# Propensity of Chinese Outward Foreign Direct Investments in Central and Eastern Europe Decision Making through Dunning's Oli Model

## Javlonbek Nosirov

*School of Management and Economics (MBA Education Center),*
*North China University of Water Resources and Electric Power, Zhengzhou, 450045, China*

*Abstract:*
*Purpose-This research paper examines the determinants and motivational factors for Chinese pharmaceutical MNEs in outward foreign direct investment in central and eastern European countries. This paper will study the determinant of Chinese firms' propensity to go for export or OFDI especially in pharmaceutical sector of Chinese cultural medicine. Decision making model for Chinese MNEs is determined whether to go for export or go for internationalization.*
*Design/methodology/approach- To achieve the purpose, study uses OLI based model given by Dunning in 1979 which is best suited to study the propensity to go for internationalization as well as the differences between specific forms of FDI in terms of business functions both for manufacturing and services.. This study depends on secondary datasets.*
*Findings- As expected, the explanatory power of the OLI approach is stronger for manufacturing than service activities. Econometric decision making model based upon OLI model finds out that internationalization option for Chinese MNEs can be more beneficial than export option though both are befitting in different manners.*
*Social implications -FDI flows in or out China not only stimulate the remarkable growth of bilateral trade between host country and home country, but also promote the growth of international trade between China and the rest of the world. Thus, policies of bilateral or multilateral free-trade and investment area should be encouraged, which will be also favorable to promote the growth and welfare in all the regions.*
*Originality/value- this study examines tendency of investment for Chinese MNEs in outward foreign direct investment for central and eastern European countries on the basis of field data experts by pharmaceutical sector.*
*Keywords: (Manufacturing vs. services internationalization; off shoring vs. exports; Internationalization of business functions; multinational companies)*

## I. Introduction:

Foreign Direct investment in services sector has increased rapidly in last some years (Dunning, 2008), but, pragmatic research on FDI is still strenuous on manufacturing industry. Characteristics of both industries differ from each other (Buckley, 1992). One would anticipate that the determinants of internationalization are not the same in the two sectors (Boddewyn, 1986). Separation line though is hard to reflect the real difference between services and goods sectors (Gronroos, 1999). Owing to this background econometric research dealing foreign direct investment is scarce and specific to some extent. Paper will investigate the manufacturing based decision of Chinese multinational enterprises for outward foreign direct investment in Central and Eastern European countries.

Inward Foreign direct investment to China has grown conspicuously since China adopted open-door policies. Especially, transformation of china's southern provinces market openness for world has changed the planned economy to market based economy In fact, China became one of the leading host country of inward foreign direct investments destination, though outward foreign direct investment has shrunk due to government policy. Propensity of Chinese outward foreign direct investment is subject to not only to benefits of internationalization but also with policy matters of Beijing. Attempted cause of the paper is to identify the benefits of internationalization for Chinese multinationals and propensity of investment in Central and Eastern European countries.

Recent investment deals of large value into high-technology segments of the European Union have left many concerns in member states though huge input in economy is prominent (Conrad, 2017). With high growth rate, China's global outward foreign direct investment recorded impressive growth in the period 2005–2015.

Chinese outbound investment grew even faster in 2016, when it is estimated to have increased by 40% (Houtari, 2017), but most of the foreign direct investment in European region has been shifted to other side. The upsurge in Chinese outward FDI indicates a rebalancing of global political economic relations, with China and its companies acquiring new roles and gaining economic power. Chinese Multinationals especially in pharmaceutical industry are eager to explore new turf and sense of internationalization benefits has been there since long. Chinese Traditional Medicine industry and other Drugs related industry has been growing silently but surely making mark to its presence.

Ownership advantages, Location advantages and Internationalization advantages of outward foreign direct investment in Central and Eastern European countries are not only attracting Chinese pharmaceutical industry but also are relatively prominent for other manufacturing sectors, papers attempts to investigate firm level advantages of internationalization. Majority of research on propensity for FDI apply the eclectic or OLI paradigm by (Dunning J. , 1992.) which states that firms will internationalize their operations and investment when they posses firm-specific advantages. Applying Dunning's electic paradigm to determine the firm specific benefits through quantitative approach and closing the results for the benefits of the multinational manufacturing industry of china is one facet of this paper while keeping in note the internationalization policy of Chinese government.

