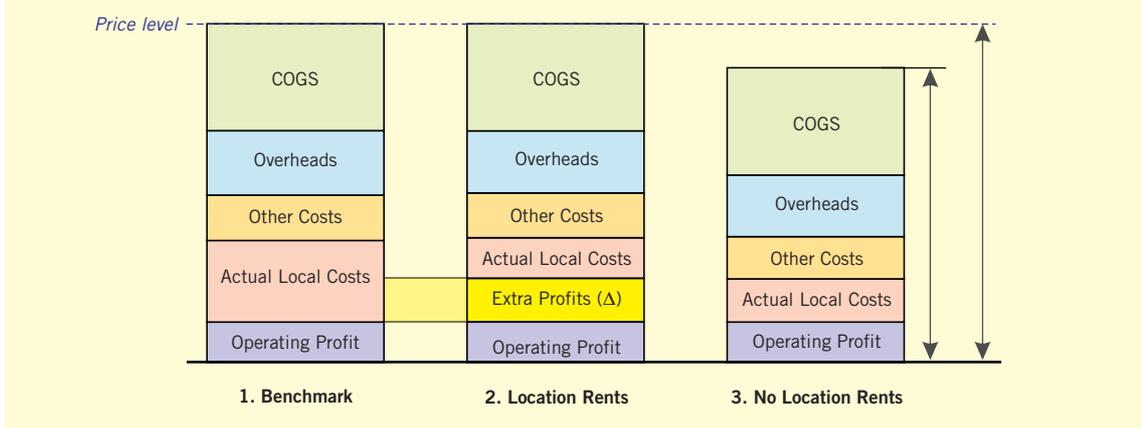
Location rents exist if the following two conditions apply:

- there are quantifiable net location specific advantages (including, for instance, location savings), and
- certain (location specific) conditions or market characteristics prevent these advantages / savings from being passed on to the ultimate customers or claimed by unrelated suppliers.

As explained, the mere existence of LSAs does not imply that the firm is able to transform them into super-profits in general and location rents in particular (i.e. in those extra-profits arising, exclusively, because of LSAs). This is illustrated in Figure 1, overleaf.

The quantification of the extra profits and the ensuing qualification of them as location rents or not may require different type of analyses, depending on the circumstances. It may and may range from a qualitative analysis of the sources of the extra profitability to the use of econometric techniques. The latter may be particularly useful in cases when, due to the existence of various sources of extra profits, one needs not only to calculate the final effect on profitability but also to estimate the role played by each component of the extra profit, including the LSAs.

Figure 1: Existence of Location Rents - An illustration



A revised version of a stylised model introduced by Frisch in 1993, reflecting the conclusions from the US location savings case law, can be used to identify, from a qualitative point of view, four polar cases (reflecting tendencies in the total spectre of possible situations) in which the existence of LSAs may or may not translate into location rents and to analyse why this is the case.¹⁷

The economic effects of LSAs should depend on two aspects of a company's situation:

- The first aspect is whether the firm operates in a competitive environment for its end products, or whether it has some kind of advantage such as monopoly power, due to for example the technological lead in its end-products market or due, as another example, to a protection afforded by intangibles such as patents or brands, etc.¹⁸
- The second aspect is whether the LSAs are generally available to, and generally exploited by the (actual and potential competitors), or whether only the relevant related party has access to them for some reasons or secures the access (so that they can be deemed a source of competitive advantage).¹⁹

Figure 2 illustrates the polar cases in four quadrants of a matrix.

It should be noted that, in strict economic terms, location rents exist in quadrants III and IV only. In the polar case of quadrant I, if LSAs are available to (and exploited by) any party, then they do not translate into "location rents": any eventual super profits may be due to other sources (e.g. the IP developed and which grants protection from competition) and are not related to the "location" *per se*. In case II, LSAs do not convert into super-profits, as they are passed to the customers as soon as competitors have on their turn created access to the LSAs.

The following examples illustrate the reasoning behind the matrix:

- **Example 1:** In a price competitive industry, an MNE relocates manufacturing activities to a low-cost country while, given the infrastructure in place, the workforce qualifications, the government restrictions of the low-cost jurisdiction, its competitors have kept their manufacturing activities in high-cost countries. LSAs convert into location rents (a relevant benchmark can be for example the market for the end product in the high cost Country) given the exclusive access to the low-cost country (quadrant III).

