



HAL
open science

The choice between joint ventures and non equity-alliances: evidence from Italian firms

Antonio Majocchi, Ulrike Mayrhofer, Joaquin Camps

► **To cite this version:**

Antonio Majocchi, Ulrike Mayrhofer, Joaquin Camps. The choice between joint ventures and non equity-alliances: evidence from Italian firms. 36th Annual EIBA (European International Business Academy) Conference, Dec 2010, Portugal. 23 p. <halshs-00690216>

HAL Id: halshs-00690216

<https://shs.hal.science/halshs-00690216v1>

Submitted on 22 Apr 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization

The choice between joint ventures and non equity-alliances: evidence from Italian firms

Antonio Majocchi, Ulrike Mayrhofer and Joaquin Camps

A. Majocchi, Dept. Ricerche aziendali “R. Argenziano”, Faculty of Economics, University of Pavia, via S. Felice, 5 – 27100, Pavia, Italy

Corresponding author: Antonio Majocchi, Tel + 39 0382 986467, Fax + 39 0382 986228,
email: antonio.majocchi@unipv.it

Abstract: *This paper investigates the factors affecting the choice between joint ventures and non-equity alliances, when firms enter foreign markets. Using a database of Italian firms compiled by the authors with 879 observations, we test the possible effects of firm specific characteristics, host country institutional characteristics and cultural distance on alliance mode choice. Using both transaction cost analysis and the resource based view, our findings demonstrate the crucial role played by firm size and by institutional and political features of host countries. The results concerning the role of functional activities involved and the industrial sector are mixed. Overall, our analysis shows that it is necessary to develop a more integrated approach to understand this complex choice made by firms when expanding abroad.*

Keywords: Market entry modes, Joint ventures; Strategic alliances.

1 Introduction

In a context of globalisation of markets and competition, companies need to increase their international market presence. The choice of market entry mode is one of the most critical elements of a firm's foreign investment strategy (Root, 1994; Kumar and Subramaniam 1997; Nakos and Brouthers 2002). When conquering foreign markets, firm frequently choose to establish alliances with local companies (Dunning 1995; Guidice and Mero 2007). Firms increasingly use this entry mode choice to access market and resources worldwide. Alliances can be defined as medium and long term agreements between companies, which involve the mutual transfer of intangible resources such as technology or human skills with or without the development of a dedicated administrative structure (Pisano 1989; Oxley 1997). Once firms have decided to expand internationally with a partner, they can use either the equity form (joint ventures) or a non-equity form (non-equity alliances).

The objective of the present paper is to identify the factors that are likely to affect the choice between equity and non-equity agreements. The study empirically explores the determinants of the choice between joint ventures and non-equity agreements contributing to a field that is very important in terms of number of deals but that still requires further investigation (Globerman and Nielsen 2007). Using a database compiled by the authors for this specific purpose, covering both large and small- and medium-sized firms, we test some of the determinants affecting the alliance mode choice. The paper is organised in the following way. Firstly, the theoretical framework and the research hypotheses will be developed. Then, the research methodology will be explained, and the findings of the empirical study will be discussed. Finally, we will outline major limitations and perspectives for future research.

2 Theoretical framework

Factors affecting the choice between joint ventures and contractual agreements can be classified into three main categories: (1) country specific, (2) industry specific and (3) firm specific factors. Concerning country specific factors, previous research shows that factors such as cultural distance between the firm's home country and the host country (Leung et al. 2003; Chen and Hu 2002; Gillespie 2002), institutional aspects such as the progresses in market institution building (Meyer, 2001) or the foreign exchange rate and the host country currency characteristics (Baek and Kwok, 2002) or the level of environmental uncertainty (López-Duarte and García-Canal 2002) can play an important role. Industry specific factors such as market size, market structure, or the level of industry barriers have also proved influential (e.g. Chen and Hennart 2002; Siripaisalpipat and Hosbino 2000). Many authors have emphasised the impact of firm specific factors such firm resources and firm size (Leung et al. 2003) or the level of international experience of firms (Reuber and Fisher 2003; King and Tucci 2002) or the characteristics of CEOs (Herrmann and Datt 2002).

As far as the theoretical framework is concerned, most available studies have used Transaction Cost (TC) economics as their main theoretical framework to analyse the determinants of this strategic choice (Brouthers and Brouthers 2003). In the TC view, it is the level of uncertainty surrounding market transactions that determines the cost of this specific entry mode. TC theorists (Williamson, 1985; Gatignon and Anderson, 1988; Nakos and Brothers 2002) identify two kind of uncertainty: behavioural uncertainty and environmental uncertainty with the first referring to the risk of any opportunistic behaviours by partners and the second referring to all the risks that are generated by the entry in an unknown country. When the perceived risk associated with the new environment is considered as high, firms tend to avoid committing resources and to select non-equity entry modes.

Recently, several authors have criticised the transaction cost approach pointing to the fact that TC analysis only takes into account internal but not external resources that firms have and that can lower the transaction costs related to the entry mode choice (Thuy and Quang, 2005). This criticism suggests the adoption of complementary approaches to the entry mode dilemma such as the institutional perspective (Yiu and Makino, 2002) or the resource-based view (RBV). Tse et al. (1997) with regards to the case of investment in China have analysed the effects of country-specific, industry-specific, and operation-related factors on market entry strategy through either export or licensing or joint ventures or wholly owned-subsidaries. More specifically, their analysis shows how host and home country characteristics are important in determining entry mode decisions. With regards to the resources developed by firms Davidson (1982), and Anderson and Gatignon (1986) suggest that international experience is a resource affecting the governance of foreign transaction since firms with more international experience tend to adopt a high equity entry mode. The study conducted by Cantwell and Colombo (2000) shows that technological competencies and technological similarity between partners are variables that affect the choice between equity and non-equity agreements with close technological specialisation leading to greater likelihood of non equity arrangements. However, their analysis is limited to the information technology sector and lacks observations concerning joint ventures, thus limiting its generalisation.