**Theory and literature:**
(Dunning J. , 1992.), paradigm explains that firms will venture abroad when they possess firm-specific advantages, i.e. ownership and internalization advantages, and can utilize location advantages to benefit from the attractions these locations are endowed with. Companies have different motives some are market-seeking and resource-seeking, some are efficiency-seeking and asset-seeking. All 4 categories given by Dunning have different drives for foreign direct investment. Theoretical discussions and empirical investigation on foreign direct investment has focused mainly the firms which are market seeking and resource seeking (Buckley, 2007). Localization advantages for the firms are geographical and climate conditions, resources, prices, transportation costs, and degree of openness of market to other countries or entrepreneur business environment appropriate for firm specific benefits and profitability (Resmini, 2005). Behaviors of the firms for internationalization are uncertain though most of the decisions are based on economic factors influencing the internationalization decision of multinational enterprises. Recently business and trade investigation researchers acknowledged the significance of institutional factors influencing behaviors of multinational firms (Tihanyi, 2012). Those behavioral and attitudinal uncertainties of transactional cost of investment in specific region are reduced by institutes (North, 1990), therefore Dunning extended OLI model with institutional based location advantages this accounts the geographical scopes and effectiveness for MNEs in host countries. Multinational Enterprises are different in nature with their cultural diversity and societal impacts, (Peng, 2012) reports Chinese Enterprises are different as the Chinese government plays role of institutional force, they have less advanced technology then central and eastern European countries, there is shortage of efficient managerial resources and primary mode for Chinese Multinational Enterprise entrance to other countries is acquisition. Connecting these characteristics to dunning paradigm can some time not be true for Chinese firms as other factors remain constant for propensity of investment in European states.

(Szunomár, 2014) found that in the case of Chinese MNEs' motives in CEE significant role is devoted to institutional factors and other less-quantifiable aspects: besides EU membership, market opportunities and qualified but cheaper labor important factors are the size and feedback of Chinese ethnic minority, investment incentives and subsidies, possibilities of acquiring visa and permanent residence permit, privatization opportunities, the quality of political relations and government's willingness to cooperate.

Chinese Firms are culturally different and are under continuous grip of government policies, recent downfall of foreign direct investments are not subject to the investments loses but due to the policy change, though market seeking and resource seeking firms in China tends to propend in European market. OLI framework explains the best fitted scenario for MNEs from China. Study included institutional forces prevailing in China that has drastically shifted investment directions to Pak-China economic corridor from European region.

**Figure 1:** Conceptual Framework Based OLI Framework by Dunning 1977
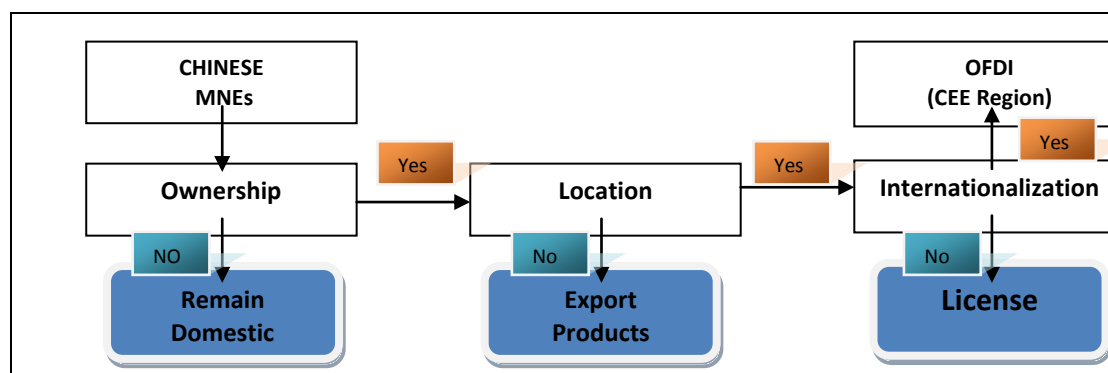


**Research Questions:**
1. What factors affect the outward foreign direct investment propensity of Chinese MNEs in CEE countries?
2. Do the following factors from OLI model: Ownership advantages, Location Advantages and internationalization advantages affect the propensity of Chinese MNEs in CEE countries?
3. Extent to which above mentioned factors affect the decision of going international or remain domestic?

