
Emerging countries' multinational companies investing in developed countries: at odds with the HOS paradigm?

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Abstract

The paper analyses the new trend of outward foreign direct investment (FDI) by multinational companies from emerging countries, in particular the BRICs, in developed countries to question the applicability of the traditional HOS theoretical framework to this trend. A literature review shows that labour costs do not play any significant role in the first attempts to provide an analytical explanation of this new trend. A HOS equation, amended in order to encompass FDI, is elaborated in order to explain outward FDI from developed to developing and emerging countries based on differences in labour endowment and therefore in wage rates. Step by step, the equation introduces the technological gap, institutions and government policies. Then it is shown that such equation when reversed to explain outward FDI from emerging to developed countries is at odds with the traditional HOS framework. Turning the HOS theory upside down does not help to explain reverse FDI outflows from emerging to developed countries. An alternative approach is called for, in which a labour cost advantage (a lower wage rate than abroad) is a home market advantage for emerging countries to invest abroad. A final section provides some empirical examples that labour matters and a lower home wage rate is a decisive comparative advantage for Indian and Chinese multinationals investing in developed countries. Additional evidence shows that the technological gap and the home country's institutions and government policy matter as well.

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Keywords: emerging countries' multinationals, outward foreign direct investment, China, India, HOS theorem, labour costs, wage differentials, skilled and unskilled labour, technological gap, government policies

Introduction

The growth of outward foreign direct investment (FDI) from emerging countries has accelerated in the first decade of the 2000s and has been less markedly affected by the 2008-2012 economic crises in the BRICs³ than overall FDI in the rest of the world. Moreover, multinational companies (MNCs) from emerging countries have developed various strategies; one of the most striking is to invest abroad in developed countries. The latter is the focus of this paper, since it is not common that less-developed countries undertake significant outward FDI in more-developed countries. The existing economic literature is more used to analysing FDI flows that go the other way round from developed to less-developed countries. However, in the recent years, a series of articles have provided analyses about the determinants of outward FDIs from emerging to developed countries, primarily focusing on a technological catching-up process. We have found that none of them has clearly demonstrated so far that such a "reverse" FDI outflow – compared with the flow explained by the standard theory – is, together with

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³ Brazil, Russia, India and China.

technological catching-up, basically due to lower labour costs in home countries such as India, China and other emerging countries. When such an assumption is mentioned, it is just as a brief remark (Milleli *et al.*, 2010). Why is this so?

Our guess is that outward FDI by MNCs from emerging to developed countries is so deeply at odds with the analytical framework of the standard international trade and foreign investment theory that no one has attempted to go to the logical conclusion of this “reverse” FDI outflow, *i.e.* explaining this “reverse” flow requires reversing and finally rejecting the standard theory itself. Such is the major contention of the present paper.

The paper is organized as follows. A brief coverage of the most recent empirical evidence regarding outward FDI from emerging countries and in particular the BRICs (1) is followed by a survey of the literature that has attempted to explain or interpret this new trend (2). Then, starting from a very simplified standard Heckscher-Ohlin-Stolper-Samuelson (HOS) framework, amended in such a way as to integrate FDI, it is demonstrated first that labour cost matters as a determinant of outward FDI from emerging to developed countries and, second, that the standard model is incorrect / inconsistent with its usual assumptions about international capital flows between developed and less developed (emerging) countries, thus calling for an alternative approach which this article paves the way for (3). In the final section, some empirical facts are provided that exemplify and accord with such an alternative explanation for Indian and Chinese outward FDI in developed countries, in particular the role played by home country lower skilled labour costs (4).

1. Multinational companies from emerging countries: an overview

The literature on “Third World multinationals” during the 1970s and 1980s (Lall, 1983) concentrated on South-South operations, mainly within regional (e.g. Asian) strategies, even if some cases of early South-North FDI already existed. This was the case of some international operations promoted by South Korean enterprises. During the 2000s, however, the South-North trend became much more intense and global in its orientation, and the attention of economists has been attracted by the emerging country multinationals, their drivers, outcomes and impact. “Emerging multinationals”, especially those from Asian countries, became a new and very dynamic actor on the global economic scene (UNCTAD, 2006; Goldstein, 2007; Gammeltoft *et al.*, 2010).

However, a lively debate still surrounds the notion and definition of “emerging countries”. It must be stressed that this is a dynamic and evolutionary concept, just like the notion of “transition” used as regards post-communist market economies that constantly needs to be updated. Consequently, it cannot be fixed once and for all. Therefore, the list of emerging countries should be related to a given period of time. In fact, fourteen countries are common to all the current suggested listings of emerging countries⁴, *i.e.* the four BRICs plus Argentina, Chile, Egypt, Hungary, Indonesia, Malaysia, Mexico, Poland, Thailand and Turkey. We also examine five of the countries which are usually classified as emerging by all except one of the sources mentioned in footnote (4): South Africa, often recruited to create the BRICS (capital S being for South Africa); Slovenia and the Czech Republic since they are ahead of Hungary and Poland in terms of economic development. South Korea and Taiwan, still considered as

⁴ Namely the emerging country groups provided by the IMF, Boston Consulting Group, Standard & Poor's and BNP Paribas (Brière, 2009).

emerging countries by official international sources such as UNCTAD, can be assessed as fully-fledged developed market economies from several points of view, including technology levels, industrial dynamics, infrastructure and wages, and definitely as front runners with regards to outward FDI from emerging countries. Hong Kong is a special case, playing a crucial role in supporting the multinational growth of Chinese firms (only outward FDI data from mainland China show up in Table 1). The “reverse” outward FDI which we focus on below is a part and parcel of this big outward push of emerging countries’ MNCs just before and during the current economic crisis.

The dramatically strong momentum of outward FDI from emerging countries in the 2000s, until 2007, also applies to their better reaction to the 2008-2012 economic crisis: it is similar to the case of the BRICs. The outward FDI stock of the listed emerging countries has expanded tremendously during the 2000s, up to the 2008 crisis (Table 1). While the value of the world’s outward FDI has nearly doubled from 2000 to 2007, it has been multiplied by 3.5 in the listed emerging countries, and by 5 times when it comes to the BRICs. Emerging countries and their MNCs, day after day, appear to become major players in the global outward FDI game. It must be noted that there is an outstanding momentum of growth for Polish, Indian, Hungarian, and Russian outward FDI stock. The share of emerging countries in the outward FDI stock’ world total has risen from 3.8% in 2000 up to 6.7% in 2007, whereas the corresponding percentage rises from 1.3% to 3.3% regarding the BRICs. However, the financial crisis has triggered a serious global economic recession, with its bottom in 2008-2009; this has slowed down the growth trend of global outward FDI from 2008 to 2011. Such slowdown has affected some emerging countries, namely Argentina, Hungary, Slovenia, South Africa and Taiwan more than the average. In particular, Indonesia shows a substantial drop in its outward FDI stock. A similar trend has not affected the outward FDI stock from other emerging countries and even less so from the BRICs. After 2007, this share went on increasing for emerging countries (9.3% of world total in 2011) and even more so for the BRICs (4.9% of world total in 2011). The crisis has created new opportunities for acquisitions abroad and, overall, for becoming major investors in foreign markets, including in most developed countries.

