

Location specific advantages – China

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

This is the third of a series of three articles that illustrate the transfer pricing challenges involved in applying the concept of “location savings”, and extend the analytical process for that cost-related concept to other types of advantages that can arise in relation to specific locations. This article focuses on China.

The reason for focusing on China is that the Chinese Tax Authorities (notably the State Administration of Taxes – SAT) have put a significant emphasis on these concepts in the past years. The SAT has indeed publicly announced that it would review how the cost advantage arising in China impacts the profitability of Chinese tax payers,¹ and at various occasions pointed to “location savings” arising in China. Discussions and negotiations with SAT in Beijing confirm the public positions that location savings are reviewed carefully; in practice, tax payers in China are expected to provide answers relating to the location savings subject and to describe how this is taken into account in their transfer pricing analysis.

The SAT not only has recently pointed to location savings but also has made explicit reference to a “Chinese market premium”, the other side of the coin. If location savings can be considered as Location Specific Advantages (LSAs) on the supply side, market premiums refer to LSAs on the demand side. In practice, SAT indeed expects tax payers to take the “unique potential of the Chinese market” into account in their transfer pricing set-ups.

In line with the above, SAT even made a public announcement that RMB0.5 billion was collected as additional tax revenue in BAPA cases in 2009 applying the concepts of location savings and market intangibles.

Location Specific Advantages, put at centre stage by Chinese SAT, is not necessarily new. Location Savings have given rise to a number of tax disputes and court cases worldwide, notably in the USA. The market pre-

mium discussion is also not new; tax authorities in Japan ten or fifteen years ago were discussing with tax payers the peculiarity of the Japanese market and resulting price premium, notably in the luxury and pharmaceutical / medical devices industries.

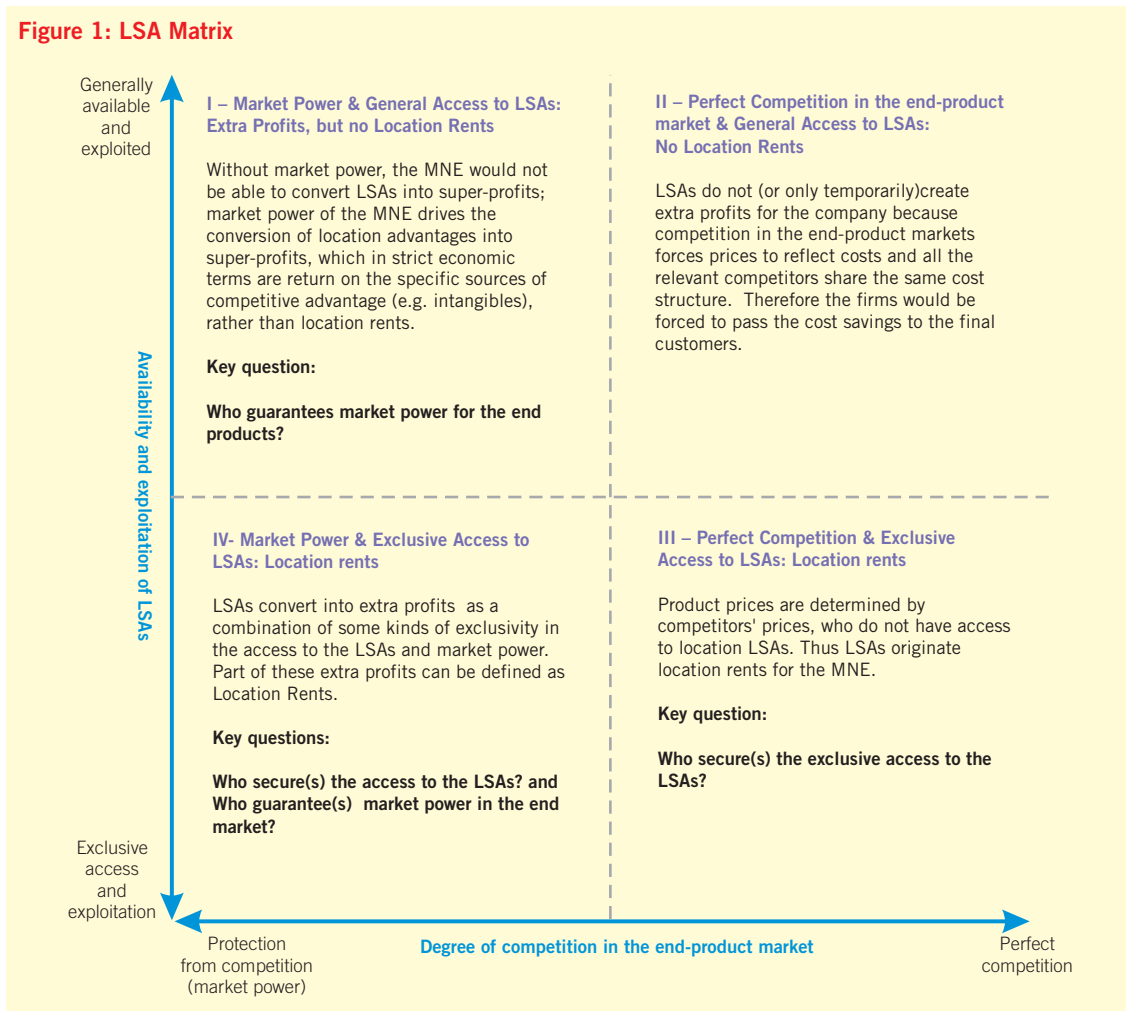
With the emergence of China, and the BRICS,² in the last decade, economies with low cost but high potential raise new transfer pricing challenges, among which are location specific advantages. China is also not the only country putting LSAs at centre stage. Stated as the second toughest authority for transfer pricing in Asia,³ Indian Revenue officials recently alleged that the economic ownership of intellectual property should belong to MNEs’ research centres in India, due to its “low cost and vast available pool of skilled workforce”.⁴ Brazil’s former transfer pricing inspection head also emphasised “personnel and material assets the country has”.⁵