Several authors have emphasised the necessity to adopt a more integrated approach when analysing the choice between equity and non-equity alliances. For example, Hill et al. (1990), and Yiu and Makino (2002) estimate that TC economics offers a useful but only partial explanation of the complex phenomenon. More specifically, the TC approach seems well suited to interpret the cost effects on firms of the alternative modes of governance but needs additional theoretical approaches to fully capture the complexity of the process. In this research, we have thus decided to adopt an integrated framework in order to study the alliance

mode choice. Combining two approaches that are frequently used in the field, that is transaction cost theory and resource based-view, we focus on a few features that are likely to affect alliance mode choice, namely industry features, activities of the value-chain involved in the agreement and characteristics of the host countries. This last point is of special interest. In recent years, a lot of effort has been made to examine the impact of specific factors on entry mode decisions and among these factors institutions attracted the most attention. Some contributions extended the Transaction Cost theory by adding institutional factors to the given framework (Brouthers 2002; Lu 2002). Others argued that institutions modify the uncertainty surrounding transactions (Said and McDonald 2002; Meyer 1998). We develop this analysis adding some specific variables to the effect of cultural distance. The specific variables introduced in our model test the effects of aspects that may affect alliance mode choice, but that have not been widely investigated. These effects refer to variables developed in order to measure the level of legal rights protection and the level of political risk surrounding foreign investments in a country. We first consider several variables proposed by the TC approach and then we also take into account variables suggested by the RBV.

In the transaction cost approach, the role of intangible assets is considered as crucial in driving firms towards a more hierarchical mode of governance. For example, Gatignon and Anderson (1988) and Hennart and Larimo (1998) find a positive relationship between R&D intensity and the probability of creating a wholly owned subsidiary rather than a JV. Brouthers (2002) underlines how the firms operating in high-technology sectors tend to have a higher assets specificity of their investments that leads to higher risk of opportunistic behaviours by partners. Therefore, he suggests that TC theory supports the view that more integrated modes provide more efficient organisational structures when there is a threat from opportunism. We can thus consider that, when firms exchange knowledge, a highly specific

asset with a high degree of uncertainty, more integrated forms are preferred. This tendency should be stronger in industries where research input is an essential part of the production chain and an essential factor in developing a competitive advantage, as it is the case in science-based sectors. Therefore we can propose the two following hypotheses:

H1: *Firms that form agreements involving R&D functions tend to chose joint ventures rather than non-equity alliances.*

H2: *In science based industries, firms are more likely to choose joint ventures rather than non-equity alliances.*

Recent IB literature relying on the works by North (1990) underlines the role that institutional features have on corporate strategies. Brouthers *et al.* (2002) and Meyer (1998) demonstrate how institutional characteristics of the host country can impact investment strategies affecting the uncertainty involving foreign transactions. More specifically, Brouthers (2002) shows that the legal framework can play an important role. Countries where the legal structure is less developed and where legal protection for foreign entities is low are perceived as more risky by foreign firms. Joint ventures, when associating local partners, allow foreign investors to hedge against the political risk of government intervention (Chen and Hennart 2004; Lòpez-Duarte and Vidal-Suàrez 2008). When entering foreign markets, the legal restrictions and the political hazard are considered as sources of risk and this risk can be better hedged with the presence of a local partner. Consequently, a high level of risk in the host country favours a less hierarchical entry mode. However, this conclusion does not hold in the same way when firms evaluate the possibility to enter the market either with an alliance or with a JV. In this case, the choice to have a partner in the host country has already been made and the firms must evaluate whether to enter the market with an equity stake (JV) or with a non equity

agreement. Here, the low level of legal protection and the high level of political hazard are sources of risk that increase the transaction costs of the agreements (both equity and non equity). In this case, according to TC theory, a more hierarchical form of agreement will be preferred thus favouring JV agreements rather than non equity entry modes. Moreover, the JV alternative is seen as a stake in a local concern and the presence of a joint investment with a local partner is seen as an insurance against possible retaliation by the foreign government. We thus suggest two hypotheses on the effects of the legal and political environment on alliance mode choice:

***H3a** The lower the legal protection in a country, as measured by the efficiency of contract enforcement, the more likely it will be that firms choose joint ventures rather than non-equity-alliances.*

***H3b** The higher the political hazard in a country, the more likely the probability that firms choose a joint venture rather than a non-equity alliance.*

Despite the increasing globalisation of markets, distance still influences internationalisation strategies. More specifically, cultural distance plays an important role when firms decide to enter new markets (Erramilli and Rao 1993; Hennart and Larimo 1998). Kogut and Singh (1988) argue that differences in culture between home and host countries increase the level of risk in integration processes, and thus lead firms to choose less risky agreements. More generally speaking, the more distant the culture between home and host countries, the more difficult and expensive is the process of adaptation to the new environment for the firm. The lack of knowledge increases the cost and the risk of the market entry so most of the scholars assume that the larger the cultural distance the lower the preference for internal modes of

entry. Therefore, we assume that firms prefer to enter distant markets with a non-equity alliance in order to gain knowledge and we posit that:

***H4:** The higher the cultural distance between the home and the host country, the more likely firms will choose non-equity alliances rather than joint ventures.*