Table 1 - Outward FDI stock from selected emerging countries (\$ million)

Country	2000	2006	2007	2008	2009	2010	2011	2007/2000	2011/2007
Brazil	51946	87049	129840	162218	157667	180949	202586	2.50	1.56
China	27768	73330	95799	147949	229600	297600	365981	3.45	3.86
India	1733	12964	29412	61765	77207	92407	111257	16.97	3.78
Russia	20141	156824	255211	202837	248894	433655	362101	12.67	1.42
BRICs	101588	330167	510262	574769	713368	1004611	1041925	5.02	2.04
Argentina	21141	24047	26873	28749	29428	29841	31329	1.27	1.17
Chile	11154	26787	32469	31728	41203	49838	68974	2.91	2.12
Czech Republic	738	5058	6971	9913	13871	15523	15470	9.45	2.22
Egypt	655	1116	1781	3701	4272	5447	6074	2.72	3.41
Hungary	1280	12693	18282	14179	17494	20685	23756	14.28	1.30
Indonesia	6940	17350	21425	27233	30183	1703	9502	3.09	0.44
Malaysia	15878	27830	58175	67580	75618	96758	106217	3.66	1.83
Mexico	8273	35144	44703	45389	53458	66152	112088	5.40	2.51
Poland	1018	10705	19644	21814	26211	36839	50044	19.30	2.55
Slovenia	768	3942	6123	8650	8745	7603	7142	7.97	1.17
South Africa	32325	43499	54562	62325	64309	81127	72285	1.69	1.32
South Korea	26833	46760	66220	95540	115620	138984	159339	2.47	2.41
Taiwan	66655	113910	158361	175140	181008	201228	213062	2.38	1.35
Thailand	2203	5608	7025	10857	16303	25454	33226	3.19	4.73
Turkey	3659	8866	12210	13865	14790	23802	24034	3.34	1.97
Emerging countries	301108	713482	1045086	1191432	1405881	1805595	1974467	3.47	1.89
World	7967460	12474261	15602339	16205563	18982118	20408257	21168489	1.96	1.36
BRICs / World (%)	1.3	2.6	3.3	3.5	3.8	4.9	4.9		
EC / World (%)	3.8	5.7	6.7	7.4	7.4	8.8	9.3		

Authors' calculation based on UNCTAD data.

Table 2 – FDI outflow from selected emerging countries (\$ million)

Country	2000	2006	2007	2008	2009	2010	2011	2007/2000	2011/2007
Brazil	2282	28202	7067	20457	-10084	11519	-1029	3.10	-14.6
China	916	16130	22469	52150	48000	68000	65117	24.53	2.90
India	509	9676	17233	18499	14897	14626	14752	33.86	0.86
Russia	3177	17979	45916	56091	46057	51697	67283	14.45	1.47
BRICs	6884	71987	92685	147197	98870	145842	146123	13.46	1.58
Argentina	901	2008	1504	1391	679	964	1488	1.67	0.99
Chile	3987	2876	2573	7988	7983	8744	11822	0.65	4.59
Czech Republic	43	1556	1620	4323	1340	1702	1152	37.67	0.71
Egypt	51	148	665	1920	571	1176	626	13.0	0.94
Hungary	620	3016	3737	1161	-6886	1546	4530	6.02	1.21
Indonesia	150	3418	4675	5900	2949	2664	7771	31.17	1.66
Malaysia	2026	6041	11280	14988	8038	13329	15258	5.57	1.35
Mexico	984	5758	8256	1157	7598	14345	8946	8.39	1.08
Poland	17	4266	5405	2921	1294	4701	5860	317.94	1.08
Slovenia	66	740	1802	1366	868	151	112	27.30	0.06
South Africa	271	6674	2966	-3134	1584	450	-635	10.94	-0.21
South Korea	4999	7129	15620	18943	10572	19230	20355	3.12	1.30
Taiwan	6701	7399	11107	10287	5868	11183	12766	1.68	1.15
Thailand	349*	790	2850	2560	3818	5122	10634	8.17	3.73
Turkey	870	934	2104	2532	1551	1780	2464	2.42	1.17
Emerging countries	28919	124740	168849	221500	146697	232929	249272	5.26	1.48
World	1186838	1215789	2267547	1928799	1100993	1323337	1694396	1.91	0.75
BRICs / World (%)	0.6	5.9	4.1	7.6	9.0	11.0	8.6		
EC / World (%)	2.4	10.3	7.4	11.5	13.3	7.6	14.7		

* in 1999

Authors' calculation based on UNCTAD data.

The paper provides an understanding of what happened in BRICs' and emerging countries' outward FDI to more-developed economies until 2007 and which is still going on in the past recent years.

The above-mentioned trends are better understood with a look at FDI outflows (Table 2). If we put aside Poland and the Czech Republic, where FDI outflows were only in the starting blocks in 2000 (Andreff, 2003a), between 2000 and 2007 the most significant increases in FDI outflow are witnessed for India, Indonesia, Slovenia, China and Russia. Since Russia is a very specific strategic foreign investor at the moment (Andreff, 2011), Slovenia is a small economy, and Indonesian MNCs are less known so far in the literature, the remaining part of the paper focuses on Indian and Chinese outward FDI and MNCs. The value of the world's FDI outflow has nearly doubled from 2000 to 2007 whereas it has been multiplied by 5 in emerging countries, by 13 in the BRICs (mainly due to Russia, India and China), by 25 in China and 34 in India. As a result, the share of emerging countries in the world's FDI outflow has augmented from 2.7% to 7.4% between 2000 and 2007 (and from 0.6% to 4.1% for the BRICs).

The world FDI outflow total was dramatically affected downwards in 2009 by the financial crisis but much less than average in emerging countries and in the BRICs so that the latter's share increased to respectively 13.3% in 2009 for emerging countries and 9.0% for the BRICs. FDI outflow from emerging countries and the BRICs recovered in 2010 and 2011. In 2011, its size was about 1.5 larger than in 2007 for both emerging countries and the BRICs. Their share in the world FDI outflow total went on growing up to 14.7% in 2011 (as against 7.4% in 2007) for emerging countries and up to 8.6% in 2011⁵ (as against 4.1% in 2007) for the BRICs. Therefore, during the crisis China, Russia and India (though the latter lags behind South Korea and Malaysia) remain among the major home countries for FDI outflow in our sample, and the least affected in their outward FDI by the crisis. Again, due to Russia's specificity in this area (Andreff, 2003b), Indian and Chinese outward FDI and MNCs are kept as the most representative countries of what we analyse in this paper: they have been more resilient to the crisis, which also offered them new opportunities for acquiring foreign companies in OECD countries. This resilience is due to some sort of competitive advantage that this paper is investigating.

New emerging countries' MNCs such as the ones from India, China, Brazil, Argentina, and possibly Thailand, have adopted strategies of South-North FDI. South Korean and Taiwanese MNCs had already adopted quite similar strategies since the mid-1980s. Empirical evidence (Richet and Ruet, 2008; Balcet and Bruschi, 2010a; Gammeltoft *et al.*, 2010) shows that they have embarked on outward FDI geared towards developed economies, after previous stages of growth, including exporting to market-developed OECD countries, acquiring technology through international partnerships, imitation and domestic mergers and acquisitions, and investing abroad in other developing countries. The new and most recent trend of FDI from emerging to developed countries should logically imply that host countries for FDI should be more-developed than the home country, and this is at odds with the traditional HOS-inspired analytical framework.

Exports from emerging countries like India and China towards developed OECD markets may be considered as being in tune with HOS since these exporters benefit from lower production costs at home, namely lower labour costs, even though their

⁵ The BRICs share went up to 11% of the world total in 2010 but decreased in 2011 due to disinvestment from abroad by Brazilian firms.

technological upgrading of manufacturing exports, their growing skill-intensity and the role of advanced services cannot easily be explained through a static factor-endowment HOS approach. When some MNC from a developed market economy invests in an Asian country in order to use this country as an export base (production relocation to Asia), this may be reconciled with HOS in assuming with Mundell (1957) that FDI (more generally international factor mobility) is a substitute to trade (international products mobility) due to tariff barriers. However, a prerequisite for such a substitution being realised as outward FDI, is a technically possible production fragmentation, which leads to the so-called relocation process (Mouhoud, 2011).

The new trend regarding Indian, Chinese and emerging countries' MNCs is that now they seem to rely on their lower labour cost comparative advantage to invest in developed countries in which labour costs are quite higher. This reverse relocation is definitely contradictory to any version of the traditional HOS approach as well as with the Mundell factor/trade substitution assumption. What is being witnessed in fact is production relocation by Indian and Chinese firms based on their labour cost comparative advantage in the home production of intermediary products at low cost. The production fragments which are relocated to developed countries are mainly assembly lines for the production of final (finished) products, and advanced services such as R&D and design centres.