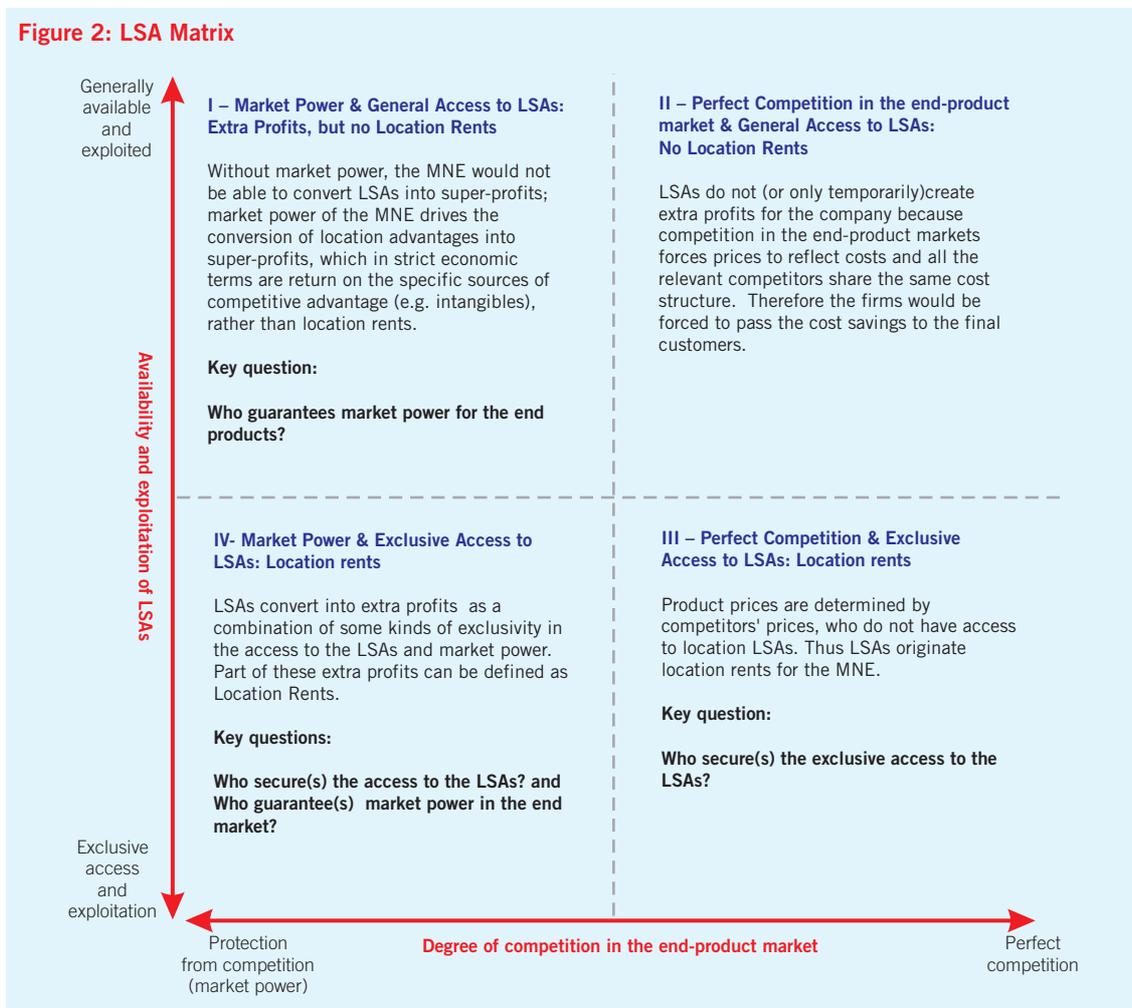
- **Example 2:** A luxury fashion retailer, partnering with a local party in a country with significant barriers and restrictions to foreign investment, distributes products in the country. LSAs may result from the scarcity of foreign firms operating in the country and convert into location rents as a combination of some kinds of exclusive access to the market and some market power in relation to the strength of the global brand and design (quadrant IV)

- **Example 3:** In a service industry, an MNE sets up a service centre in a low-cost location; MNE's customers are still willing to pay for the high-cost hourly rates. LSAs convert into location rents as a combination of the access to cheap labour costs and the capacity of maintaining quality services and "western" prices (quadrant IV).