The first article of this series, published in June 2011, provided the analytical framework for the identification, quantification and apportionment of location rents between affiliates located in “high-cost” and “low-cost” jurisdictions. The second article applied the above concepts and framework in the context of manufacturing, services and distribution. With practical examples, the article effectively assesses in which circumstances location advantages may arise in the operations of a tax payer in various settings and how these advantages should be treated from a transfer pricing perspective.

This current article provides some reference points in relation to the LSAs discussion in China. The article is divided into three sections: the first is a reminder of the analytical framework for the identification, quantification and apportionment of location rents between affiliates located in “high-cost” and “low-cost” jurisdictions, such as China. The second will review key macro-indicators which can serve as reference points of the LSA discussion; in the third, we will

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Figure 1: LSA Matrix



assess what economic methods can be used to properly quantify and apportion the LSAs between a Chinese subsidiary and its foreign parent and/or the other parts of the group it belongs to.

I. Analytical framework for LSAs (reminder)

As discussed in the first and second articles, evaluation of profits attributable to the location specific advantages (LSAs) in the transfer pricing context can be achieved in a three-step process summarised below:

1. *Analyse the existence of the LSAs.* These have to be computed on a net basis by reference to the next best available alternative(s) by taking into account both cost savings or additional revenues and additional costs incurred in the process of relocation or, more broadly, in comparison to the relevant alternative(s).
2. *Evaluate the location rents,* i.e., the ability of a company to convert the LSAs into economic profits. Location rents exist only if LSAs exist and market conditions allow the company to keep these LSAs rather than having to pass them to the customers. The necessary condition for the location rents to exist is an ability of the company in question to secure an exclusive or near-exclusive access to LSAs. The location rents can be further amplified if the company in question has an ability to control prices to its customers (i.e., market power), which

translates into extra profits. Evaluation of the location rents calls for a thorough analysis of the relevant market conditions including the relative market power of buyers and sellers in final products and services market, competitive conditions in the market where LSAs have been identified, and comparison of the value chains of the company in question and its competitors.

3. *Assess bargaining positions of and conclude on the attribution of location rents among the related parties concerned.* Since location rents exist due to an exclusive access to LSAs and may be amplified by the ability to control prices of the final products (i.e., market power), attribution of these rents between the "low-cost" affiliates and other affiliates in the value chain depends on their contributions to securing access to the LSAs and to developing the intangibles that enable the exercise of market power, and drive the relative bargaining power of the parties.

The LSA matrix in Figure 1, discussed in depth in the first article, reflects four proto-typical situations, and should serve as a guide for assessing bargaining positions and an arm's length split of location rents. It should also serve as a guide to design arm's length ex-ante price setting systems between related companies, in line with what third-parties would negotiate under similar "location rents" circumstances.

Below, we will discuss the application of the analytical framework above to China

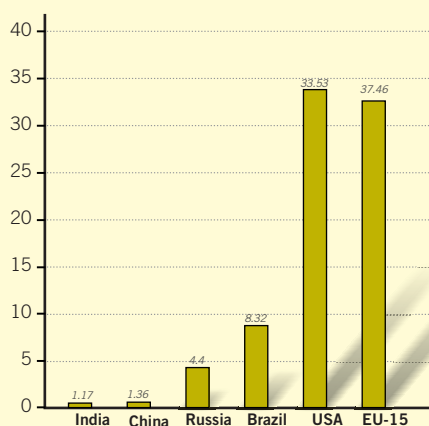
II. Existence of LSAs – macro-indicators

A. LSAs – supply side

Lower labour cost in China is widely believed to be the main reason of low price of “Made in China” products.

An international comparison of hourly compensation cost in the manufacturing sector by BLS confirms China as a low cost country. The hourly compensation cost includes pay for time worked, directly-paid benefit, social insurance expenditure and labour related taxes. China has the second lowest (after India) hourly compensation cost in manufacturing, with \$1.36 per hour, less than five percent of that in EU-15 and the USA. All the BRICs have significantly lower compensation costs than EU-15 and the USA.

Figure 2: Hourly compensation cost (\$)



Source: BLS and the Conference Board Total Economy Database

It is worth noting that the Chinese nominal labour cost in the past years has shown steady growth, especially in the Eastern part of China, with an average growth rate of 18.5 percent from 2004 to 2008, as illustrated in Table 1.

Assuming nominal labour cost increase at the same pace, it will be more than five times higher in 10 years. It is widely believed that China will lose its population bonus in the next decades. Insufficient labour supply has been reported in the most recent two years in manufacturing focused areas, including Guangdong, Zhejiang, significantly driving up manufacturing labour cost across the country. India, on the other hand, with more than 65 percent of the population under the age of 35, is expected to enjoy labour cost advantages over China for the foreseeable future.

In addition to lower labour cost (per unit of output), typical *cost savings* may include, among others, 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.