2. Explaining emerging country multinationals: theoretical approaches

The phenomenon of FDI originating in developing countries is not a new one, even though its patterns, geographical destinations and drivers have changed over time. Different explanatory pieces of theory have been suggested as regards outward FDI from emerging countries. On the one hand, some authors have extended and adapted more general well-known theories to this case. On the other hand, new and specific explanations have been put forward, in the first decade of the 2000s, to analyse the drivers and dynamics of the new actors engaged in outward FDI by emerging countries.

2.1. Adapting traditional theories: which specific advantages for Third World multinationals?

Since the late 1970s, the spread of multinationals from developing countries as well as South-South FDI flows stimulated theoretical approaches, raising the key question of which specific competitive advantages characterised these companies. The idea was that, in any case, MNCs must possess *ex ante* competitive advantages over domestic firms strong enough to overcome the initial disadvantages they face in the host country.

Applying the product-life-cycle model and the technological accumulation theory: In 1979, Raymond Vernon, acknowledging that his 1966 model had lost part of its power in explaining FDI by industrialised countries, maintained that it could still be applied to FDI undertaken by developing countries - DCs (Vernon, 1966; 1979), referring to South-South FDI. In the same vein, Wells (1983) argued that some DC' firms carried out foreign investment in other developing countries, exploiting their absorptive capacity and skills in imitating and adapting both the products and processes to local conditions: one example is the adaptation of large scale technologies to small scale production.

Sanjaya Lall (1983) gave a remarkable contribution to the comprehension of Third World multinationals. In his view, FDI from DCs was based on a range of technological advantages which were not necessarily confined to imitation or adaptation of imported technology, but could originate in innovation, following a process of technology accumulation. Technologies and products were not only appropriate for DCs' factor relative prices and quality conditions, and not only efficient at a smaller scale, but also matched local needs and tastes⁶. Lall's empirical work on India showed that upgrading DC firms' technological capabilities could place them in a position to invest also in industrialised countries.

The eclectic paradigm and developing countries within the investment development path: After introducing the well-known OLI paradigm, explaining foreign production on the basis of ownership, localisation and internalisation advantages, John Dunning (1988) argued that the emergence of outward direct investment from developing countries could also be explained by his eclectic theory of international production. Along with GNP per capita increase, inward and outward FDI flows and balances are linked to each stage of economic development, within an "investment development cycle". The existence of a positive correlation and a J-shaped relationship between net outward FDI and GNP per capita was assumed. Dunning therefore argued that the ownership advantages of DC' MNCs tend to reflect the structure of their countries' resource endowment, such as capital, labour, raw materials, individual entrepreneurship, and ability to adapt imported know-how and technology, as well as their better knowledge of other developing countries' markets, a better mastering of technologies and skills that are particularly suitable for these countries and a shorter institutional distance (Dunning, 1986)⁷.

From the point of view of these established theories, three main drivers may explain the multinational expansion of firms, including those based in developing countries:

- resource-seeking motivations (targeting natural resources, energy and agricultural goods);
- market-seeking motivations (aiming at the access to new markets);
- strategic asset-seeking motivations, in the case of acquisitions primarily targeting at technology, knowledge, brands and skills incorporated in a foreign company.

Cantwell and Tolentino (1990) and Dunning et al. (2008) admitted that increasing activity of MNCs from emerging countries directed towards industrialised countries may be explained not only by market-seeking or natural resource-seeking motivations, but also by the need of augmenting, rather than exploiting, their ownership advantages, and acceding to technological resources in industrialised countries. Dunning referred to this kind of FDI as asset-augmenting rather than asset-seeking investment.

Some other scholars argue that explaining the new trend of South-North FDI requires the extension and development of the theories introduced by Lall and Dunning,

⁶ In this respect, Lall developed some ideas proposed in the wide-ranging and policy-oriented debate of the 1970s and 1980s on the "intermediate technologies" or "appropriate technologies" for DCs (Balcet, 1981).

⁷ These kind of advantages can be exploited in other DCs, in sectors requiring intermediate or mature technology and semi-skilled labour, and where economies of scale are less relevant.

as general theories based on the historical experience of Western MNCs; if properly adapted, they still apply (Buckley, 2010 ; Rugman, 2010).

2.2. Theories specific to emerging countries' multinationals: asset-seeking as a key explanation

Another train of thought raised serious doubts about the assumption that an MNC must always possess competitive advantages over domestic firms strong enough to overcome the initial disadvantages they face in the host country; in particular, companies based in emerging countries lack monopolistic advantages but may go abroad just to acquire those resources they are missing at home (Mathews, 2002; Luo and Tung, 2007). Therefore, the stress is on the need for new specific theoretical explanations.

The imbalance and the springboard approaches: Moon and Roehl (2001) point out that – paradoxically - a firm may invest abroad to overcome its own disadvantages, such as the lack of technology or managerial know-how, or a limited market share on the domestic market. However, they admit that some ex ante ownership advantages are required, including in the case of asset-seeking FDI.

With a similar research orientation, Luo and Tung (2007) argue that multinationals from emerging countries use outward investment as a springboard to acquire strategic assets, sophisticated technology as well as brands, managerial skills and access to new markets. Dwelling upon empirical evidence, they highlight that competitive advantages were not originally possessed by these investing companies, but were mainly generated through their participation in international alliances. Linkages with foreign partners allow these companies to upgrade technological and managerial skills, develop learning experiences, and be integrated into the internal network of their foreign partners. The authors point out that emerging countries' multinationals as latecomers tend to internationalise at a rapid pace, not gradually through incremental steps, in order to catch up with incumbent MNCs. Thus, they simultaneously undertake risky and costly operations in several countries.

The linkage, leverage and learning theory: Starting from a resource-based view of internationalisation, John Mathews developed a popular theory to explain the expansion of “Dragon Multinational Enterprises”, known as the “linkage, leverage and learning” (LLL) theory. He stressed that emerging countries' MNCs are keen at establishing linkages, including alliances and joint ventures with incumbent MNCs, leveraging resources, learning and imitating (Mathews, 2002 and 2006). Latecomers acquire and absorb foreign resources and improve their competitive position through multinational growth. They enter outsourcing networks. They are able to leverage resources from other firms' strengths, namely via technology licensing contracts, imitation and reverse engineering (Mathews, 2006). However, this strategy involves high risks and uncertainties.

Networking abilities characterise emerging countries' multinationals; e.g. the case of the Chinese GuangXi, or “bamboo networks” (Tolentino, 2008). In this respect, the theory of international joint ventures and alliances (Contractor and Lorange, 2002; Balcet and Bruschi, 2010a), provides useful insights by suggesting that partnerships

can be interpreted as an institutional device created in order to implement complex transactions, or as a learning instrument in a broad sense.⁸

Acceleration characterises the internationalisation of emerging countries' MNCs, reaching in a few years a leadership position in some specific market segments (Mathews, 2006; Luo and Tung, 2007). Notwithstanding their different views, both approaches converge in highlighting some common features of emerging countries' multinationals:

- the importance of asset-seeking motivations, vis-à-vis the standard market-oriented and natural resource-oriented motivations;
- a capacity of absorbing, assimilating and adapting foreign technology as a prerequisite for multinational growth;
- an accelerated pace of international growth;
- the role of networking and international alliances;
- the role of domestic institutions, including conglomerate governance (Indian model) and state ownership (Chinese model);
- the role of political support from the home government.

The last two features are at the roots of relevant country-specific competitive advantages for emerging countries' multinationals (Goldstein, 2007).

All these theories have put to the fore various useful insights about the drivers and industrial dynamics associated with new MNCs based in emerging countries. However, surprisingly enough, they do not include labour cost advantages in their conceptual framework while empirical evidence suggests that the cost of both skilled and unskilled labour deeply influences these firms' international competitiveness.⁹ Therefore, in what follows, it is assumed that labour costs matter and the analytical consequences of this assumption are explored.

