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# Does FDI Mode of Entry Matter for Economic Performance?: The Case of Korea

Seong-Bong Lee and Mikyung Yun



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Kyung Tae Lee President

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# Does FDI Mode of Entry Matter for Economic Performance?: The Case of Korea

Seong-Bong Lee and Mikyung Yun



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#### **Executive Summary**

This paper attempted to empirically test the proposition that unlike the typical concern against M&A, there is little difference in firm performance by modes of FDI entry. If this is the case, there is no reason to prefer other modes of entry over M&A. The major contribution of this paper is that it calls into question the current classification scheme of mode of FDI entry, on which government tax incentives are based. This paper corrects for this, reclassifying the modes of entry through detailed analysis of each investment case to reflect as much as possible actual complexity of the cross border investment deal.

The empirical part of this paper confirms, even after reclassifying the mode of entry into three groups, that there are indeed no significant differences between greenfield, M&A and P&A in terms of corporate performance (measured by various profitability measures) and subsequent investment behavior (measured by changes in total assets). As shown through the case studies, the main reason behind this result is that at the time of entry, investing multinationals and target domestic companies employ complex deals, mixing various modes within a single investment case. Therefore, when the impact analysis is made at the level of the firm, which is a reasonable thing to do, it is not surprising to find that there are no differences between the various modes. Further, sequential investment may take different forms from the original mode of entry, making it difficult to alienate economic impact of each part of a single investment deal over time.

An important policy implication of this result is that there is no

logical foundation to provide tax incentives on the basis of mode of FDI entry, which assumes that different modes of entry will have differential economic impact on the host country. The tax incentives for FDI, which are granted for the FDI of an acquisition of newly issued stocks, should be changed. Especially, the tax incentives for the FDI in the mode of P&A should be abolished, because there is no difference between the modes of P&A and M&A in terms of economic substance.

JEL classification: F21, F23

Key words: FDI, modes of entry, greenfield, M&A, P&A

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# Does FDI Mode of Entry Matter for Economic Performance?:

#### The Case of Korea

Seong-Bong Lee\* and Mikyung Yun\*\*

#### I. Introduction

The positive spillover effects of FDI (eg through technology transfer, worker training, and increased competition) for economic development of a host country are well recognized in the literature.<sup>1)</sup> Recent literature on corporate governance also show that foreign ownership, through better monitoring, improve firm performance of the affiliate in the host country (Choi and Yoo 2006). This recognition has increasingly led to liberalization towards foreign direct investment in developing countries. But, does the positive effect of FDI on economic development differ by the mode of its entry?

Popular belief, as well as implications from the scholarly literature, is that greenfield is always good where as M&A is not. The presumption here is that cross-border M&A do not contribute to new capital formation or employment at the time of entry but simply means a change of ownership from domestic to foreign investor in an

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<sup>1)</sup> See Lipsey(2002) for a survey of the spillover literatue.

existing firm. This question is typically raised when a particular country faces policy decision to allow cross-border M&A or when cross-border M&A sharply increases. The concern regarding crossborder M&A deepens especially when cross-border M&A increases rapidly, as it did in Korea after the financial crisis, raising suspicions that there may have been fire-sale of domestic firms. This even becomes a socio-political issue when M&A is accompanied by lay-offs and closure of inefficient plants.

UNCTAD's World Investment Report (2000, pp. 159-199) provides an extensive survey of literature studying the difference between greenfield investment and cross-border M&A in their impact on host country development. This survey examines whether there are differences between the two mode of FDI entry in: (1) flows of external financial resources and capital formation, (2) technology transfer, upgrading, diffusion and generation, (3) employment and skill, (4) export competitiveness and trade, and (5) market structure and competition. The study concludes that in the long run, it is difficult to discern explicit differences between the modes of entry in the above areas by themselves, even regarding employment. The implication is that it is more important to examine the motivation of the investing multinational, and whether the economic development of the host country is sufficiently developed to be able to absorb the different benefits accruing to different types of mode of entry. Similar implications can be gleaned from the sparse evidence on the Korean case (Yun 2000, 2001).2)

<sup>2)</sup> The focus of Yun (2001) is on impact of FDI on market structure. This study points out that while M&A among domestic firms can increase concentration, cross-border M&A can encourage competition by bringing

The authors re-examine the mode of entry debate for the Korean case, and verify if UNCTAD's conclusions are indeed correct. Authors feel that this is necessary because first of all, the current government statistics do not accurately reflect the complex characteristics of modes of entry involved in cross-border investment. The only standard by which the government has categorized mode of entry is based on whether foreign investor acquires existing stock or newly issued stock, treating the former as M&A and the latter as greenfield. The major weakness of this standard is that it puts purchase and assumption (P&A) into the category of greenfield, even though this mode of entry resembles M&A more than greenfield. P&A refers to a case where a company is newly established, but most facilities and assets are acquired from an existing host country company or companies. It is a type of M&A through asset purchase but technically, without involving acquisition of stocks of any existing companies. In addition, even when part of cash paid in a P&A deal is paid directly to the selling out owner, rather than invested in the newly incorporated company, making it indistinguishable from an M&A, the single investment deal is categorized as greenfield.

