The Host-country Regulatory Institutional Environment Influence on the Entry Mode Choice: Oil and Gas Exploration and Development

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List of Abbreviations

CE – contact enforcement
IPI – Investor Protection Index (measured by The World Bank Doing Business Ranking)
CPI – Corruption Perceptions Index (measured by Transparency International)
PDI – power distance (Hofstede cultural dimension)
IDV – individualism versus collectivism (Hofstede cultural dimension)
MAS – masculinity versus femininity (Hofstede cultural dimension)
UAI – uncertainty avoidance (Hofstede cultural dimension)
LTO – long-term versus short-term orientation (Hofstede cultural dimension)
Abstract

The present research looks into relations between institutional environment and institutional arrangements and builds a more complex view on the entry mode choice. Specifically, it investigated the entry mode choices in oil and gas exploration and development activities. The probabilities of the exact operation and investment methods occurrence depending on the host-country regulatory environment factors are estimated. The research results into the development of the two-dimensional framework of the entry-mode choice which characterizes the entry mode as two simultaneous choice (operational and investment) and evaluates their dependency on the host-country regulatory environment. The study uses the unique and detail dataset from Scandinavian oil and gas companies that work with exploration and development. The analysis shows that companies tend to establish new wholly-owned entities in countries with expensive contract enforcement and simple taxation and the partial acquisition modes in the countries with opposite characteristics. The two other alternatives lie in-between with relation to the regulatory environment characteristics.
1. Introduction

The choice of a market entry mode is thought to be one of the most important questions in international business (Morschett, Schramm-Klein, and Swoboda 2010). Furthermore, companies’ choices of foreign operation modes have been a central theme of international business studies from the very beginning (Hymer 1960 [1976]). According to Werner (2002), entry modes are on the third place among the most researched fields in international management.

Through the history different economic theories and approaches have presented their views on the entry mode issue:

- the economics based approaches of internalization and transaction cost theories (Anderson and Gatignon 1986; Buckley and Casson 1976; Hennart 1982, Madhok 1998; Brouthers and Nakos 2004),

- evolutionary and resource based approaches (Andersen 1997; Kogut and Zander 1998; Mutinelli and Piscitello 1998; Sharma and Eramilli 2004),

- institutional approaches (Meyer and Peng 2005; Brouthers 2002),

- process models based on learning and decision behavior theories (Johanson and Vahlne 1977, 2009).

An entry mode itself can be defined as “a structural agreement that allows a firm to implement its product market strategy in a host country either by carrying out only the marketing operations (i.e., via export modes), or both production and marketing operations there by itself or in partnership with others (contractual modes, joint ventures, wholly owned operations)” (Sharma and Erramilli 2004, 2).

One of the explanations for the entry mode choice which exists in the literature is based on the conditions of the host-country institutional environment. Researchers (Gomes-Casseres 1990; Henisz 2000; Brouthers 2002; Grewal and Dharwadkar 2002; Meyer et al. 2009; Kshetri and Dholakia 2011; Svendsen and Haugland 2011) have intensively discussed the influence of the institutional environment on the choice of entry mode. Despite the large amount of research conducted within the field of foreign operation methods using different
perspectives and approaches, it is still hard to answer the question of why companies choose particular entry modes in different institutional contexts.

Osland, Taylor, and Zou (2001) argue that the entry mode decision is highly complex, since many different factors (both target market factors and within-company factors) affect it. It seems that there is no ideal entry mode, because different companies often apply different entry strategies in the same market basing on different arguments and considering different sets of factors. Because of foreign operations complexity within regions, countries, industries, and even each particular company, it often seems that theory does not match business reality. Not surprisingly Grewal and Dharwadkar (2002) see the development of measures for assessing the extent of the various institutional mechanisms’ influence among the most important research challenges.

When it comes to research on the host-country regulatory environment’s influence on the entry mode choice, the restrictions on foreign ownership are the most commonly studied factor and conclusions about their influence are substantial (Gatignon and Anderson 1988; Gomes-Casseres 1990; Brouthers 2002; Morschet, Schram-Klein, and Swoboda 2010). However, such regulatory institutional factors as contract enforcement and investor protection have gained relatively little attention with regard to the entry mode choice (Brouthers and Nakos 2004; Neto, Brandão, and Cerqueira 2008; Zhou and Poppo 2010) even though they are thought to be among the most important host-country characteristics (Brouthers and Nakos 2004; Agarwal and Ramaswami 1992; Neto, Brandão, and Cerqueira 2008). Also, the taxation system’s influence on the entry mode has not been studied enough (Hebous, Ruf, and Waichenrieder 2010; Becker and Fuest 2011) to provide any strong evidence about it.

The important characteristic of the existing literature is its discrete choice approach. In majority of cases the studies focus only on wholly-owned subsidiary vs. joint-venture (Benito 1996; Brouthers 2002) or equity-based vs. contractual entry modes choices (Anderson and Coughlan 1987) on the one side and greenfield vs. acquisition (Slangen and Hennart 2007; Becker and Fuest 2011) on the other side. Companies are assumed to choose among few alternatives which usually distinguish possible choices only from one perspective. Thus, existing research lacks more general discussion.
Some researchers (Clark, Pugh, and Mallory 1997; Petersen and Welch 2002; Benito, Petersen, and Welch 2009; Benito, Petersen, and Welch 2011) propose that the reality is much more complex and companies may use different modes at the same time, and even concurrently for the same type of activity in a given location. However, this is just one side of the coin, while another can describe the entry mode not as a one-dimensional choice, but as a complex multi-dimensional problem. Entry mode decision is not only about operation method (export, contract, JV, WOS), but also about investment (greenfield or M&A), financing (debt or equity) and other decisions, taken simultaneously.

The present research looks into relations between institutional environment and institutional arrangements, namely regulatory environment and modes of foreign entry, and tries to fill in the gaps left in previous studies. The purpose of this study is to build a complex view on the entry mode choice. In line with Dikova and Witteloostuijn (2007) it looks into two dimensions of the entry mode choice. Precisely, it aims to evaluate the probability of the specific operation and investment methods’ occurrences depending on the specific host-country regulatory environment factors (i.e., contract enforcement, investor protection, and taxation).

The results from such research contribute with new findings about institutional environment influence on institutional arrangements in international business. It provides better understanding of how such regulatory institutional environment elements as contract enforceability, investor protection, and taxation influence the entry modes decisions. It also highlights the regulatory environment elements the managers should pay attention to while entering new market. Furthermore, since it looks into one particular type of activity – oil and gas exploration and development, it allows building important empirical evidence and implications for companies working in this sector. At the same time, it might provide recommendations about the most suitable and efficient entry mode within various institutional environments.

Overall, the research aims to answer the question:

*How do such regulatory institutional environment factors as contract enforceability, investor protection, and taxation influence the 2 dimensions of*
the entry mode choice in the oil and gas exploration and development sector: operation method (choice of wholly-owned subsidiary vs. joint-venture) and investment method (choice of greenfield investment vs. acquisition)?

To answer the research question, the existing literature is reviewed including relevant studies as a basis for hypotheses development. Then the model is built and estimated. The study concludes with theoretical and managerial implications as well as propositions for further research.
2. Literature Review and Hypotheses Development

2.1. Industry Overview

Oil and gas industry includes different types of business activities: exploration and development, production and storage, transportation and sales, technology development etc. As any other industry, it also has some specific characteristics, especially when it comes to contract types. They are important for understanding how companies operate and, furthermore, how they enter into foreign markets.

Each oil/gas field is usually developed as a separate project. If more than one company is involved, normally the exploration/development consortium is established. Also, if there is only one company, it often tends to own a subsidiary that operates the project (especially if this is its only project in a specific country).

2.1.1. Licensing

Oil and gas industry is highly regulated. So, the first and probably the most important distinction of this industry is governmental licensing. A license can belong to a single company or to several companies at the same time, it can cover one or more blocks (mainly offshore), but legally it is only one license (UK Government Department of Energy and Climate Change 2012).

Licenses are awarded by the government or specially designed authorities in each country through licensing rounds. They are valid for a specified period/term which is normally equal to the typical stage of the field life cycle (UK Government Department of Energy and Climate Change 2012). Usually, the initial term is an exploration period, the second one is considered for appraisal and development, and the last one is applied for production. Each license expires at the end of the term if licensee has not progressed enough to warrant a chance to move further. The qualification criteria for licensee to continue in the next term depend on the minimum progress that licensee must assure, but the maximum limit is not set.
2.1.2. Farm-in and Farm-out Agreements

Another important distinction of oil and gas industry is farm-in and farm-out agreements.

According to Akinjide (2010) farm-ins include deals that allow an oil company not possessing a license in a particular area to obtain an interest from one of the existing licensees. Handovers of interest are made assuming certain commitments, such as exploration, exchanges of license interests or cash. 2b1consulting states that “Farm-in-Agreement is a contract signed between two companies, the Farmor and the Farmee, where the Farmor is the owner of the acreage and the Farmee is willing to perform the drilling and exploration in the acreage of the Farmor” (2b1stconsulting 2012). The main reason for a farm-in agreement is sharing costs and risks of drilling as well as increasing capital expenditures while expecting higher gain in return. It can be due to the need of more technologies, rumors about the higher reserves than expected etc. Usually, cash and technology provided by a farmee helps to speed up the development of the field.

Generally, the reasons for farm-in and farm-out have the opposite nature. So, when for one company it is a farm-in, for another one it can be a farm-out.

Daintith and Willoughby (1984) define a farm-out as “an agreement whereby a third party agrees to acquire from one or more of the existing licensees an interest in a production license, and in the operating agreement relating to it, for a consideration which, in oil industry practice, will normally consist of the carrying out of a specified work obligation, known as the earning in obligation, used in the drilling of one or more wells” (Akinjide 2010).

A farming-out agreement appears when the farmor is unable to develop the field before the license expires or because of budgeting constraints. In order not to lose the license, the owner (farmor) finds another company to farm into the drilling operations. In such a case, farmor accepts a lower interest, but reduces risks and improves financial performance (2b1stconsulting 2012).

Importantly, if a specific consortium, JV, or WOS that owns the license exists, the license interests can be bought and sold through usual share acquisition
agreements. Furthermore, the acquisition of assets is also possible in oil and gas industry.

2.1.3. Production Sharing Agreements/Contracts

The last but not least specific characteristic of the oil and gas industry is a production sharing agreement (PSA). This is a contract signed between a government representative and a (foreign) oil and gas company (Bindemann 1999). It can be a JV or a consortium instead of a single company, but the number of companies involved does not affect the contract structure and are normally treated as one party. Production sharing agreements concern the options for the government to participate in the field development and specify the royalty form and amount that should be paid by the company to the government when the oil/gas is produced.

2.2. Entry Modes

2.2.1. Entry Modes Types

Anderson and Gatignon (1986, 1) state that “the most appropriate (most efficient) entry-mode is a function of the tradeoff between control and the cost of resource commitment”. They propose that the greater combination of country risk and transaction-specificity of assets, the higher degree of control should be applied while choosing the entry mode.

There is a wide variety of international business arrangements classifications. Usually, modes of entry are classified based on the degree of control they imply: (1) wholly-owned subsidiary (WOS), (2) joint-venture (JV), (3) contractual entry modes (licensing, franchising etc.), and (4) exporting (Welch, Benito, and Petersen 2007). While (1) and (2) are usually called equity modes, the (3) and (4) are referred to as no-equity ones. Foreign market entry mode is also often used as a concept for the description of already established operations in the foreign market. Welch, Benito, and Petersen (2007) argue that entry mode concept should be applied only for the real (first time) market entry while established operations and their modifications should be called foreign operation methods.
On the other hand, when it comes to equity-based entries (WOS and JVs), the distinction between greenfield investments versus mergers and acquisitions (M&A) is applicable. Interestingly, many researchers (Nocke and Yeaple 2007; Kim 2009; Raff, Ryan, and Stähler 2009; Nagano 2013) refer to these two types of investment methods as entry modes types.

To overcome inconsistencies in the literature current research uses these concepts with following meanings:

*Foreign market entry mode (entry mode)* is an institutional arrangement necessary for a company to enter the foreign market in order to source resources or sell products and services there.

*Foreign operation method (operation method)* is a form of operations in the foreign market including degree of control and commitment of resources (WOS, JV, contract, export).