3. Looking for an explanation of FDI from emerging to developed countries: what about reversing HOS?

In the above-surveyed literature about FDI from emerging countries, namely their outward FDI to developed market economies, one crucial variable remains unheeded, that is labour cost. Does this mean that labour cost does not play any role as an explanatory variable of outward FDI from emerging to developed countries? We do not think so. Or do this trend clash with conventional wisdom according to which such labour cost differentials usually trigger an investment flowing from developed to developing countries, and not the other way round? It is stressed below that labour cost differentials still matter when explaining emerging companies countries' FDI in developed countries, even though it is at odds with the mainstream theory in international economics.

⁸ Dunning (1995) himself included among the ownership advantages those that a firm gets from being part of alliances.

⁹ Rugman (2010) includes the abundance of cheap labour among the competitive advantages of Indian and Chinese multinationals, along with economies of scale and cheap money. But he does not dig deeper into the theoretical implications of such assumptions.

3.1. Extending the HOS framework to foreign direct investment from developed to developing countries

Since Ricardo, relative (labour) production costs have been analysed as the drivers of nations' international trade specialisation. With a HOS-inspired framework, international trade specialisation is explained by nations' relative endowment in labour and capital. Usually, it is assumed that a developed country is relatively better endowed with capital and a developing (emerging) country is better endowed with labour. This translates into a lower capital price (interest rate) in a developed rather than in a developing country while the labour price (wage rate) is lower in a developing than in a developed country. One problem with the HOS model is that a perfect international immobility of factors of production, including capital, is assumed which leaves no room for explaining FDI flows. However, since Mundell (1957) introduced tariff barriers in this standard analysis, it is demonstrated that hindrances to trade such as tariff barriers – or some other governmental interferences - will trigger a flow of foreign (direct) investment substitutive to international trade, a so-called tariff-jumping FDI. Taking account of these old theories and using an equation in line with the recent literature on econometric testing of FDI determinants, the explanatory variables of classical FDI flowing from developed to developing (emerging) countries can be expressed in a HOS framework as follows:

$$FDI_{ij} = a + b (w_i - w_j) \cdot L_j + c \cdot G_j + d \cdot D_{ij} + u_{ij} \quad (1)$$

with: $w_i > w_j$, thus: $w_i - w_j > 0$,

where i stands for any developed country investing in any developing (emerging) country j . The explanatory variables of this FDI flow are:

w_i : the wage rate¹⁰ of (unskilled) labour in country i ,

w_j : the wage rate of (unskilled) labour in country j ,

L_j : the volume of employment in the subsidiaries of developed countries' MNCs located in a developing country j ,

u_{ij} : a random residual in case of the equation econometric testing.

In equation (1) $w_i - w_j > 0$ reflecting a Ricardo/HOS dimension.

With these variables, FDI is explained by a wage rate differential between developed and developing countries. Moreover a tariff-jumping aspect of FDI is encompassed through G_j ($G_j > 0$) which stands for any governmental interference in international trade, namely tariffs – to take on board a Mundell dimension in the HOS equation (1) pertaining to FDI. Equation (1) has the shape of a gravity model that is now currently used not only for empirical testing of foreign trade determinants but also, increasingly, to provide econometric modelling of FDI determinants¹¹. A gravity

¹⁰ The variable that investors actually take into account in their foreign direct investment decision making is the unit labour cost and not the wage rate *per se*. This means that investors are aware of reverse labour productivity differentials that may (or may not) compensate for wage rate differentials. Of course, there is no room for such a consideration in a pure HOS world where labour productivity is not directly compared between countries; it is only indirectly captured through countries relative factor (labour) endowment and prices.

¹¹ For instance, see the front runners' papers by Altomonte (2000), Altomonte and Gugliano (2003), Buch *et al.* (2003), Carstensen and Toubal (2004), and others.

dimension is introduced through D_{ij} which stands for the geographical distance¹² between a developed and a developing country.

Now, following one explanation of the Leontief paradox, let us distinguish between skilled and unskilled labour (L), S standing for skilled labour. A developed country is usually assumed to be better endowed with skilled labour than any developing country. However, contrary to relative capital endowment, this will not result in a higher wage rate for skilled labour in a developing than in a developed country. One reason is that domestic skilled labour remuneration is constrained by overall wage formation and the level of economic development in a developing country so that it is lower than in a developed country. Another reason may simply be that skilled labour specifically requested by MNCs is not available in the developing country's labour market and its wage rate is simply non-existent. Then there is no actual wage rate for skilled labour in j and it must be considered equal to zero.

Thus the HOS equation (1) for FDI transforms into equation (2):

$$FDI_{ij} = a + b (w_i - w_j) \cdot L_j + c (r_i - r_j) \cdot S_j + d \cdot G_j + e \cdot D_{ij} + u_{ij} \quad (2)$$

with: $w_i > w_j$, thus: $w_i - w_j > 0$,

and: $r_i > r_j$, thus: $r_i - r_j > 0$,

r_i : the wage rate of skilled labour in country i ,

r_j : the wage rate of skilled labour in country j ,

S_j : the volume of skilled employees in the subsidiaries of developed countries' MNCs located in a developing country j ,

and: $r_i - r_j > 0$ reflecting a Leontief paradox dimension in equation (2).

However, the assumption here is less complex than reality, in assuming that skilled workers are to be found in a developing country and hired by MNCs' subsidiaries at the domestic wage rate r_j . In fact, the absence (or shortage) of skilled labour in developing countries may play as a relative hindrance to outward FDI from developed to developing countries. Then highly skilled labour will be provided by expatriates hired by the parent company in its home labour market. As a consequence, some proportion of skilled expatriate workers is hired in a developed country i (at a r_i wage rate) and sent to a MNC's subsidiary located in a developing country j ; then S_j should be partly replaced or supplemented with S_i for which the expected sign of the coefficient is negative in equation (2).

Finally, let us assume that there is a technological gap between developed and developing countries which is considered since Vernon (1966) and others as one determinant of outward FDI from developed countries handling advanced technology to developing countries that are lagging behind in terms of technology. This can be introduced in the previous equation in such way as to obtain (3):

$$FDI_{ij} = a + b (w_i - w_j) \cdot L_j + c (r_i - r_j) \cdot S_j + d \cdot (T_i - T_j) + e \cdot G_j + f \cdot D_{ij} + u_{ij} \quad (3)$$

¹² In empirical testing, such variable can stick to the number of miles, or can also be enlarged in such a way as to pick up a cultural, linguistic or institutional distance.

with: $w_i > w_j$, thus: $w_i - w_j > 0$,
and: $r_i > r_j$, thus: $r_i - r_j > 0$,
and: $T_i > T_j$.

T_i and T_j , respectively the technological level in developed and developing countries could be assessed at a national level, with indices such as the ratio of gross domestic R&D expenditures to GDP, the number of patents per year in each country, and the number of engineers and scientists per 1,000 inhabitants (Andreff, 2003a).

With equation (3), a rather satisfying explanation of outward FDI flowing from developed to developing countries is reached within a standard theoretical framework stating that inward FDI is attracted into developing countries by a lower wage rate of unskilled labour, tariff barriers (or other governmental barriers to trade), a lower wage rate of skilled labour despite the absence or shortage of skilled labour in developing countries, and a technological gap that benefits foreign investors (MNCs) based in developed countries.

A last point must be made about the type of products manufactured in MNCs' subsidiaries located in developing countries. The most common assumption with regards to FDI flowing from developed to developing countries due to wage rate differentials is usually coined as international production relocation in a context of production fragmentation (Mouhoud, 2011; Andreff 2009). The corresponding subsidiaries are created in an efficiency-seeking strategy *à la* Dunning (1988). On the one hand, they may manufacture low-tech intermediary products, parts and components which are to be re-exported from developing to developed countries in order to integrate a final product to be assembled at the parent company (or at an assembly line subsidiary in another developed country). On the other hand, foreign subsidiaries in developing (emerging) countries may assemble high-tech components imported from the parent company or from other subsidiaries located in developed countries (e.g. i-phone production in China whose high value added components come from the US, Japan and Taiwan).