Inaccurate categorization makes it impossible to properly assess

in new entrant into the domestic economy, or by preventing an existing player to exit the market. However, the study warns that while M&A can seem innocuous at the outset, having neutral impact on market structure, and facilitating corporate restructuring, through series of subsequent investment over time, the FDI firm can acquire dominance and market power, with negative impact on competition. This would be especially true if the firm was already importing its own goods into the host country.

FDI impact by mode of entry. Yet important FDI related policies such as tax incentives, are based on whether the FDI is greenfield or M&A. The Foreign Investment Promotion Act promulgates that tax incentives are given only to greenfield FDI of certain size, and in preferred industries.<sup>3)</sup> This rule may be unsound on two grounds. First, since under the current government classifications P&As are also greenfield, P&As also receive tax incentives, whether or not this mode of entry is more akin to M&A in its actual characteristics or investment motive than greenfield. Therefore, incentives maybe given to P&As even when all the benefits that is assumed to accrue to greenfield as opposed to M&As, are not realized.

Second, if there is little difference between modes of entry in terms of economic impact on the domestic economy as the UNCTAD reports, then the above rule would be distorting investment incentives. Greenfield and P&A investment may enjoy incentives and perform better with tax assistance without necessarily benefiting the host economy more than M&A investment. In this case, the tax incentive would be inefficient. Mode of entry should be chosen as a best response to given economic circumstances rather than to tax incentives. The policy implication from this empirical verification is therefore very important. More realistic categorization and impact assessment is a pre-requisite to establishing a sound FDI policy.

The main hypothesis of this paper is that there are no differences between modes of FDI on host country economic development. Since FDI occurs at the firm level, and corporate performance forms the micro foundation of the host country's competitiveness, this paper

<sup>3)</sup> See Lee 2000 for further details on tax incentives.

considers economic development in terms of corporate performance and subsequent investment behavior of the FDI firms. In Section 2, the authors first reclassify the modes of entry through examining as much circumstantial evidence as possible (including press articles, annual reports of financial statements of firms and interviews with corporate personnel actually involved making the deals). Then, economic performance of greenfield, M&A and P&A groups are compared through mean significance tests of various performance variables. A simple regression is also undertaken to assess how the different modes of entry may affect subsequent investment.

In Section 3, case studies (LG-Philips LCD and BASF Company Ltd) are undertaken to show in detail the complexity of a crossborder investment deal. The case studies focus on how the modes of entry is mixed at the time of entry, and how the investment characteristics change over time as subsequent investment is made. In addition, the case studies examine the economic contribution of the two cases in terms of flows of financial resources, global competitiveness, financial performances, linkage formation and spillover effects to ascertain what benefits M&As bring, when receiving company and the economy are able to absorb it.

#### II. Empirical Study

#### 1. Classification of FDI by Mode of Entry and the Data Set

As explained in the Introduction, the government classification of mode of entry is basically based on the nature of the stock acquired by the foreign investor. Acquisition of existing stock is regarded as M&A, while acquisition of newly issued stock is regarded as greenfield. If a foreign investor acquires existing assets – whether it is a part of a firm or a whole firm - and then newly establishes a legal entity, this would be regarded as greenfield. The 2004 modification of the FDI notification system enables identification of P&As to a certain extent. Foreign investors are asked to notify the mode of investment and the motivation of the investment. When the mode of entry is establishment of new facilities but the motivation is mergers and acquisition, then this can be presumed to be a P&A. While this change is welcome, it still does not separate out the P&A category fully. More importantly, the new classification scheme is only applied to FDI data from 2004.

In this study, pre 2004 FDI data is reclassified for the first time, into greenfield, M&A and P&A. As much circumstantial evidence, including annual corporate financial statements, press articles, interviews with corporate personnel actually involved in making the deals, are examined for the reclassification. Table 1 shows the reclassification criteria. Here, greenfield is taken as those establishing a new business, making new investment in fixed asset such as manufacturing facilities and equipment. M&As are those acquiring

existing stock and when new stocks are issued by the target firm to foreign investors. The P&A category is composed of those newly establishing a company but acquiring existing business operations and assets of the target firm.

Greenfield Mergers and Purchase and Assumption (P&A) investment Acquisition (M&A) The company was The company was newly established, The company became but most facilities and assets were newly established. a foreign invested Most facilities and acquired from an existing Korean enterprise through assets of the firm company or companies. It is a type acquisition of stocks were also newly of mergers and acquisitions (M&A) of an existing Korean established with firm or when new through asset purchase but without acquisition of stocks of any existing new foreign stocks are issued by capital. company. the target firm to foreign investors

Table 1. Categorization of FDI Modes of Entry

Table 2 shows the data set for this study by mode of entry under the above classification scheme. The sample consists of top 101 FDI firms by investment amount. FDI here means that equity share of the majority holding foreign investor exceeds 10% of total equity. This is a small sample, representing only 6.41% of total number of manufacturing FDI firms (1,778 firms) listed in the database of Korea Investment Services Co (KIS). However, by amount, the sample totals 14.9 billion US dollars, which represents 72% of the total of the firms listed in the above KIS database. Of these, there are 49 Greenfield cases (48.5%), 25 M&A (24.75%) and 27 P&A cases (26.73%).