An international comparison between China and other economies illustrates that companies in China may suffer from location dis-savings or location disadvantages in the form of:

- lower competitiveness of China as a country;
- a higher cost of doing business for companies in China;

1. Competitiveness of China

The World Economic Forum’s Global Competitiveness Report scores and ranks countries’ competitiveness based on 12 factors, ranged from infrastructures to innovation.

China has an overall score of 5.84, ranked as 27 among 133 economies, for its strong and stable economic performance during the crisis, still significantly behind EU-15 and the USA.

Four (among the twelve) indicators have been selected to illustrate the potential dis-savings or disadvantages that companies operating in China may have to face and make up for:

- The *infrastructure* indicator is mainly determined by roads, railway, air transport, electricity and telecommunication. Among the BRICs, China’s infrastructure is slightly lower than Russia, but much higher than Brazil and India. It is noteworthy that India has the most vulnerable infrastructure. Both EU-15 and the USA have significant advantage regarding infrastructure over the BRICs.
- The *institution* indicator measures government efficiency and regulation environment. China has the highest score of 4.4 compared to other BRICs, below that of the EU-15 and the USA. A special focus on corruption illustrates the limitations of government efficiency. According to the World

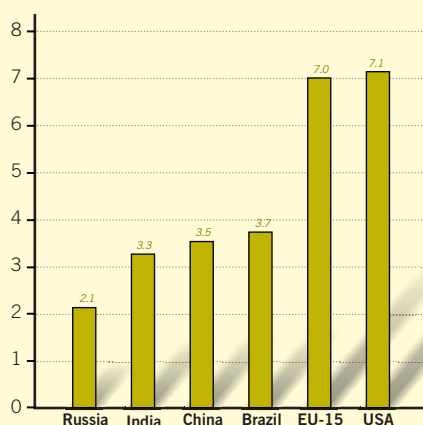
Table 1. Historical labour costs in China

in RMB	2004	2005	2006	2007	2008	Average
Average compensation	12,923	15,241	17,736	20,888	25,538	
Annual growth rate	18.1%	17.9%	16.4%	17.8%	22.3%	18.5%

Source: Bureau of Statistics of China

Bank, corruption is estimated to add up to 10 percent extra financial burden to the total cost of doing business globally, and up to 25 percent to the cost of procurement contracts in developing countries. Corruption is perceived to be one of the greatest challenges to doing business in China. It is ranked as the third largest problem factor for doing business in China among 15 factors, following access to finance and policy instability, by the World Economic Forum Global Competitiveness Report 2010-2011. The Corruption Perception Index by Transparency International shown in Figure 3 illustrates that the index for China is 3.5, comparing favourably to India and Russia. All the BRICs have considerable corruption problems compared the USA and EU-15.

Figure 3: Corruption perception index



Source: Transparency International

- The *business sophistication* indicator is measured by the quality of a country's overall business networks and supporting industries, as well as the quality of individual firm's strategies and operations. It is believed to be conducive to efficient goods and services production. For example, the cluster, as a form of business sophistication, "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".⁶ China and India have a similar business sophistication, following Brazil, much lower than that of EU-15 and the USA.
- The *innovation* indicator concerns quality of scientific research institutions, spending on R&D, availability of scientists and engineers, and utility patents. The innovation indicator can be therefore seen as long term growth sustainability. China appears to have the best innovation among the BRICs. The USA has the stronger innovation. Figure 4 provides a comparative overview of the four indicators:

2. Cost of doing business in China

Following the analysis above regarding the competitiveness of China, the Doing Business Project by World Bank provides comparative illustrations of how

costly it may be for companies to start-up and operate in China as opposed to other regions, such as the EU-15 or the USA.

As an illustration, the number of procedures required to start a business is 14 in China, which is higher than other countries except Russia. The barrier to start a business is much higher in the BRICS compared to the USA and EU-15.

The number of days required to import/export reflects ease and efficiency of trading across borders. Again, China only performs better than Russia. However, China's documentation requirements are the lowest among the BRICS and its cost per container is the lowest among all sample economies.

The total tax rate includes profit tax, social contribution and labour tax paid by employers and all other taxes, such as property tax, waste collection tax and vehicle tax, as a percentage of total profit. It reflects the total tax burden of a business in an economy. China's companies have the second highest tax burden, only slightly lower than Brazil. Moreover, the time to prepare, file and pay corporate tax is 398 man-hours per year, only second to Brazil's 2600 hours.

These three indicators show that the level of ease and efficiency in China is lower, and cost of doing business higher, than in the other BRICs, EU-15 and the USA, as illustrated in Table 2.

The macro-economic indicators demonstrate that simply reviewing labour cost indices to conclude on Chinese location savings for a company may underestimate the additional cost burden to companies starting-up or operating in China. A relatively inefficient competitive environment and a high cost of doing business, compared to the EU-15 or the USA, leads companies starting-up or operating in China to suffer from location dis-savings or location disadvantages.

B. LSAs – demand side

As discussed in the previous articles, the LSA concept not only includes the supply side but also the demand side, embracing possible so-called "market premiums" that companies operating in China would be benefiting from. In practice, SAT indeed expects taxpayers to take the "unique potential of the Chinese market" into account in their transfer pricing arrangements.