3.2. Explaining foreign direct investment from emerging to developed countries contradicts HOS: towards an alternative approach

Given the above-described analytical framework, could it be adapted to analyse a reverse FDI flow, the one flowing from developing - here emerging - countries to developed countries? The idea is that the main variables which may explain such a paradoxical FDI (from the standard theory viewpoint) from less developed emerging to more developed countries are the same as those mobilised to understand FDI from developed to developing economies but they interplay in a different way that contradicts the aforementioned HOS equation, as amended for FDI. Of course, a number of variables have evolved between the first period when MNCs from developed countries were investing in low labour cost manufacturing industries in developing countries (from the 1960s to the 1980s) and the current period (the 2000s) when MNCs from emerging countries are investing in developed countries. In particular, the quantity of skilled labour has significantly augmented in emerging countries and the technological level has upgraded, also thanks to technological transfers by MNCs from developed countries in the 1960s-1980s.

Moreover, the level of interference by emerging countries' governments has changed with less tariff barriers, due to WTO agreements, and more direct support to

outward FDI. However, even if the wage rate differential for unskilled labour ($w_i - w_j$) has shrunk meanwhile, it still remains significant and the reversal of FDI flows (now from emerging to developed countries) cannot be due to a reversal in the unskilled labour wage rate gap nor in the skilled labour wage rate gap. It is precisely because the wage rate differential has only slightly diminished that the above HOS equation, amended for FDI, becomes irrelevant in the face of FDI by emerging countries' MNCs in developed economies. Here there is room for elaborating on a rather different explanatory scheme in which a lower wage rate ($w_j < w_i$ and $r_j < r_i$) is used by producers (MNCs) from emerging countries j as their comparative advantage, not only to export to, but to invest in developed countries i as well. Then a HOS approach logically falls down and the reverse FDI flow calls for a reverse-HOS theoretical explanation.

Let us first keep on board most assumptions adopted above as fitting with the current situation of outward FDI from emerging (j) to developed (i) countries, that is:

$$\begin{aligned} w_i > w_j, \text{ thus: } w_j - w_i < 0 \\ r_i > r_j, \text{ thus: } r_j - r_i < 0 \\ T_i > T_j \text{ and finally } G_j^* > 0. \end{aligned}$$

We still use G_j to refer to some governmental interference, but we add a star to mean that it is no longer (or not primarily) an interference based on tariffs. The added star basically refers to governmental intervention in the area of FDI, namely state support (like in India, China) to outward FDI undertaken by domestic (Indian, Chinese) companies or simply the fact that a number of MNCs from emerging countries are state-owned and run (China). Then equation (4) stands for a basic model for emerging countries FDI in developed market economies:

$$FDI_{ji} = a + b(w_j - w_i) L_i + c(r_j - r_i) S_i + d(T_j - T_i) + e G_j^* + f D_{ji} + u_{ji} \quad (4)$$

where L_i stands for the volume of unskilled employment in the subsidiaries of emerging countries' MNCs located in a developed country i , and S_i stands for the volume of skilled employment in the subsidiaries of emerging countries' MNCs located in a developed country i .

What does equation (4) tell us? First, the distance D_{ji} plays a role, however interpreted, in geographical, cultural or linguistic terms; e.g. it is less easy for an Indian firm to invest in France or Germany than in Sri Lanka, Pakistan, Bangladesh or the UK. There are other strong determinants of emerging countries' FDI in developed countries. One is a push factor which is institutional, to put it this way, and consists in a number of incentives and supports G_j^* provided by the home emerging country's government to its domestic companies investing abroad (examples are given below for India and China). Then more curious determinants of emerging countries' outward FDI in developed countries appear when keeping the standard theoretical framework. In equation (4), there is a sort of reverse technological gap effect triggering emerging countries' outward FDI to developed countries, as if technologies in China or India were more elaborated, sophisticated or performing than in Europe and North America. Of course, it is not credible as such: there is not an overall gap beneficial to emerging countries' technology so far. However, such a statement must be qualified industry by

industry. On the other hand, $T_j < T_i$ may capture a main determinant of FDI from India and China, as highlighted by empirical literature on technological catching up¹³ (Matthews 2002; Goldstein 2007), *i.e.* the asset-seeking motivation for mergers and acquisitions in Europe and the US.

With regards to skilled labour, it remains cheaper when hired in emerging countries and the wage rate gap appears now to be a determinant of emerging countries' FDI in developed countries, at odds with our previous HOS equation, as amended for FDI. The strangest explanatory variable of emerging countries' FDI in developed countries is about unskilled labour remuneration. Equation (4) says that MNCs from emerging countries take advantage of a lower wage rate in their domestic economies to invest in higher wage rate countries in Europe. In other words, emerging countries' MNCs *rely on lower wage at home, i.e.* on a negative wage differential, *to spread their FDI to developed market economies.* Such an analytical conclusion is definitely at odds with a HOS framework, even if amended. The standard theory cannot do the job of explaining the reverse flow of FDI from emerging to developed countries since it states that a positive wage rate differential ($w_i > w_j$) triggers FDI from i to j , which is not consistent with the idea that a negative wage differential ($w_j < w_i$) triggers FDI from j to i . Or, put otherwise, the same wage rate differential ($w_i > w_j$) cannot trigger FDI both ways, from emerging to developed as well as from developed to emerging countries. This outcome is inconsistent with any version of a factor endowment-based model. Thus, to understand FDI by emerging countries' MNCs in developed countries, there is no other way than stepping out of the standard HOS framework. Since reversing the HOS framework leads to an analytical dead end, the whole HOS approach needs to be rejected and this suggests instead an alternative approach in which a company can rely on a domestic lower labour cost, taken as a home (and not host) country advantage, to invest abroad in countries where labour cost is higher. It remains to be shown below (section 4) how this can work in practice.

Let us now assume that, in specific industries, the technological gap between some emerging countries and developed economies has been nearly closed by technological development or imitation in the former (so that $T_i = T_j$). This has often happened in emerging countries as the outcome of technological transfer and improvement through previous inward FDI by American, European and Japanese MNCs, as well as through licensing, imitation or reverse engineering. Moreover, a number of FDIs achieved by emerging countries' MNCs in developed countries have resulted from mergers and acquisitions (ex: Geely taking over Volvo, Mittal taking over Arcelor). These are typical of an asset-seeking strategy conducted by emerging countries' MNCs to step into developed countries, with a particular focus on acquiring those technologies which are on the knowledge frontier. This also paves the way to $T_i = T_j$. With such an assumption a purer HOS equation of reversed FDI flows would be:

$$FDI_{ji} = a + b(w_j - w_i) L_i + c(r_j - r_i) S_i + d G_j^* + e D_{ji} + u_{ji} \quad (5)$$

Eventually, we are left with a major explanatory variable which is that outward FDI by emerging countries in developed countries is based on a *reverse wage rate*

¹³ Note that a technology-based advantage may be consistent with a skilled labour cost advantage since an innovation process usually resorts to highly-skilled labour.

differential, for both skilled and unskilled labour, compared to what is usually contended by the standard theory. *A lower wage rate than abroad is, overall, a home market relative advantage to invest abroad in the case of emerging countries.* There is no room for such causality in a HOS framework which must be definitely rejected when dealing with FDI by emerging countries in more developed economies. Of course, this FDI could also benefit from governmental support G_j^* and Indian and, to a greater extent, Chinese MNCs' relationships with their governments are cases in point.

Let us examine our major conclusion a little bit further. How can a lower home wage rate be a relative advantage for investing abroad in a higher wage rate country? A first response can be that workers employed in Indian (Chinese) subsidiaries located in developed countries are waged at the Indian (Chinese) rate so that Indian (Chinese) MNCs are extremely cost-competitive in, say, French, German or Italian markets. But this is unlikely to occur in particular if Indian (Chinese) subsidiaries employ non Indian (non Chinese), *i.e.* domestic workers of developed host countries. Even with employing Indian (Chinese) expatriates, their wages must be close to the average wage of the host country, for them to survive in high purchasing power markets, and also due to wage competition and the domestic labour market legislation¹⁴ in the host country.