The data set includes only the manufacturing sector. The manufacturing industries represented are food, drinks & tobacco, wood & pulp products, cork & petroleum products, chemical & rubber products, non-metal products, basic metal products, machineries, electric & electronics, precision equipment, transportation equipment, and others. Table 2 shows the distribution of forms of FDI across the manufacturing industries.

Table 2. Distribution of Mode of Entry by Industry

In decolors		Mode of	Entry	
Industry	Greenfield	M&A	P&A	Total
Food, drinks & tobacco	4	2	4	10
Wood & pulp products	2	1	2	5
Cork & petroleum products	2	1	0	3
Chemical & rubber products	18	3	5	26
Non-metal products	2	4	3	9
Basic metal products	0	1	3	4
Machineries	3	0	3	6
Electric & electronics	10	8	4	22
Precision equipment	2	0	1	3
Transportation equipment	5	5	2	12
Others	1	0	0	1
Total Number of Firms	49	25	27	101

Financial data such as total asset, sales, operating and current income are acquired from the Corporate Financial Statement, which these firms are obliged to disclose electronically in the Financial Supervisory Service (FSS) website. Four years of financial data from 2000 to 2003 are acquired in this way. Since it would be unreasonable

Table 3. Summary Statistics

#### Greenfield

Variable	No. of observation	Mean	Std. Dev.
Operating Income/Sales	44	0.190	0.544
Current Income/Sales	44	0.083	0.401
Net Profit After Tax/Sales	44	0.063	0.309
Total Asset Growth	41	14.27	12.24

#### M&A

Variable	No. of observation	Mean	Std. Dev.
Operating Income/Sales	21	0.022	0.142
Current Income/Sales	21	0.015	0.136
Net Profit After Tax/Sales	21	0.028	0.090
Total Asset Growth	21	14.51	10.63

#### P&A

Variable	No. of observation	Mean	Std. Dev.
Operating Income/Sales	26	0.043	0.087
Current Income/Sales	26	0.017	0.155
Net Profit After Tax/Sales	26	0.005	0.256
Total Asset Growth	26	8.17	10.32

to expect foreign investment to yield profits immediately after the investment, especially in the case of Greenfield, performance of these firms cannot be compared to firms that received investment much earlier. Therefore, firms that received FDI after 2000 were not included in the sample. Of these 101 firms, 10 firms whose financial data were judged to be unreliable were further dropped from the sample for statistical analysis4), yielding a total of 91 firms and 364 observations for analysis.

Table 3 shows summary statistics of important measures used in the analysis. It is notable that the M&A group on average, are showing positive current income and net profit rates compared to greenfield and P&A.

#### 2. Performance Comparison by Mode of Entry

In this section, the performances of the three FDI groups are compared, to see if there is any difference between them by characteristics of mode of entry. The main performance variables compared are the three profit rates operating income to sales, current income to sales, and net profit after tax to sales. Operating income to sales assesses the performance of day to day operations (manufacturing and marketing) of the company. Current income to sales assesses the overall performance of the company including financial activities in addition to manufacturing and marketing. Net profit after tax to sales assesses overall profitability of the company. A non-profit related performance variable is total asset growth. Since FDI is important for capital formation, this variable assesses whether different mode of entry results in different levels of total assets.

<sup>4)</sup> For example, for one of these firms, the total asset growth from the previous year recorded more than 90,000%. The anomaly seems to have arisen because most of them received foreign investment for the first time only in 2000, and some of them had gone through M&As in stages, making it difficult to trace many of the financial variables accurately. Of these, six are Greenfield, three M&As and one P&A.

Table 4 shows whether group mean profit rates and total assets of the three modes of entry are significantly different from each other. The compared group means are calculated by first taking the difference of the firm's profit rates or total asset from industry average, and then averaging profit rates and total asset growth over the four years from 2000 to 2003. Difference from industry average is taken to account for any common industry-wide shock since performance may vary depending on which industry the firm belongs to. Averaging over time is undertaken to smooth out any peculiarities occurring in a given year. Industry average data is acquired from *Financial Statement Analysis* published annually by the Bank of Korea.

Table 4a) compares Greenfield and M&A. Assuming unequal variance of the two groups, the results show that mean operating income and net profit after tax to sales ratios between the two groups are significantly different at 10% (mean of M&A is higher) but mean current income to sales ratio is not significantly different. Likewise, there are no significant differences between the groups in mean total asset growth. Table 4b) shows that Greenfield and P&A do not show any statistically significant difference in mean profit rates, in whatever way they are measured. However, Greenfield shows significantly higher mean total asset growth. Likewise, when M&A and P&A (see Table 4c)) are compared, the two groups do not show any significant difference in any of the mean profitability rates, but M&A show significantly greater mean total asset growth.