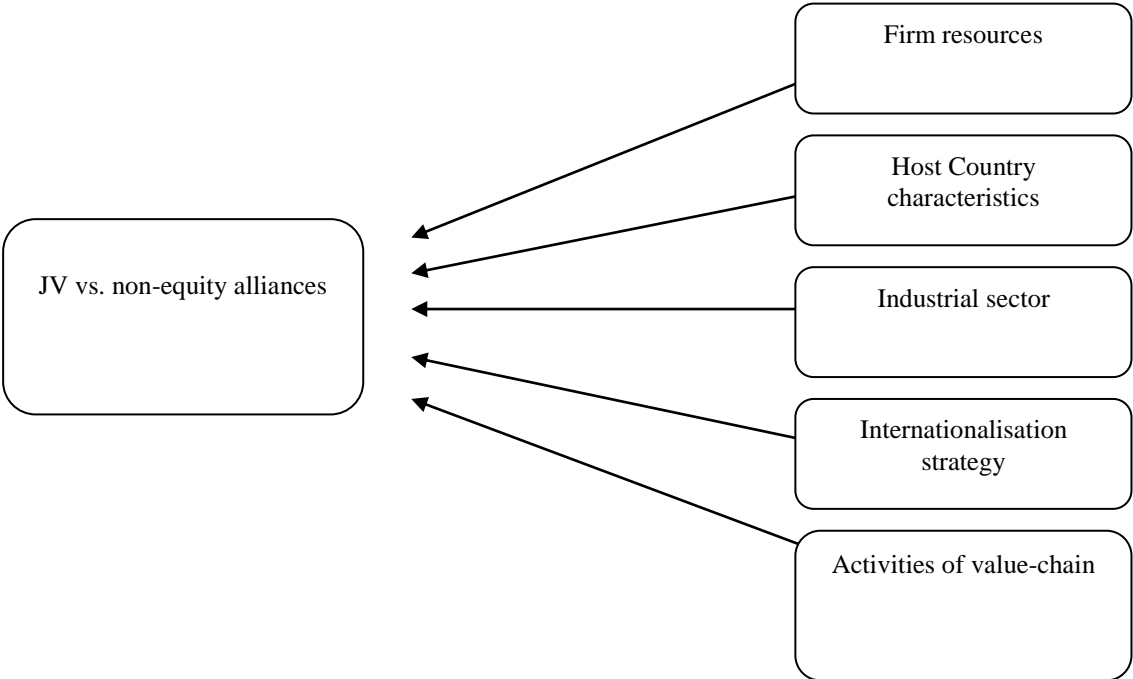
Recently, several scholars used the resources-based view to interpret entry mode choice (Ekeledo and Sivakumar 2004). The two views are not necessarily conflicting as TC focuses mainly on the cost of governing foreign transaction while RBV underlines how foreign entry is a means to increase firm resource endowments (Meyer et al. 2009b). More generally, the RBV underlines how firms choose their entry mode in foreign markets on the basis of both the existing resources they control and on the basis of the ones they would like to have access to. As argued by Grant (1991), firm size defines the scope of its own resources and what a particular firm can and cannot do. It thus reflects available resources. In fact, larger firms, which have more resources in terms of managerial and organizational knowledge, will tend to look more for complementary resources and less for new knowledge. This will lead large firms to prefer equity forms. Conversely, small firms, being limited in the resources that they control, will prefer non equity arrangements. Consequently we posit our last hypothesis:

***H5** When small firms are involved, it is more likely that they will choose a non-equity alliance rather than a JV.*

Figure 1 presents the conceptual framework of our research. The model illustrates the possible effects of five variables on alliance mode choice: firm resources proxied by firm size, host country institutional characteristics, the industrial sector of the agreement, the

internationalisation strategy of the firm and the activities of the value chain concerned by the agreement.

Figure 1 Factors affecting alliance mode choice



3 Methodology and definition of variables

3.1 The sample

The empirical investigation is based on a sample of 879 interfirm agreements concluded by Italian firms with partners from all over the world. The observation period extends from 2000 to 2006. The database, compiled by the authors, covers announced agreements reported in “Il Sole 24 Ore”, the main Italian economic newspaper. The collected information has been verified through web sources and press releases regarding the firms involved in the agreements. Data extracted from the press has frequently been used to identify cooperative alliances (Mayrhofer 2004). In our database the percentage of joint ventures is 54%. The geographic origin of partner companies is mainly Europe (42%), followed by the United States and Canada (20.9%), and China (12%). The industry distribution of the sample is fairly

representative of the Italian industrial and service structure. Firms operating in the traditional sectors cover 11% of the sample, scale-intensive firms are 34 %, the energy and utility sectors cover 9%, the trade sector 7% and the residual sector (mainly financial and telecommunication industries) represents 28% of the total sample.

3.2 The variables

The variables that have been extracted and used in the model are reported in table 1. The dependent variable is the contractual form of the agreement which has been coded 1 if the agreement takes the form of a joint venture and 0 if the agreement is a non-equity alliance. The variables used in the model concern the following categories: the geographical scope of the agreement, the country characteristics of the host country, the size and the industrial sector of the Italian firms and two other firm characteristics namely: the international strategy of the firm and the main functional activity concerned by the agreement.