*Investment method* is a type of investment which is employed to establish the equity-based type of operations in the foreign market (greenfield or mergers and acquisitions).

In general, the decision on entry mode choice can be seen as a two-stage process (Figure 1). First, it is a choice between equity and non-equity based modes. Then, it is one-dimensional if it comes to non-equity based operations – the company chooses only the operation method. However, if the decision is taken to make an equity-base entry, the entry mode is automatically transformed into two-dimensional decision where choices of operation method and investment method are made simultaneously.
2.2.2. Combined Entry Modes/Operation Methods

Some researchers (Benito and Welch 1994; Petersen and Welch 2002; Benito, Petersen, and Welch 2009; Benito, Petersen, and Welch 2011) stress the importance of operation method combinations for international businesses. They argue that such combinations are used more frequently than single-method entries. Benito, Petersen, and Welch (2011, 803) propose that “companies tend to combine modes of operation” in a way that lead to the “unique foreign operation mode “packages” for given activities and/or countries” which “are liable to be modified over time”. Furthermore, such “packages” may be built from the beginning of operations in a particular foreign market or emerge over time.

Operation method combinations can be seen as a rational response to the complex business reality (Petersen and Welch 2002). Benito, Petersen, and Welch (2011, 807) propose that multiple modes are needed to successfully operate on the market since single-method entry may be “too unsophisticated to cope with all important contingencies”.

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![Figure 1. Entry Mode Choice Decision Tree](image-url)
Mode/method combinations often are more than just simple add-ons to a primary mode. They can be used as a strong strategic tool in achieving company goals. Such method “packages” may be developed to generate extra revenue, increase control, raise marketing activity, and assure intellectual property rights etc. (Benito, Petersen, and Welch 2011). Usually, such combination can be seen as instruments of adaptation to the foreign market and, thus, are more interesting from the dynamic perspective.

In general, following mode/method combinations can be distinguished regardless market-adaptation factor (Petersen and Welch 2002; Welch, Benito, and Petersen 2007; Benito, Petersen, and Welch 2011):

- combinations within given value activities;
- combinations within a given country;
- “packages” within a given activity-location set.

Furthermore, Benito, Petersen, and Welch (2011) have found three main motives/reasons for mode/method combination:

- task or product differentiation;
- political and regulatory demands;
- adaptation to local market conditions.

This shows that both internal and external factors affect the operation method “packages”.

Interestingly, Benito, Petersen, and Welch (2011) have shown that the use of mode/method combinations increased during 2004-2008. However, the mode/method combination activity by the companies was significantly different. This may indicate organizational learning which leads and influences mode development processes as a part of company strategy and organizational development (Doz 1996; Inkpen and Currall 2004).

2.2.3. Entry Modes in Oil and Gas Industry

Oil and gas companies operate projects in various countries. Furthermore, they often enter the same country few times through different projects. In this way
they apply entry mode combination “packages” depending on the number of tasks (fields/blocks) they operate in each particular country.

Additionally, some of such entries may be conducted in partnership while others are built as separate legal entities or simply different projects. Also, oil and gas companies can enter the country through greenfield investment (participating in licensing rounds) or acquisition (using farm-in agreements and diverse types of acquisitions).

2.3. Regulatory Institutional Environment

Regulatory and legal factors often affect the financial and economic parameters, establishing conditions and rules of economic agents’ operations at the micro level and the economy in general. In such a way they also affect the strategies that companies employ in international markets. That’s why institutions are thought to be the “rules of the game” (North 1990).

These “rules” are two types: institutional environment (macro rules) and institutional arrangements (micro rules) (Carson et al. 1999; Davis and North 1971). Institutional environment is defined as “formal and informal rules emanating from the macro level aspects of a society, including the polity, the juridical system, cultural norms, and kinship patterns”, while institutional arrangements are “the formal and informal micro level rules of exchange devised by specific parties to a specific exchange” (Carson et al. 1999, 115).

The institutional environment consists of regulatory, normative, and cognitive institutions (Grewal and Dharwadkar 2002). Regulatory institutions (laws) are “regulatory bodies that can influence channels to behave in certain ways (patterns) again and again (regeneration)” (Grewal and Dharwadkar 2002, 82), which deal with the pragmatic legitimacy concerns. Normative institutions (professions) are “trade associations, professional associations, accreditation agencies, or professions themselves that can use social obligation requirements to induce and regenerate patterns within channels” (Grewal and Dharwadkar 2002, 82). They are focused on procedural legitimacy requiring the embracement of socially accepted norms and behaviors. Cognitive institutions (habitual actions) are “culturally supported habits and exert subtle influences on channel behaviors,
which then tend to be repeated” (Grewal and Dharwadkar 2002, 82) and are associated with cognitive legitimacy concerns – taken-for-granted cultural account.

Within institutional environment institutional arrangements are thought to be economically efficient. Thus, institutional environments influence institutional arrangements, their form and type. The selection of an institutional arrangement – an entry mode choice – is among the most important decisions for international firms (Root 1994). This perhaps creates many differences between institutional arrangements in distinct environments. For various countries different kinds of regulatory institutions may have different impact on institutional arrangements and even more on their contractual part. At the same time, some contractual elements might be more important in one industry while less important in another.

The institutional environment is believed to influence the potential span of entry modes in two ways: formal through laws and regulations and informal through culture, local business habits, and corruption levels (Meyer et. al. 2009). Ingram and Silverman (2002, 20) state that “institutions directly determine what arrows a firm has in its quiver as it struggles to formulate and implement strategy and to create competitive advantage”. Hence, institutions which exist in the foreign market influence the way a firm chooses to enter.

Tighter government regulations may create significant barriers to entry. A lack of property rights, excessive government regulation, corruption, and the ineffectiveness of legal system in enforcing contracts hinder economic activity in many countries (Kshetri and Dholakia 2011). On the other hand, regulatory support in the areas of R&D, investments, patents, and labor mobility have positive effects.

The institutional issues influence both the operation method and the investment method decisions simultaneously. Grewal and Dharwadkar (2002) propose that if the host-country institutional environment offers attractive incentives, the probability of adoption the channel integration level, recommended by it, is higher. Additionally, transaction cost theory (Anderson and Gatignon 1986) argues that companies should choose entry modes that minimize overall transaction costs.
The relations between regulatory institutional factors and entry mode dimensions analyzed in this study are presented on Figure 2.

![Basic Theoretical Model](image)

**Figure 2. Basic Theoretical Model**

### 2.3.1. Contract Enforcement

Contract enforcement is an important legal factor when it comes to international institutional arrangements. It measures “the efficiency of the judicial system in resolving a commercial dispute” (The World Bank International Financial Corporation 2013a).

Zhou and Poppo (2010) have investigated the role of legal enforceability with regard to contract explicitness. They have found support for the hypothesis that when the perceived legal enforceability is higher, the relationship between environmental uncertainty and contract explicitness is stronger.

Monitoring and enforcing the contracts are among the factors that affect transaction costs when dealing with foreign partners. Brouthers and Nakos (2004) state, that the ability to enforce contracts characterizes environmental uncertainty of the host country together with ability to control other political and legal risks. Henisz (2000) has investigated the influence of contractual and political hazards. He has found that the probability of a majority-owned entity as an entry operation method increases in the level of independent contractual hazards and decreases in the level independent political hazards. Also, Henisz (2000, 340) argues that “the
probability of choosing a majority-owned plant as a market entry mode is magnified in the presence of political hazards”.

Agarwal and Ramaswami (1992) argue that companies are sensitive to contractual risk-related attributes, such as contract enforceability. Majocchi, Mayrhofer, and Camps (2010) have found support for the hypothesis that the lower the efficiency of contract enforcement, the more likely the company will choose joint ventures rather than non-equity-alliances. The same is applicable to the higher political hazards in a country.

Taking into account investment method, Chen and Hennart (2004) propose that investors making acquisitions in the foreign country bear the costs of target inspections and contract enforcement. They argue that this is the reason why companies tend to choose partial acquisitions when the contract enforceability is poor and are more willing to do full acquisition if they can use better contract enforcement tools. Chen and Hennart (2004) suggest that partial acquisitions can help MNEs to avoid ex post opportunism from the seller’s side.

Generally, it seems that difficult contract enforcement lead to the preference of the wholly-owned subsidiary over any kind of on operations that require cooperation with partner.

**H1a. Easier contract enforceability decreases the probability of wholly-owned subsidiary over joint venture as an entry operation method.**

Continuing the discussion about the choice between greenfield investment and acquisition, Nagano (2013, 100) has found that companies tend to choose greenfield method rather than cross-border M&A if the host-country “adequately enforces intellectual property rights laws”. Contract enforceability is important factor when it comes to any type of agreements. In this sense, to secure agreements it company can rely on informal or formal mechanisms, trust or control (Das and Teng 1998). When contract enforceability is higher, the need in both formal and informal control mechanisms may appear to be lower. Consequently, companies will tend to use acquisitions over greenfield investments.
**H1b.** Easier contract enforceability decreases the probability of greenfield investment over acquisition as an entry investment method.

### 2.3.2. Investor Protection

Investor protection is another important legal factor when it comes to international institutional arrangements. It indicates how much the investors are protected against such issues as directors’ misuse of corporate assets for personal gain or self-dealing etc. (The World Bank International Financial Corporation 2013c). According to Neto, Brandão, and Cerqueira (2008), investor protection plays important role when it comes to different types of entry modes. With the better investor protection companies tend to invest in the country more. Furthermore, they are willing to commit more resources.

Overall, it is logical to assume that if the investor protection is well-established in the country international companies are more willing to enter with the wholly-owned subsidiaries.

**H2a.** Better investor protection increases the probability of wholly-owned subsidiary over the joint venture as an entry operation method.

Rossi and Volpin (2004) have found that companies which come from countries with weaker investor protection are more likely to be acquired than similar companies from countries with stronger investor protection. On the other hand, the acquiring companies are more likely to be from countries with relatively stronger investor protection. Neto, Brandão, and Cerqueira (2008) state that investor protection seems to influence only mergers and acquisitions and do not have influence on other FDI and greenfield investments. Nagano (2013) has also found that companies tend to choose acquisitions instead of greenfield investments if the host-country can sufficiently implement shareholder rights. Thus, better investor protection may motivate companies to choose greenfield investments over acquisitions.

**H2b.** Better investor protection decreases the probability of greenfield investment over acquisition as an entry investment method.
2.3.3. Taxation

Tax considerations influence any commercial activity. Choosing the operation method companies consider the potential tax benefits together with other pros and cons for each option. Each legal form (limited liability company, partnership, corporation etc.) usually apply different taxation procedures and, thus, can propose different advantages for the legal entity and its parent company (Ashurst LLP 2011). Hence, tax considerations may also influence the choice of commitment and control level which define the operation method. In this sense, market entry in cooperation with local partner (JV) may have substantial benefits in countries with complex taxation if a partner has a knowledge and experience regarding the host-country taxation system.

Some combinations of tax factors may attract companies to the choice of joint venture while others will propose WOS as a better choice (Ashurst LLP 2011). Everything else being equal, companies tend to establish subsidiaries in the low-tax jurisdiction rather than the high-tax jurisdiction (Auerbach, Devereux, and Simpson 2010). Following this logic, if the taxation system of the host-country is complex and use high tax rates companies will tend to commit fewer resources. Hence, a negative relation between taxation complexity and the choice of WOS over JV can be assumed.

**H3a. Higher taxes and complex taxation system decrease the probability of wholly-owned subsidiary over joint venture as an entry operation method.**

Nagano (2013, 100) argues that decreases in corporate tax rates “generally attract both inward cross-border M&A and greenfield FDI to the host country”. Auerbach and Hassett (1991) argue that tax reforms can change the incentives to choose investment in new capital (greenfield) versus investment in the old one (acquisition). Swenson (2001) analyzing the FDI composition within USA argues that greenfield investments are more “scared” of high-tax jurisdictions than M&As.

In 2008, Becker and Fuest presented a theoretical model of tax competition where increase in the tax rate raises the number of M&As but decreases the number of greenfield investments. Analyzing tax competition in a model with these two investment methods, Becker and Fuest (2011) have found
that in such a case tax competition is intensified until there are only greenfield investments. They (Becker and Fuest 2011, 485) argue that “an increase in corporate taxes raises the number of acquisitions in a country but reduces the total number of investment projects”.