**Hypotheses:**

$H1_0$. Ownership Advantages doesn't affect the Propensity of outward foreign direct investment from Chinese multinational enterprises in central eastern European countries?

$H2_0$. Location Advantages doesn't affect the Propensity of outward foreign direct investment from Chinese multinational enterprises in central eastern European countries?

$H3_0$. Internationalization Advantages doesn't affect the Propensity of outward foreign direct investment from Chinese multinational enterprises in central eastern European countries?

**Research Methods:**
Study is based on quantitative data therefore a questionnaire is designed with and distributed amongst the multinational financial experts for ratings. Further literature and studies are used as secondary data to determine the benefits using OLI paradigm. Econometric model is designed to understand the correlation between interdependent variables such as: ownership advantages, location advantages and internationalization advantages. Research design executes the stepwise determination of benefits.

**Table 1:** Variables & Sub-Variables (Dependent)

| S/NO. | VARIABLE(S) | | VARIABLE(S) | SOURCE |
|---|---|---|---|---|
| 1 | Ownership Advantages | 1. | Firm-specific knowledge | Liu, S. X. (1998). |
| | | 2. | Human capital | Porter, M. E. (1980). |
| | | 3. | Managerial skills | Dunning (1977; 1980; 2000) |
| | | 4. | Property rights | |
| | | 5. | Marketing outlets | |
| | | 6. | Access to finance | |
| 2 | Location Advantages | 1. | Costs | (Yurimoto, 1995) |
| | | 2. | Political stability | Variables are extracted |
| | | 3. | Regulatory framework | from the paper mentioned above |
| | | 4. | Market factors | |
| | | 5. | Business Environment | |
| 3 | Internationalization Advantages | 1. | Wholly-owned | Dunning 1989 |
| | | 2. | Joint ventures | Melitz 2003 |
| | | 3. | Non-equity based | Helpman et al. 2004 |
| | | 4. | market growth | Kneller 2007 |
| | | 5. | Competition | Wagner 2011 |

**Data Collection & Sampling:**
Data is collected through questionnaire from sample size of 100 experts from China. Sample size was acquired using Slovin's formula as the population was unknown. University professors and financial professionals were the population of the study. Out of 1200 respondents from the province of Henan, 100 were

randomly selected. Masood & Masood consultant in Pakistan was hired for collecting Data from sampled population of experts. Researcher administered 20 questionnaires to gather information from 20 participants to conduct a reliability test for pretest so that the questionnaire reliability and validation could be confirmed and data adequacy is assured. The survey was conducted via email (online).

**Table 2** Reliability Results

| TEST ITEMS | Details | |
|---|---|---|
| | N | Cronbach's Alpha |
| **(O)** Ownership Advantages | 15 | 0.925 |
| **(L)** Location Advantages | 15 | 0.856 |
| **(I)** Internationalization Advantages | 10 | 0.843 |
| **(P)** Propensity of OFDI | 10 | 0.922 |
| **Overall** | 50 | 0.916 |

**Hypotheses Testing:**

**Table 3** One Sample independence 2 tailed t-test

| S/No. | Factors | S.D | t-test statistic | p-table value | Interpretation |
|---|---|---|---|---|---|
| 1 | Ownership Advantages | .36779 | 33.365 | .003 | Significantly Different |
| 2 | Location Advantages | .35741 | 38.192 | .000 | Significantly Different |
| 3 | Internationalization Advantages | .54160 | 25.111 | .000 | Significantly Different |

Table 3 exhibits that t-test was applied for testing the hypotheses; ownership advantages t-test value (31.918), location advantages t-test value (32.598), and internationalization advantages t-test value (24.200). Significance level, $p$ = .003, .000, .012 respectively for all three hypotheses. Results imply that model is significantly different and null hypotheses are rejected therefore, concluded that research hypotheses are accepted. In narration, ownership advantages, location advantages and internationalization advantages exist for Chinese Multinational enterprises in Central and Eastern Europe in manufacturing industry.