Table 1: variable definition

Construct	Variable definition and scale	Hypothesis (expected sign)	Variable Name
Contractual form	JV =1 - Alliance = 0		
Nace Sector Code (Pavitt classification) <i>Dummy variable</i>	<ol style="list-style-type: none"> 1. Primary activity 2. Traditional sector 3. Scale-intensive sector 4. Specialized suppliers 5. Science-based sectors 6. Energy sector , gas and water 7. Wholesale trade and retail trade 8. Financial activity communication & other services 	H1 (-)	<i>S_primary 1</i> <i>S_trad 2</i> <i>S_scale 3</i> <i>S_spec 4</i> <i>S_science 5</i> <i>S-enregy 6</i> <i>S-trade 7</i> <i>S_othersr 8</i>
Value chain activities involved in the agreement/JV <i>Dummy variable</i>	<i>Dummy variable:</i> <ol style="list-style-type: none"> 1. Infrastructure 2. R&D 3. Procurement 4. Logistic 5. Human resource Management 6. Production 7. Marketing and Sales 	H2 (-)	<i>Infras</i> <i>R&D</i> <i>Proc</i> <i>Logistic</i> <i>HR</i> <i>Prod</i> <i>Mkting</i>
Enforcing contracts	From - ∞ to = 0, with 0 = highest level of legal protection	H3a (-)	<i>Enfcon</i>
Political constraints	From 0 to 100 with 100 = low political hazard	-H3b (-)	<i>Costri</i>
Cultural distance	Kogut & Singh index. The index has been adapted to Italy and is represented algebraically as: $CDj = \sum_{i=1}^4 [(I_{ij} - I_{iu})^2 / V_i] / 4$ where <i>CDj</i> is the cultural difference of the <i>j</i> th country from Italy, <i>I_{ij}</i> represents the index of the <i>i</i> th cultural dimension and the <i>j</i> th country, <i>u</i> stands for Italy and <i>V_i</i> is the variance of the index of the <i>i</i> th dimension.	H4 (-)	<i>Cult_dist</i>
Size of enterprise <i>Dummy variable</i>	<49 employees 49-499 employees >500 employees	H5 (-)	<i>Small</i> <i>Medium</i> <i>Large</i>
Control Variables			
Credit rating	1-100 (100= high rating grade), OECD data		<i>Rating</i>
Investor protection index	0-10 (10=high investor protection) (World Bank, doing business with database)		<i>Invpro</i>
Global competitiveness index	1-10 with 10 = high global competitiveness (World Economic forum)		<i>Compet</i>
Firm strategies <i>Dummy variable</i>	Risk reduction Economies of scale and or rationalization Complementary technologies and patent Co-opting or blocking competition Overcoming government-mandated investment or trade barrier Initial international expansion Quasi-vertical integration		<i>Risk</i> <i>Scale</i> <i>Compl-tech</i> <i>Comp</i> <i>Barriers</i> <i>Int exp</i> <i>QV-intergr</i>
Area destination <i>Dummy variable</i>	<ol style="list-style-type: none"> 1. Western Europe (EU-15 + Switzerland) 2. East Europe (rest of Europe) 3. Russia 4. United States and Canada 5. Latin America 6. Japan 7. Cina 8. India 9. Rest of Asia 10. Other countries 		<i>Area 1</i> <i>Area 2</i> <i>Area 3</i> <i>Area 4</i> <i>Area 5</i> <i>Area 6</i> <i>Area 7</i> <i>Area 8</i> <i>Area 9</i> <i>Area 10</i>

The functional content of an alliance represents the activities of the value chain that are primarily concerned by the agreement. The activities that have been coded using a dummy

variable are: Logistics (*Logistic*), Operations (*Prod.*), Sales and marketing (*Mkting*) with regards to the primary activities. The support activities are: Procurement (*Proc*) Human Resource management (*HR*) Research and Development (R&D) and Infrastructure (*Infras*) i.e. the functions of departments such as accounting, legal, finance, planning, public affairs, government relations, quality assurance and general management. The variable sector (*Sector*) defines the main industry sector of the firm promoting the agreement. In order to code the industry, we use the NACE nomenclature of economic activities provided by the European Commission. Using the well-known Pavitt (1985) taxonomy the NACE codes have been recoded. We end up with a total of 8 industrial sector dummy variables: the *primary sector*, the four Pavitt sectors (*traditional, scale-intensive, specialised suppliers and science-based sectors*), the *utilities sector* (energy gas and water), the *trade sectors* and a *residual sector*. With regards to the institutional characteristics of the host country we have taken different variables into account. The first variable measures the degree of protection of contracts in a country (*Enfcon*). We use an index produced by the World Bank, the *Enforcing contracts index*, that measures the efficiency of the legal system in resolving commercial disputes in a country averaging three main indicators: the number of procedures from the moment the plaintiff files a lawsuit in court until the moment of payment, the time in days to resolve the dispute, and cost in court fees and attorney fees. The index measures the efficiency of contract enforcement. In the model, the index has been inserted with a negative sign so that lower values of the index correspond to lower values of legal protection and efficiency in contract enforcement. The level of political risk in the country has been measured using the political constraints index (*Costri*) developed by Henisz (2000). The index underlines the differences between policy systems of different countries measuring the extent to which a given political actor is constrained in his or her choice of future policies. We have scaled the index on a 100 basis so the possible scores for the final measure of political constraints range from zero for

the most hazardous countries to 100 for the safest. It must be noted that, since the measure of political risk we have used assigns a lower value to the most risky countries, we predict a negative relationship between the political risk variable and the entry mode choice: riskier countries with a lower value of political constraint index will attract, *ceteris paribus*, more JV than non-equity agreements. The index has been calculated as the average of the values of the index over the last five years. The cultural distance measure relies on the usual Hofstede (1980) index. However, because most of the studies (Barkema et al. 1996) use a composite index we also follow this approach. More specifically, our variables measuring cultural distance (*Cult_dist*) have been constructed on the basis of the Kogut and Singh (1988) index, a composite index of cultural distance that is based on the deviation along the first four dimensions of Hofstede's framework and that has been extensively used in the study of foreign market entry (Morosini *et al.*, 1998). Following similar empirical studies (Majocchi et al. 2005), we proxy the firm resources with the firm size at the time of the agreement. Using the numbers of employees, three classes can be defined: *small*, *medium* and *large* firms. The smaller group is made up of firms with less than 50 employees, the medium firms have a number of employees between 50 and 499 and large firms are those with more than 500 employees.