- **Example 4:** In a technological led industry, an MNE uses plants in both high-cost countries and low-cost countries, in order to adequately meet the (geographical) demand and the production of various product lines (the production in low-cost countries being widely available to, and accessed by, the MNE's competitors). LSAs, in low cost countries, convert into super-profits due to the MNE's market power – in strict economic terms, given the wide accessibility of the LSAs, they may be considered as return on intangibles (quadrant I).

Once the existence of a certain amount of location rents has been ascertained, from an economic perspective, their allocation between the related parties can be seen as a typical bargaining situation in which the relative bargaining power of the parties decides how the profits are split, as explained below. When considering a bargaining situation in a TP context, it should be kept in mind that, although the outcome of the bargaining process in absolute terms may be influenced by incidental or short-term developments, the relative share that the parties derive from the bargaining process is decided by the long-term perspective of the co-operative relationship that they have entered into and wish to continue. If the perspective of playing a profitable role in this relationship is no longer present, parties will reconsider their role and possibly seek to leave the co-operative context.

Figure 2: LSA Matrix



Step 3: Apportionment of location rents

1. Assess the bargaining positions of the parties concerned

It is usually assumed that the bargaining power of a party is an increasing function of its resources and competencies and decreasing on the constraints on its activities.

However, ownership²⁰ of some of these sources of market power is not sufficient *per se* to infer an arm's length allocation of any potential super-profits. What matters is the relative bargaining position (i.e., the value of these sources of market power in the context of the particular transaction at hands and of the wider relationships between the parties) together with the willingness and capacity to take on the relevant economic risks. Relative bargaining power depends on how fungible or critical each party views the other party's contributions and on the alternative options realistically available to each party to a transaction.

As noted above, super-profits in the presence of LSAs may arise only to the extent that MNEs are in a position to enjoy market power and / or secure exclusive access to LSAs. Therefore, the extent to which each party could claim a share of these super-profits (including location rents) will depend on their contribution in relation to enjoying market power and securing exclusive access to LSAs, in the context of a certain market.

Following the illustrations in the case examples above, a tentative apportionment of super-profits and location rents is provided below in each individual situation:

- *Example 1:* The LSA subsidiary can claim all or most of the location rents in case the local company has successfully set-up operations in the new low-cost Country, coping with the lack of infrastructure in place, the low qualifications of the workers and dealing with the government (quadrant III).
- *Example 2:* If the LSA subsidiary has been involved in the negotiation with the local partner, in dealing and maintaining relationship with the government in order for its products to be commercialised in this country, then it can claim all or some location rents relating to securing access to this (otherwise inaccessible) market. The remainder of the super-profits should be for the brand's owner – typically the parent. (quadrant IV).
- *Example 3:* Super-profits should potentially be retained by the parent (quadrant I) or shared between the local company achieving to secure cheaper services, while maintaining a similar quality from the client's perspective, and the parent, which secures market power given its business model, standards, processes, and brand, thus guaranteeing "western" prices (quadrant IV).
- *Example 4:* Unless the LSA subsidiary is involved / contributes to technological developments, the subsidiary cannot claim a share of extra profits in case

they arise, as all the competitors are already operating from the low cost country, and the MNE has various realistically available options in terms of low cost manufacturing, and any super profit arises due to market power (quadrant I).

It should be noted that the above (and the ensuing relative competitive position of the parties) is not static over time. Thus, the bargaining power of the parties may well be changing over time. Additional economic risks that may be associated with certain low-cost jurisdictions are factors that need to be taken into account in determining the ultimate disposition of any super profit and economic rent by the parties. Finally, although cost arbitrage is a key driver when relocating functions offshore, the decision whether or not the activities are outsourced to an independent third-party depends often on the strategic nature of the services transferred offshore and the proprietary data involved. These considerations should also be taken into account when evaluating the respective bargaining power.