#### Table 4. Two-Sample t-Test with Unequal Variances

#### a) Greenfield vs MA

<operating income to sales>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95% Conf.Interval]	
Greenfield	44	-0.1899778	0.0820714	0.5444001	-0.3554905	-0.0244651
M&A	21	-0.0216607	0.0310332	0.1422119	-0.0863948	0.0430734
combined	65	-0.1355984	0.0570745	0.4601492	-0.2496178	-0.021579
diff		-0.1683171	0.0877426		-0.3441988	0.0075646

diff = mean(Greenfield) - mean(M&A)

t = -1.9183Welch's degrees of freedom = 54.4284

Hypothesis: diff = 0Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.0603

#### <current income to sales>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95% Conf.Interval]	
Greenfield	44	-0.0830025	0.0604248	0.4008131	-0.2048608	0.0388558
M&A	21	0.0155274	0.0296947	0.1360784	-0.0464148	0.0774695
combined	65	-0.0511698	0.0422229	0.3404122	-0.1355198	0.0331803
diff		-0.0985298	0.0673271		-0.2332056	0.0361459

diff = mean(Greenfield) - mean(M&A)

t = -1.4634

Hypothesis: diff = 0

Welch's degrees of freedom = 59.9674

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.1486

#### <net profit after tax to sales>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	44	-0.0629187	0.0466872	0.309688	-0.1570725	0.0312351
M&A	21	0.0285287	0.0195873	0.0897601	-0.0123296	0.0693871
combined	65	-0.0333741	0.032537	0.2623215	-0.0983742	0.0316259
diff		0.0914474	0.0506296		-0.1928499	0.009955

diff = mean(Greenfield) - mean(M&A) t = -1.8062

Welch's degrees of freedom = 56.5267 Hypothesis: diff = 0

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.0762

<total< th=""><th>asset</th><th>growth&gt;</th></total<>	asset	growth>
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Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	41	14.27267	1.911498	12.23956	10.40939	18.13596
M&A	21	14.511	2.321059	10.63643	9.669358	19.35265
combined	62	14.3534	1.477465	11.63357	11.39903	17.30777
diff		-0.2383291	3.006849		-6.284229	5.807571

diff = mean(Greenfield) - mean(M&A)

Hypothesis: diff = 0

Welch's degrees of freedom = 47.931

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.9372

#### b) Greenfield vs PA

<operating income to sales>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	44	-0.1899778	0.0820714	0.5444001	-0.3554905	-0.0244651
P&A	26	-0.0429217	0.0467746	0.2385046	-0.1392558	0.0534124
combined	70	-0.135357	0.054828	0.4587239	-0.2447358	-0.0259781
diff		-0.1470561	0.0944647		-0.3357058	0.0415936

diff = mean(Greenfield) - mean(P&A)

t = -1.5567

t = -0.0793

Hypothesis: diff = 0

Welch's degrees of freedom = 65.1698

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.1244

#### <current income to sales>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	44	-0.0830025	0.0604248	0.4008131	-0.2048608	0.0388558
P&A	26	-0.0167767	0.0304014	0.1550174	-0.0793896	0.0458362
combined	70	-0.0584043	0.0396163	0.3314534	-0.1374366	0.020628
diff		-0.0662258	0.0676418		-0.2014464	0.0689948

diff = mean(Greenfield) - mean(P&A)

t = -0.9791

Hypothesis: diff = 0

Welch's degrees of freedom = 61.8472

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.3314

<net< th=""><th>profit</th><th>after</th><th>tax</th><th>to</th><th>sales&gt;</th></net<>	profit	after	tax	to	sales>
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Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	44	-0.0629187	0.0466872	0.309688	-0.1570725	0.0312351
P&A	26	-0.004693	0.0229682	0.1171154	-0.0519969	0.042611
combined	70	-0.041292	0.0305989	0.2560088	-0.1023351	0.0197511
diff		-0.0582257	0.0520311		-0.16226	0.0458085

diff = mean(Greenfield) - mean(P&A)

Hypothesis: diff = 0

Welch's degrees of freedom = 61.2438

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.2675

#### <total asset growth>

Group	Obs.	Mean	Std.Err.	Std.Dev.	[95%Conf.Interval]	
Greenfield	41	14.27267	1.911498	12.23956	10.40939	18.13596
P&A	26	8.172354	2.023552	10.31813	4.00477	12.33994
combined	67	11.90539	1.445994	11.83597	9.018365	14.79241
diff		6.10032	2.783629		0.5358361	11.6648

diff = mean(Greenfield) - mean(P&A)

t = 2.1915

t = -1.1191

Hypothesis: diff = 0

Welch's degrees of freedom = 61.9498

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.0322

#### c) MA vs PA

#### <operating income to sales>

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf	.Interval]
M&A	21	-0.0216607	0.0310332	0.1422119	-0.0863948	0.0430734
P&A	26	-0.0429217	0.0467746	0.2385046	-0.1392558	0.0534124
combined	47	-0.0334221	0.0291083	0.1995564	-0.092014	0.0251699
diff		0.021261	0.0561331		-0.0919237	0.1344457

diff = mean(M&A) - mean(P&A)

t = 0.3788

Hypothesis: diff = 0

Welch's degrees of freedom = 43.2428

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.7067

<current i<="" th=""><th>income</th><th>to</th><th>sales&gt;</th></current>	income	to	sales>
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Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf.	. Interval]
M&A	21	0.0155274	0.0296947	0.1360784	.1360784 -0.0464148	
P&A	26	-0.0167767	0.0304014	0.1550174	-0.0793896	0.0458362
combined	47	-0.002343	0.0213255	0.1462004	-0.045269	0.0405831
diff		0.032304	0.0424973		-0.0532042	0.1178123

diff = mean(M&A) - mean(P&A)

