

SCUOLA DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE



EXECUTIVE SUMMARY OF THE THESIS

What drives entry mode switch in reshoring decisions? An empirical investigation on European relocations from first to second host country

TESI MAGISTRALE IN MANAGEMENT ENGINEERING – INGEGNERIA GESTIONALE

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ACADEMIC YEAR: 2021-2022

1. Introduction

The reshoring phenomenon is the term used to identify the process of relocation of previously offshored value chain activities (not only production but also supply), in the home country or in a further host country. Reshoring is a very recent trend, and the number of relocations is increasing more and more after years. The motivations and drivers that push towards this phenomenon are: made-in effect that guarantees the quality of the products, then automation (industry 4.0) that allows firms to decrease labor costs with increased productivity, also labor cost inflation that leads to an increases in labor costs diminishing cost advantage that drove companies to offshore, and finally, sustainability, for the significant geographic distance that imply high pollution and transportation costs.

Reshoring can be classified in two different clusters: back-reshoring, when firms choice to relocate in the home country, and relocation to third country, when the firms' choice is not the home country.

This master thesis wants to study the reshoring phenomenon, particularly in the case of relocation to second host country, related with the firms' entry mode choice.

In all the dissertation, the term first host country identifies the offshoring country, while second host country defines the country in which the company relocates after the offshoring. In this dissertation, entry modes are classified in two clusters: equity entry modes, to which belongs those modalities that require greater investment and degree of ownership (wholly owned subsidiaries); and non-equity entry modes that are transactions where market the resource commitment of the investments is lower with respect to the previous category (agency, licensing, franchising).

2. Hypothesis development

The review of the extant literature concerning Relocations of Second Degree, highlights a gap in research regarding Relocation to Second Host country. In this dissertation we will focus on this topic. In particular, we will investigate the entry mode in terms of switch (from non-equity to equity or from equity to non-equity), or keep (from nonequity to non-equity or from equity to equity), between first host country and second host country, when "first host country indicates the offshoring destination and "second host country" represents the destination of relocation.

The Extended Transaction Cost theory developed by Brouthers (2002) and the Uppsala Internationalization model (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977) serve as the research's primary conceptual underpinnings.

Brouthers' work from 2002 was chosen because it combines traditional theories of the entry mode i.e., TCT, Eclectic OLI framework, Institutional Theory) in the Extended Transaction Cost theory, in order to take into consideration the most relevant aspects identified and tested in prior research on international entry mode choices. The framework is, however, originally developed to describe offshoring entry mode choices. Therefore, it will be adapted in the dissertation to fit the phenomenon of Relocations to Second Host Country.

Indeed, The Uppsala Internationalization model will also be added to the Extended Transaction Cost approach to take in count that Relocations to Second Host Country are a part of a multi-stage internationalization process; thus, they follow result prior offshoring decisions.

As a result, the hypothesis of this dissertation will be progressively defined following Brouthers division of his theory (TCT elements, Institutional theory extension and Cultural context integration) and the final addition of the Uppsala internationalization model. Since the entry mode chosen for the offshoring event is given, each hypothesis will be distinguished between initial equity or non-equity mode of entry.

For what concerns the application of Brouthers (2002) transaction cost approach, the hypotheses suggested are:

Hypothesis 1.1: Firms that adopted a non-equity entry mode in the first host country, are more likely to switch to equity modes of entry in the second host country in case of high asset specificity, while they are more likely to keep non-equity modes of entry in the second host country if their asset specificity is high.

Hypothesis 1.2: Firms that adopted an equity entry mode in the first host country are more likely to keep an equity mode of entry in the second host country in case of high asset specificity, while they are more likely to switch to non-equity modes of entry in the second host country in case of low asset specificity.

The two hypotheses resulting from the relevance of institutional context on the entry mode choice are:

Hypothesis 2.1: Firms that adopted a non-equity entry mode in the first host country are more likely to switch to equity modes of entry in the second host country in case of governance performance decreases, while they are more likely to keep nonequity modes of entry in the second host country if governance performance increases.