**Descriptive analysis & Interpretation:**

**Table 4** Experts Perception of Advantages in CEE Region

| Factors | MEAN | S.D | Qualitative Equivalent | Interpretation |
|---|---|---|---|---|
| Ownership Advantages | 3.7707 | .24145 | Strongly Agree | High Propensity |
| Location Advantages | 4.2193 | .37405 | Strongly Agree | High Propensity |
| Internationalization Advantages | 3.5540 | .22893 | Agree | High Propensity |
| Propensity OFDI | 4.1670 | .36572 | Strongly Agree | High Propensity |

Source: Survey Date @ 2019

Recipients were presented with 60 questions 15 each for categories. Table 4 exhibits the responses of the participant in descriptive statistics from Agree to Dis-agree ratings. All participants agreed that Chinese participant have all three advantages in Central and Eastern European countries. Ownership advantage with mean value of 3.7707, Location advantage with mean value of 4.213, Internationalization Advantages with mean value of 3.5540 and propensity for outward foreign direct investment 4.1670 implies that Chinese MNEs of manufacturing industry has bright future in CEE in form of the FDI.

**Correlation Analysis:**
In this study we have used Pearson method of correlation to evaluate the relationship of variables between and within: ownership advantages, internationalization advantages, location advantages and propensity for foreign direct investment.

**Table 5** Correlation of factors (2 Tailed)

| Items | Description | Ownership Advantages | Location Advantages | Internationalization Advantages | Propensity Of FDIs |
|---|---|---|---|---|---|
| Ownership Advantages | Correlation Coefficient | 1 | .893[**] | .866[**] | .816[**] |
| | Sig. (2-tailed) | | .000 | .000 | .000 |
| | N | 100 | 100 | 100 | 100 |
| Location Advantages | Correlation Coefficient | .893[**] | 1 | .773[**] | .578[**] |
| | Sig. (2-tailed) | .000 | | .000 | .000 |
| | N | 100 | 100 | 100 | 100 |
| Internationalization Advantages | Correlation Coefficient | .866[**] | .773[**] | 1 | .835[**] |
| | Sig. (2-tailed) | .000 | .000 | | .000 |
| | N | 100 | 100 | 100 | 100 |
| Propensity Of FDIs | Correlation Coefficient | .816[**] | .578[**] | .835[**] | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | |
| | N | 100 | 100 | 100 | 100 |

Source: Survey Data @ 2019 Masood & Masood consultants

Table 5 exhibits the relationship of variables between and within: Propensity of FDIs is correlated with ownership advantage @ r = 0.816, with location advantages @ r =0.578 and with internationalization advantages @ r= 0.835. It implies propensity of foreign direct investment is correlated with all three advantages seek by FDIs as all the values of correlation lie within the range of +1 to -1 fit for basic criteria. Significance level p = .000 for all the correlation values less than p < .05 suggested model is fit for the prediction. It implies change in one variable will bring definite change in another variable.

**Regression analysis:**

The linear regression widely used by a majority of researchers is based on OLS estimation. This technique was developed to investigate how one or more independent variables influence a dependent variable (Hutchinson, 2011). More specifically, in a linear regression analysis, the result produces one intercept and one slope, based on the mean, which represents the best fit for variable X to predict variable Y. The regression line can be calculated by using the equation (Cade & Noon, 2003):

**Table 6** Regression Model Summary

| MODEL | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .918[a] | .843 | .838 | .14724 |

Predictors: (Constant), Propensity of FDIs

Adjusted R square of the model is .918 that means .918 * 100 = 91.8 %. It implies that one unit of change in Push Factors of Migration and Organizational Commitment will bring 91.8 % change in Job Performance. It also implies that model is highly predictable to dependant variable. Predictor is constant with R-square 91.8 %.

**Table 7** Analysis of Variances

| | MODEL | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 11.160 | 3 | 3.720 | 171.579 | .000[b] |
| 1 | Residual | 2.081 | 96 | .022 | | |
| | Total | 13.241 | 99 | | | |

Table 7 exhibits f (3, 96) = 171.579, $p$=.000[b], model is significant and will bring change for sure as $P <$ .05, it can be predict that model is significantly different and will be effective on predicting FDIs scope in Central and Eastern European countries. Table 8 implies the analysis of variance in model. $\sum (Y_1-Y)^2$ = 11.160 for the mean difference square of predicted value of D.V and I.V and f (2, 97) =171.579, implies that model 1 of ANOVA is significantly fit to predict values and explain variation in factors.