Hypothesis: diff = 0

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.4510

t = 0.7601

Welch's degrees of freedom = 46.6966

#### <net profit after tax to sales>

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf	. Interval]
M&A	21	0.0285287	0.0195873	0.0897601	-0.0123296	0.0693871
P&A	26	-0.004693	0.0229682	0.1171154	-0.0519969	0.042611
combined	47	0.0101508	0.0154617	0.1060004	0.1060004 -0.0209721	
diff		0.0332217	0.0301861		-0.0275101	0.0939536

diff = mean(M&A) - mean(P&A)

Hypothesis: diff = 0

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.2767

t = 1.1006

Welch's degrees of freedom = 46.846

#### <total asset growth>

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf	.Interval]
M&A	21	14.511	2.321059	10.63643	10.63643 9.669358	
P&A	26	8.172354	2.023552	10.31813	4.00477	12.33994
combined	47	11.00452	1.579093	10.82572	7.825967	14.18307
diff		6.338649	3.079299		0.1340723	12.54323

diff = mean(M&A) - mean(P&A)

t = 2.0585

Hypothesis: diff = 0

Welch's degrees of freedom = 44.3396

Alternative Hypothesis: diff  $\neq 0$ 

Pr(|T| > |t|) = 0.0455

This supports the hypothesis that there is little difference between the three modes of entry. Indeed, the results show that M&A firms do not necessarily perform worse than Greenfield or P&A firms, and seems to contribute to capital formation more than P&A. P&A firms do not show any advantage in profitability, even though they receive tax reduction and other financial incentives whereas M&A firms have assumed all the risks associated with the target firms.

Table 5 shows the relationship between foreign investment and investment in total assets post the first entry of the foreign investor through a simple OLS regression. The explained variable is year on year change in total assets and the explanatory variables are FDI representing the proportion of foreign equity share in the firm, and two dummies representing M&A and P&A firms. The result shows that foreign investment is positively associated with subsequent investment in total asset. Obviously R<sup>2</sup> is very low, implying that there are many other factors influencing a firm's investment behavior. However, the variables are jointly significant. M&A do not seem to influence subsequent investment significantly, whereas P&A had a significantly negative effect on subsequent investment. The constant, which reflects the influence of greenfield is positive and significant. This result is in conformance with the result of the mean difference tests above.

Table 5. Differential Impact of Modes of Entry on Subsequent Investment

Asset Growth	Coef.	Std. Err.	t	P> t	[95% Conf	. Interval]
FDI Ratio	0.0757036	0.0425147	1.78	0.076	-0.0080163	0.1594235
M&A	1.629554	2.778	0.59	0.558	-3.840887	7.099995
P&A	-6.265545	2.390407	-2.62	0.009	-10.97274	-1.558352
Constant (Greenfield)	0.1587296	3.917927	0.04	0.968	-7.556458	7.873917

#### III. Case Studies

#### 1. LG Phillips LCD

1) Was it Greenfield or M&A Investment?

LG Philips LCD Co. was established through a joint-venture contract between LG Electronics and Philips in 1999. This company was not newly established: it was renamed from LG LCD after the JV contract. In 1998, LG LCD was split from LG Electronics. After a half year of negotiation, the two partners, LG and Philips, agreed on the Philips' payment of 1.6 billion US dollars for 50% of shares of the newly established venture named LG Philips LCD. Of this payment, 1 billion US dollars went directly to LG Electronics, and the rest flowing into LG Philips LCD in the form of issuing new stocks valued at 600 million US dollars

Considering the transaction and flows of funding for acquiring new stocks of LG Philips LCD (50% of its shares), the investment of Phillips can be seen as a mixed form of cross-border M&A and greenfield investment. The part of the deal where Philips paid one billion US dollars directly to LG Electronics has attributions of an M&A investment, while the part where 600 million US dollars paid to acquire the newly issued stocks of LG Philips LCD for acquiring its newly issued stocks means that this can be possibly classified as a greenfield investment. Actually, LG Philips LCD was classified as a greenfield investment by the Korean government, which allowed 10-year tax incentives (50% for the first 7 years and 25% for the

following years) to this company.<sup>5)</sup> The M&A part of the deal did not enter into any government statistics, indicating that this may be one reason why statistics tend to under-estimate the extent of cross-border M&As in Korea.