As usual in empirical work, a series of control variables have been introduced. A first dummy variable identifies the country of destination in order to catch all the potential host country effects not defined in our previous variables. We defined 10 regions as reported in table 1. Then we insert an index measuring the level of Investor protection (*Invpro*). This index is computed by the World Bank and measures the strength of minority shareholder protections. The index ranges from 0 to 10, with higher values indicating more investor protection. Moreover, in order to identify potential effects caused by different strategies we identify the motives behind alliance decisions. This variable has been defined according to the firm goals

as stated in the press reports or in the press releases regarding the agreements. In order to classify the internationalisation strategy we use the taxonomy proposed by Contractor and Lorange (1988). In their landmark work on alliances, they underline the strategic reasons behind the choice to develop alliances. According to this taxonomy, each agreement can be classified in one of the following cases using dummy variables:

- Risk reduction (*Risk*) i.e. product portfolio diversification; dispersion of fixed cost, etc.
- Economies of scale and or rationalization (*Scale*) i.e. lower cost by using the comparative advantage of each partner, etc.
- Overcoming government-mandated investment or trade barriers (*barriers*); i.e. to operate as a “local” entity because of local partner, etc.
- Co-opting or blocking competition (*Comp*); i.e. defensive joint ventures to reduce competition or offensive joint ventures to increase costs and/or lower market share for a third company, etc.
- International expansion (*Int exp*); i.e. benefiting from local partner’s know-how, etc.
- Complementary technologies and patent (*Compl-tech*); i.e technological synergy or exchange of patents and territories, etc.
- Vertical quasi-integration (*QV integration*); i.e access to technology, labour capital or to distribution channels, etc.

Finally, two other indexes have been inserted as control variables in order to measure the overall risk of the host countries: one that measures the economic development of the country and one that measures the level of solvency of public finances. The first index the *Global Competitiveness* index (*Compet*) produced by the World Economic Forum considers a collection of factors, policies and institutions which determine the level of productivity of a country and that, therefore, determine the level of prosperity that can be achieved by an

economy. The index ranges from 0 to 100 with the higher values corresponding to higher levels of competitiveness. The second index is an index of financial stability (*Rating*) and it has been taken by OECD. The index is a financial indicator to potential investors of debt securities issued by the State. In the context of our analysis it is another measurement for the overall financial and economic risk affecting the target country. The variable ranges from 0 to 100; the higher the rate the better the state of public finances and the lower the overall risk in investing in the country.

3.3 The Model

We test our hypothesis using logistic regression techniques, the standard logit procedures of the Intercooled Stata 9 package. Logistic regression is used in order to estimate the incidence of the independent variables on the probability that firms will choose either a non-equity alliance or a joint venture. Since the variable “agreement” takes the value 0, if partners decide to collaborate on a non-equity basis, and 1, if the operation takes the form of joint venture. A positive sign of the coefficients indicates that an increase in the value of the independent variable will increase the probability that the firm will choose a joint venture rather than a non-equity agreement. As usual for group variables, a variable has been dropped in order to avoid the dummy variable trap (perfect multicollinearity). The sign of the coefficients for these variables should be interpreted with regards to the variable that has been dropped and that acts as a reference variable (Greene 2003). The descriptive statistics and the correlation coefficients of the variables (dummy variables excluded) are reported in table 2. Data show that, given the low value of the correlation coefficients, multicollinearity is not a concern for this analysis.

Table 2. Descriptive statistics and correlation table
(dummy variables excluded)

	<i>Mean</i>	<i>Std. D.</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>cult_dist</i> (1)	1.28	.989	1					
<i>Costr</i> (2)	39.37	14.61	-0.651 *	1				
<i>Compet</i> (3)	50.77	6.67	-0.624 *	0.544 *	1			
<i>Rating</i> (4)	94.30	11.81	-0.339 *	0.314 *	0.644 *	1		
<i>Invpro</i> (5)	6.018	1.61	-0.242 *	0.047	0.396 *	0.238 *	1	
<i>Enfcon</i> (6)	368.66	220.80	0.001	0.128 *	-0.310 *	-0.487 *	-0.181 *	1

* = significant at the 0.01

The results reported in table 3 are those of the general model (model 1) where the coefficients of the country variable have not been reported for reasons of simplicity (they are not statistically significant). The second model (model 2) is the restricted model where, due to the low significance of the coefficients, country ratings and the dummies on the geographical areas have been dropped. A likelihood ratio test comparing these two models confirms that the reduced model is as relevant as the full model. Overall, the model performs reasonably well with significant value of the Chi-square and of the area under the ROC curve and with a satisfactory percentage of correctly predicted observations. The low value of the pseudo R-square is not fully satisfactory but it must be noted that the pseudo-R² is not analogous to the R² in linear regression though there is an empirical relationship between the two, and a pseudo-R² of 0.2 represents an R² of approximately 0.4 (Hensher et al. 2005). The main results are reported in the following table.