2. Conclusion on an arm's length apportionment of the location rents (use of transfer pricing methods)

Various transfer pricing methods may be available to support the arm's length apportionment of location rents:

- The Comparable Uncontrolled Prices / Transactions (CUP/CUT) method is the most direct way to apportion the location rents between the LSA subsidiary and the parent company. It consists in assessing the price to be charged by the LSA subsidiary to its parent by reference to the price charged by independent suppliers in similar circumstances. The method has been employed in various court cases. It is particularly useful where internal CUPs are available, i.e., in cases where the group sources both from independent and from related suppliers. The method generally involves significant financial adjustments as the "economic circumstances" are rarely similar. In most cases, given the growing integration of MNE operations, the relationship between the parent and the LSA subsidiary is unique, in terms of organisation, equipment, volumes, sharing of know-how and technology, duration of the relationship, etc. A long-term relationship between a parent and an LSA subsidiary cannot be compared with a more incidental and opportunistic sourcing from various suppliers, wherever they are. The prices charged by these independent suppliers can therefore, in many cases, not be used for assessing the share of location rents to be left in the LSA country.
- The Transactional Net Margin Method / Comparable Profit Methods raises the same issues as the ones described for the CUP / CUT. In case independent comparable companies operating in the LSA countries in similar economic circumstances as the LSA subsidiary concerned, would be available, the level of (operating) profit that such companies are achieving, could be used to derive an indication of the share of location rents that should be allocated to the low cost countries involved. The difficulty is that in emerging economies, where the subject

arises, the number of comparables is limited. Moreover, the companies for which data are available are listed companies, thus rendering the comparability with unlisted related companies doubtful. In order for the TNMM / CPM to apply, it would be necessary to find listed companies to which the parent company could potentially outsource the tested activities (manufacturing or distribution). The operating profit of this company could then serve as an indication of the location rents that the tested LSA subsidiary should retain locally.

- In cases where both the CUP/CUT and TNMM/CPM cannot be reliably used, (although they may nevertheless give a certain indication) other methods should be employed that rely on a comparison of internal data (or a combination of internal and external data) and external data. In modern transfer pricing, these methods, such as the profit splits methods, are increasingly used. Other methods, using insights from economic theory, may also be used, for instance inspired by game theory (Shapley Value). These methods have the great advantage of relying on the specific and unique facts and circumstances of a tested transaction and to be in essence flexible, in that they may accommodate the changes in the market, in the business circumstances, etc. For these reasons, they typically apply for location rents analyses. Examples of these methods include the use of:
 - Contribution analyses under the profit splits,²¹ aimed at assessing the respective contribution of the parties. At arm's length, third-parties would typically split the location rents in line with their respective contribution during the time when those location rents arise. The contribution analysis required in this context would not only include the typical generic IP-related analysis, but should take into consideration the access to location (specific) advantages. This involves a deep understanding on the market: in certain circumstances, the contribution of the LSA country in relation to securing the location rents is significant even despite high-value intangibles developed centrally. Therefore a specific contribution analysis could be used for the profit allocation in the presence of location rents, and this may require the use of refined economic techniques (e.g. capital investment appraisal, survey approaches, etc.).
 - The Shapley Value,²² a solution concept from Co-operative Game Theory²³, can be a powerful tool in the context of apportioning location rents. The Shapley Value attempts to describe a "fair" way to divide the gains from co-operation, and therewith forms a valuable proxy for establishing what constitutes arm's length in the circumstances at hand. It assigns to each party of a coalition a share that is in line with its contribution to the joint value and with its bargaining power. When using Shapley Value, the contribution of the players is assessed in relation to the incremental gain that each player brings to any alternative coalition and sub-coalition. Applying this in a transfer pricing context, the assumption is that each transacting party's relative contribution is assessed in relation to the incremental

profit the party brings to any possible coalition of the other transacting parties. The incremental profit that a player brings to a coalition can be assessed as the difference between the profit generated by the coalition when he is “in” as a comparison to the profit generated by the coalition when he is “out”. This exercise shall be done for all possible coalitions involving the transacting parties. If we take the example of three group entities,

- one being the parent with significant R&D operations and technology intangibles,
- one being the distributor with significant marketing operations and brand intangibles,
- one being the LSA subsidiary manufacturing in a low-cost country,

the application of Shapley Value involves identifying the gain resulting from any possible coalitions (including the coalition formed by the three entities, coalitions of two entities only, and even the gain realised by stand alone entities). In other words, using the Shapley Value implies to be in a position to answer the following questions: if you miss one partner in the coalition, what would you be in a position to gain? With the illustrative case above, the bargaining power of the LSA subsidiary in relation to its two other partners can be assessed by using Shapley Value. Depending on how critical the LSA subsidiary is in terms of securing location rents, and the realistic options available to the two other partners (the parent and the distributor), the level of location rents to be retained locally will vary.