Hypothesis 2.2: Firms that adopted an equity entry mode in the first host country are more likely to keep an equity mode of entry in the second host country in case of decreasing governance performance, while they are more likely to switch to non-equity modes of entry in the second host country in case of governance performance increases.

Regarding the application of cultural distance theory, the hypotheses developed are:

Hypothesis 3.1 Firms that adopted a non-equity entry mode in the first host country, are more likely to switch to equity modes of entry in the second host country in case of cultural distance decreases, while they are more likely to keep non-equity modes of entry in the second host country if cultural distance increases.

Hypothesis 3.2: Firms that adopted an equity entry mode in the first host country are more likely to keep an equity mode of entry in the second host country in case of cultural distance decreases, while they are more likely to switch to non-equity modes of entry in the second host country in case of cultural distance increases.

In conclusion, the last two hypotheses from the extension of the Uppsala internationalization model to the case of RSC are:

Hypothesis 4.1: Firms that adopted a non-equity entry mode in the first host country, are more likely

to switch to equity modes of entry in the second host country in case of high international experience, while they are more likely to keep nonequity modes of entry in the second host country if their international experience is low.

Hypothesis 4.2: Firms that adopted an equity entry mode in the first host country are more likely to keep an equity mode of entry in the second host country regardless of the value of international.

3. Data and methodology

The database adopted to test the hypothesis is an integration between the already existing European Restructuring Monitor (ERM) dataset and other variables useful for the purpose of the research. The other sources used for the composition of the complete database are: World Bank dataset (2019), Orbis (2022), Hofstede's website, firms' financial statements and a study from ULB university of Bruxelles.

The data coming from ERM are: company name and holding name, announcement (of reshoring) date, type of operation (if it is back reshoring or relocation intra EU), size of the firm (in function of the number of employees), country A (origin country), country B (first host country), country C (second host country), type of entry mode B and type of entry mode C (the equity modes available in the dataset are: acquisition, greenfield, greenfield and acquisition; non equity entry modes are: licensing, outsourcing and agency), and NACE code (2-digit).

The further added variable are: industry ID (1digit), Country Stability Index (CSI), Ease of Doing Business (DBI), size level, international experience variable, Hofstede's cultural distance, entry mode change dummy, Intangible assets on Total assets ratio, R&D intensity, European Union enlargement dummy, crisis 08-11 and crisis 12-15.

The model used for the econometric analysis is the Multinominal Logistic Regression, that is a statistical classification technique that extends logistic regression to issues with more than two discrete potential outcomes, or multiclass problems. The Multinominal Logit model is useful to predict the probabilities of different possible outcomes, given a set of independent variables. The independent variables are classified into three categories: dependent variable, explanatory variable, and control variable.

The dependent variable of this dissertation is "Change of entry mode typology", it describes the different cases in which companies can switch or keep the mode of entry in the second host country with respect to the entry mode in the first host country. It can assume four different values:

- a) "0" when firms switch from non-equity entry mode in the first host country to equity entry mode in the second host country
- b) "1" when firms keep equity entry mode for both first and second host country
- c) "2" when firms keep non-equity entry mode for both first and second host country
- d) "3" when firms switch from equity entry mode in the first host country to nonequity entry mode in the second host country

Explanatory variables are representative of the drivers used to identify the hypothesis to be tested in the econometric analysis. The variables selected for this category are: "Intangible assets/Total assets" and "R&D" intensity to test the hypotheses 1.1 and 1.2 (Transaction Cost Theory); " Δ Country Stability Index" and " Δ Ease of Doing Business Index" to test hypothesis 2.1 and hypothesis 2.2 (Institutional context); "Cultural distance" to test the hypotheses 3.1 and 3.2 (cultural context extension); "International experience" to test hypotheses 4.1 and 4.2 (Uppsala international model).

For what concerns control variable, they are introduced in the model to conduct a more comprehensive analysis of the drivers that impact the entry mode choice location. This type of variable represents the external contest in which companies made their decision. "Crisis 09-11", "Crisis 12-15" and "EU enlargement" are the variables chosen to describe the time contextualization. "Industry ID (1-digit)" identifies the industry of belonging of each firm.