**Table 8** Regression Analysis Model

| | MODEL | Unstandardized Coefficient | | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | | | |
| | (Constant) | -1.588 | .254 | | -6.240 | .000 |
| 1 | Ownership | 1.568 | .173 | 1.035 | 9.085 | .000 |
| | Location | -.723 | .088 | -.739 | -8.238 | .000 |
| | Internationalization | .814 | .129 | .510 | 6.300 | .000 |

Source: Survey Data @ 2019

@ p = .000, .000, .000 and .000 for all the values are less than .005 model is fit and significant to predict the effect of independent variable on dependent variable. With coefficient ownership advantages @ 1.568, location advantages @ -.723 and internationalization advantages @ .814 linear model of regression predicts the degree change in propensity of foreign direct investments by equation:

$$Prop\_FDI = \alpha + \beta \ (Own\_Adv) + \beta \ (Loc\_Adv) + \beta \ (Int\_Adv)$$

$$Prop\_FDI = -1.588 + \beta_1 \ (1.568) + \beta_2 \ (-.723) + \beta_3 \ (.814)$$

**Theoretical and Innovation Contribution**

Study provides first hand innovative results based on expert's rating for foreign direct investment of Chinese Multinational Enterprises in Central and eastern European region. Previous studies have given the results on OLI based model though qualitative approach reflecting arguments supported by Literature Review. This study is questionnaire based and participants being the Chinese experts on investment strategies. Study provides insights for investors and multinational enterprises for internationalization of business operations. Study provides latest information and regression line for investment impacts of propensity of foreign direct investment in CEE region.

**Scope and limitations**

Paper was designed for academic purposes to complete the degree requirement of PhD in the school of Management Sciences, North China University of Water Resources and Electric Power, Zhengzhou, Henan, China. Shortage of time and budgetary constraints are the limitations of the paper as with financial constraints data collection was from one province only i-e Henan, China.

Paper has laid the basis for future researchers; this paper will provide quantitative analysis of OLI paradigm for Foreign Direct Investment Europe. Paper will provide business insights and advantages of investing in central eastern Europe for Chinese investors.

## II. Summary of Findings

T-test was applied for hypotheses testing and as result shown in the table above all three research hypotheses are significantly accepted and they have significant relationship with the dependent variable of propensity of OFDI for Chinese MNEs in CEE region. Further descriptive statistic presents the mean and standard deviation values. Other than this Pearson correlation methods and regression analysis were applied to test for understanding the degree of relevance and linear equation between dependent and independent variables. Regression Analysis model and ANOVA suggest that Unstandardized Coefficient Beta of ownership advantages is 1.568 positive, means one unit increase in (O) can bring 1.568 unit change in Propensity of Chinese MNEs from Pharmaceutical sector to invest in OFDI in Central eastern Europe. Same wise it say for other two independent variables such as -.723 unit change will be effected if one unit change comes on location advantages means as cost of covering location will increase one unit propensity of investment will decrease in ration of -.723. Last variable suggesting positive relationship with dependent variable, one unit change in internationalization advantages will bring positive change of .814 in propensity of investment.

1. A shapiro-wilk's test (P > .05) and visual inspection of their histograms, normal Q-Q plot and box plots showed that propensity of outward foreign direct investment with respect to ownership advantages are approximatley normally distributed for both with skewness of averahe range within -1.96 to 1.96 and a kurtosis of .584 (S.E .759) for ownership advantages and for propensity skewness range is same and a kurtosis of -.013 (S.E 0.759). This concludes that ownerhsip has a significant relationship with the propensity of OFDIs of MNEs from China to CEE region. It affects positively to investment decisions. Our data set is collected from Masood & Masood Ltd business consultants. They provided the expert opinion and helped survey questionnaires to be filled by experts.