Table 3 : Logistic regression results:

	Variable name	Model 1	Model 2
<i>Function mainly involved in the agreem.</i>	<i>Infras</i>	.1472 (.1776)	.1648 (.1756)
	<i>R&D</i>	-.4986** (.2175)	-.5039** (.2163)
	<i>Proc</i>	-.0690 (.2962)	-.1021 (.2913)
	<i>Logistic</i>	-.2271 (.2598)	-.2386 (.2559)
	<i>Prod</i>	.9215*** (.2047)	.9487*** (.2022)
	<i>Mkting</i>	-.3879** (.1748)	-.3554** (.1722)
	<i>Industry sector</i>	<i>S_primary</i>	1.263** (.6268)
<i>S_trad 2</i>		.2725 (.2967)	.2547 (.2942)
<i>S_Scale 3</i>		0.324 (.2365)	.0550 (.2307)
<i>S_Spec 4</i>		.2817 (.3272)	.3040 (.3201)
<i>S_Science 5</i>		1.234** (.5559)	1.265** (.5519)
<i>S_energy 6</i>		.3828 (.3010)	.3702 (.2953)
<i>S_trade 7</i>		-.2009 (.3057)	-.1822 (.3025)
<i>Size</i>	<i>Invpro</i>	-.1110 (.0821)	-.0949* (.0513)
	<i>Enfcon</i>	-.0004 (.0007)	-.0008** (.0004)
	<i>Costr</i>	-.0130 (.0132)	-.0139* (.0077)
	<i>Cult-dist</i>	-.1901 (.1330)	-.2038* (.1132)
	<i>Small</i>	-.6418 (.4704)	-.6100 (.4642)
	<i>Medium</i>	-.5298*** (.2012)	-.5156*** (.1990)
	<i>Information strategy</i>	<i>Compet</i>	-.0529** (.0253)
<i>Rating</i>		.0084 (.0143)	-
<i>Risk</i>		-.1305 (.2027)	-.1491 (.2006)
<i>Scale</i>		-.1588 (.2103)	-.1813 (.2065)
<i>Compl-tech</i>		-.1532 (.1900)	-.1539 (.1877)
<i>Comp</i>		-.1310 (.1750)	-.1206 (.1723)
<i>Barriers</i>		-.3119 (.2989)	-.2107 (.2747)
<i>Int exp</i>		.3770** (.1691)	.3915** (.1658)
	Log-likelihood;	-540.04403	-543.50815
	Chi-square (36, 26)	132.72	125.80
	Pseudo-R ²	0.1094	0.1037
	Correctly classified	65.64%	64.62%
	Area under ROC curve =	0.7124	0.7061

Notes: (1) The sample consists of 879 observations; (2) For model 1 estimation results for the geographical area dummies are not reported in the table for the sake of simplicity. None of the variables not reported are statistically significant (3) Standard errors are in brackets. The symbol * denotes that the coefficient is significant at the 10% level, ** 5% level and *** at a 1% level

4 Results and Discussion

Since the results are robust for both models, we refer our analysis only to the more restricted model. The results of the logistic regression analysis provide support for some of our hypotheses but not for all of them.

Hypothesis 1 is not supported by the results of the statistical analysis. The coefficient for the dummy variable R&D is significant, but has a negative sign and not, as expected, a positive sign. When the R&D function is concerned, firms prefer to use non-equity alliances rather than joint ventures. We developed hypothesis 1 on the basis of Transaction cost theory considerations. The result of our analysis seems to challenge this view. Our results show that uncertainty and the risk of opportunistic behavior can be dealt with by a firm, even with less integrated forms that, at the same time, guarantee speed of execution and low costs of bargaining. Unfortunately, due to lack of data, we could not consider the kind of knowledge that is transferred through the JV or the agreement. Both Meyer et al. (2009a) and Lòpez-Duarte and García-Canal (2002) underline how it is the kind of knowledge sought by a firm that affects the market entry choice.

Hypothesis 2 predicting that, in science sectors, firms tend to prefer joint ventures appears to be confirmed. Our analysis supports the transaction cost view that asset specificity has a positive impact on the choice between hierarchical (equity) and non hierarchical modes of governance. From this point of view, our results confirm previous findings (Hennart and Larimo 1998; Brouthers 2002) in the new context that we have analysed.

The same applies to the hypothesis that concerns the level of legal protection and political hazard in the target country. Hypothesis 3a and 3b jointly state that, when the legal protection in a country is low and political hazard is high, firms prefer to set up a joint venture with a local partner in order to have some kind of hedging against political risk. This result is statistically significant (even if only in the restricted model) and confirms previous results

(Delios and Henisz 2003) regarding the role that the legal and political environment plays in affecting firm entry mode choice. Our results suggest that high political risk pushes firms to enter foreign markets with an equity form (JV) rather than with a non-equity agreement.

Considering the control variables, it must be noted that, with the notable exception of the rating grade, and even if at a different level, all the indexes that define the host country characteristics are significant. This result reinforces the view that economic and political features of the host country are important.

Similarly, the hypothesis regarding the effects of cultural distance on alliance mode choice is confirmed (Hypothesis 4), even if only at the 10% level of significance.

Finally, hypothesis 5 regarding the role of size has the expected sign for both small and medium sized firms but it is significant only for the medium sized firm variable. Resources seem to be an important determinant of the choice of alliance mode. Prior research tends to concentrate only on large firms which have been the main players in the international arena. The exploration of small and medium sized firms however seems a promising line of research and we think that our results offer some useful insights in this field. Moreover, our findings provide further support for the resource-based view that is at the basis of our hypothesis and that has increasingly been used in IB research. A more integrated approach that merges TC economic with a RBV approach could be a useful starting point for research on cooperative alliances.

5. Conclusions, managerial relevance and limitations

This study is an attempt to empirically test the role of five factors on the choice between joint ventures and non-equity alliances: firm size, activities of the value-chain concerned by the agreement, industrial sector, host country institutional characteristics and cultural distance.