Another explanation, which is the correct one given the evidence provided below for Indian and Chinese MNCs, is that lower labour cost advantages $m_j < m_i$ and $r_j < r_i$ are integrated in the production of intermediary products manufactured in India or China and then transferred (intra-firm transfer) as a very cheap and competitive input supply to Indian (Chinese) subsidiaries located in developed countries¹⁵. This is what makes Indian (Chinese) subsidiaries cost-competitive in developed markets and triggers their FDI to such markets. There is one implication here. This means that Indian (Chinese) MNCs basically do not locate their FDI in developed countries to manufacture labour-intensive intermediary products. They invest there to manufacture final products primarily geared toward developed countries' markets. In a sense, emerging countries companies' FDI in developed countries is the reverse to the former FDI by MNCs from developed countries in order to use Asia (China, India) as a platform or a workshop for manufacturing, at lower labour cost, inputs and components to be re-exported to their assembly lines located in their home countries, as in the relocation process.

Let us now underline why no demand variable¹⁶ is taken into consideration in our explanatory equations (4) and (5). This could have been done by introducing a right-hand variable such as GDP or population in the host country i , as a proxy for its market size, and/or GDP per inhabitant as a proxy for the host country's market wealth or development like Milleli *et al.* (2010) do. We did not do so first because the main focus here is on whether the standard theory *à la* HOS retains any explanatory power in the

¹⁴ And, possibly sometimes, some trade unions' pressure.

¹⁵ In a sense, as suggested by one reviewer, such "reverse" intra-firm flows based on a lower labour cost in the home country could be coined a "reverse" outsourcing process compared to the one originally defined by Feenstra (see, for instance, Feenstra and Hanson, 1996).

¹⁶ Another crucial variable is omitted, as has been stressed by one commentator, which is the exchange rate - absolutely a case in point with the Chinese yuan and Indian rupee undervaluation. However, there is no such a thing as a monetary exchange rate in the realm of the HOS. Moreover, while an undervalued currency is boosting exports, it should have been a brake on outward FDI. But, on the other hand, with an undervalued yuan and Indian rupee the labour cost comparative advantage of Chinese and Indian MNCs investing in developed countries must be even more significant than otherwise.

face of FDI from emerging to developed countries. Since it is not disturbed by demand side variables, the response is clearly: no. Moreover, most FDI is undertaken with a market-seeking strategy everywhere in the world even though it is not the only objective of an MNC. In the existing literature, more than two-thirds of case studies and econometric testing reach the conclusion that foreign market size is a significant determinant of FDI though together with other variables, which are also of interest here. For instance, in another specific group of emerging countries, that is post-communist transition economies, though a lower labour cost is a significant determinant of inward FDI, testing the market size provides even more often a significant result (M. and W. Andreff, 2005).

Finally, had a demand side variable such as the market size been introduced, the theoretical discussion would have left the framework of supply side theories which, from Ricardo to HOS, look at comparative advantages in relative production costs and endowment in factors of production. It is not intended here to check whether emerging countries MNCs' investment in developed countries does or does not fit with the demand theories of international specialisation (Linder, 1961; Lancaster, 1980) or with the so-called new theory of international trade (Helpman and Krugman, 1985).

Before providing evidence that supports an explanation of emerging countries' FDI in developed countries alternative to a HOS framework, some final comments must be highlighted. Probably, some cultural, linguistic and institutional dimensions may be at work in triggering outward FDI from India and China to developed countries as suggested in Milleli *et al.* (2010). In future empirical testing of equation (4), it could be dealt with by appropriate dummy variables associated with – or complementing – the D_{ji} variable. They are not taken into consideration here in order to stick to those variables encompassed with the standard theory and not dilute the argument with secondary variables neglected by standard international economics.

All the statements above are steps in the direction of a refurbished economic theory of FDI, beyond a HOS framework, capable of encompassing FDI from emerging to developed countries on a pathway which diverges from, or even contradicts, a HOS-inspired factor endowment approach. No adequate data base is available with a view to empirically testing equation (4) so far. Since the paper is theory-oriented such testing may be envisaged in the future. Here some empirical examples that call for the above-suggested alternative approach are picked up from case studies on Indian and Chinese MNCs.

4. Some empirical evidence calling for an alternative approach to Indian and Chinese foreign direct investment in developed countries

The above analysis has been developed within a static country-level framework consistent with the main goal of critically re-assessing the HOS-inspired explanation of FDI flows from emerging to developed economies. A brief preliminary confrontation between the right-hand variables of equation (4) and some empirical facts is now achieved to show that giving up HOS for an alternative analysis is urgently needed when it comes to Indian and Chinese FDI in more developed countries.

The specific theories on MNCs from emerging countries, reviewed in 2, are in a sense complementary to the above-suggested alternative approach, provide useful insights on technology transfer, adaptation and assimilation as pre-requisites for investing abroad; but they do not refer to labour cost differentials as a major competitive advantage for emerging countries' MNCs. The contention here is that

labour costs matter and that they should be integrated into the determinants of why MNCs from emerging countries invest in developed countries.

Although they are not the crucial focus of this paper, two other determinants of outward FDI by Chinese and Indian MNCs have to be checked: the comparative technological level of Chinese and Indian MNCs and institutions. Empirical evidence also suggests that institutions and policy matter: private conglomerate groups characterised the multinational growth process in India while more specialised, smaller and state-owned companies (*i.e.* under central state administration, provinces or municipalities supervision) are representative of new Chinese MNCs (Richet and Ruet, 2006; Balcet and Ruet, 2011). When it comes to policy, it is not only economic liberalisation which is concerned (in China since 1978, in India primarily since 1991) but also industrial policies during the previous import-substitution decades. Both had laid industrial and technological bases for the following growth stages, shaping production structures and the pattern of multinational growth.

Turning now to a brief collection of empirical facts, some examples are given of the skilled and unskilled labour cost advantages, government support to emerging Chinese and Indian MNCs, and attempts to close the technological gap through asset-seeking mergers and acquisitions geared toward handling the most recent technologies.

4.1. Labour costs matter

At a firm and industry level, does any convincing evidence exist about $n_j - w_i < 0$ and $r_j - r_i < 0$? Empirical field research shows that labour cost advantages are crucial to understand the rapid evolution of India, China and other emerging countries from a situation of host to home countries for FDI (UNCTAD, 2006; Richet and Ruet, 2008; Balcet and Bruscheri, 2010a and b; Gammeltoft *et al.*, 2010). But how does a Chinese or Indian MNC exploit its home country lower labour cost advantage? First, in a pre-multinational stage, this advantage allowed corporate growth through exports and throughout the domestic market. An abundant supply of low-cost labour, both skilled and unskilled, generated high profit rates at home. This first outcome, mainly related to export performance, can still be consistent with a HOS-oriented view.

A second hypothesis – crucial for our argument – is that during the multinational expansion stage, this labour cost advantage can be exploited abroad. As pointed out above, it is not plausible that Indian and Chinese subsidiaries located in developed countries are paying lower wages there. Nevertheless, the competitiveness of Indian and Chinese subsidiaries located in developed countries may be based on systematically importing – tangible and intangible – inputs and intermediary products from their homeland where the latter are manufactured at a lower labour cost. Thus, such intra-firm (intra-MNC) transfers from emerging to developed markets must be highlighted. Exports of intermediate goods and components from India and China, based on low labour cost, to foreign subsidiaries are a means to improve their profitability. This is true in particular with goods and components, or intangible assets such as patents and know how that incorporate skilled labour, a major source of competitive advantage for Indian and Chinese industrial groups going multinational. Mechanical and electronic engineers, designers, computer scientists, research workers and technicians are all cases in point.

The abundance of skilled labour at low cost directly affects the innovation process, reducing the cost and duration of the design and product development process, and therefore impacting the pace, direction and characteristics of the innovation process. The latter includes the creation of new technologies combined with original

development of acquired technology, incremental product development and adaptation to different contexts and applications. Innovative products and processes may be transferred abroad to foreign subsidiaries, enhancing the multinational growth of the firm (Kumar, 2007), while other innovations are transferred from foreign subsidiaries to headquarters in India and China.