4. Results and discussion

Focusing on the results, the first aspect to be analyzed is the robustness of the model, that is, assessing whether it is suitable, or the data used.

Number of observation	125
LR chi2 (26)	66.99
Prob > chi2	0.0000
Pseudo R2	0.4874

Table 1: results about robustness and number of observations

Table 1 above shows the number of observations and the p-value (Prob > chi2). Since the latter value is equal to 0.0000, the model fits well within the database, hence the level of robustness is acceptable (p-value < 0.0001).

The base outcome chosen in the model was the value "1" of the dependent variable, the most frequent. Hence, the following results will refer to the values "0" and "3" of the "Type of entry mode change" with respect to case "1", coherently with the output of the model from STATA. Particularly in this executive summary are shown only the statistically relevant results for both cases (p>|z| < 0.100).

In table 2 below are visible the relevant results when the dependent variable assume value "0", when firms switch type of entry mode from non-equity mode in the first host country to equity entry mode in the second host country.

0	Coefficient	P> z
Intangibles/Total assets	-16.64528	0.040
International experience	0.0071318	0.032

Table 2: statistically relevant results for case "0"

The measure of intangible assets results negatively correlated, hence when the value of the ratio "Intangible assets/ Total assets" increase, the probabilities to switch from a non-equity to a equity entry mode decrease. Such negative correlation may seem conflicting with the Transaction Cost theory that states that relevant specific assets need to be protected through hierarchical modes. Substantially, the apparent contradiction between the results of the analysis and the underlying theory stems not from the representativeness of the variable "Intangible assets/Total assets," which is, in fact, a reasonable measure of a company's asset specificity, but rather from the incomplete description of specific assets in TCT.

With respect to this dissertation, the negative correlation of "Intangible assets/Total assets" can not be considered a confutation of the hypothesis, since the asset specificity measured by the variable does not coincide with the one considered by TCT. Regarding the International experience, its correlation coefficient is positive, hence when this variable increases, the probabilities of switch from non-equity entry mode in first host country to equity entry mode in second host country increase. Such result verifies the applicability of the Uppsala model to the case of reshoring, and it validates the hypothesis 4.1

In table 3 below are visible the relevant results when the dependent variable assume value "3", hence when firms switch the entry mode type from equity entry mode in the first host country to nonequity entry mode in the second host country.

3	Coefficient	P > z
ΔCSI	-2.084535	0.051
R&D intensity	-1.701795	0.077

Table 3: statistically relevant result for case "3"

Regarding Δ CSI, the correlation coefficient is negative, hence when firms chose a second host country with a higher governance performance, the probabilities of switching from equity entry mode to non-equity entry mode are low. This result conflicts with the Extended Transaction Cost Theory, for which a relocation to a second host country with higher governance performance implies keeping equity entry mode. This conflict is justified by the Managerial Theory perspective regarding institutional context. Indeed, according to such theory, the higher the governance performance, the higher the institutional stability, that implies low uncertainty. Such conditions constitute a safer environment for investments, with higher probability of success. Hence, an increase in governance performance means that it is less risky to engage in higher resource commitment investments (equity entry mode), coherently with the negative correlation observed in the result.

For what concerns R&D intensity. the correlation coefficient results negative, hence when the value of the indicator increases, the probabilities of switching from equity entry mode to non-equity entry mode is low. Since R&D intensity is representative of the asset specificity dimension, such result is coherent with the traditional Transaction Cost theory and verifies hypothesis 1.2.

5. Conclusions

The conclusions of this dissertation evaluate the suitability of the theoretical approach to the scope of the dissertation. The hypothesis verified in this dissertation are: Hp 1.2 regarding assets specificity of Transaction Cost theory, and both 4.1 and 4.2 concerning the Uppsala Internationalization model. Then, the only confuted Hypothesis is the number 2.2 regarding the institutional context of the Extended Transaction Cost theory. All the other hypotheses are not addressed by this research.