#### 2) Economic Contributions of Investment from Phillips

#### (1) Financial resources and investment

The one billion US dollars in cash that LG Electronics received was used to improve the financial structure of LG Electronics. Since LG Electronics, along with LG Chemicals, was a core company of the LG Group, the improvement in the financial structure of LG Electronics remarkably contributed to the financial stability of the LG Group as a whole. Also at that time, LG Electronics was in a position where it had to make continuous investment in the LCD business to secure competitiveness in this field, The 600 million US dollars provided by Philips and the subsequent investments of LG Philips LCD resolved the difficulty of fund raising at the time of financial distress

#### (2) Global competitiveness

LG has its beginnings in home appliances and semi-conductors and became a renowned world player in these fields. LG focused on home appliances and semi-conductors until the mid-1990's. Since then, it began to promote its strategic business in the LCD field in an effort to rise in the world market as a global electronics company. It was successful in accumulating sufficient LCD manufacturing techniques

<sup>5)</sup> Financial Statements of LG Phillips LCD <a href="http://dart.fss.or.kr">http://dart.fss.or.kr</a>>.

to compete with Japanese incumbent firms and those entering the business after its entry.

However, LG management was well aware that it could not achieve global competitiveness simply because it had advanced LCD manufacturing technologies. It needed a brand name in this field, and this, Philips had. Philips, globally competitive in terms of brand power, basic technical expertise, and global network for distribution was the best strategic alliance partner for LG. On the other hand, even though Philips had the world-renowned technical expertise in the electronics field, it didn't have any globally recognized number one product. Accordingly, Philips hoped to build up a global number one product brand image through cooperation with LG, which already had mass production arrangements and advanced technologies. LG suggested "Single One = World Number One" cooperation model to Philips (Lee, Yun & Lee, 2000). Both companies were sure of mutual benefits from a strategic alliance with capital commitments.

#### (3) Financial Performances

The alliance of the two companies resulted in reinforcing global competitiveness of both companies through a successful fundraising for the LG Philips LCD. In July 2004, LG Philips LCD was able to raise one billion US dollars as it was listed on the stock exchange in New York and Seoul. After being listed, both companies' share became 45:45 and the remaining 10% of shares were dispersed to investors in Korea and the U.S.

Since 1999, when the investment from Philips was made, the performance of the LCD business has improved. With total sales of 8.1 trillion Korean won and net profit after tax of 1.65 trillion won in

2004, which is a 251.5% increase from 2.3 trillion won and a 168% increase from 0.6 trillion won in 1999, respectively. Also, total assets increased to 9.6 trillion won in 2004 from 3.1 trillion won in 1999, and the debt to equity ratio decreased from 234% in 1998 to 71% in 1999, and then to 66.28% in 2004.

#### (4) Linkage and spillover effects

The linkage and spillover effects from investments of LG Philips LCD are potentially large. Its major investment is the construction of the 7<sup>th</sup> generation LCD line plant for the mass production of 42 and 47 inch LCD in Paju City in 2004. The company is planning to establish other plants following this 7th generation plant, which will be completed in 2006. Along with the plants of LG Phillips LCD, a giant LCD display cluster has emerged in Paju City. Other foreign investors have followed suit, and many Korean small-medium enterprises have located here to benefit from business with the foreign investors.

For example, LG Philips LCD and Nippon Electric Glass jointly founded the Paju Electric Glass Co. Ltd. with a start-up capital of 36 billion won in a 40 to 60 participation ratio of the two parties, respectively. The LCD glass plant is in the process of being constructed. In addition, three foreign manufacturers of LCD parts are negotiating an MOU with the Korean government to invest in Paju Display Cluster. Meanwhile, around 40 Korean companies in LCD parts and equipments have also decided to invest in the cluster, and have made some progress towards building their plants. According to a government official of Paju City, 35,000 new jobs are expected to be created when this cluster is completed by 2008.

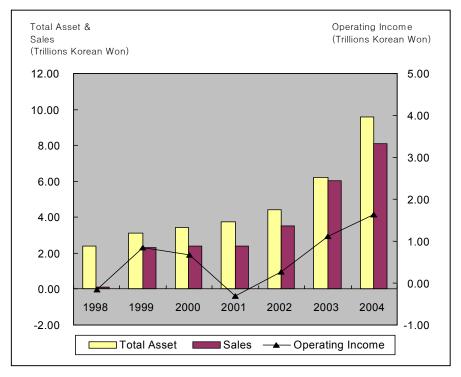


Figure 1. Financial Performance of LG Philips LCD

#### (5) Cost and Benefits of FDI Incentives

Since Philips invested 600 Million US dollars in LG LCD, Korean government offered corporate tax cut for 10 years (100% for 7 years, then 50% for rest the 3 years). Because Philips owns 50% of LG Philips LCD, 50% of its payable tax amounts (taxable income × corporate tax rate) are reduced for 7 years after 1999 when its first profit was made, and 25% of that will be cut for the subsequent 3 years. Based on the taxable income data from 1999 to 2004 in the Electronic Disclosure System of the Financial Supervisory Service, total corporate tax cut for LG Philips LCD amounts to 627 billion

won (around 500 million US dollars), which was calculated from the application of 50% reduction in the Korean corporate tax rate ((30.8% for 1999, 2000, 2001 and 29.7% for 2002, 2003, 2004) with the taxable income of each year. LG Philips LCD can still enjoy tax cuts for the remaining four years.