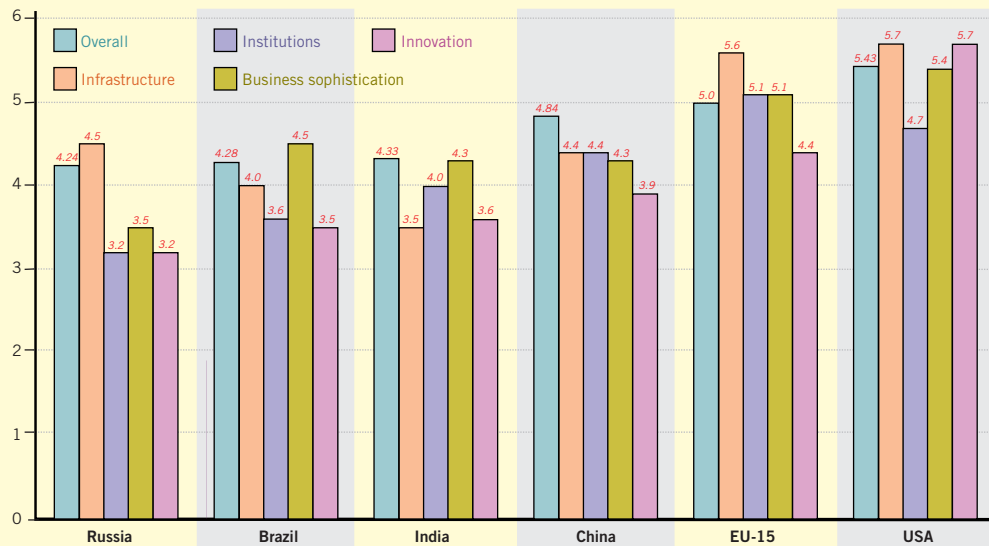
Following this line of reasoning, we review below some key characteristics of the Chinese market as compared to both other BRICs and developed economies such as the EU-15 or the USA:

- size of the market;
- growth of the market;
- characteristics of the market.

1. Size of the market

When investing in the BRICs, companies not only look for cheaper production factors but also for market opportunities. The targeted market size is generally the total population, or, especially, the so-called

Figure 4: Competitiveness

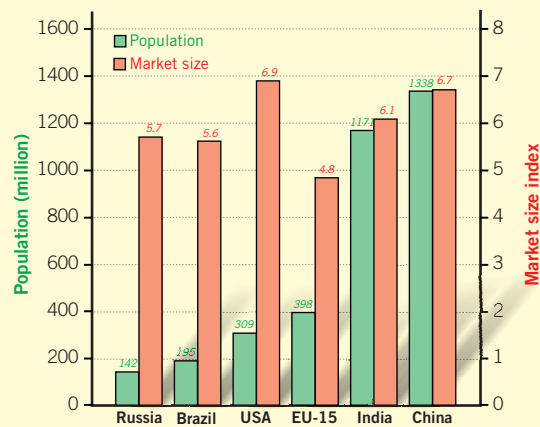


Source: World Economic Forum

“middle class”. As illustrated in Figure 5, China and India have the largest population, implying significant potential market for final products. Despite the lower proportion of middle class in the BRICs than that in the USA and EU-15, in absolute value, China shows already a slightly higher number of middle class people. This advantage will get larger and larger with an expected fast increase of the middle class population – both in China and in India. In the next two decades, the middle class in China and India is expected to expand to nearly 50 percent of total population,⁷ indicating substantial potential market.

The market size index by World Economic Forum can serve as a good supplement to population in valuing market size. This index, ranging from 1 to 7 (the higher the larger the market) concerns both domestic and foreign market. Domestic market size is estimated from Gross Domestic Product (GDP) plus imports of goods and services, minus exports, while foreign market size is measured by exports of goods and services. As the Figure 5 illustrates, China has the world’s second largest market following the USA.

Figure 5: Population and markets size index



Source: World Bank and World Economic Forum

2. Growth of the market

China has been experiencing the world’s fastest GDP growth rate over the past decade. Figure 6 shows that

Table 2 Doing business

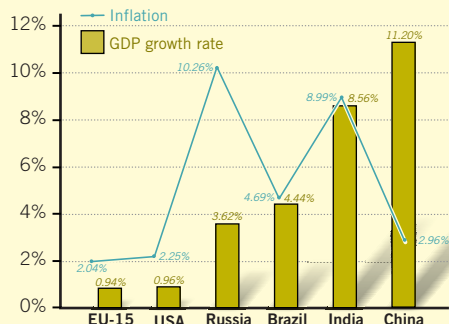
	Time required to start a business		Paying Tax					Trading Across Borders					
	Procedures (no.)	Times (days)	Time (hrs/year)	Profit Tax	Labour Tax	Other Tax	Total Tax Rate	Documents export (no.)	Time export (days)	\$/Container export	Documents import (no.)	Time import (days)	\$/Container import
EU-15	6	15	170	16	28	3	46	4	10	1,027	4	10	1,089
The USA	6	6	187	27.6	10	9.2	46.8	4	6	1,050	5	5	1,315
Brazil	9	30	2,600	21.4	40.9	6.7	69	8	13	1,790	7	17	1,730
China	14	38	398	6	49.6	7.9	63.5	7	21	500	5	24	545
India	12	29	258	24	18.2	21.1	63.3	8	17	1,055	9	20	1,025
Russia	15	120	320	9	31.8	5.7	46.5	8	36	1,850	13	36	1,850

Source: World Bank

China had the highest GDP growth rate and lowest inflation in the past five years among the BRIC countries. The price level is relatively more stable when compared to India and Russia, with peak-bottom spread of 6.59 percent – but it is much higher than that of Brazil.

It is also clear that the BRICs have much higher GDP growth rate and higher inflation and inflation volatility than the USA and EU-15.