Our findings confirm that the factors we have explored do have, at different degrees, an effect on this alternative. We refer more specifically to the effect of country risk and legal protection on alliance mode choice. In our case the usual conclusion drawn by scholars (Contractor & Kundu, 1998), using TC economics, have been reversed. Our findings show that more hierarchical modes of entry are preferred when the level of political risk is high. This conclusion needs further empirical validation but it suggests that not all the choices in the entry mode range follow the same rationale. This result is significant both by the managerial and the theoretical point of view. For business practitioners, it means that once a firm decided to enter in a new market with a partner this choice is not only affected by efficiency considerations, as it is typically assumed in the TC approach, but also by the kind of resources available to the firm. Both TC theory and a RBV approach seem to highlight different determinants. Consequently, from the theoretical point of view, our results call for a more integrated approach that combines the strengths of both theoretical perspectives. Finally, our analysis shows that host country characteristics influence the alliance mode choice, but that institutional features are also relevant. Further development of this idea seems a very promising stream of research.

Notwithstanding these encouraging results, we are well aware that certain limitations of the study should be born in mind. The first limitation is given by the single institutional setting that we use. All the firms in our sample are Italian so we could not differentiate firms according to the country of origin. We are aware that empirical findings in management are usually context specific and that any generalisation out of the specific context is difficult. Secondly, we could not control for other factors that are important in the alliance mode selection process such as the level of international experience or the degree of internationalisation, the intangible intensity and the kind of knowledge transferred through the

agreements. Therefore, further analysis of the joint venture - non-equity alliance alternative that will include these factors would contribute to a better understanding of this choice.

References

- Anderson, E., & Gatignon, H. (1986). Modes of foreign entry: A transaction cost analysis and propositions. *Journal of International Business Studies*, 17(3): 1 - 26.
- Baek, H. Y. & Kwok, C. C. Y. (2002). Foreign exchange rates and the corporate choice of foreign entry mode. *International Review of Economics and Finance*, 11(2): 207 - 227.
- Barkema, H.G., Bell, J.H.J. & Pennings, J.M. (1996). Foreign entry, cultural barriers, and learning. *Strategic Management Journal*, 17(2), 151-166.
- Brouthers, L.E., Brouthers, K.D. & Werner, S. (2002). Perceived environmental Uncertainty, Entry Mode Choice and satisfaction with EC-MNC Performance. *British Journal of Management*, 11(3): 183-195.
- Brouthers, L.E. & Brouthers K. D. (2003). Why service and Manufacturing Entry Mode Choices Differ: The Influence of Transaction Cost Factors, Risk and Trust. *Journal of Management Studies*, 40(5): 1179-1204.
- Brouthers, K. D. (2002). Institutional culture and transaction cost influences on entry mode choice and performance. *Journal of International Business Studies*, 33(2): 203 - 221.
- Cantwell, J. & Colombo, M. (2000). Technological and output complementarities, and inter-firm cooperation in information technology ventures. *Journal of Management & Governance*, 4(1): 117-147.
- Chen, H.Y.& Hu, M.Y. (2002). An analysis of determinants of entry mode and its impact on performance. *International Business Review*, 11(2): 193 - 210.
- Chen, S.F. S., & Hennart, J. F. (2002). Japanese investors' choice of joint ventures versus wholly owned subsidiaries in the US: the role of market barriers and firm capabilities. *Journal of International Business Studies*, 33(1): 1 - 18.
- Chen, S.F.S., & Hennart, J.F. (2004). A hostage theory of joint ventures: why do Japanese investors choose partial over full acquisitions to enter the United States? *Journal of Business Research*, 57(10): 1126-1134.
- Contractor, F.J., & Lorange P. (1988). Why should firms cooperate? The strategy and economic basis for cooperative ventures. In F.J. Contractor and P. Lorange, editors, *Cooperative Strategies in International Business*. Lexington, MA: Lexington Books: 3-30.
- Contractor, F.J. & Kundu S.K. (1998). Modal Choice in a World of Alliances: Analyzing Organizational Forms in the International Hotel Sector, 29, (2): 325-357.
- Davidson, W. H. (1982). *Global Strategic Management*, New York: John Wiley and Sons.
- Delios, A., & Henisz, W. J. (2003). Political hazard, experience and sequential entry strategies: the international expansion of Japanese firms, 1980-1998, *Strategic Management Journal*, 24(11). 1153-1164.
- Dunning, J.H., (1995). Reappraising the eclectic paradigm in an age of alliance capitalism. *Journal of International Business Studies*, 26(3): 461-491.
- Ekeledo I., & Sivakumar, K.(2004). International market entry mode strategies of manufacturing firms and service firms - A resource-based perspective. *International Marketing Review*, 21(1): 68-101.
- Erramilli, M.K, & Rao, C.P.(1993). Service Firms' International Entry-Mode Choice: A Modified Transaction-Cost Analysis Approach. *The Journal of Marketing*, 57(3): 19-38.