The automotive industry provides some examples. The product development costs at Tata Motors were estimated to be one third of the same costs for Western carmakers (Ruet, 2007), whereas Mahindra & Mahindra developed a SUV project with a team of 120 engineers whose yearly remuneration was estimated to be 8 to 10 times lower than the one of a Western manufacturer (Balcet and Bruschi, 2010b). In the Indian pharmaceutical industry located in Europe, there is evidence that active drug components are exported from Indian laboratories to the European final assembly plants (Balcet and Bruschi, 2008). Chinese electronic and ICT industries offer examples of innovation process and synergies between innovation and multinational growth. Indian software companies, including Infosys and Wipro Technologies have set up numerous offices and development centres across Europe (Milleli *et al.*, 2010), interacting and creating synergies with their Indian headquarters and with the technological clusters in India, such as in Bangalore.

Summing up, low cost skills not only accelerate the acquisition and creative assimilation of foreign technology but also support multinational growth of Indian and Chinese firms. Therefore, labour cost advantages for skilled labour, much more than for unskilled labour, significantly contribute to explain the multinational growth of Indian and Chinese firms and groups. However, much more empirical research is needed on the relationships between subsidiaries in developed countries and parent companies in the homeland and flows of intermediate goods – both tangible and intangible – between headquarters and foreign subsidiaries of emerging countries' MNCs.

4.2. Technology matters

A closing technological gap between Indian and Chinese MNCs and their competitors in developed countries is another piece of evidence, in favour of equation (5), since it gives some ground to $T_i = T_j$. This is clearly shown in case of scale intensive, traditional and medium-technology goods, including segments of mechanical engineering, as well as electronics consumer goods and components in China and in the pharmaceutical and software sectors in India (Kumar, 2007). Widespread evidence shows that technological catch up in many industries has been rapid in both countries, dramatically improving their knowledge and capabilities.

However, technological gaps persist in some industries, giving ground to $T_j < T_i$. This is fully consistent with the asset-seeking motivation of many acquisitions in developed countries by Indian and Chinese MNCs, widely reported in the empirical literature. One basic driver of Indian firms' acquisitions in the UK and other developed countries is to acquire technological know how and patents in high tech industries such as computers, pharmaceuticals, military and biological industries, but also in the automotive industry. Some examples are the Indian carmaker Tata Motors' operations in 2002 in the UK with MG Rover, and in 2004 in South Korea, targeting the Daewoo Commercial Vehicle Division, that became a wholly-owned subsidiary, including a relevant R&D unit. Two other important acquisitions took place in 2005, concerning design and engineering centres: for cars in the UK, for buses in Spain. In 2009, the acquisition of Jaguar and Land Rover followed, including an R&D centre again.

In China, SAIC (Shanghai Automobile Industry Corporation, local government-owned) also undertook asset-seeking and technology-seeking operations in the UK and in South Korea. Similarly, Chang'An created R&D and design centres in Europe and the US. Among recent acquisitions by Chinese carmakers, the takeover of the Swedish carmaker Volvo (previously controlled by Ford Motors) by Geely, because of its magnitude, gave rise to an outward FDI of \$ 1.5 billion. In 2007 and 2009, the same company concluded other asset-seeking FDI in the UK (vehicles) and Australia (transmissions). Geely is a private company, but the deal was supported by Chinese local governments. After passing under Chinese ownership, the Volvo brand has been expanding in China through a huge investment plan, including greenfield factories, R&D and training centres, located in provinces that co-financed the deal (Balcet, Wang and Richet, 2012). We must note that the motivation for these asset-seeking operations usually include access to both new technology and internationally recognised brands. China Southern Railway has assimilated the Japanese Shinkansen fast train technology in its subsidiary Nanche Sifang Locomotive since 2004, and China Northern Railway has benefited from Siemens technology.

Finally, in specific technology niches Indian and Chinese firms may have developed areas of specialisation, original incremental innovations, and consequent competitive advantages also on more advanced markets, giving ground to $T_j > T_i$. This is consistent with a relocation model of R&D centres, that are increasingly located in emerging countries (UNCTAD, 2005), namely in some innovative districts, such as Bangalore in India for software or Shanghai in China for electronics. After attracting inward FDI by MNCs from developed countries for a long period of time, these innovation clusters have also stimulated the rise of original knowledge and technological advantages for domestic firms that exploit them overseas (Kumar, 2007). Huawei is now a technological leader (at the edge of the knowledge frontier) in mobile phones and telephone appliances, thanks to R&D undertaken in its Swedish, Californian and Shenzhen research laboratories (Boston Consulting Group, 2011). Suntech Power is now a world technological leader in manufacturing solar panels. In the automotive industry, the accumulation of know-how in specific areas recently provided the opportunity for technological leapfrogging: one example is the very low-cost vehicle (the Nano model) designed by the Indian R&D and engineering centre of Tata Motors; another example is the move of several Chinese firms, including BYD, a world leader in the battery sector, towards full-electric vehicles (Balcet and Ruet, 2011).

4.3. Policies and institutions matter

A significant, sometimes crucial, state support to multinational growth of domestic firms (captured by G^* in equations 4 and 5) is especially evident in the case of China, where many new multinational actors are state-owned enterprises (including both central government and local, province and municipality governments). Examples of this are the big Chinese state-owned industrial consortia in the railways construction industry (China Northern Railway, China Southern Railway), that have invested in building fast train railways in Great Britain (from London to Scotland) as well as in Turkey, Venezuela, Poland, Saudi Arabia, Russia and Brazil. State support often takes the form of governmental credits. For example, the Chinese Eximbank and the state-owned Energy Conservation Investment Corporation have invested together with Suntech in solar energy projects in Spain, Italy and Germany. The acquisition of Volvo

by Geely in 2010, though classified as a private FDI, had a significant share of capital provided by Chinese provinces.

Sometimes, however, being too close to the government may have negative externalities, because of protectionist reactions by host country governments. Huawei missed acquiring a technology for networking computers from 3Leaf Systems (USA) in 2011 because the US Committee on Foreign Investment assessed the Chinese company as having a weak governance transparency due to its privileged relationships with the Chinese government.

In India, where a different transition process towards a market economy took place, the main multinational actors are private family-controlled groups. The supporting role of government in their internationalisation process is less direct though relevant in financial and diplomatic support to Indian firms.

Conclusion

Outward foreign direct investment by emerging countries' multinational companies in developed countries appears to be an undeniable new trend in the global economy. Such empirical evidence clashes with one major assumption of the standard HOS theoretical framework based on factor endowment. The latter cannot explain, in terms of labour cost, that capital in the form of FDI flows from less developed to more developed countries while it is already flowing the other way round according to factor endowment and relative prices. An attempt to reverse the theoretical framework *à la* HOS with a view to explaining the labour cost rationale that backs outward FDI from emerging to developed countries fails to provide a consistent result, except for highlighting the incapacity of this framework to explain a two-way FDI flow between emerging and more developed countries. So the only possible conclusion is to call for another analytical approach where lower home labour cost is a competitive advantage benefiting MNCs from home emerging countries instead of being a factor of attractiveness for FDI in a host country as usual. This conclusion may become an alternative platform for further theoretical elaboration and empirical testing in this area. A third outcome of this paper is to provide some preliminary non-exhaustive evidence that lower labour costs are a basic advantage for emerging countries' multinational companies which invest in developed countries, together with the role of evolving technological gaps and dynamics, institutions and governmental policies already highlighted in the above-reviewed literature. As regard the paradoxical role of labour costs in this occurrence, an avenue for further research would be, after appropriate data collection, an econometric testing of a relationship between outward FDI from emerging countries to more developed economies and a reverse wage gap compared to the major HOS model assumption.