As a conclusion, the issue of the identification, quantification and apportionment of location rents between (high-cost jurisdiction) parents and (low-cost) subsidiaries is acquiring a centre stage in the transfer pricing debate, due to the large foreign-direct investments in the emerging economies, notably the BRICS. As discussed above, this issue goes beyond the traditional relocation of (typically contract) manufacturing, as location rents are being looked for in the normal course of an MNE’s business and in relation to distribution (typically in certain market or regulatory circumstances). Location rents shall be addressed separately from the typical IP discussion, and should then be quantified and apportioned. This apportionment rarely can be done using external evidence but necessitates more advanced economic techniques.

Regarding the use of transfer pricing methods, two observations are of importance. Where in the newly revised Chapter 2 of the Transfer Pricing Guidelines the conclusion still is that the use of one TP method should normally be sufficient, the conclusion has to be different when we deal with intangibles, and location rents more in particular. In view of the specific characteristics of how each MNE operates, comparability analysis is a very challenging exercise. It is usually recommendable to test and secure conclusions following from the application of a certain TP method by using alternative, and sometimes relatively unorthodox methods. The co-operative context within integrated MNEs reduces the relevance of so-called one-sided methods in general to little more than a useful reference.

The second article of this series of three will review more practical case studies, while the third article will discuss the particular situation of China.

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¹ For examples of the debate, see: Transfer Pricing Report, “Comparable data. Economist urges taxpayers to consider location savings in adjusting comparables”, 7 Transfer Pricing Report 35, May 1998.; Hannes S., “The tax Court’s decision in Compaq Computer Corp : “Constructed CUP for Contract Manufacturer favoured over IRS’s Cost-plus; Location Savings stay offshore”, 8 Transfer Pricing Report 354, Nov 1999; Allen S. N., J. Dasgupta, J. Rosenbloom, C. Thibeault, R. Tomar, A. Woodrow and D. Wright, “Location Savings. A US perspective”, IBFD International Transfer Pricing Journal, Volume 11 – 2004, No. 4. Eden L., “Went for cost, priced at cost? An economic approach to the transfer pricing of offshored business services”, July 2005. Moncada D. J., “Location Savings: who is entitled to the additional Profit?”, BNA Tax Planning International Transfer Pricing, 06/05. Damji S. and G. Freimoser, “Tax and transfer Pricing Considerations for off-shoring activities” Der Schweizer Treuhaender, 2008, 6-7.

² BRICS is a widely used acronym designating Brazil, Russia, India, China and South-Africa.

³ In India, tax authorities have been routinely making transfer pricing adjustments in the case of IT/ITES-BPO companies. For instance, in the case of IT companies engaged in software development services, local tax authorities have used benchmark profits of approximately 25% - 37% stating, as a reason, the significant location savings derived by the parent MNEs when transferring operations to India. For example, see Patel V.T. and Mudigonda V., “Information technology industry and related transfer pricing issues”, IBFD International Transfer Pricing Journal July/August 2007.

⁴ BNA Transfer Pricing Report, Chinese Official Discusses Advance Pricing Arrangement Program, July 2009.

⁵ Richard E. Caves, *Multinational Enterprise and Economic Analysis* (London: Cambridge University Press, 1982).

⁶ CSR is an acronym for Corporate Social Responsibility.

⁷ OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations, OECD Publishing, Paris, 22 July 2010, Chapter IX, Business Restructuring, Part III: Remuneration of post-restructuring controlled transactions, Section E, Location Savings, pages 285-286.

⁸ *Ibid.*, paragraph 9.148, page 285. In this sense, see also the relevant US Regs 1.482-1(d)(4)(ii)(C).