Figure 6: Five-year average GDP growth rate and inflation rate



Source: IMF World Economy Outlook

3. Characteristics of the market

LSAs on the demand side may also vary from one market to another; certain markets being extremely favourable and booming in the BRICs, as opposed to more mature European markets. The luxury consumer market in China can be used as an illustration.

The consumption of luxury products is driven by the ever increasing number of high net worth individuals in China. Hurun Report, which was best known for compiling the China Rich List, finds in its 2010 study that there are 875,000 millionaires in mainland China, a rise of 6.1 percent on last year. Amongst the 875,000 millionaires in China, there are 55,000 super-rich individuals, defined as those with RMB 100million. This marked a 7.8 percent rise on last year. Amongst them, 1900 have RMB 1 billion and 140 have RMB 10 billion. China does not seem to have been impacted by the 2009 financial crisis to the same extent as other developed countries: the financial crisis wiped out more than 300 billionaires, or 30 percent, across the world; and the total wealth of billionaires lost \$2 trillion from \$4.4 trillion to \$2.4 trillion.

In Tier 1 Chinese millionaires prefer collecting cars and watches while in Tier 2/3 the preference is for traditional Chinese paintings.

Overall, from the comparative macro-economic data above, one can infer that companies operating in China may benefit from a relatively lower cost base, due to lower labour cost (even after adjusting for productivity). For certain companies though, the location savings may be offset by location dis-savings relating to China's competitiveness and cost burden of doing business in China.

On the demand side, China has certainly a sufficient size to attract investments towards the Chinese domestic market; more importantly, the market is ex-

pected to grow at a fast pace, as opposed to other geographies. This obviously provides opportunities for foreign companies to invest in the Chinese domestic market. Though size and market potential do not necessarily lead companies to make high profits in China, China remains an extremely challenging and competitive country. Depending on their industry, their specific positioning and product offering within this industry, and their individual China history (first mover advantage, etc.), companies in China (for example subsidiaries of large foreign groups) may or may not benefit from LSAs, ultimately converting into location rents; i.e., profits above those an MNE earns in the normal course of business.

The next section discusses the economic methods for apportioning location rents, should they exist.

II. Chinese LSAs under different transfer pricing methods

The first article of the series presented three methods for apportioning LSAs under the transfer pricing framework:

- Comparable Uncontrolled Price / Comparable Uncontrolled Transactions (“CUP”)
- Transactional Net Margin Method / Comparable Profits Method (“TNMM”)
- Profit split

The appropriateness of using the above methods was discussed in the second article of the series in a manufacturing, service and distribution context.

In the sections below, we review the appropriateness of using these methods in a China context.

It is useful at this stage to point out that the methods below may provide powerful quantitative evidence to apportion location rents but that they need to be complemented by establishing that the rest of the necessary conditions are in place, i.e:

- a. that there are lower costs or premium prices,
- b. that competition hasn't eroded the margins available, and
- c. that the party claiming the LSAs has some protection in the form of market power, barriers to competition, exclusive access to LSAs, etc.

A. CUP

1. Manufacturing

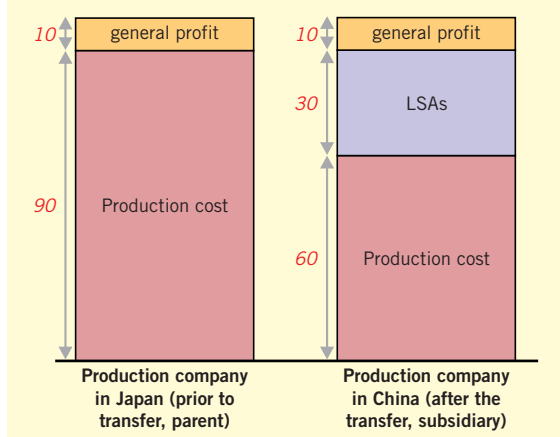
We believe that, under certain circumstances, the Comparable Uncontrolled Price / Comparable Uncontrolled Transactions (CUP) method is appropriate testing the attribution of profit from LSAs.

The application of the CUP method in a manufacturing context is illustrated by the China-Japan case study below:⁸

Consider, for example, a Japanese manufacturer of electrical appliances, Company A, which previously manufactured products in Japan but shifted production to China. From Figure 7, the unit production cost in Japan is 90 and the product is sold to distributors at 100, making the profit 10. By moving to China by establishing a manufacturing subsidiary, Company A is

assumed to be able to reduce the production cost to 60 with the lower cost local labour force. In this case, the cost difference of 30 (90 less 60) is the LSA, all else equal. Therefore, Company A's profit of 40 includes profit from LSAs equal to 30. Which company (the Japanese parent or the Chinese subsidiary) is entitled to the additional profit? Or can they both claim part of it?

Figure 7: Attribution of LSAs (without price reduction)