Hebous, Ruf, and Weichenrieder (2010) have researched the influence of the tax rates differences on the location choice for an affiliate using German outbond FDI of 3600 firms from 2005 to 2007. Controlling for a firm and country-specific characteristics, they have found that M&A investment decision are less sensitive to the tax rate differences than greenfield investments when it comes to the location choice. They have estimated that 10 percent increase in corporate income tax rate leads to 6.4 percent decrease in the probability to make greenfield investment into particular country. Even though higher taxes affect M&A decisions negatively also, the 10 percent increase in tax rate reduces the probability of a country to host M&A only by 3.6 percent.

Overall, high taxes and complex taxation seem to lead to the choice of acquisition over greenfield investment, while low taxes and simple taxation will motivate international companies to enter the country though greenfield.

**H3b.** Higher taxes and complex taxation system decrease the probability of greenfield investment over acquisition as an entry investment method.
3. Methodology and Data Analysis

3.1. Model

Based on the foregoing literature review and proposed hypotheses, the model for analysis looks as presented on the Figure 2.

This model describes the influence of the regulatory institutional environment factors on the two dimensions of the equity-based entry modes. For this purpose, it includes two types of variables:

1) Dependent variables which characterize the two dimensions of the entry mode:
   - operation method – choice between wholly-owned subsidiary and joint-venture;
   - investment type – choice between greenfield and acquisition;

2) Independent variables (three groups) which characterize the different elements of the host-country regulatory environment:
   - contract enforceability;
   - investor protection;
   - taxation.

3.2. Variables Description and Data Collection

Analysis of the model includes three different types of variables: dependent, independent and control variables. The detailed description of variables is following.

Data is collected through different secondary sources: official press-releases, web-pages, companies’ annual report, reports made by international organization. For the full list of data sources see Appendix 1.

1 Control variables are not presented in the basic theoretical model
3.2.1. **Dependent Variables**

Dependent variables describe two simultaneous choices (two dimensions of entry mode decision) that are made while entering the country. Each dimension proposes two alternative choices, which means that in general company has 4 different options if it is willing to use an equity-based entry.

When it comes to *operation methods*, this research distinguishes between joint-ventures and wholly-owned subsidiaries. It does not account for majority-owned and minority-owned joint-ventures as well as equity-based and project-based ones (the common practice in oil and gas industry is to establish a consortium which can have a form both a separate legal entity and a joint project). Since companies choose between two discrete options, the operation method is presented by the binary categorical variable where 1 encodes the wholly-owned subsidiary and 0 represents any kind of joint-venture.

Talking about *investment method*, companies can choose either greenfield investment or acquisition. This research treats the newly-established operation, for example new licenses awarded to companies, as greenfield investments. All other kinds of investments, for instance shares acquisitions and farm-ins, belong to the acquisition category. In this sense companies also choose between two discrete options. Thus, the investment method is also presented by the binary categorical variable where 1 encodes greenfield investment while 0 represents any kind of acquisition.

The data describing the operation method and investment method in each case is collected from such secondary data sources as companies’ annual reports, press-releases, and information from companies’ official web-pages (Appendix 1). The farm-in agreements are treated as acquisitions that normally result in the joint venture operation method. Production sharing agreements/contracts are normally treated as joint ventures, however such cases as the Rangkas Block PSC (2008) and the Gurita Block (2011) in Indonesia (Lundin Petroleum 2008, 2011) where Swedish company Lundin Petroleum holds 100% of interest and the state is nearly not participating are assumed to be wholly-owned subsidiaries.
3.2.2. Independent Variables

Independent variables describe three groups of regulatory institutional environment factors which are contract enforcement, investor protection, and taxation. This research uses The World Bank International Financial Corporation Doing Business methodology for factors interpretation and Doing Business measures for each specific case. To provide deeper understanding some factors are presented by few variables.

Contract enforcement (CE) factors use Doing Business enforcing contracts indicators, in particular number of procedures, time in days, and cost as a percentage of the claim. In particular, contract enforcement procedures variable describes the total number of procedural steps before a commercial dispute reaches the relevant court. Contract enforcement time variable is the time (in days) needed “from the moment the plaintiff decides to file the lawsuit in court until payment” (The World Bank International Financial Corporation 2013a). Contract enforcement % of claim is the percentage of claim which is needed to cover all costs, including court costs, enforcement costs and average attorney fees.

The investor protection index (IPI) measured by The World Bank Doing Business is used as a variable describing the investor protection factor. According to the Doing Business Ranking protecting investors methodology, it includes “three dimensions: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders’ ability to sue officers and directors for misconduct (ease of shareholder suits index)” (The World Bank International Financial Corporation 2013c). Essentially, the higher the index the better the investor protection is.

The taxation is described Doing Business paying taxes measures: tax payments, time (in days), and total tax rate (The World Bank International Financial Corporation 2013b). Tax payments variable shows the total number of taxes and contributions paid per year in a specific country. Taxes administration time is the time (in hours) needed “to prepare, file and pay three major types of taxes and contributions: the corporate income tax, value added or sales tax, and labor taxes” (The World Bank International Financial Corporation 2013b). Payable tax is the total tax rate as a share of commercial profit which includes the
amount of taxes and other mandatory contributions paid in the second year of operation.

### 3.2.3. Control Variables

Essentially, the entry mode choice depends on a variety of factors and not only factors that characterize the host-country legal environment. This variety of factors also consists of company/micro-level, country/macro-level factors, and time.

To control for their influences the following control variables are used:

- **micro-level factors:** cash flow from operations and net income of the year prior to the entry mode decision, company’s strategy/policy toward the entry modes;
- **macro-level factors:** the host-country economic growth, corruption, culture, and country of origin (home country);
- **time.**

*Cash-flow from operations* and *net income* of the year prior to the entry mode decision variables are accessed from companies’ annual reports and financial statements. These variables aim to describe the influence of existing financial resources on the entry mode choice. Since companies come from different countries and, thus, keep their account in different currencies, the analysis use all values converted into millions of USD (US dollar). For this purpose, the historical currency rates (OANDA 2013) applicable on the last day of the corresponding year are used.

*Company's strategy/policy* toward the entry modes is represented by the categorical variable which uses companies’ names as separate categories. It aims to control for the existence of a specific strategy/policy/preference toward the entry mode choice which may exist in each company.

The macro-level factors can be divided into two groups: one describing the host-country and another describing the home country.

The information on the host-country factors is collected from the open secondary sources of international organization etc. (Appendix 1). The *economic*
growth variable uses The World Bank Data indicators (The World Bank Data 2013). Corruption Perceptions Index (CPI) measured by Transparency International (Transparency International 2013) describes the host-country corruption. It is important to mention that it estimates the corruption levels on the scale from 1 to 9 (or 10 to 90), where lower score represents higher corruption level and vice versa. The host-country culture is represented by five main Hofstede culture dimensions (The Hofstede Centre 2013): power distance (PDI), individualism vs. collectivism (IDV), masculinity vs. femininity (MAS), uncertainty avoidance (UAI), and short-term vs. long-term orientation (LTO). These dimensions and their measures are used as separate variables in the analysis. Power distance describes the inequality in power distribution among the organization members, where the higher score indicates the higher acceptance of power inequalities. Individualism vs. collectivism measures the degree of interdependence of society members, and the higher score characterizes the more individualistic society. Masculinity vs. femininity dimension describes personal motivation factors, perceiving competition/achievement-driven societies (high score) as masculine and caring/quality-of-life driven (low score) as feminine. Uncertainty avoidance is “the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (The Hofstede Centre 2013) with higher score indicating the preference to avoid uncertainties. Short-term vs. long-term orientation measures the preference of a future-oriented perspective over a short-term point of view, where high score describes a long-term oriented society.

The country-of-origin (home country) factor is used in order to control for the entry mode preferences based on the home environment, where the company is used to operate. The names of the countries where the companies are headquartered are encoded to use this factor as a categorical variable.

To control for the changes in choice preferences through time the year of entry is used as a control variable.

3.3. Sampling

The sample consists of market entries made by Scandinavian companies that work within oil and gas exploration and development. The sample is built this
way in order to analyze the market entries made by companies with more or less the same cultural and country-origin background. For this purpose the study assumes Norway, Denmark, and Sweden to be culturally similar countries with similar business environments due to the long common and interrelated history.

The sample includes market entries made by five companies: one from Norway – Statoil, two from Denmark – DONG Energy and Maersk Oil, and two from Sweden – Lundin Petroleum and Svenska Petroleum Exploration (Table 1). Initially, it has intended to analyze the entry mode choices conducted by these companies since 2004. However, due to inconsistencies in the Doing Business Methodology which make the observations from 2004-2005 incomparable with the observations from the later years, only transactions made starting from 2006 (including 2013) form the sample.

Table 1. Information about the Companies

<table>
<thead>
<tr>
<th></th>
<th>Home country</th>
<th>Year of establishment</th>
<th>Core business areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statoil</strong></td>
<td>Norway</td>
<td>1972</td>
<td>Oil and gas</td>
</tr>
<tr>
<td><strong>DONG Energy</strong></td>
<td>Denmark</td>
<td>1972</td>
<td>Oil and gas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Renewable energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Electrical power</td>
</tr>
<tr>
<td><strong>Maersk Oil</strong></td>
<td>Denmark</td>
<td>1962</td>
<td>Oil and gas</td>
</tr>
<tr>
<td><strong>Lundin Petroleum</strong></td>
<td>Sweden</td>
<td>2001</td>
<td>Oil and gas</td>
</tr>
<tr>
<td><strong>Svenska Petroleum Exploration</strong></td>
<td>Sweden</td>
<td>1969</td>
<td>Oil and gas</td>
</tr>
</tbody>
</table>

This research considers only the transactions for which both operation and investment methods are known. Furthermore, it takes into account only investment decisions and ignores divestments. So, sales of the shares in WOS which result into joint venture are not considered (i.e., Statoil divested 40% of its shares in Peregrino heavy oil development and Canadial oil sand project in 2010-2011 (Statoil 2011)). However, acquisitions of the partners’ shares in the joint projects which result in the change of operation mode to the wholly-owned subsidiary are taken into account, in particular:
- Lunding Petroleum acquired 20% of Carr Production France SARL in 2007 (owned 80% of shares before) (Lundin Petroleum 2007);
- Statoil acquired 50% of the Peregrino heavy oil development in Brazil in 2008 (owned remaining 50% from 2007) (Statoil 2009);
- Maersk Oil acquired 30% of Dumbarton and Lochranza in UK in 2012 (owned 70% before) (Maersk Oil 2012).

Some other transactions are not taken into account during the analysis for a number of reasons. They are:

1) Strategic cooperation agreements, since they include the broad cooperation, in a sense of activity types, which is conducted internationally and not in only one specific country:

- Statoil strategic cooperation/alliance in China 2007 (Statoil 2013b) – domestic and international E&P, R&D, gas value chain, new energy and downstream;
- Statoil strategic cooperation/alliances in USA 2008 – jointly exploring unconventional gas opportunities worldwide and Joint Exploration Team for the Gulf of Mexico (Statoil 2009);
- DONG Energy strategic cooperation/alliance (with Gazprom) in Russia 2011 – promoting the use of natural gas in Europe as a cleaner alternative to coal and a complement to the expanding renewable power generation capacity (DONG Energy 2011);
- Statoil strategic cooperation/alliance (with Rosneft) in Russia 2012 – jointly explore offshore frontier areas off Russia and Norway and to conduct joint technical studies on two onshore Russian assets (Statoil 2013a);

2) Renegotiated/renewed projects such as the new mixed company, Petrocedeño S.A., established in 2008 for the Sincor Project in Venezuela, where Statoil is a partner (Statoil 2009);

3) Projects that substitute another projects for any reason as, for example, new acreage Cendrawasih VII (CVII) in Indonesia, where Lundin Petroleum is a partner, production sharing agreement for which has been signed in 2013 in order to substitute the existing block acreage which was declared a protected nature conservation area (Lundin Petroleum 2013).
When it comes to the host-country regulatory institutional environment, the transactions done in 2004-2005 are excluded from the analysis due to the inconsistency of the Doing Business Methodology as mentioned earlier. Furthermore, Danish companies’ entries to Greenland and Faroe Islands are not taken into account since these countries are parts of the Kingdom of Denmark and use Danish law, even though they were granted the “home rule” and have a substantial sovereignty.