2. Test (P > .05) and visual inspection of their histograms, normal Q-Q plot and box plots showed that propensity of outward foreign direct investment with respect to location advantages are approximatley normally distributed for both with skewness of averahe range within -1.96 to 1.96 and a kurtosis of .532 (S.E .652) for location advantages and for propensity skewness range is same and a kurtosis of -.023 (S.E 0.559). This concludes that our hypothesis no.2 is accepted for the locational advantages of the FDIs investment. It explains that Chinese Pharmaceutical MNEs have the advantage of location as per the PLI paradigm theory in our expert's opinion.

**3.**        Test (P > .05) and visual inspection of their histograms, normal Q-Q plot and box plots showed that propensity of outward foreign direct investment with respect to internationalization advantages are approximatley normally distributed for both with skewness of averahe range within -1.96 to 1.96 and a kurtosis also fit as standard for both the variables. Thus it concludes that last independent variable also has a significant affect on the invesmtent decisions of Chinese Pharmaceutical MNEs in CEE regions

## III. Conclusion

        Evidently and conclusively it can be interpreted from the literature and SPSS interpretation of the data that Central Eastern European countries are more efficient and opened markets for the Pharmaceutical Multinationals from all over the world, they best fit the OLI model of Dunning 1978. They provide ownership advantages, location advantages and internationalization advantage to the foreign direct investments in befitting manner. China is the second largest Pharmacy Industry in the world and export market is growing day by day. Multinational enterprises of pharmaceutical industry from China have more benefits in Outward-foreign direct investment in CEE countries. Central Eastern European Countries have high class workforce and business ethics as compare to Chinese Business environment. They have cheap and skilled labor, low cost material and transportations. CEE region has high literacy rate than China so they have more managerial skilled executives and strategic planners. Patent and property right are exercised and protected by their efficient legal and political system. This study therefore concludes that propensity of Chinese MNEs towards OFDI in CEE region is higher fitting OLI model.

## Bibliography

[1].    Boddewyn, J. M. (1986). Service Multinationals: Conceptualization, Measurement and Theory. Journal of International Business Studies , 17 (3), 41–57.
[2].    Buckley, P. J. (1998a). "Models of the Multinational Enterprise". Journal of International Business Studies, , 21–44.
[3].    Buckley, P. P. (1992). The Internationalisation of Services Firms: A Comparison with the Manufacturing Sector. . Scandinavian International Business Review , 1(1), : 39–56.
[4].    Conrad, B. a. (2017). Chinese investments in Europe's energy sector: Risks and Opportunities. Energy Policy , 101:, 644–648.
[5].    Dunning, J. a. (2008). Multinational Enterprises and the Global Economy, . Edward Elgar: Cheltenham. Second Edition.
[6].    Dunning, J. H. (2000). "The Eclectic Paradigm as an Envelop for Economic and Business Theories of MNE Activities". Journal of International Business Review , 163–190.
[7].    Dunning, J. (1998). Location and the Multinational Enterprise: A Neglected Factor? Journal of International Business Studies, , pp. 45-66.
[8].    Dunning, J. (1992.). Multinational Enterprises and the Global Economy. UK:: Addison-Wesley Publishers Ltd., .
[9].    Dunning, J. (1989). Multinational Enterprises and the Growth of Services: Conceptual  and Theoretical Issues. . Service Industries Journal , 5–39.
[10].   Houtari, H. a. (2017). Chinese Investment in Europe: Stratigies . ETUI , 245-268.
[11].   North, D. I. (1990). Institutional Change and Economic Performance, Cambridge:. UK: Cambridge University Press,.
[12].   Peng, M. W. (2012). The global strategy of emerging multinationals from China. Global Strategy Journal , 97-107.
[13].   Resmini, L. (2005). FDI, Industry Location and Regional Development in New Member States and Candidate Countries:. European Commission .
[14].   Szunomár, Á. (. (2014). Chinese investments and financial engagement in Visegrad   countries:. Hungarian Academy of Sciences, , 178.
[15].   Tihanyi, L. –D.–P. (2012). Institutional Theory in International Business and Management, *Emerald Group Publishing* , 481.
[16].   Wilks, S. &. (1965). An analysis of variance test for normality (complete samples).  *Biometrika* , pp 591.