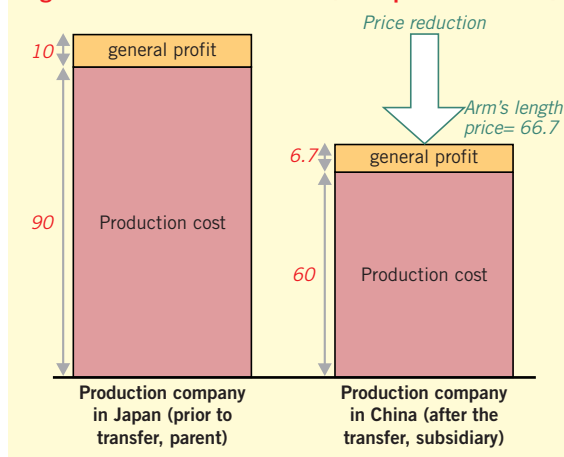


The key is the market price or arm's-length price of the product. Assume first that the competitors of Company A have kept their factories in Japan and the supply curve did not change, except for the part of Company A. In this scenario, the market price (sales price for manufacturers equal to purchase price for distributors) of a product in Japan is unchanged at 100 even after Company A starts production in China. Next, assume that there is an independent company in China (Company B) that can supply the same product and has the same cost structure as that of Company A. If Company B, in fact, supplies the product, it will gain the same profit of 40 as Company A. Sooner or later, many such companies will emerge and enter the market, shifting down the market supply curve. However, during the transition period, there will only be a few low-cost suppliers located in China allowing them to exercise their bargaining power to convert LSAs into rent. According to the LSA Matrix discussed in the first article and replicated above in Figure 1, these facts would be classified in quadrant III, where the subsidiary can claim all or most of the location rents if this subsidiary has secured the exclusive access to LSAs.

In a separate case in which many local manufacturers such as Company B enter the market, or Company A's Japanese competitors follow suit and relocate to China, the supply curve in the market will shift downward. Although production costs will be reduced, the arm's length price in the market will also decline. If the sales price for manufacturers (which is the same as the purchase price for distributors) is reduced to 66.7 with production cost unchanged at 60, Company A's profit declines to 6.7, which provides the same level of profitability (return on sales) as was the case prior to Company A's transfer to China (Figure 8).

In this case, the additional profits for the subsidiary from LSAs have been transferred to the market through the reduction in the price. Thus, an arm's length distributor enjoys the additional profits from the declining purchase price but only to the extent the sales price in the Japanese retail market does not decline as much as its purchase price from suppliers in China. We may be able to say that the additional profits will accrue to the parent if we assume that the parent has a distribution function in such a scenario.

Figure 8: Attribution of LSAs (after price reduction)



Another situation where the parent can claim the LSA profits is the existence of entry barriers in the manufacturing market in the low-cost country. For example, if special knowhow is required to manufacture the product in China, the market may stay less competitive than in the above example. The additional profit may go to the parent if it provides the necessary knowhow to the subsidiary located in China. However, this is the remuneration of intangibles that should be paid as a form of royalty (or through pricing of goods or services), rather than the additional profit from LSAs as is sometimes argued.

2. Services

Using the CUP to apportion potential LSAs arising in China in relation to service affiliates can be an option provided that these CUPs are available..

As discussed in article 2 of the series, one option inspired by the CUP method would consist of establishing the compensation of the Chinese affiliate by reference to the compensation of other "high-cost" intra-group providers of comparable services, assuming that the compensation system of "high-cost" inter-company service providers is consistent with the arm's length outcome. Consider as an example an MNE that sources engineering services internally from several different affiliates worldwide. Assume that the average (total) cost of the engineering labour at the "high-cost" affiliates is US\$50 per hour. If the average labour cost of an engineer in China is US\$20 per hour, the estimated LSA, in the absence of any necessary adjustments, is US\$30 per hour of engineering labour. This total amount of LSA should be allocated between the Chinese affiliate and the other affiliate(s) that play a role in realisation of these LSAs. As expressed in the LSA Matrix, the appropriate arm's length allocation depends on whether other market participants (i.e., MNEs) can access similar location advantages in China. If the location advantages are easily accessible to the competitors, China would not be able to claim any portion of the LSA. On the other hand, if the Chinese affiliate of the MNE in question has managed to secure highly restrictive access to the LSA, for example, through an exclusive business licence, its

unique relationships with the government or its unique access to the local talent pool, then, at arm's length, the Chinese affiliate would be able to negotiate the compensation for its services in line with the average service cost of the MNE in question. In the latter case, the role of the "low-cost" affiliate would go substantially beyond the role the routine service provider.

3. Distribution in China

Using the CUP to apportion potential LSAs arising in China in relation to distribution affiliates can be an option provided that these CUPs are available, although good CUPs may not be available.

The internal CUP could potentially be used, in order to be comparable and provide a sufficiently reliable assessment of the location rent apportionment, the third-party agreements (entered into by the group) would have to be concluded with companies operating in countries with similar macro-economic environment.

B. TNMM

Another way to quantify the amount of location rents attributable to the local affiliate is by applying the Transactional Net Margin Method / Comparable Profits Method (TNMM). This approach can be applied when the activities do not involve the development and maintenance of high-value intangibles. In appropriate cases, comparable companies can be identified, their profitability (the operating margin, for instance) would reflect the arm's length "location rents" for the specific country. This approach may work only to the extent that sufficiently reliable comparables with financial data can be found in the market concerned.

The TNMM is also commonly used by tax payers in China, arguing that any LSA (lower costs for market players, larger / more profitable Chinese market as opposed to other markets of the group) would be reflected in the comparables' profitability.

For illustration purposes, we have tested this assumption for three industries:

- Industry 1
- Industry 2
- Industry 3

Given the intrinsic limitations of the experiment described below, we have decided to disguise the industries for which the searches have been done. This is also to avoid inappropriate conclusions of our experiment either by companies in the sectors concerned or by tax authorities in the jurisdiction concerned. The point of the experiment is also not to provide any specific answer for a specific industry but rather to identify the challenges involved with location rents' apportionment, when using the TNMM:

For each industry, a specific industry player type has been selected for consistency reasons:

- Manufacturing - Industry 1
- Service - Industry 2
- Retail - Industry 3

Using private company databases,⁹ we have identified the profitability of the industry players for the

three panels, in China, Europe¹⁰ and the USA, the objective being to compare the profitability of the players in each market for a certain player type (manufacturer, service company, distributor).