The fit between the model and the empirical evidence is mixed. On one hand Uppsala Internationalization model and the Transaction Cost theory (in the dimension of asset specificity) are suitable to explain the entry mode choice of the firms in terms of keeping or switching between first host country and second host country. The econometric analysis supports that companies learn from their international experience and the switch from non-equity entry mode to equity entry mode is justified by the increasing of experience. For what concerns the asset specificity, firms tend to avoid the costs coming from the protection of highly specific assets through non-equity entry mode.

On the other hand, regarding the Institutional extension of the Transaction Cost theory, the result of the analysis is justified by the managerial theory and the impact of the country stability on managers' choices.

In conclusion, it is reasonable to state that multi theory approach is suitable to explain the entry mode changes in case of relocation to second host country, particularly the model suggested from the results of this dissertation is the combination of the Transaction Cost theory, the Managerial theory and the Uppsala Internationalization model.

6. Essential bibliography

Barbieri, Paolo, Francesco Ciabuschi, Luciano Fratocchi, and Matteo Vignoli. 2018. 'What Do We Know about Manufacturing Reshoring?' *Journal of Global Operations and Strategic Sourcing* 11 (1): 79–122. <u>https://doi.org/10.1108/JGOSS-02-2017-0004</u>.

Barbieri, Paolo, Stefano Elia, Luciano Fratocchi, and Ruggero Golini. 2019. 'Relocation of Second Degree: Moving towards a New Place or Returning Home?' *Journal of Purchasing and Supply Management* 25 (3): 100525. https://doi.org/10.1016/j.pursup.2018.12.003.

Brouthers, Keith D. 2002. 'Institutional, Cultural and Transaction Cost Influences on Entry Mode Choice and Performance'. *JOURNAL OF INTERNATIONAL BUSINESS STUDIES*, 20.

Dunning, John H. 1980. 'Toward an Eclectic Theory of International Production: Some Empirical Tests'. *Journal of International Business Studies* 11 (1): 9–31. https://doi.org/10.1057/palgrave.jibs.8490593.

Dunning, John H. 1988. 'The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions', 32.

Fratocchi, Luciano, Alessandro Ancarani, Paolo Barbieri, Carmela Di Mauro, Guido Nassimbeni, Marco Sartor, Matteo Vignoli, and Andrea Zanoni. 2016. 'Motivations of Manufacturing Reshoring: An Interpretative Framework'. *International Journal of Physical Distribution & Logistics Management* 46 (2): 98–127. <u>https://doi.org/10.1108/IJPDLM-06-</u> 2014-0131.

Fratocchi, Luciano, Carmela Di Mauro, Paolo Barbieri, Guido Nassimbeni, and Andrea Zanoni. 2014a. 'When Manufacturing Moves Back: Concepts and Questions'. *Journal of Purchasing and Supply Management* 20 (1): 54–59. https://doi.org/10.1016/j.pursup.2014.01.004.

Johanson, Jan, and Vahlne. 1977. 'The Internationalization Process Of The Firm-A Model Of Knowledge Development And Increasing Foreign Market Commitments', 10.

Johanson, Jan, and Finn Wiedersheim-Paul. 1975. 'The Internationalization Of The Firm — Four Swedish Cases', 20.

Williamson, O. E. 1975. 'Markets and Hierarchies'.

In Strategy Critical Perspectives on Business and Management. New York, NY: D. Faulkner.

——. 1985. 'The Economic Institutions of Capitalism.' *Free Press*, 1985.

7. Acknowledgements

First of all, we would like to thank Professor Stefano Elia, the supervisor of this dissertation, who first of all proposed us the topic of Reshoring, which we found very interesting; moreover, during the whole period of writing, he was able to guide us in the right direction, not only for the support he provided, but also for the helpfulness, patience and precision he showed us.

An additional thank you is for the assistant professor Cristina Di Stefano who gave us numerous suggestions and helped us carry out the analysis

Finally, a special thanks also to the Politecnico di Milano, which trained us, taught us a lot, and will always remain a point of reference for us.