The incentives offered by the Korean government can be assessed to be successful only if the benefits accruing to the 1.6 billion US dollars investment of Philips to the Korean economy exceeds the total amount of taxes exempted. This case study cannot provide a numerical estimation evaluating the benefits from the investment of Philips. However, it can offer some insights as to what factors should be considered for such an estimation. The benefits should include 50% of total value added directly created by LG Philips LCD, value added created by 1 billion US dollars transferred from Philips to LG Electronics, the part of additional future cash flow of LG Philips LCD that would be possible if the company gains higher global competitiveness through this strategic alliance, and backward linkage and other spillover effects within and beyond the Paju Display Cluster site.

#### 2. BASF Korea

1) Can All of BASF's Investment be Classified into a Single Mode of Entry?

BASF is a German multinational corporation producing around 9,000 kinds of chemicals throughout its facilities in more than 40 countries worldwide. BASF started trade with Korea in 1954 through FOHAG (Far East Trading Company) and made its first direct investment in Korea through the establishment of Hyosung BASF, the 50:50 joint venture with Hyosung Group. In 1982, it established a 100% subsidiary named BASF Korea, then in 1988, it again founded Hanyang BASF Urethane (later Hanwha-BASF Urethane), a 50:50 joint venture with Hanyang Group. Before the financial crisis in Korea, BASF had continuously expanded facilities and investments in these three companies in the form of greenfield investment.

After the financial crisis, however, the investment by BASF showed a mixed form of M&A and greenfield investment. In 1998, BASF completed 4 giant M&A transactions. It purchased shares of the two joint venture partners, Hyosung and Hanwha for 64 billion won (about 42 million US\$) and 100 billion won (about 65 million US dollars) respectively. Also, BASF purchased the lysine business unit from Daesang at 900 billion won (600 million US dollars). At that time, Daesang made huge profits (annually 80 billion KW in net profit) from this lysine business, enjoying around 20% of the world market share. In December 1998, BASF acquired the polyol business unit from Dongsung Chemicals at 11.1 billion won (7 million US dollars). After these four M&As, all Korean subsidiaries of BASF were merged into a single entity, BASF Company Ltd., which is a wholly owned subsidiary. Furthermore, in November 2000, BASF acquired 1,450 shares of Hanwha Petrochemicals at the cost of 120 billion won (110 million US dollars) to get stable supply of raw materials. In June 2001, it also acquired a styrene monomer (SM) plant from SK Group at the cost of 169 billion (130 million US dollars).

In addition to the above mentioned M&As undertaken after the

crisis, BASF has continued to carry out large-scale greenfield investments by expanding the old plants and constructing new plants. Investing 60 billion KW, it established a Vitamin B2 production facility in Kunsan City. Also, it expanded its Ulsan and Yeochun facilities at a cost of more than 120 billion won. In 2000, 400 million US dollars was invested to embark on the construction of a toluenediisocyanate (TDI) plant, which was completed by the end of 2003. The Korean government provided a 10-year tax incentive for this investment.

As we have seen above, parts of BASF's investments are classified as greenfield investment while others took the form of cross-border M&A. All these investments, however, are now registered under one umbrella of the BASF Company Ltd. in Korea, regardless of their different modes of entry. Therefore, it is impossible to classify 25 years of investment by BASF sharply into either greenfield or crossborder M&A. It would be more important to understand how the company evolved, and to interpret each investment of BASF as a sign of its commitment to the Korean economy, while also taking advantage of the resources available in Korea, including tax exemptions and FDI regime liberalization.

#### 2) Economic Contributions of Investment from BASF

#### (1) Financial resources and investment

BASF have invested more than 2.2 billion US dollars in Korea since its first investment in 1980. About 50% of the total amount can be considered to be greenfield investment and the other 50% as M&A. At the time of the financial crisis, most M&A funds flowed

into the Korean partners or other companies having liquidity problems. Significant amount of funds from greenfield investment by BASF also went to Korean construction enterprises that participated in factory construction. Even though BASF has experienced declining demand worldwide recently, it is still planning to increase its investment in Korea.

#### (2) Motivations of Investment

High skilled labor force seems to be the main reason behind BASF's investmet into Korea. One of the executives of BASF headquarter said "Korea has abundant high-quality human resources. Although the labor cost increases fast, we are planning to increase our investment. The chemical industry in Korea is well developed, and many high-skilled workers are available." BASF's increasing investment focused mainly on achieving vertical integration and scale of economies in Korea. The expansion strategy of BASF and Korea's developed chemical industry and high-quality workers matches well.

#### (3) Financial Performances

When comparing the financial performances of 2004 with those of 1999, when major M&A investments were made, one notices that all the numbers in the financial statements have been getting better. The total assets and sales have increased from 753 and 784 billion won in 1999 to 1.45 and 1.96 trillion won in 2004 respectively, due to the consistent increase of investments. Operating income increased dramatically to 91.7 billion won in 2004 from 20 billion won in 1999,

<sup>6)</sup> Hankyung Daily News, July 22, 2002.

while net profit after tax increased by 184% to 47.8 billion won in 2004, from 16.8 billion won in 1999. This shows that M&A investment by BASF has helped greatly in bringing around its illiquid partners.