⁹ For a review of the main cases see Patton M.F., Quick P.D., “Location Savings after Sundstrand v Commissioner: out of the BALRM and into the Game Room?”, Tax Management International Journal, July 1991, 20-7; Ikeya M. and Mori N., “Quantifying, attributing additional profit from location savings”, Tax Management Transfer Pricing Report, Vol. 14, No.21, Jan 2006; Girish K.R., Parrikar V., “Location Savings depend on the facts of the case”, International tax review, Vol. 18, issue 9, Oct 2007.

¹⁰ The concept of location specific advantages is one widely used in international economics literature, see for example Dunning, J.H. (1977), “Trade, Location of Economic Activity and the Multinational Enterprise; a Search for an Eclectic Approach”, in Ohlin, B., Hesselborn, P.O., and Wijkman, P.J. (ed.), *The International Allocation of Economic Activity*, London, MacMillan. The definition reported here was used to define “location savings” in a wider sense by Patton and Quick, (1991), Op.Cit.

¹¹ Porter, M. E., “Location, competition, and economic development: local clusters in a global economy”, *Economic Development Quarterly*, Feb 2000, Vol 14 Issue 1.

¹² “. . . Location Savings (to be interpreted in this context widely, i.e. as Location Specific Advantages) are, in economic terms, location-specific intangibles - which would be recognised and factored into pricing arrangements by independent parties and therefore should be addressed fully in transfer-pricing analyses”, (Patton and Quick, 1991, Op.Cit., p. 290).

¹³ McKee M. and M. McDonald, "Location Savings in competitive markets", Tax Management Transfer Pricing Report, Vol. 9, No. 19, Feb 2001.

¹⁴ The terminology "Location Rents" was introduced in the discussion by McKee and McDonald (2001), Op.Cit.

¹⁵ As an example, according to Ikeya and Mori, 80% of the quantifiable cost difference between the high cost and low cost location was explained, in their experience, by the location advantages and the remaining 20 % was attributable to other factors, such as enhanced capital productivity and efforts in improving efficiency. Cf. Ikeya and Mori (2006), Op.Cit.

¹⁶ Cf. Eden (2005), Op. Cit.

¹⁷ D. Frisch, "An economic analysis of location savings; rebuttal report", In re National Semiconductor Corporation v. Comr., US Tax Court Docket Nos. 4754-89 and 8031-90, 1/14/93. The use of the Frisch's matrix in TP analyses of location savings and location rents is discussed, at some length, in McKee and McDonald (2001), Op. Cit.

¹⁸ This aspect would inform what microeconomic model would be applicable to describe the interaction between the firm and its end-customers (perfect competition, oligopoly, monopolistic competition, monopoly, etc).

¹⁹ What matters is whether competitors *can take and have taken advantage* of the existence of LSAs. For example in traditional location savings analysis, whether all competitors have moved to the low cost

location so that they have the same cost structure as the tested party, in which case the location savings may not be exploited by the firm as a competitive tool, or whether they have not, in which case location savings can be deemed to confer a competitive advantage to the firm. Cf. McKee and McDonald, (2001), Op. Cit.

²⁰ By ownership of intangibles it is meant beneficial or economic ownership. In a TP context this can occur through self-development, licensing and/or cost-sharing arrangements.

²¹ See Fris P., Gonnet S., "Contribution analyses under the profit split method", International Tax Review, Intellectual Property, 6th Edition, Tax reference library No 38, 2007-2008.

²² Gonnet S., Gottschling B., Voegelé A., "Transfer Prices Determined by Game Theory: Underlyings", BNAI, Transfer Pricing International Journal, October 2008.

²³ Game theory is a field of microeconomics which models interaction of parties (or players) in a "game", that is, a situation in which a number of parties interact in a setting of "strategic interdependence". In situations with strategic interdependence, each party knows that the payoff (e.g., profits) it receives depends not only on its own actions but also on the actions of other parties. In the transfer pricing analysis of profit splits, game theory can be applied by specifying a game in which the parties are treated as stand-alone parties, each of which only maximises its own profit by its contribution to interdependent activities. This is in accordance with the arm's length principle.