The dates of the taken decision to enter (intention) are taken into account. When it comes to the licensing rounds (APA, Norwegian, UK etc.) the dates of application are the dates of the decision to enter. For the acquisitions, including farm-ins, the date of agreement is the date of decision, and not the date when the transaction is formally approved by authorities and/or fully closed. Accordingly, the analysis uses the earlier year for the following transactions:

- Statoil and Gazprom signed a framework agreement to organize the design, financing, construction and operation of the Shtokman (Russia) phase one infrastructure in 2007; the consortium of three companies Statoil, Gazpron, and French Total, Shtokman Development AG, was established in 2008 (Statoil 2008, 2009);

- Statoil and Lukoil submitted the winning bid for developing the West Qurna 2 field in Iraq in 2009, but the development and production contract for West Qurna 2 with Iraqi authorities was signed in 2010 (Statoil 2010);

- Maersk Oil acquired Devon assets in US GoM in 2009, the transaction was completed in 2010 and didn’t affect the financial results of 2009 (Maersk Oil 2010).

The total sample size is 122 (Table 2). However, due to the missing values for some independent and control variables in some cases, number of observations included into analysis may be smaller.
Table 2. Distribution of Observations between Companies and Countries

<table>
<thead>
<tr>
<th>Country of origin</th>
<th>Total number of transactions</th>
<th>Company</th>
<th>Number of transactions per company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>50</td>
<td>Statoil</td>
<td>50</td>
</tr>
<tr>
<td>Denmark</td>
<td>26</td>
<td>DONG Energy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maersk Oil</td>
<td>22</td>
</tr>
<tr>
<td>Sweden</td>
<td>46</td>
<td>Lundin Petroleum</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Svenska Petroleum</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exploration</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>122</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4. **Data Analysis**

3.4.1. **Descriptive Statistics**

The following analysis uses logistic regression tools to build the prediction models for operation and investment methods. Importantly, this kind of analysis does not assume the normal distribution of data. However, descriptive statistics for variables in each group (two groups in two dimensions) may provide some preliminary insights.

When it comes to operation methods (i.e., wholly-owned subsidiary and joint venture) (Table 3), both mean and range (i.e., max – min) are nearly equal for time needed on tax administration. This indicates that the variations of this measure in both groups are more or less the same. Thus, tax administration time probably have no influence on the choice of operation method. Similar situation appear regarding tax payable and power distance, even though their ranges in two groups differ more. Interestingly, masculinity versus femininity cultural dimension has very different means in two groups within pretty equal ranges. This may indicate the significant influence of MAS dimension on the choice of the operation method.
Table 3. Operation Method Groups’ Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Wholly-Owned Subsidiary</th>
<th></th>
<th>Joint Venture</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max</td>
<td>min</td>
<td>mean</td>
<td>max</td>
</tr>
<tr>
<td>Regulatory Environment Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE procedures</td>
<td>55.00</td>
<td>14.00</td>
<td>34.36</td>
<td>45.00</td>
</tr>
<tr>
<td>CE time</td>
<td>1715.00</td>
<td>87.00</td>
<td>468.10</td>
<td>616.00</td>
</tr>
<tr>
<td>CE costs</td>
<td>126.50</td>
<td>4.20</td>
<td>21.90</td>
<td>122.70</td>
</tr>
<tr>
<td>IPI</td>
<td>8.70</td>
<td>2.00</td>
<td>6.43</td>
<td>8.30</td>
</tr>
<tr>
<td>Tax payments</td>
<td>94.00</td>
<td>3.00</td>
<td>18.49</td>
<td>51.00</td>
</tr>
<tr>
<td>Tax time</td>
<td>2600.00</td>
<td>58.00</td>
<td>370.55</td>
<td>2600.00</td>
</tr>
<tr>
<td>Tax payable</td>
<td>74.20</td>
<td>21.50</td>
<td>44.59</td>
<td>71.10</td>
</tr>
<tr>
<td>Micro-level Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF from operations</td>
<td>22928.80</td>
<td>68.19</td>
<td>7037.51</td>
<td>19853.85</td>
</tr>
<tr>
<td>Net income</td>
<td>13080.18</td>
<td>-1057.47</td>
<td>3408.38</td>
<td>13080.18</td>
</tr>
<tr>
<td>Macro-level Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic growth</td>
<td>22.59</td>
<td>-4.18</td>
<td>3.37</td>
<td>10.83</td>
</tr>
<tr>
<td>CPI</td>
<td>9.30</td>
<td>1.50</td>
<td>5.91</td>
<td>8.70</td>
</tr>
<tr>
<td>PDI</td>
<td>104.00</td>
<td>18.00</td>
<td>48.66</td>
<td>78.00</td>
</tr>
<tr>
<td>IDV</td>
<td>91.00</td>
<td>14.00</td>
<td>63.45</td>
<td>91.00</td>
</tr>
<tr>
<td>MAS</td>
<td>70.00</td>
<td>8.00</td>
<td>39.20</td>
<td>68.00</td>
</tr>
<tr>
<td>UAI</td>
<td>95.00</td>
<td>23.00</td>
<td>52.04</td>
<td>86.00</td>
</tr>
<tr>
<td>LTO</td>
<td>80.00</td>
<td>16.00</td>
<td>38.26</td>
<td>65.00</td>
</tr>
</tbody>
</table>

Discussing the data grouped based on the investment method (Table 4), contract enforcement procedures means and ranges are quite close. This fact proposes that contract enforcement procedures may not influence the choice of investment method. Also, contract enforcement costs and long-term orientation dimension have very similar descriptive statistics and, thus, with high probability do not influence the choice between greenfield investment and acquisition.
### Table 4. Investment Method Groups’ Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Greenfield</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max</td>
<td>min</td>
</tr>
<tr>
<td><strong>Regulatory Environment Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE procedures</td>
<td>55.00</td>
<td>14.00</td>
</tr>
<tr>
<td>CE time</td>
<td>1011.00</td>
<td>87.00</td>
</tr>
<tr>
<td>CE costs</td>
<td>126.50</td>
<td>4.20</td>
</tr>
<tr>
<td>IPI</td>
<td>8.30</td>
<td>2.30</td>
</tr>
<tr>
<td>Tax payments</td>
<td>52.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Tax time</td>
<td>2600.00</td>
<td>58.00</td>
</tr>
<tr>
<td>Tax payable</td>
<td>74.20</td>
<td>24.70</td>
</tr>
<tr>
<td><strong>Micro-level Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF from operations</td>
<td>19853.85</td>
<td>68.19</td>
</tr>
<tr>
<td>Net income</td>
<td>13080.18</td>
<td>-1057.47</td>
</tr>
<tr>
<td><strong>Macro-level Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic growth</td>
<td>22.59</td>
<td>-4.18</td>
</tr>
<tr>
<td>CPI</td>
<td>9.30</td>
<td>1.50</td>
</tr>
<tr>
<td>PDI</td>
<td>95.00</td>
<td>18.00</td>
</tr>
<tr>
<td>IDV</td>
<td>91.00</td>
<td>14.00</td>
</tr>
<tr>
<td>MAS</td>
<td>70.00</td>
<td>8.00</td>
</tr>
<tr>
<td>UAI</td>
<td>95.00</td>
<td>23.00</td>
</tr>
<tr>
<td>LTO</td>
<td>80.00</td>
<td>23.00</td>
</tr>
</tbody>
</table>

### 3.4.2. Relations Analysis

Before going to the estimation of the operation and investment methods prediction models, the analysis of relations between variables is used.

For this purpose the Pearson correlation coefficients are used for the description of the relations between numeric variables. The results are presented in the Table 5.

The correlations between independent and control variables are not high in general.
Table 5. Pearson Correlation Matrix for Numeric Variables

<table>
<thead>
<tr>
<th></th>
<th>CE procedures</th>
<th>CE time</th>
<th>CE costs</th>
<th>IPI</th>
<th>Tax payment</th>
<th>Tax time</th>
<th>Tax payable</th>
<th>Year</th>
<th>CF from operations</th>
<th>Net income</th>
<th>Ec. growth</th>
<th>CPI</th>
<th>PDI</th>
<th>IDV</th>
<th>MAS</th>
<th>UAI</th>
<th>LTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE procedures</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE time</td>
<td>.581**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>CE costs</td>
<td>.237**</td>
<td>.290**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPI</td>
<td>- .474**</td>
<td>- .393**</td>
<td>- .232*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax payment</td>
<td>.429**</td>
<td>.471**</td>
<td>.602**</td>
<td>-.554**</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax time</td>
<td>.387**</td>
<td>.235**</td>
<td>.005</td>
<td>-.300**</td>
<td>.132</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax payable</td>
<td>.121</td>
<td>.076</td>
<td>-.091</td>
<td>-.258**</td>
<td>.238**</td>
<td>.562**</td>
<td>1</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>.165</td>
<td>.005</td>
<td>.078</td>
<td>.217**</td>
<td>-.238**</td>
<td>-.151</td>
<td>-.213*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF from operations</td>
<td>.249**</td>
<td>.137</td>
<td>-.039</td>
<td>.100</td>
<td>-.080</td>
<td>.112</td>
<td>-.005</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>.215*</td>
<td>.137</td>
<td>-.026</td>
<td>.029</td>
<td>-.021</td>
<td>.123</td>
<td>.011</td>
<td>.413**</td>
<td>.942**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ec. growth</td>
<td>.321**</td>
<td>.491**</td>
<td>.192*</td>
<td>-.460**</td>
<td>-.903**</td>
<td>.208*</td>
<td>.135</td>
<td>-.326**</td>
<td>-.130</td>
<td>-.052</td>
<td>- .701**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI</td>
<td>-.582**</td>
<td>-.598**</td>
<td>-.469**</td>
<td>-.696**</td>
<td>-.739**</td>
<td>-.411**</td>
<td>-.246**</td>
<td>.248**</td>
<td>.002</td>
<td>-.050</td>
<td>-.701**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDI</td>
<td>.442**</td>
<td>.497**</td>
<td>.428**</td>
<td>-.502**</td>
<td>.663**</td>
<td>.373**</td>
<td>.111</td>
<td>-.053</td>
<td>.085</td>
<td>-.141</td>
<td>.739**</td>
<td>-.915**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDV</td>
<td>-.471**</td>
<td>-.390**</td>
<td>-.519**</td>
<td>-.734**</td>
<td>-.692**</td>
<td>-.393**</td>
<td>-.109</td>
<td>.087</td>
<td>.087</td>
<td>-.003</td>
<td>-.770**</td>
<td>-.817**</td>
<td>-.816**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAS</td>
<td>.051</td>
<td>.234*</td>
<td>.172</td>
<td>.270**</td>
<td>.218*</td>
<td>.138</td>
<td>-.073</td>
<td>-.017</td>
<td>.391**</td>
<td>.332**</td>
<td>.121</td>
<td>-.311**</td>
<td>.259**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAI</td>
<td>.477**</td>
<td>.238*</td>
<td>-.067</td>
<td>-.674**</td>
<td>.181</td>
<td>.401**</td>
<td>.408**</td>
<td>-.052</td>
<td>.143</td>
<td>.208*</td>
<td>.447</td>
<td>-.578**</td>
<td>-.570**</td>
<td>-.514**</td>
<td>-.098</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LTO</td>
<td>.386**</td>
<td>.255*</td>
<td>-.168</td>
<td>-.713**</td>
<td>-.154</td>
<td>.649**</td>
<td>.610**</td>
<td>-.176</td>
<td>-.178</td>
<td>-.138</td>
<td>.346**</td>
<td>-.378**</td>
<td>.297**</td>
<td>-.675**</td>
<td>-.509**</td>
<td>.494**</td>
<td>1</td>
</tr>
</tbody>
</table>

*p<0.05; **p < 0.01
For the estimation of the relations between categorical (Table 7) as well as categorical and numeric (Table 6) variables analysis uses Pearson Chi-square coefficient. This tool works in the same manner as the Pearson correlation coefficient. However, it does not indicate the strength or direction of the relationship.