References:

- Altomonte C. (2000), 'Economic determinants and institutional frameworks: FDI in economies in transition', *Transnational Corporations*, **9 (2)**, 75-106.
- Altomonte C., Gugliano C. (2003), 'Comparative Study of FDI in Central and Eastern Europe and the Mediterranean', *Economic Systems*, **27 (2)**, 223-46.
- Andreff M., Andreff W. (2005), 'La concurrence pour l'investissement direct étranger entre les nouveaux et les anciens membres de l'Union européenne élargie', *Economie appliquée*, **58(4)**, 71-106.
- Andreff W. (2003a), 'The newly emerging TNCs from economies in transition: a comparison with Third World outward FDI', *Transnational Corporations*, **12 (2)**, 73-118.
- Andreff W. (2003b), 'Las empresas multinacionales rusas: Inversión directa de Rusia en el exterior', *Información Comercial Española*, **805**, 97-115.
- Andreff W. (2009), 'Outsourcing in the new strategy of multinational companies: Foreign direct investment, international subcontracting and production relocation', *Papeles de Europa*, **18**, 5-34.
- Andreff W. (2011), 'Les firmes multinationales russes: vers la maturité?', *Agir*, **46**, 65-80.
- Balcet G. (1981), *Industrializzazione, multinazionali e dipendenza tecnologica*, Loescher, Torino.
- Balcet G., Bruschieri S. (2008), 'Technology Transfer, Joint Ventures and the Emergence of Indian Multinationals: the Case of the Automotive Industry', in Andreosso-O'Callaghan B., Zolin M.B. (eds.), *Asia and Europe: Connections and Contrasts*, Libreria Editrice Cafoscarina, Venezia, 275-302.
- Balcet G., Bruschieri S. (2010a), 'Indian Multinationals: Which Competitive Advantages?', in: B. Andreosso-O'Callaghan and B. Zolin (eds.), *Current Issues in Economic Integration: Can Asia Inspire the "West"?*, Ashgate.
- Balcet G., Bruschieri S. (2010b), 'Acquisition of Technologies and Multinational Enterprise Growth in the Automotive and the Pharmaceutical Industries: Drivers and Strategies', in Sauvant K., Pradhan J.P. (eds.), *The Rise of Indian Multinationals. Perspective on Indian Outward Foreign Direct Investment*, Palgrave.
- Balcet G., Ruet J., (2011), 'From Joint Ventures to National Champions or Global Players? Alliances and Technological Catching-up in Chinese and Indian Automotive Industries', *European Review of Industrial Economics and Policy*, **3**
- Balcet G., Wang H., Richet X. (2012), 'Geely: a trajectory of catching up and asset-seeking multinational growth', *International Journal of Automotive Technology and Management*, **12(4)**.
- Boston Consulting Group (2011), *2011 BCG Global Challengers. Companies on the Move. Rising Stars from Rapidly Developing Economies Are Reshaping Global Industries*, Boston Consulting Group.
- Brière H. (2009), 'Au loin, les multinationales du Sud s'activent', *Acomex*, **88**, juillet-août.
- Buch C.M., Korta R.M., Piazzolo D. (2003), 'Foreign Direct Investment in Europe: Is There Redirection from the South to the East?', *Journal of Comparative Economics*, **31**, 94-109.
- Buckley P.J. (2010), *Foreign Direct Investment, China and the World Economy*, Palgrave Macmillan, London.
- Cantwell J., Tolentino P.E. (1990), 'Technological accumulation and third world multinationals', *University of Reading Discussion Paper in International Investment and Business Studies*, **139**, University of Reading, Dep. of Economics, Reading, UK
- Carstensen K., Toubal F. (2004), 'Foreign Direct Investment in Central and Eastern European Countries: A Dynamic Panel Analysis', *Journal of Comparative Economics*, **32**, 3-22.

- Contractor F.J., Lorange P. (2002), eds., *Cooperative Strategies in International Business: Joint Ventures and Technology Partnerships between Firms*, Pergamon, Amsterdam.
- Dunning J.H. (1986), 'The Investment Development Cycle and Third World Multinationals', in K.M. Kahn (ed.), *Multinational Enterprises of the South: New Actors in the International Economy*, Frances Printer, London.
- Dunning J.H. (1988), *Explaining International Production*, Harper Collins, London.
- Dunning, J.H. (1995), 'Reappraising the eclectic paradigm in an age of alliance capitalism', *Journal of International Business Studies*, **26(3)**, 461-491.
- Dunning J.-H., Kim C., Park D. (2008), 'Old Wine in New Bottles: A Comparison of Emerging-Market TNCs Today and Developing Country TNCs Thirty Years Ago', in K. Sauvart (ed), *The Rise of Transnational Corporations from Emerging Markets: Threat or opportunity?*, Edwar Elgar, Cheltenham, 158-182.
- Feenstra R., Hanson G., 'Globalization, outsourcing and wage inequality', *American Economic Review*, **86(2)**, 1996.
- Gammeltoft P., Pradhan J.P., Goldstein A. (2010), 'Emerging Multinationals: Home and Host Country Determinants and Outcomes', *International Journal of Emerging Markets*, **5(3/4)**, 254-65.
- Goldstein A. (2007), *Multinational Companies from Emerging Economies*, Palgrave Macmillan, Basingstoke.
- Helpman E. and Krugman P. (1985), *Market Structure and Foreign Trade*, MIT Press, Cambridge, Mass.
- Kumar N. (2007), 'Emerging TNCs: trends, patterns and determinants of outward FDI by Indian enterprises', *Transnational Corporations*, **16(1)**, 1-26.
- Lancaster K. (1980), 'Intra-industry Trade under Perfect Monopolistic Competition', *Journal of International Economics*, **10(2)**.
- Lall S. (1983), 'The New Multinationals. The Spread of Third World Enterprises', in Lall S. (ed.), *Multinationals from India*, John Wiley & Sons, Chichester.
- Linder S. (1961), *An Essay on Trade and Transformation*, John Wiley & Sons, New York.
- Luo Y., Tung R.L. (2007), 'International Expansion of Emerging Market Enterprises: A Springboard Perspective', *Journal of International Business Studies*, **38(4)** 481-98.
- Mathews J. (2002), *Dragon Multinationals. A New Model for Global Growth*, Oxford University Press, Oxford.
- Matthews J. (2006) 'Dragon multinationals: new players in 21.st century globalisation', *Asia Pacific Journal of Management*, **23**, pp. 5-27
- Milleli C., Hay F., Shi Y. (2010), 'Chinese and Indian Firms in Europe: Characteristics, Impacts and Policy implications', *International Journal of Emerging Markets*, **5(3/4)**, 377-97.
- Moon H., Roehl T.W. (2001), 'Unconventional Foreign Direct Investment and the Imbalance Theory', *International Business Review*, **10(2)**, 197-215.
- Mouhoud E.M. (2011), *Mondialisation et délocalisation des entreprises*, Repères, La Découverte, Paris, 3e édition.
- Mundell R.A. (1957), 'International Trade and Factor Mobility', *American Economic Review*, **47**, 321-35.
- Richet X., Ruet, J. (2008), 'The Chinese and Indian Automobile Industry in Perspective: Technology Appropriation, Catching-up and Development', *Transition Studies Review*, **15(3)**, 447-65.
- Ruet J. (2009), 'Emergence des firmes multinationales des économies émergentes et recomposition des variétés du capitalisme', *Revue Economique et Sociale*, **67(1)**, 45-58.

Rugman A. (2010), 'The Theory and Regulation of Emerging Market Multinationals', in Sauvant K., McAllister G. and Maschek A. (editors), *Foreign Direct Investment from Emerging Markets. The Challenge Ahead*, Palgrave-Macmillan, Basingstoke.

Tolentino P.E. (2008), 'Explaining the Competitiveness of Multinational Companies from Developing Economies : a Critical Review of the Academic Literature', *International Journal of Technology and Globalisation*, **4(1)**, 23-38.

UNCTAD (2006), *World Investment Report: FDI from developing and Transition Economies: Implications for Development*, United Nations, New York and Geneva.

UNCTAD (2010), *World Investment Report: Investing in a Low-Carbon Economy*, United Nations, New York and Geneva.

Vernon R. (1966), 'International Investment and International Trade in the Product Cycle', *Quarterly Journal of Economics*, May.

Vernon R. (1979), 'The Product Cycle Hypothesis in a New International Environment', *Oxford Bulletin of Economics and Statistics*, November, 255-67.

Wells L.T (1983), *Third World Multinationals*, MIT Press, Cambridge, Mass.