- Gatignon, H., & Anderson, E. (1988). The multinational corporations' degree of control over foreign subsidiaries: an empirical test of a transaction cost explanation. *Journal of Law, Economics and Organization*, 4(2): 305-336.
- Gillespie, J. (2002). Transplanted company law: an ideological and cultural analysis of market entry in Vietnam. *International and Comparative Law*, 51(3): 641 - 672.
- Globerman, S., & Nielsen, B. B. (2007). Equity versus non-equity international strategic alliances involving Danish firms: An empirical investigation of the relative importance of partner and host country determinants. *Journal of International Management*, 13(4): 449-471.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, 33(3): 114-135.
- Greene, W.H. (2003). *Econometric analysis*. New Jersey: Prentice Hall.
- Guidice, R.M., & Mero, N. (2007). Governing joint venture: tension among principals' dominant logic on human motivation and behaviour. *Journal of Management and Governance*, 11(3): 261-283.
- Henisz, W. J. (2000). The Institutional Environment for Economic Growth. *Economics and Politics*, 12(1): 1-31.
- Hennart, J.F., & Larimo, J. (1998). The Impact of Culture on the Strategy of Multinational Enterprises: Does National Origin Affect Ownership Decisions? *Journal of International Business Studies*, 29(3): 515-538.
- Hensher, D.A., Rose, J.M., & Greene, W.H. (2005). *Applied choice analysis: a primer*. Cambridge, Cambridge University Press.
- Herrmann, P., & Datt, D. K. (2002). CEO successor characteristics and the choice of foreign market entry mode: an empirical study. *Journal of International Business Studies*, 33 (3): 551 - 569.
- Hill, C. W. L., Hwang, P. & Chan, K.W. (1990). An eclectic theory of the choice of international entry mode. *Strategic Management Journal*, 11(2): 117 - 128.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. California, Sage Publications.
- King, A., & Tucci, C.L. (2002). Incumbent entry into new market Niches: the role of experience and managerial choice in the creation of dynamic capabilities. *Management Science*, 48 (2): 171 - 186.
- Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19(3): 411-432.
- Kumar, V., & Subramaniam, V. (1997). A contingency framework for the mode of entry decision. *Journal of World Business*, 32 (1): 53 - 72.
- Leung, M. K., Rigby, D., & Young, T. (2003). Entry of foreign banks in the people's republic of China: a survival analysis. *Applied Economics*, 35(1): 21 - 31.
- López-Duarte C & García-Canal, E. (2002). The effect of firm and host country characteristics on the choice of entry mode: empirical evidence from Spanish firms. *Journal of Management and Governance*, 6(2): 153 - 168.
- López-Duarte C., & Vidal-Suàrez, M.M. (2008). Foreign direct investment through partial acquisitions: hostage effect or conflicts enhancement. *Journal of Management and Governance*, 12(3): 287-308.
- Lu, J. W. (2002). Intra- and inter-organizational imitative behaviour: institutional influences on Japanese Firms' Entry Mode Choice. *Journal of International Business Studies*, 33(1): 19 - 37.
- Majocchi, A., Mayrhofer U. & Bacchiocchi, E. (2005). Firm size, business experience and export intensity in SMEs: a longitudinal approach to complex relationship. *International Business Review*, 14 (6): 719-738.

- Mayrhofer, U. (2004). The influence of national origin and uncertainty on the choice between cooperation and merger-acquisition: an analysis of French and German firms. *International Business Review*, 13(1): 83-100.
- Meyer, K. E. (1998). *Direct investment in economies in transition*. Uk, Usa. Edward Elgar Publishing, Inc.
- Meyer K. E., Estrin, S., Bhaumik, SK., & Peng, MW. (2009a). Institutions, resources and entry strategies in emerging economies. *Strategic Management Journal*, (30)1,: 61-80.
- Meyer, K. E., Wright, M., & Pruthi, S. (2009b), Managing Knowledge in Foreign Entry Strategies: A Resource-Based Analysis. *Strategic Management Journal*, 30(5): 557-574.
- Morosini, P., Scott, S., & Singh, A.. (1998). National Cultural Distance and Cross-Border Acquisition Performance. *Journal of International Business Studies*, 29(1): 137-158.
- Nakos, G., & Brourthers, K.D. (2002). Entry mode choice of SMEs in Central and Eastern Europe. *Entrepreneurship Theory and Practice*, 27 (1): 47 - 64.
- North D.C. (1990). *Institutions, Institutional Change and Economic Performance*, Cambridge, Cambridge University Press
- Oxley, J.E. (1997). Appropriability hazards and governance in strategic alliances: a transaction cost approach. *Journal of Law, Economics and Organization*, 13 (3): 387–409.
- Pavitt, K.(1985), *Technology transfer among the industrially advanced countries: in overview*. In Rosemberg, N. And Frischtak, C., International technology transfer: concepts, measures, and comparisons, New York, Praeger: 3-23.
- Pisano, G.P.(1989). Using equity participation to support exchange: Evidence from the biotechnology industry. *Journal of Law, Economics and Organization*, 5 (1): 109–126.
- Reuber, A. R., & Fisher, E. (2003). Targeting exports support to SMEs: owners' international experience as a segmentation basis. *Small Business Economics*, 20 (1): 69 - 82.
- Root, F. R. (1994). *Entry Strategies for International Markets*. London: Lexington Books.
- Said, H. E. & McDonald, F. (2002). Institutional reform and entry mode by foreign firms: the case of Jordan. *Journal for Institutional Innovation, Development, and Transition* 6(1): 76-88.
- Siripaisalpipat, P. & Hosbino, Y. (2000). Firm specific advantages, entry modes and performance of Japanese FDI in Thailand. *Japan and the World Economy*, 12 (1): 33 - 48.
- Thuy, L.X., & Quang, T. (2005). Relation capital and performance of international joint ventures in Vietnam. *Asia Pacific Business Review*, 11(3): 389-410.
- Tse, D. K., Pan, Y.G., & Au, K.Y. (1997). How Mncs choose entry modes and form alliances: the China experience. *Journal of International Business Studies*, 28(3): 779-805.
- Yiu, D., & Makino, S. (2002). The choice between joint ventures and wholly owned subsidiary: An institutional perspective. *Organization Science*, 23(6): 519-540.