Table 6. Pearson Chi-Square Crosstable for Categorical and Numeric Variables

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Home country</th>
<th>Operation method</th>
<th>Investment method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CE procedures</strong></td>
<td>134.613***</td>
<td>99.848***</td>
<td>27.404</td>
<td>32.443</td>
</tr>
<tr>
<td><strong>CE days</strong></td>
<td>193.057*</td>
<td>123.580***</td>
<td>44.730</td>
<td>57.120*</td>
</tr>
<tr>
<td><strong>CE % of claim</strong></td>
<td>208.163***</td>
<td>138.612***</td>
<td>42.973</td>
<td>60.856**</td>
</tr>
<tr>
<td><strong>IPI</strong></td>
<td>119.203***</td>
<td>81.879***</td>
<td>25.862</td>
<td>30.035**</td>
</tr>
<tr>
<td><strong>Tax payments</strong></td>
<td>144.759*</td>
<td>95.555***</td>
<td>33.849</td>
<td>36.384</td>
</tr>
<tr>
<td><strong>Tax hours</strong></td>
<td>181.030*</td>
<td>121.231***</td>
<td>38.934</td>
<td>45.381</td>
</tr>
<tr>
<td><strong>Tax %</strong></td>
<td>210.216**</td>
<td>132.642*</td>
<td>54.587</td>
<td>61.907</td>
</tr>
<tr>
<td><strong>Year</strong></td>
<td>35.201</td>
<td>21.293*</td>
<td>6.298</td>
<td>4.222</td>
</tr>
<tr>
<td><strong>CF from operations</strong></td>
<td>488.000***</td>
<td>244.000***</td>
<td>21.302</td>
<td>27.819</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>488.000***</td>
<td>244.000***</td>
<td>21.302</td>
<td>27.819</td>
</tr>
<tr>
<td><strong>Ec. growth</strong></td>
<td>269.167</td>
<td>151.372</td>
<td>62.672</td>
<td>72.998</td>
</tr>
<tr>
<td><strong>CPI</strong></td>
<td>177.506**</td>
<td>100.832**</td>
<td>43.172</td>
<td>46.039</td>
</tr>
<tr>
<td><strong>PDI</strong></td>
<td>103.923***</td>
<td>76.649***</td>
<td>21.635</td>
<td>22.308</td>
</tr>
<tr>
<td><strong>IDV</strong></td>
<td>113.744***</td>
<td>85.958***</td>
<td>24.447</td>
<td>24.141</td>
</tr>
<tr>
<td><strong>MAS</strong></td>
<td>118.836***</td>
<td>86.274***</td>
<td>26.666</td>
<td>25.047</td>
</tr>
<tr>
<td><strong>UAI</strong></td>
<td>93.375***</td>
<td>70.264***</td>
<td>21.981</td>
<td>25.359**</td>
</tr>
<tr>
<td><strong>LTO</strong></td>
<td>93.035***</td>
<td>72.541***</td>
<td>19.667**</td>
<td>16.489</td>
</tr>
</tbody>
</table>

*p < 0.10; **p < 0.05; *** p < 0.01

Interestingly, Pearson Chi-Square indicates the relation between operation method choice and the company. If further supported, it may confirm the proposition that each company has its own strategy or policy for the entry mode choice.

Table 7. Pearson Chi-Square Crosstable for Categorical Variables

<table>
<thead>
<tr>
<th></th>
<th>Operation method</th>
<th>Investment method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company</strong></td>
<td>8.222*</td>
<td>3.642</td>
</tr>
<tr>
<td><strong>Country</strong></td>
<td>0.902</td>
<td>2.344</td>
</tr>
</tbody>
</table>

*p < 0.10; **p < 0.05; *** p < 0.01
3.4.3. Logistic Regressions

This research aims to estimate the influence of regulatory institutional factors on the two entry mode dimensions in a form of probability prediction for each alternative. For this purpose the analysis is shaped as two separate logistic regressions (for two choices that are made simultaneously). One of them estimates the probability of the choice of wholly-owned subsidiary over joint-venture company as an operation method (Table 9) while another analyzes the probability of the choice of greenfield investment over acquisition as an investment method (Table 10).

Due to the large number of control variables, accounting for categorical variables encoded as dummy variables (Table 8), separate logistic regressions are conducted to control for different effects. Afterwards the final models are presented for each entry mode dimension. They include variables that have shown to have significant effects according to estimates given by foregoing logistic regression analyses with different control variables.

<table>
<thead>
<tr>
<th>Parameter Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company (1)</td>
</tr>
<tr>
<td>DONG Energy</td>
</tr>
<tr>
<td>Lundin Petroleum</td>
</tr>
<tr>
<td>Maersk Oil</td>
</tr>
<tr>
<td>Statoil</td>
</tr>
<tr>
<td>Svenska Petroleum Exploration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country (1)</th>
<th>Country (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>1</td>
</tr>
<tr>
<td>Norway</td>
<td>0</td>
</tr>
<tr>
<td>Sweden</td>
<td>0</td>
</tr>
</tbody>
</table>

3.4.3.1. Operation Method Prediction Model

When it comes to the final equation of the operation method prediction model, two factors have shown the significant influence (Table 9). They are number of procedures in contract enforcement and masculinity versus femininity cultural dimension. Interestingly, intercept of the model is not significantly
different from 0, which means that oil and gas companies apply the two operation methods with the same frequencies (50% of cases correspond to each option).

The number of contract enforcement procedures has a negative effect on the choice of wholly-owned subsidiary over the joint venture. For example, each additional procedure decreases the odd ratio of WOS occurrence by 5.45% everything else being equal. Interestingly, the contract enforcement cost coefficient becomes insignificant when the contract enforcement time is excluded from the equation. This may be due to relations between contract enforcement variables and indicate the presence of multicollinearity in the model.

The masculine versus feminine cultural dimension has a positive effect on the choice of the wholly-owned subsidiary as an operation method. For example, if the host-country is more competition-driven so that the masculinity score on the Hofstede scale increases by 1, the odd ratio of WOS choice increases by 4.71% everything else being equal.

The Chi-square value of the Omnibus Test of Model Coefficients indicates that adding the variables to the operation method prediction model has significantly increased the ability to predict the occurrence of greenfield investment (significant beyond 0.01). The Cox and Snell R Square and the Nagelkerke R Square are not high (13.9 and 21.6% respectively) due to the fact that the models account for only few factors that influence the entry mode choice. However, taking into account a great variety of factors that influence these decisions (i.e., see Ghemawat 2001), the model explains relatively big part of variation.

The -2 Log Likelihood of the final model lies in-between the same estimates for previously analyzed models and, thus, indicates quite good goodness-of-fit. So, the model describes the data well. Furthermore, the Chi-square value of Hoshmer and Lemeshow Test shows that the model is correctly specified. It tests whether the expected event rates in subgroups match the expected ones in the model population or not. Besides, there are no outliers outside three standard deviations. Thus, the conclusion about the overall good model fit can be made.
Table 9. Operation Method Prediction Models (1 – WOS, 0 – JV)

<table>
<thead>
<tr>
<th>Culture (5)</th>
<th>Culture (4)</th>
<th>Company and time</th>
<th>Country and time</th>
<th>Legal factors</th>
<th>Final model</th>
</tr>
</thead>
<tbody>
<tr>
<td>N of observations</td>
<td>85</td>
<td>101</td>
<td>116</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

**Regression Coefficients**

<table>
<thead>
<tr>
<th></th>
<th>Constant</th>
<th>CE procedures</th>
<th>CE time</th>
<th>CE costs</th>
<th>IPI</th>
<th>Tax payments</th>
<th>Tax time</th>
<th>Tax payable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-48.526</td>
<td>-0.155*</td>
<td>-0.006</td>
<td>0.330</td>
<td>2.031</td>
<td>0.058</td>
<td>0.001</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.065</td>
<td>0.000</td>
<td>0.036</td>
<td>0.000</td>
<td>-0.022</td>
<td>0.000</td>
<td>0.079</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.072</td>
<td>-0.002</td>
<td>0.026</td>
<td>0.466</td>
<td>-0.001</td>
<td>0.001</td>
<td>0.022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.057</td>
<td>-0.001</td>
<td>0.028*</td>
<td>0.542</td>
<td>-0.009</td>
<td>0.001</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.076</td>
<td>-0.001</td>
<td></td>
<td>0.537</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| | | | | | | | | |

| Regulatory Environment Factors |
| | | | | | | | |

| | | | | | | | |

| Regression Analysis |
| | | | | | | | |

**Omnibus Tests of Model Coefficients (Chi-square)**

<table>
<thead>
<tr>
<th>-2 Log Likelihood</th>
<th>Cox and Shell R²</th>
<th>Nagelkerke R²</th>
<th>Hoshmer and Lemeshow Test (Chi-square)</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.648</td>
<td>0.243</td>
<td>0.372</td>
<td>3.449</td>
</tr>
<tr>
<td>81.798</td>
<td>0.212</td>
<td>0.327</td>
<td>6.163</td>
</tr>
<tr>
<td>88.170</td>
<td>0.191</td>
<td>0.307</td>
<td>5.744</td>
</tr>
<tr>
<td>97.134</td>
<td>0.125</td>
<td>0.202</td>
<td>9.791</td>
</tr>
<tr>
<td>97.743</td>
<td>0.121</td>
<td>0.195</td>
<td>11.610</td>
</tr>
<tr>
<td>92.105</td>
<td>0.139</td>
<td>0.216</td>
<td>3.454</td>
</tr>
</tbody>
</table>

*p < 0.10; **p < 0.05; ***p < 0.01
3.4.3.1. Investment Method Prediction Model

In the final equation for investment method prediction model, five factors have shown the significant influence. Three of them represent the analyzed regulatory environment factors: number of tax payments, number of procedures in contract enforcement, and costs of contract enforcement as a percentage of claim.

The other two are control variables, in particular year of entry and Corruption Perceptions Index. Interestingly, the significantly different from 0 coefficient next to the year variable indicates the declining trend – the probability to choose greenfield investment over acquisition in oil and gas exploration and development is lower each year. On average companies prefer to choose greenfield investment over acquisition (75.51% vs. 44.49%) as indicated by the intercept-only model.

Both contract enforcement procedures number and costs have positive influence of the choice of greenfield investment over the acquisition as an investment method. For example, one additional procedure increases the odd of greenfield occurrence by 10.30% everything else being equal. When it comes to the costs, the increase in percentage of claim 1(%) leads to the 5.55% increase in odd of greenfield choice everything else being equal.

The number of tax payments has a negative effect on the choice of the greenfield investment over the acquisition. Everything else being equal, the increase in taxation procedures by 1 leads to the 6.48% decrease in the odd ratio of greenfield investment.

Interestingly, the dummy variables encoding Statoil (among companies) and Norway (among countries) have estimated coefficients significantly different from 0. However, Norway is Statoil’s home-country and the majority of analyzed observations are based on Statoil’s operations (since it is the biggest company within oil and gas exploration and development among analyzed ones). So, the significance of estimated coefficients may be explained by a specific strategy/policy toward the investment methods which Statoil as a really big company may use in its activities. On the other hand, this may be explained simply by the fact that Statoil’s operations have a majority in the sample. In order
not to build false conclusions further, the company and country variables are excluded from the final analysis.

The -2 Log Likelihood of the final model lies in-between the same estimates for previously analyzed models indicating relatively good goodness-of-fit. The Cox and Snell R Square and the Nagelkerke R Square are not high (19.8 and 26.5% respectively) due to the fact that the models account for only few factors that influence the entry mode choice. However, accounting for a great variety of factors that influence decisions (i.e., Ghemawat 2001), the model explains relatively big part of the variation.