For each panel the following systematic and consistent search process has been applied:

- Industry screening using appropriate NACE/SIC code
- Independence – excluding shareholders, with ownership above 50 percent except individual and private person ownership
- Financial data availability – at least three years financial data over the tested period 2005–2009
- Turnover – a minimum turnover threshold has been used set at €10 million for the manufacturing and retail searches and €2 million for the service search (given the lack of comparables)
- Listed/Unlisted – unlisted companies for EU-15 and listed companies for China and the USA

A high qualitative review has then been performed, to remove companies obviously not connected to the industries in scope of the experiment.

Table 3 provides the results¹¹ of the experiment:

From these results the following tentative conclusions can be drawn:

- The availability of comparables varies significantly from one region to another, with European (private) comparables being widely available, followed by either the USA or China depending on the industry and/or the function. The search process, applied consistently in the three geographies, for three industries, resulted in from 3.5 to 10 times more European comparables than USA comparables, and from 2 to 12 times more European comparables than Chinese comparables

This is naturally due to:

- the number of companies available in the database in the first place, in each individual jurisdiction,
- the nature of companies available (publicly listed companies in the USA and China, as opposed to privately-held companies in Europe), and
- the availability of financial data.

This is an obvious limitation to the application of the TNMM for certain industries in certain jurisdictions. Even though the OECD recently reemphasised the "quality" over "quantity" concept for comparables, and the use of adjustments, the question relates to situations where both quality and quantity are missing. As an illustration: can the results of search number 2 (service) for China (five companies) be reliably used? This is doubtful when the TNMM search aims at providing indications of location rents apportionment.

The second lesson from the experiment is that the Chinese location savings and/or the "China premium" are not necessarily reflected in the results.

It could have been expected that, within the same industry, profitability of players in China would be much higher than that of players in Europe or the USA, given a Chinese "cost advantage" and the benefits of a large and growing market.

For the industry covered by search number 1, Chinese comparables earn a median return 3.2 percent higher than the Europeans, and 0.3 percent higher

Table 3. Results of the experiment

Industry 1 - Manufacturing WAVG 2005 - 2009 - Return on Total Costs			
	<i>EU-15</i>	<i>USA</i>	<i>China</i>
No. of Companies	102	30	55
Min	-8.3%	-3.6%	-6.0%
Q1	1.1%	2.0%	2.5%
Median	3.1%	6.0%	6.3%
Q3	6.0%	9.8%	11.7%
Max	37.8%	31.2%	19.7%
Industry 2 - Service - WAVG 2005 - 2009 - Return on Total Costs			
	<i>EU-15</i>	<i>USA</i>	<i>China</i>
No. of Companies	59	6	5
Min	-36.6%	-16.5%	-2.0%
Q1	1.0%	2.2%	13.2%
Median	4.5%	9.1%	20.8%
Q3	8.1%	14.9%	28.0%
Max	91.9%	21.6%	44.9%
Industry 3 - Retail - WAVG 2005 - 2009 - Return on Sales			
	<i>EU-15</i>	<i>USA</i>	<i>China</i>
No. of Companies	138	48	13
Min	-6.7%	-4.0%	1.4%
Q1	1.8%	2.8%	3.5%
Median	3.1%	5.5%	6.0%
Q3	5.5%	8.5%	9.2%
Max	30.2%	19.5%	20.1%
Source: NERA own calculations, based on financial data extracted from ORBIS, OSIRIS and Compustat			

than the Americans. This is arguably quite low, considering the difference in labour costs, without even referring to any market premium considerations. But, as noted earlier, Chinese location savings can be offset by location dis-savings. Highly regulated and capital intensive, the industry concerned by search 1 may indeed suffer from some additional costs of doing business in China as opposed to the USA or Europe. On the demand side, the Chinese industry concerned is also relatively new and immature, but still quite competitive. In this industry, prices are set at a level to gain market shares and volumes keep relatively low, except for a few market leaders.

In the search number 3, we searched for distributors only, as such responsible for a part of the operations only. In this search, we note that Chinese comparables earn a median return 2.9 percent higher than the Europeans, and 0.5 percent than the Americans. In line with the results of search number 1, the market premium is not reflected in the results of the comparables. This is interesting as the industry involved would typically qualify for a “market premium” industry where higher Chinese prices – price premiums – could lead to the characterisation of some Chinese market premium. If it is clear that for certain segments of certain industries, foreign companies can charge price premiums in China, it is also true that quite often as well, price premium charged in China results from a higher cost of doing business in China, one of them being the import tax burden, that companies typically in their turn charge to end-customers. Therefore, the price premium does not necessarily convert into higher China-related profits. Put differ-

ently, price premiums do not necessarily qualify for location rents. One additional reason for some homogeneity in the margins earned by distributors in Europe, the USA and China is that a distributor has typically dedicated and specialised functions, not responsible for the full scope of operations; as such the functional remuneration of distributors tends to relate to this specialised function in the total value chain, attracting only a portion of market-related profitability, the remainder (most of time the most significant part) being retained by other parts of the value chain. This statement is obviously less true when distributors secure location advantages, key to success in the market. The search results of search number 3 do not seem to indicate that it is the case for this industry; otherwise, the LSAs secured by the local distributor would be reflected in significantly higher remuneration at the distributor level in China, suggesting a Quadrant II profile (LSA matrix – Figure 1).