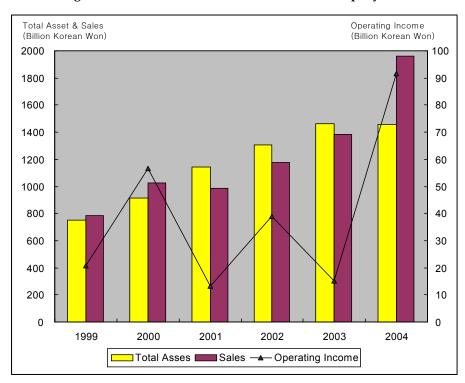


Figure 2. Financial Performance of BASF Company Ltd

#### (4) Job Security

One of economic performances of BASF Company Ltd. was that it kept all the employees of acquired Korean companies without layoffs, even after merging all subsidiaries into one company in 1999. The fundamental reason behind this was that BASF was still under

an expansionary process through greenfield investment at the same time as it was pursuing restructuring of the acquired firm.

#### (5) Linkage and spillover effects

The fact that BASF has vertically integrated many related manufacturing process in house could lead to an underestimation of linkage formation and spillover effects in the Korean economy due to its. However, the chemical industry is known to have a high level of forward and backward linkage structure, and it is hoped that BASF's investment will be effective in upgrading the Korean chemical industry. Its environment-friendly management would especially change the image of chemical industry as a polluter industry. In addition, considering that 40% of BASF Company Ltd's sale is exported, it could be said that BASF has made a great contribution in improving Korea's export competitiveness in the chemical industry.

# IV. Implications and Limitations

This paper attempted to empirically test the proposition that unlike the typical concern against M&A, there is little difference in firm performance by modes of FDI entry. If this is the case, there is no reason to prefer other modes of entry over M&A. The major contribution of this paper is that it calls into question the current classification scheme of mode of FDI entry, on which government tax incentives are based. This paper corrects for this, reclassifying the modes of entry through detailed analysis of each investment case to reflect as much as possible actual complexity of the cross border investment deal.

The empirical part of this paper confirms, even after reclassifying the mode of entry into three groups, that there are indeed no significant differences between greenfield, M&A and P&A in terms of corporate performance (measured by various profitability measures) and subsequent investment behavior (measured by changes in total assets). As shown through the case studies, the main reason behind this result is that at the time of entry, investing multinationals and target domestic companies employ complex deals, mixing various modes within a single investment case. Therefore, when the impact analysis is made at the level of the firm, which is a reasonable thing to do, it is not surprising to find that there are no differences between the various modes. Further, sequential investment may take different forms from the original mode of entry, making it difficult to alienate economic impact of each part of a single investment deal over time.

An important policy implication of this result is that there is no logical foundation to provide tax incentives on the basis of mode of FDI entry, which assumes that different modes of entry will have differential economic impact on the host country. The tax incentives for FDI, which are granted for the FDI of an acquisition of newly issued stocks, should be changed. Especially, the tax incentives for the FDI in the mode of P&A should be abolished, because there is no difference between the modes of P&A and M&A in terms of economic substance.

The major limitation of this study is that although it includes most of the large FDI cases, the sample size is quite small. Another data limitation is that due to lack of data on employment and depreciation, better measures of firm performance, such as value added or productivity could not be calculated. Profitability measures tend to be very noisy, and changes in total assets may not fully reflect all the contributions of an FDI firm. The case studies partially supplements for this inadequacy, but the case studies only examined the successful cases. It is also possible that performance of the foreign invested firms depend on when the first FDI was made. The longer the presence of the foreign investor, the greater the adjustment made to local conditions and greater the involvement in the domestic economy. For example, FDI firms can become more used to domestic institutions, ways of doing business and cooperate better with domestic business partners such as suppliers, the longer they have operated in Korea. In future studies, this aspect could be taken into account by considering years of presence of the particular foreign investor.

In addition, this dataset includes only the foreign invested firms - i.e., the local affiliates of the MNEs. From this, it is difficult to

measure the general spillover effect on the performance of purely domestic firms at large. For example, the results do not answer such questions as does FDI lead to productivity improvement not only in the firm where FDI occurs directly occurs, but also in other domestic Korean firms through technology transfer, demonstration effect and increased competition and does such effect matter by mode of entry? Augmenting the sample size, refining variables and data to reflect the degree of involvement of the FDI firms and to measure economic impact in foreign invested firms as well as purely domestic firms, and including case studies of failures, are left for future research.

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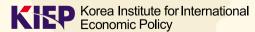
Tae Hwan Yoo and V. Balaji Venkatachalam

Working Paper 06-02

# Does FDI Mode of Entry Matter for Economic Performance?: The Case of Korea

### Seong-Bong Lee and Mikyung Yun

This paper attempted to empirically test the proposition that unlike the typical concern against M&A, there is little difference in firm performance by modes of FDI entry. If this is the case, there is no reason to prefer other modes of entry over M&A. The major contribution of this paper is that it calls into question the current classification scheme of mode of FDI entry, on which government tax incentives are based. This paper corrects for this, reclassifying the modes of entry through detailed analysis of each investment case to reflect as much as possible actual complexity of the cross border investment deal.



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