The Chi-square value of the Omnibus Test of Model Coefficients indicates that adding these variables to the investment method prediction model has significantly increased the ability to predict the occurrence of greenfield investment (significant beyond 0.01). Furthermore, the Chi-square value of Hoshmer and Lemeshow Test shows that the model is correctly specified. Also, there are no outliers outside three standard deviations. All in all, good model fit is concluded.
### Table 10. Investment Method Prediction Models (1 – Greenfield, 0 – Acquisition)

<table>
<thead>
<tr>
<th>Model Coefficients</th>
<th>Culture (5)</th>
<th>Culture (4)</th>
<th>Company and time</th>
<th>Country and time</th>
<th>Legal factors</th>
<th>Final model</th>
</tr>
</thead>
<tbody>
<tr>
<td>N of observations</td>
<td>85</td>
<td>101</td>
<td>116</td>
<td>116</td>
<td>116</td>
<td>118</td>
</tr>
</tbody>
</table>

#### Regression Coefficients

| Regulatory Environment Factors | Constant | 883.667** | 885.365** | -3.208 | 859.991*** |
| CE procedures                | 0.031     | 0.127***   | 0.126***   | 0.064*  | 0.098***    |
| CE time                      | -0.008    | -0.002     | -0.002     | -0.002  | -0.002      |
| CE costs                     | 0.259     | 0.024      | 0.068***   | 0.069*** | 0.040**     |
| IPI                           | 2.438     | 0.127***   | 0.126***   | 0.064*  | 0.098***    |
| Tax payments                 | 0.071     | 0.014      | 0.000      | 0.000   | 0.000       |
| Tax time                     | 0.000     | 0.001      | 0.000      | 0.000   | 0.000       |
| Tax payable                  | -0.058    | -0.007     | -0.009     | -0.013  |             |

#### Micro-level Factors

| Company (1)                  | 0.776     |
| Company (2)                  | 0.268     |
| Company (3)                  | 0.759     |
| Company (4)                  | 3.232*    |
| CF from operations           | 0.000*    |
| Net income                   | 0.000**   |

#### Time Factor

| Year                          | -0.443**  |

#### Macro-level Factors

| Country (1)                  | 0.566     |
| Country (2)                  | 3.023*    |
| Economic growth              | 0.093     |
| CPI                          | 0.476***  |

#### Cultural Dimensions

| PDI                           | -0.181    |
| IDV                           | -0.137    |
| MAS                          | 0.030     |
| UAI                          | 0.121     |
| LTO                          | 0.136     |

#### Regression Analysis

| Omnibus Tests of Model Coefficients (Chi-square) | 17.562 | 20.906* | 39.042*** | 38.940*** | 22.585** | 26.010*** |
| -2 Log Likelihood             | 95.031  | 115.514 | 120.075   | 120.176   | 136.531  | 135.908   |
| Cox and Shell R²              | 0.187   | 0.187   | 2.286     | 0.285     | 0.177    | 0.198     |
| Nagelkerke R²                 | 0.254   | 0.252   | 0.383     | 0.382     | 0.237    | 0.265     |

*p < 0.10; **p < 0.05; ***p < 0.01
3.5. Evaluation of Hypotheses

Three hypotheses are supported based on the finding from the foregoing analysis (Table 11).

First of all, the negative effect of the contract enforcement procedures number on the choice of WOS over JV is found. Since, greater number of procedures means greater bureaucracy and complexity in contract enforcement, this finding supports hypothesis H1a.

Secondly, the analysis supports the proposition that if contract enforceability is easy companies tend to choose acquisition as an investment method (H1b). The both number of procedures and costs needed to solve the dispute have significant effects here.

Finally, the statistical evidence supports the negative effect of high taxes and complex taxation system on the greenfield over acquisition choice (H3b).

Hypotheses H2a, H2b, and H3a have not been supported by the conducted statistical analysis. A number of possible explanations for this exists. The influences assumed by these hypotheses may be so small, that the analyzed data sample is too small to verify it. However, there is also a possibility that such effects do not exist at all. It does not mean that these factors do not influence the entry mode decisions. They may simply not influence these choices in the analyzed industry and activity – oil and gas exploration and development.
### Table 11. Hypotheses Analysis Summary

<table>
<thead>
<tr>
<th>$H$</th>
<th>Statement</th>
<th>Supported or not</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1a.</strong></td>
<td>Easier contract enforceability decreases the probability of wholly-owned subsidiary over joint venture as an entry operation method.</td>
<td>Supported</td>
<td><em>Negative effect:</em> the harder the contract enforcement the lower probability of WOS (each additional procedure decreases the odd ratio of WOS occurrence by 5.45%).</td>
</tr>
<tr>
<td><strong>H1b.</strong></td>
<td>Easier contract enforceability decreases the probability of greenfield investment over acquisition as an entry investment method</td>
<td>Supported</td>
<td><em>Positive effect:</em> the harder the contract enforcement the higher the probability of JV (one additional procedure increases the odd of greenfield occurrence by 10.30%).</td>
</tr>
<tr>
<td><strong>H2a.</strong></td>
<td>Better investor protection increases the probability of wholly-owned subsidiary over the joint venture as an entry operation method.</td>
<td>Not supported</td>
<td>-</td>
</tr>
<tr>
<td><strong>H2b.</strong></td>
<td>Better investor protection decreases the probability of greenfield investment over acquisition as an entry investment method.</td>
<td>Not supported</td>
<td>-</td>
</tr>
<tr>
<td><strong>H3a.</strong></td>
<td>Higher taxes and complex taxation system decrease the probability of wholly-owned subsidiary over joint venture as an entry operation method.</td>
<td>Not supported</td>
<td>-</td>
</tr>
<tr>
<td><strong>H3b.</strong></td>
<td>Higher taxes and complex taxation system decrease the probability of greenfield investment over acquisition as an entry investment method.</td>
<td>Supported</td>
<td><em>Negative effect:</em> the higher the complexity of taxation the lower the probability of greenfield investment (increase in taxation procedures by 1 leads to the 6.48% decrease in the odd ratio of greenfield investment).</td>
</tr>
</tbody>
</table>
4. Discussion and Conclusions

4.1. Theoretical Contribution

This research contributes to the better understanding of the host-country regulatory institutional environment influence on the entry mode choice. In particular, it looks into the two-dimensional entry mode choice in oil and gas industry estimating probabilities for the choice of alternatives on each dimension (operation and investment method).

4.1.1. Operation Method Choice

When it comes to operation method, on average oil and gas companies choose both wholly-owned subsidiary and joint-venture with 50% probability (intercept in the regression is not significantly different from 0) for exploration and development activities. Interestingly, only contract enforcement factors (among analyzed regulatory factors) influence the decision to choose wholly-owned subsidiary versus joint venture. Not surprisingly, contract enforcement plays important role in oil and gas industry, since the joint venture is a common operation method in oil in gas. It is in line with Agarwal and Ramaswami (1992) argument that companies are sensitive to contract enforceability issues since if low it may increase contractual risks. Furthermore, the most influential is the bureaucracy which characterizes contract enforcement, namely number of procedures needed to solve a commercial dispute. As predicted, with increase in bureaucracy/complexity of contract enforcement the probability to choose wholly-owned subsidiary over joint venture decreases. The possible reason entails the risks of partner opportunism and moral hazards (Henisz 2000; Zhou and Poppo 2010). Furthermore, this finding is in line with Agarwal and Ramaswami (1992) and Broutthers and Nakos (2004) who see contract enforceability as an environmental uncertainty and risk-related factor.

Interestingly, such cultural dimension as masculinity vs. femininity influences the decision on the operation method. Entering competition-driven or so-called masculine cultures, companies tend to choose wholly-owned subsidiaries over joint operations. The possible explanation is the fact that in masculine cultures people/companies are more willing to compete than to cooperate as in feminine ones (The Hofstede Centre 2013). Since the possible
joint-venture partner is often a local company, the reliability and trustworthiness of it may be lower if it comes from a masculine culture.

The results about the operation method decision are summarized in the Figure 3.

<table>
<thead>
<tr>
<th>Applied Operation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholly-owned subsidiary</td>
</tr>
<tr>
<td>when the host-country environment is characterized by</td>
</tr>
<tr>
<td>Less bureaucracy (less procedures) in solving disputes</td>
</tr>
<tr>
<td>Masculine culture</td>
</tr>
</tbody>
</table>

*Figure 3. Operation Method Choice Depending on the Host-country Environment*

### 4.1.2. Investment Method Choice

Talking about the choice of investment method, generally oil and gas companies prefer greenfield investments over acquisitions (75.51% probability vs. 24.49%). However, this probability has a declining trend through time (time factor has a negative influence). So, this situation may change in the future.

Among the regulatory institutional factors, contract enforcement and taxation influence the investment method decision. More specifically, if a host-country has more bureaucratic and costly contract enforcement mechanisms, companies prefer greenfield investments to acquisitions. This may be explained by the complexity of acquisition transaction and its possible need for different agreements. As argued by Chen and Hennart (2004), international acquisitions lead to increase in target inspections and contract enforcement costs.

Also, with a greater number of tax payments per year companies are more willing to enter the market through different acquisition types. The possible reason for such decision is the knowledge about dealing with complex taxation which an acquisition target may have developed during its operations. Remarkably, total tax rate has not shown a significant influence, even though many researchers (Swenson 2001; Becker and Fuest 2008; Hebous, Ruf, and Weichenrieder 2010; Nagano 2013) have found evidence for this relationship. This may be explained by industry specificity, in particular highly regulated environment and royalties paid to the host-country governments.
Remarkably, even though cultural factors have not shown significant influence on the choice of investment method, the corruption level affects this decision. Overall, companies tend to make greenfield investments into the countries with low corruption levels (with high Corruption Perceptions Index).

These results are summarized in the Figure 4.

<table>
<thead>
<tr>
<th>Applied Investment Method</th>
<th>Greenfield when the host-country environment is characterized by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More bureaucracy (more procedures) and expenditures (higher percentage of claim to cover costs) in contract enforcement</td>
</tr>
<tr>
<td></td>
<td>Less tax payments per year</td>
</tr>
<tr>
<td></td>
<td>Lower corruption (higher CPI)</td>
</tr>
<tr>
<td>Acquisition</td>
<td>Less bureaucracy (less procedures) and expensive (lower percentage of claim to cover costs) in contract enforcement</td>
</tr>
<tr>
<td></td>
<td>More tax payments per year</td>
</tr>
<tr>
<td></td>
<td>Higher corruption (lower CPI)</td>
</tr>
</tbody>
</table>

*Figure 4. Investment Method Choice Depending on the Host-country Environment*

4.1.3. Two-Dimensional Entry Mode Choice

Previously discussed results on the operation and investment method decisions can be summarized in a 2x2 matrix (Figure 5). Such summary provides a better understanding of the entry mode choice among four alternatives (greenfield WOS, greenfield JV, acquired WOS, and acquired JV) made by oil and gas companies in their exploration and development activity based on the host-country institutional environment.

Interestingly, the investor protection does not have a significant influence on the choice among the four entry options available to the oil and gas companies when it comes to exploration and development.

Overall, companies choose to establish new wholly-owned entities in countries with expensive contract enforcement and low complexity of taxation (few payments). Furthermore, such entry mode is even more preferred if the host country is characterized low corruption levels and achievement-oriented culture.
<table>
<thead>
<tr>
<th>Applied Operation Method</th>
<th>Wholly-owned subsidiary</th>
<th>Joint venture</th>
</tr>
</thead>
<tbody>
<tr>
<td>when the host-country environment is characterized by</td>
<td>Contract enforcement:</td>
<td>Contract enforcement:</td>
</tr>
<tr>
<td></td>
<td>- Expensive</td>
<td>- Expensive</td>
</tr>
<tr>
<td></td>
<td>- Average bureaucracy</td>
<td>- Highly-bureaucratic</td>
</tr>
<tr>
<td>Few tax payments per year</td>
<td>Few tax payments per year</td>
<td></td>
</tr>
<tr>
<td>Low corruption level</td>
<td>Low corruption level</td>
<td></td>
</tr>
<tr>
<td>Masculine culture</td>
<td>Feminine culture</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Investment Method</th>
<th>Greenfield</th>
</tr>
</thead>
<tbody>
<tr>
<td>when the host-country environment is characterized by</td>
<td>Contract enforcement:</td>
</tr>
<tr>
<td></td>
<td>- Cheap</td>
</tr>
<tr>
<td></td>
<td>- Low bureaucracy</td>
</tr>
<tr>
<td>Many tax payments per year</td>
<td>Many tax payments per year</td>
</tr>
<tr>
<td>High corruption level</td>
<td>High corruption level</td>
</tr>
<tr>
<td>Masculine culture</td>
<td>Feminine culture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Investment Method</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>when the host-country environment is characterized by</td>
<td>Contract enforcement:</td>
</tr>
<tr>
<td></td>
<td>- Cheap</td>
</tr>
<tr>
<td></td>
<td>- Average bureaucracy</td>
</tr>
<tr>
<td>Many tax payments per year</td>
<td>Many tax payments per year</td>
</tr>
<tr>
<td>High corruption level</td>
<td>High corruption level</td>
</tr>
<tr>
<td>Masculine culture</td>
<td>Feminine culture</td>
</tr>
</tbody>
</table>

Figure 5. Two-dimensional Model of Entry Mode Choice Depending on the Host-country Environment

On the other hand, companies prefer to enter through the partial acquisition into the highly-corrupted countries with feminine cultures, cheap contract enforcement, and complex taxation. This supports Chen and Hennart (2004) statement that companies prefer full acquisitions in countries with better contract enforcement tools. Two-dimensional Model of Entry Mode Choice suggests that the key difference lies in the needed number of procedures to solve the dispute, their complexity, and corresponding bureaucracy when it comes to the choice between partial and full acquisitions.