The results from search number 2 show significantly higher margins for Chinese service players of the industry number 2. Service industry being by nature more labour intensive, it is possible that these results are explained by the location savings on labour costs. For this industry, highly regulated, it is also possible that there should be LSAs, converting into location rents that would potentially stay in China at arm’s length, as the local service company secures some access to a cheaper pool of talented and cheap (engineer) resources, while overcoming local regulatory barriers. At arm’s length, the Chinese company would then be in a position to charge higher prices (for instance, higher hourly rates) to foreign third-party cli-

ents. However, conclusions are difficult to draw, given the limited number of comparables as said earlier (only five comparables for China, six for the USA).

In conclusion, the above experiment illustrates the challenges involved when using the TNMM as an indirect way to apportion LSAs, though it could be a useful indication and a starting point. The main challenge is to identify “true” comparable companies in the same industry, with a similar cost base and access to LSA, and operating in the same economic circumstances with its suppliers and clients, similar to the intra-group relationships. Otherwise, more thorough economic analyses should be used, relying on a deeper understanding of the industry dynamics, of how value is being created and of the economic circumstances of the tested party and on a relevant assessment of the relative bargaining power between the Chinese subsidiary and the foreign parent and/or other group companies concerned.

C. Profit split

Under the profit split method, contribution analyses are used to split the combined profits from controlled transactions, in line with a “reasonable approximation of the division of profits that independent enterprises would have expected to realise from engaging in comparable transactions”.¹²

Contribution analyses may also be used in order to assess the split of location rents. Assuming that the amount of location rents is known, the analysis may take the form of a typical contribution analysis where the contribution of each party in relation to location rents-related profits is assessed.¹³

The starting point for the contribution analysis is a good understanding of the market and of the nature of the relationship and bargaining power of the parties. As an illustration, in case of some exclusive access to LSAs (Quadrant II and III of LSA matrix Figure 1), it is necessary to understand what determines such exclusivity, among which, as potential factors, first-mover advantage, specialised training, regulatory barriers to competitor entry, complexity of entering the Chinese market, or localised scale economies (among others).

The respective contribution of the parties can be then quantified using various techniques, such as capitalising the costs incurred by the Chinese company and the group to create and maintain their respective intangibles (for instance, the “market access” intangibles for the Chinese company, the “brand / marketing” intangible for the group).

If the relative contributions of the entrepreneurial entities under the profit split method are assessed using capitalised costs of intangibles development, the presence of Chinese entities with LSAs poses a special analytical challenge. Because location advantages typically arise due to the lower cost of local inputs, such as the labour compensation, capitalising unadjusted costs of the intangible-development activities for the Chinese affiliates may significantly understate the entrepreneurial contribution of such

affiliates. A more accurate assessment of the contribution of a Chinese affiliate would involve an adjustment of the intangible-development costs of such an affiliate to the costs of the same activities in “high-cost” intangible-developing locations, including if necessary, adjustments for differences in productivity.

In this analysis, it is necessary to isolate profits arising from LSA-intangibles from profits arising from other intangibles (such as technology-related intangibles).

Other methods can also be employed for the purpose of quantification such as bargaining theory, notably Shapley Value.¹⁴ The Shapley Value can be a powerful tool in the context of apportioning location rents as it 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.

III. Conclusion

This article was the last of a series of three on Location Specific Advantages. The series of article aimed at providing an analytical framework for the identification, quantification and apportionment of location rents between affiliates located in “high-cost” and “low-cost” jurisdictions (article 1), illustrated by various case studies (article 2), as well as provided a focus on China (article 3).

With the wide proliferation of value chains encompassing the BRICS countries (which not only provide location cost advantages but also serve as potentially very large markets), the discussion about the apportionment of location rents between taxpayers and MNEs will surely increase over time. A systematic process for LSAs apportionment that begins with an understanding of how the relevant markets work and what is arm’s length, supported by rigorous economic analyses, should serve as a foundation for discussions between tax authorities and taxpayers.

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NOTES

¹ Ms. Wang Xiaoyue, Deputy Director in charge of Anti-Tax Avoidance at the State Administration of Taxes (SAT) International Taxation Department, July 2009.

² Although “BRICS” is the usual indication since the inclusion of South-Africa in the group of Brazil, Russia, India and China, this article will speak more specifically of the BRIC countries, or BRICs (excluding South-Africa).

³ Amrit Dhillon, Aspects of India’s Transfer Pricing Regime Debated in Light of Need for Foreign Investment, BNA, 2011

⁴ Manoj Pardasani and Vani Sharma, India: transfer pricing for MNE’s contract research centres, BNA, *Transfer Pricing International Journal*, May 2011

⁵ Brazil’s Former Transfer Pricing Inspection Head Addresses Country’s Unique Methods, Tax Haven Blacklist, Other Issues, BNA, 2011

⁶ Porter, M. E., "Location, competition, and economic development: local clusters in a global economy", *Economic Development Quarterly*, Feb 2000, Vol 14 Issue 1.

⁷ Mckinsey, *The Bird of Gold: The Rise of India's Consumer Market*; plus UN Population Division and Goldman Sachs

⁸ Article 2 of this series

⁹ ORBIS has been used for the EU search, Compustat for the U.S. search and OSIRIS for the China search

¹⁰ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom

¹¹ All the underlying calculations are maintained at NERA.

¹² OECD Guidelines.

¹³ 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

¹⁴ Gonnet S., Gottschling B., Voegelé A., "Transfer Prices Determined by Game Theory: Underlyings", BNAI, *Transfer Pricing International Journal*, October 2008.