The two remained entry options (greenfield joint venture and full acquisition) are applied in the environment that lie in-between of the discussed cases. For more details see Figure 5.

Everything else being equal, newly-established WOS and JV appear with the same probabilities on average. The same applies to acquired ones. However, the chances for greenfield WOS are higher than for full acquisition and also newly-established JV appear more often than acquired ones (Table 12).
Table 12. Probability Distribution of the Entry Mode Choices

<table>
<thead>
<tr>
<th>Investment type</th>
<th>Operation method</th>
<th>Wholly-owned subsidiary</th>
<th>Joint venture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenfield</td>
<td>37.755%</td>
<td>37.755%</td>
<td></td>
</tr>
<tr>
<td>Acquisition</td>
<td>12.245%</td>
<td>12.245%</td>
<td></td>
</tr>
</tbody>
</table>

4.2. Managerial Implications

This research indicates the regulatory environment factors that influence the entry mode decisions in oil and gas industry when it comes to exploration and development activities. The results can be generalized to the oil and gas companies with origin in Scandinavia. Thus, the findings are the most valuable for companies coming from Scandinavian countries as a population of the analyzed sample. However, they provide important insight for oil and gas companies worldwide.

Companies’ managers can use the developed framework as a guideline while entering foreign market. Furthermore, the framework can be also customized as a basis for the strategy development or analysis of companies’ international operations in exploration and development.

4.3. Limitations and Propositions for Further Research

This research accounts for only one industry - oil and gas, which is furthermore limited to the only type of activity - exploration and development. Also, with regard to the foreign operation method options it distinguishes only between joint venture and wholly-owned subsidiary due to the specificity of this given type of activity. On the other hand, it accounts for the choice between greenfield investments and acquisitions which gives a broader perspective on the entry mode decision. Further research is needed for other types of activities and industries. Remarkably, the hypotheses that are not supported by this study may find support in the analysis for other industries.
The study analyses only investment part of foreign operation methods, fully ignoring the divestments (i.e., farm-out agreements) and other after-entry decisions and modifications. Nevertheless, the mode combinations within given activity-location sets are included into analysis. This indicates the need for a complex and dynamic study of entry modes.

The current research does not account for the changes in the regulatory environment and how such changes influence the foreign operation methods (after-entry decisions). Dynamic research may overcome this limitation accounting for changes in regulatory environments and their influence on the after-entry decisions and adjustments. For such purposes system dynamics methods can be used.

The question of the perception of regulatory environment should be further investigated. When it comes to the differences between the home and host environments, they may influence strategic decisions through managers’ subjective perceptions more than through objective measures.

The declining trend in the choice of greenfield investment versus acquisition should be further investigated. The understanding of reasons for it may help oil and gas companies in strategy development and indicate the directions of the industry development.

4.4. Concluding Notes

Using the unique and detailed dataset from Scandinavian oil and gas companies this study contributes to the literature on the entry mode choice with further development of the two-dimensional entry mode model. Furthermore, it provides empirical evidence and deep insight on the entry mode choice in the oil and gas exploration and development. Specifically, companies choose to establish new wholly-owned entities in countries with expensive contract enforcement and simple taxation and the partial acquisition in the countries with opposite characteristics. The two other entry options lie in-between.
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Appendix 1. List of Data Sources


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Preliminary thesis report

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Campus:
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Summary

This preliminary thesis report introduces the study about the host-country regulatory institutional environment influence on the entry mode choice conducted as a Master thesis. First of all, the importance and relevance of such a research is presented. Then the brief literature review is provided and the hypotheses are built. Later the proposed methodology and data collection are discussed. At the end, the plan for further research progress is presented.
Introduction

The choice of a market entry mode is thought to be one of the most important questions in international business (Morschett, Schramm-Klein, and Swoboda 2010). According to Werner (2002), entry modes are on the third place among the most researched fields in international management. An entry mode itself can be defined as “a structural agreement that allows a firm to implement its product market strategy in a host country either by carrying out only the marketing operations (i.e., via export modes), or both production and marketing operations there by itself or in partnership with others (contractual modes, joint ventures, wholly owned operations)” (Sharma and Erramilli 2004, 2).

The influence of the institutional environment on the choice of entry mode has been discussed intensively in the literature. Despite the large amount of research conducted within the field of foreign operation methods using different perspectives and approaches, it is still hard to answer the question of why companies choose particular entry modes in different institutional contexts. Osland, Taylor, and Zou (2001) argue that the entry mode decision is highly complex, since many different factors (both target market factors and within-company factors) affect it. It seems that there is no ideal entry mode, because different companies often apply different entry strategies in the same market basing on different arguments and considering different sets of factors. Because of foreign operations complexity within regions, countries, industries, and even each particular company, it often seems that theory does not match business reality.

One of the explanations for the entry mode choice, which exist in the literature, is based on the conditions of the host-country institutional environment. A number of researchers have addressed this question. However, the gained research results are often contradictory and inconclusive. Grewal and Dharwadkar (2002) see the development of measures for assessing the extent of the various institutional mechanisms’ influence among the most important research challenges.

When it comes to research on the host-country regulatory environment influence on the entry mode choice, the restrictions on foreign ownership are the most commonly studied factor and conclusions about their influence are substantial. However, in majority of cases those studies are focused only on
wholly-owned subsidiary vs. joint-venture or wholly-owned subsidiary vs. contractual entry modes choices, and thus they lack more general discussion (Gatignon and Anderson 1988; Morschett, Schramm-Klein, and Swoboda 2010).

Such regulatory institutional factors as contract enforcement and investor protection have gained relatively little attention with regard to the entry mode choice, even though they are thought to be among the most important host-country characteristics (Brouthers and Nakos 2004; Agarwal and Ramaswami 1992; Neto, Brandão, and Cerqueira 2008). Also, the international trade and protectionist policies influence on the entry mode has not been studied enough to provide any strong evidence about it (Morschett, Schramm-Klein, and Swoboda 2010).

The present research looks into relations between institutional environment and institutional arrangements, namely regulatory environment and modes of foreign entry, and tries to fill in gaps left in the previous studies. The results from such research will contribute with new findings about institutional environment’s influence on institutional arrangements in international business. It will help researchers to understand better which regulatory institutional environment elements influence the entry modes decisions and in which way. It will also highlight regulatory environment elements the managers should pay attention to while entering a new market. At the same time, it might provide recommendations about the most suitable and efficient entry mode within various institutional environments.

Overall the research aims to answer the question:

*How do such regulatory institutional environment factors as restrictions on foreign ownership, contract enforceability, investor protection, international trade and protectionism influence the choice of wholly-owned subsidiary, joint-venture, contractual entry mode, exporting as an entry mode?*

To answer the research question, first of all the existing literature will be reviewed including relevant studies as a basis for hypotheses development. Then the model will be built and evaluated.


**Literature Review and Hypotheses**

Regulatory and legal factors often affect the financial and economic parameters, establishing conditions and rules of economic agents’ operations at the micro level and the economy in general. That’s why institutions are thought to be the “rules of the game” (North 1990).

These “rules” are two types: institutional environment (macro rules) and institutional arrangements (micro rules) (Carson et al. 1999; Davis and North 1971). Institutional environment is defined as “formal and informal rules emanating from the macro level aspects of a society, including the policy, the juridical system, cultural norms, and kinship patterns”, while institutional arrangements are “the formal and informal micro level rules of exchange devised by specific parties to a specific exchange” (Carson et al. 1999, 115).

The institutional environment consists of regulatory, normative, and cognitive institutions (Grewal and Dharwadkar 2002). Regulatory institutions (laws) are “regulatory bodies that can influence channels to behave in certain ways (patterns) again and again (regeneration)” (Grewal and Dharwadkar 2002, 82), which deal with the pragmatic legitimacy concerns. Normative institutions (professions) are “trade associations, professional associations, accreditation agencies, or professions themselves that can use social obligation requirements to induce and regenerate patterns within channels” (Grewal and Dharwadkar 2002, 82). They are focused on procedural legitimacy requiring the embracement of socially accepted norms and behaviors. Cognitive institutions (habitual actions) are “culturally supported habits and exert subtle influences on channel behaviors, which then tend to be repeated” (Grewal and Dharwadkar 2002, 82) and are associated with cognitive legitimacy concerns – taken-for-granted cultural account.

Within institutional environment institutional arrangements are thought to be economically efficient. Thus, institutional environment influences institutional arrangements, their form and type. The selection of an institutional arrangement – an entry mode choice – is among the most important decisions for international firms (Root 1994).
This perhaps creates many differences between institutional arrangements from distinct environments. For various countries different kinds of regulatory institutions may have different impact on institutional arrangements and even more on their contractual part. At the same time, some contractual elements might be more important in one industry while less important in another.

**Entry modes**

E. Anderson and H. Gatignon (1986, 1) state that “the most appropriate (most efficient) entry-mode is a function of the tradeoff between control and the cost of resource commitment”. They propose that the greater combination of country risk and transaction-specificity of assets, the higher degree of control should be applied while choosing the entry mode.

There is a wide variety of international business arrangements classifications. Usually, modes of entry are classified based on the degree of control they imply. For the purpose of this research the following types of the entry modes are distinguished:

- **Wholly-owned subsidiary (WOS)** – legally separated company created by another company (firm, hierarchy – a high control mode);
- **Joint-venture (JV)** – “independent, legally separated company created by two or more partners” (Benito 2012). Joint-ventures are usually perceived as high-control modes;
- **Contractual entry modes (licensing, franchising etc.)** – “an agreement creating and defining the obligations between two or more parties” (Benito 2012). Contractual entry modes are thought to be a middle-control modes lying in between equity modes (firm, hierarchy – high control modes) and market-based transactions (low control modes);
- **Exporting** – “the sale of goods or services to an entity residing in another country” (Benito 2012). Exporting is a low-control mode.

The institutional environment is believed to influence the potential span of entry modes in two ways: formal through laws and regulations and informal through local business habits and local corruption levels (Meyer et. al. 2009). Ingram and Silverman (2002, 20) state that “institutions directly determine what arrows a firm has in its quiver as it struggles to formulate and implement strategy
and to create competitive advantage”. Hence, institutions, which exist in the foreign market, influence the way a firm chooses to enter.

Tighter government regulations may create significant barriers to entry. A lack of property rights, excessive government regulation, corruption, and the ineffectiveness of legal system in enforcing contracts hinder economic activity in many countries (Kshetri and Dholakia 2011). On the other hand regulatory support in the areas of R&D, investments, patents, and labor mobility have positive effects (Kshetri and Dholakia 2011). Besides, the institutional issues influence both the ownership and entry mode decisions simultaneously. Grewal and Dharwadkar (2002) propose that the more attractive of incentives offered by the host-country institutional environment, the higher the probability of adoption the channel integration level recommended by the institutional environment. Based on transaction cost theory, companies should choose entry modes that minimize overall transaction costs.

**Restrictions on foreign ownership**

Legal restrictions on foreign ownership are regulatory environment elements which fully prohibit the establishment of foreign company WOS, limit the equity stake which the foreign company can hold, require specific permits for WOS establishment etc. Not surprisingly, legal restrictions are among the most frequently analyzed factors of the entry mode decision, since formal rules determine the possible entry modes alternatives (e.g., with respect to equity ownership) and/or they may limit the equity stake, which can be hold by foreign investors.

Legal restrictions on the foreign ownership are logically expected to reduce the likelihood of the WOS establishment (Gomes-Casseres 1990). If host country laws force firms to adopt certain entry modes, they can be chosen instead of the entry mode, which is preferred based on other theoretical considerations (Brouthers 2002). Legal restrictions either reduce the number of choices available to companies (Gatignon and Anderson 1988), or create incentives for cooperation with local partners. Thus, the effect of legal restrictions is often merely legal or economical.
On the other hand, a country’s openness to foreign investment is thought to facilitate operations in the market and make full ownership in the country more attractive. FDI can be defined as “the control of business activities which take place in one country (‘host country’) by a firm based in another country (‘home country’)” (Benito 2012) and usually means ownership over at least 10% equity stake in a company. Thus, openness to FDI can be seen as another type of foreign ownership regulations in the host-country. Morschett, Schramm-Klein, and Swoboda (2010) have found that results regarding openness to FDI are inconclusive (based on 3 studies). Thus, the hypothesis that “a host country’s openness to FDI is positively associated with wholly owned subsidiaries rather than cooperative modes of entry” has not been supported.

Brouthers (2002) have found support for the hypothesis that “firms entering countries with few legal restrictions on mode of entry tend to use wholly-owned modes while firms entering countries with many legal restrictions on mode of entry tend to use joint venture modes”. He has also found that companies tend to use wholly-owned modes when perceived transaction costs are high and investment risk is low, but they prefer joint venture modes when the transaction costs are low and investment risk is high.

**H1a. Restrictions on foreign ownership decrease the probability of wholly-owned subsidiary as an entry mode choice.**

Gatignon and Anderson (1988) have also found empirical support for their hypothesis about choice of joint ventures as an entry mode when the host country legally restricts foreign ownership. Ahmeda et al. (2002) argue that the existing restrictions on foreign ownership can force companies to use joint ventures and/or licensing agreements. This prevents the company’s foreign operations integration. Studying foreign investment practices, Stopford and Wells (1972) observed that companies more often use joint venture and licensing in countries with foreign ownership restrictions.

**H1b. Restrictions on foreign ownership increase the probability of joint venture as an entry mode choice.**

The meta-analysis conducted by Morschett, Schramm-Klein, and Swoboda (2010) confirms that restrictions are a negative antecedent for the choice of a wholly-owned subsidiary and are positively associated with cooperative entry
modes. These results consider both the situation when the wholly-owned subsidiary is fully prohibited and the situation when other restrictive measures (i.e., requirements for specific permission for WOS) exist and are very consistent. Even though, Svendsen and Haugland (2011) have found support for the hypothesis that state influences in the export market on the one hand and formal contracting and relational norms on the other are negatively related. The restrictive regulations in the host country against foreign ownership change the companies’ preferences towards cooperative modes of entry.

**H1c. Restrictions on foreign ownership increase the probability of using contractual entry modes.**

**H1d. Restrictions on foreign ownership increase the probability of exporting as an entry mode choice.**

**Contract enforcement**

Contract enforcement is another important legal factor when it comes to international institutional arrangements. Contracts enforceability measures “the efficiency of the judicial system in resolving a commercial dispute” (Doing Business 2012a).

Zhou and Poppo (2010) have investigated the role of legal enforceability with regard to contract explicitness. They have supported the hypotheses about contract explicitness which state that when the perceived legal enforceability is higher:

1) the relationship between asset specificity and contract explicitness is stronger;
2) the relationship between environmental uncertainty and contract explicitness is stronger;
3) the relationship between behavioral uncertainty and contract explicitness is stronger.

They haven’t found support for the assumption about weaker effect of relational reliability on contract explicitness when perceived legal enforceability is higher. However, they still have found that “the effect of contract explicitness on
relational reliability is weaker when perceived legal enforceability is high rather than low” but the effect is not significant.

Monitoring and enforcing the contracts are among the factors that affect transaction costs when dealing with foreign partners. Brouthers and Nakos (2004) state, that the ability to enforce contracts characterizes environmental uncertainty of the host country together with ability to control other political and legal risks. Henisz (2000) has investigated the influence of contractual and political hazards. He has found that the probability of a majority-owned plant as an entry mode increases in the level of independent contractual hazards and decreases in the level independent political hazards. Also, “the probability of choosing a majority-owned plant as a market entry mode is magnified in the presence of political hazards” (Henisz 2000).

Companies are sensitive to contractual risk-related attributes, such as contract enforceability (Agarwal and Ramaswami 1992). Majocchi, Mayrhofer, and Camps (2010) have found support for the hypothesis that the lower the efficiency of contract enforcement, the more likely the company will choose joint ventures rather than non-equity-alliances. The same is applicable to the higher political hazard in a country.

H2a. Contract enforceability decreases the probability of wholly-owned subsidiary as an entry mode choice.

H2b. Contract enforceability decreases the probability of joint venture as an entry mode choice.

Baena (2012) studying the Spanish franchisors operating in the Middle East has come to conclusion that the efficiency of contract enforcement is among the most important host country factors. Efficiency of contract enforcement is especially important for franchisors, licensors, and other contractor, because their brand names, patents, and trademarks that can be misused by opportunistic foreign partner. Logically, contract enforceability makes the contractual entry modes easier and safer.

H2c. Contract enforceability increases the probability of using contractual entry modes.
H2d. Contract enforceability increases the probability of exporting as an entry mode choice.

Investor protection

Investor protection can be also seen as an important legal factor when it comes to international institutional arrangements. It indicates how much the investors are protected against such issues as directors’ misuse of corporate assets for personal gain or self-dealing, for example (Doing Business 2012b). Investor protection plays an important role when it comes to different types of entry modes (Neto, Brandão, and Cerqueira 2008).

For example, Rossi and Volpin (2004) have found that companies, which come from countries with weaker investor protection, are more likely to be acquired than similar companies from countries with stronger investor protection, while the acquiring companies are more likely to be from countries with relatively stronger investor protection. Neto, Brandão, and Cerqueira (2008) have found that investor protection seems to influence only mergers and acquisitions and do not have influence on other FDI and greenfield investments. Overall, it is logical to assume that investor protection has a positive influence on the choice of equity-based entry modes and negative influence on the choice of cooperative modes of entry.

H3a. Investor protection increases the probability of wholly-owned subsidiary as an entry mode choice.

H3b. Investor protection increases the probability of joint venture as an entry mode choice.

H3c. Investor protection decreases the probability of using contractual entry modes.

H3d. Investor protection decreases the probability of exporting as an entry mode choice.

International trade and protectionism

Legal regulations of the international trade and protectionist policies characterize the openness of the host country to imports and can be seen as
restrictions for the exporting entry modes. Trade barriers restricting the entrance via exports force companies to look for other entry modes.

The experience gained via prior exports can motivate the company to establish a wholly-owned subsidiary (Singh and Kogut 1989). International companies are more confident in successful entrance in a market if they or similar foreign firms have achieved some success selling products in the host country. According to Morschett, Schramm-Klein, and Swoboda’s meta-analysis (2010), trade barriers don’t have a significant influence on the entry mode choice based on the available data (3 studies). Tariff barriers are commonly named among the market barriers that make the access to the foreign market more difficult (Koch 2001). Generally, it seems logical that the protectionism is negatively related to exporting, while it might positively influence the other possible entry mode choices.

**H4a.** Protectionism increases the probability of wholly-owned subsidiary as an entry mode choice.

**H4b.** Protectionism increases the probability of joint venture as an entry mode choice.

**H4c.** Protectionism increases the probability of using contractual entry modes.

**H4d.** Protectionism decreases the probability of exporting as an entry mode choice.
Proposed Methodology and Data Collection

To answer the research question the further presented methodology will be used.

Methodology

The previously discussed hypotheses can be tested using the following simplified model:

The model includes two types of variables, which present different type of information:

1) Dependent variables which characterize the different type of the entry mode (wholly-owned subsidiary, joint-venture, contractual entry mode, exporting) and can be seen as company (microeconomic) information;

2) Independent variables which characterize the different elements of the host-country regulatory environment (restrictions on foreign ownership, contract enforceability, investor protection, international trade and protectionism) and can be seen as country (macroeconomic) information.

The entry mode choice is influenced by a variety of factors and not only by factors that characterize the host country legal environment. This variety of
factors also consists of country- and company-level factors. To control for their influences the following control variables with regard to both company and country factors will be used:

- At the company level: profitability, general entry mode strategy;
- At the country level: the economic growth, corruption.

**Data collection**

Since the data needed for this research is two types, it will be collected in different ways.

Macro-level – country – data will be collected from the secondary sources using the databases of different international organizations. The macroeconomic data for the regulatory institutional environment factors (restrictions on foreign ownership, contract enforceability, investor protection, international trade and protectionism) will be collected from Doing Business Ranking conducted by the International Financial Organization (World Bank Group). The needed macroeconomic data for control variables will be acquired from different sources. World Bank Data information about economic growth and Transparency International Corruption Perceptions Index as a measure of corruption will be used.

Micro-level – company – data will be collected directly from companies through the survey. If needed, additional information from annual reports will be used.

The target for the sampling is the international firms ideally operating in different markets and using various entry modes among them. The sample will be built of Ukrainian and Norwegian companies. The non-probability convenience sampling will be used in this study. The potential respondents will be found through acquaintances, colleagues, and professors etc., using their personal and professional networks. So, companies will be mainly approached through personal contacts.

Since the sample size should be big enough to provide significant conclusions, the sample size is expected to be at least 80-120 companies’ cases. In order to avoid lack of data we will try to reach as many respondents as possible.
The questionnaire will have a plain structure and will be divided into two parts. The first part will include questions about general company information: capital, size, ownership, HQ, year of foundation. In the second part the participants will be asked to provide information about their entry strategies: they will be asked to name 1-5 foreign markets where they still operate, entry modes applied there while first entering, year of entrance to those markets, and if the entry mode has been changed to another operation mode.

To avoid rejections the questionnaire will be designed so that it minimizes cost and time required to answer it. Also, the social exchange theory will be applied (Dilman 2006). It will be mentioned that the research looks into the areas which have obtained little attention and have provided contradicting conclusions, and, thus, the further research is needed. The respondents will be able to receive the research results when it will be completed.

Since the questionnaire will be developed in English, it will be translated, if needed, into Ukrainian and Norwegian languages and then back translated in order to provide correct questionnaire presentation.

The answers will be collected in a special database and later aligned with macroeconomic information about specific countries.

**Validity and reliability**

When it comes to drawing conclusions from proposed research model, they should be both valid and reliable.

Cook and Campbell (1979) have identified four types of validity. First of them is statistical conclusion validity which refers to the appropriate use of statistics and helps to answer the question about relationships existence between variables. In current research it will be gained through correct usage of statistical methods. A covariance-correlation analysis will be done to check if the assumed relationships exist. To analyze the collected data the logistic regressions will be run in SPSS. The statistical significance of the gained results and explanatory power of the model will be taken in the account while drawing conclusions.

Since the existing research states that the institutional environment influence institutional arrangement, the relationship between regulatory
institutional environment in the host-country and the chosen entry mode can be seen as causal. Thus, when it comes to the second type of validity – internal validity, the current study is seen as valid.

To assess the third type of validity – construct validity, convergent and discriminant validity will be assessed based on the conducted data analysis. Convergent validity means that constructs that are theoretically related are related in the reality, while discriminant validity works in the same way when it comes to concepts that are not theoretically related (Research Methods Knowledge Base 2006a). Thus, the conclusion about construct validity will be based on the made covariance-correlation analysis.

The fourth type of validity – external validity – is the most important, because it involves generalizations (Research Methods Knowledge Base 2006b). Thus, since the sample is drawn from the population of the international companies, the results can be automatically generalized for this population. Also, the proximal similarity model suggested by Donald T. Campbell can be applied (Research Methods Knowledge Base 2006b). It will let to build a special generalizing model, which implies different contexts (different combinations of regulatory environment factors), so that it will be possible to generalize the findings to similar cases.

The reliability of the model will be estimated through the different types of measurement error checking, since it deals with the quality of measurement (Research Methods Knowledge Base 2006c). The results will be integrated with the validity measurement.
Miscellaneous

The current research is conducted as a Master thesis which is a part of Master of Science in International Management Program and is planned to be finished within the deadline on the 1st of September 2013. Through the thesis progress some parts of the study might be reviewed and adjusted.

The further research progress and the plan for data collection and analysis can be divided into three stages. First of all, the questionnaire for the company-level data collection will be built and tested. This part of the study is planned to be finished at the end of February 2013.

The second stage of research progress includes the distribution of the questionnaire among companies and data collection from them. At the same time the needed data from the secondary sources will be assessed. Based on the acquired information the data set for the further analysis will be created. This part of the study is planned to be done in March and April and to be finished before May.

The third, and the last, stage of the thesis writing consists mainly of the data analysis. The results of the conducted analysis will be discussed and interpreted with regard to previously done literature review and developed hypotheses. Based on that discussion the conclusions, empirical implications, and propositions for further research will be drawn. This part of the research will be finished until the deadline for the Master thesis.
Reference list


