

Dissertationes Forestales 180

Internationalization of the forest industry: a corporate-level analysis

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Academic dissertation

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ABSTRACT

With far-reaching impacts of economic globalization, the internationalization process of the forest industry has been accelerated. Particularly since the 1990s, internationalization has progressed intensively through industry consolidation and production relocation. Within the wood and wood products sector, for example, world inward foreign direct investment (FDI) stocks increased from 20 billion US dollars in 1990 to more than 120 billion US dollars in 2011. Forest industry firms have geographically shifted their operations from traditional production bases in developed countries to emerging Asian and Latin American countries. The share of FDI flows into developing and transition economies has grown from 18.8% in 1990–1992 to 73% in 2009–2011.

The internationalization process of the forest industry has induced multifaceted concerns from economic, strategic, and environmental perspectives at both country and corporate level. However, the actual consequences of such expansion are still largely unknown. It is therefore important to study the current status of the forest industry's internationalization process and to explore drivers and goals of this process.

The theoretical background of this thesis is mainly based on the internationalization and FDI theories portrayed in international business literature. A systematic literature review, a qualitative case study and cross-sectional regression analysis have been applied methodologically. China is used as an example in two of the empirical studies, as it is the most attractive FDI destination in the global forest sector. This thesis conceptually depicts a framework of the systematic internationalization process of the forest industry. Empirically, three themes are identified as focal topics; namely corporate financial performance, corporate sustainability, and corporate entry mode choice. Managerial implications derived from this thesis indicate that (1) firms could aim for either internationalized or domestic-oriented operational strategies to pursue higher financial performance; (2) firms should implement social and environmental assessment to maintain sustainable overseas operations; and (3) firms ought to accumulate operational experience and familiarity with local culture before investing in a wholly owned subsidiary. In general, this thesis concludes that internationalization is a dynamic process of pursuing sustainable development to tackle physical forest resource constraints, socio-economic challenges, and corporate operational risks at the global operations scale. Topics related to the analysis of new innovative products, collaboration with supporting industries, and the consideration of sustainability as corporate core competitive advantages are worthy of future research aiming to analyze the further internationalization process of the forest industry.

Keywords: Internationalization, FDI, forest industry, financial performance, sustainability, entry mode choice

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Helsinki, Finland, September 2014

Yijing Zhang

LIST OF ORIGINAL ARTICLES

This dissertation consists of the following four articles, which are referred to by their Roman numerals, in addition to the summary. All of the articles are reprinted with the kind permission of publishers.

- I** Zhang Y., Toppinen A., Uusivuori J. (2014). Internationalization of the forest products industry: A synthesis of literature and implications for future research. *Forest Policy and Economics* 38: 8-16.
- II** Zhang Y., Toppinen A. (2011). Internationalization and financial performance in the global forest industry. *International Forestry Review* 13(1): 96-105.
- III** Toppinen A., Zhang Y., Hansen E., Korhonen-Kurki K., Li N. (2014). Role of corporate responsibility: Insights from three forest-industry multinationals investing in China. In: *Forests under pressure: Local responses to global issues*. Katila P., Galloway G., Jong W., Pacheco P., Mery, G. (Eds.). IUFRO Special Project on World Forests, Society and Environment. p. 217-228.
- IV** Zhang Y., Luo W., Toppinen A. (2014). Determinants of equity-based entry mode choice in the forest sector: The case of China. *Scandinavian Journal of Forest Research*.
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TABLE OF CONTENTS

ABSTRACT	3
ACKNOWLEDGEMENTS	4
LIST OF ORIGINAL ARTICLES	5
1. INTRODUCTION	7
1.1 Internationalization of the forest industry under economic globalization.....	7
1.2 Aim of research.....	11
2. REVIEW OF INTERNATIONALIZATION RESEARCH IN THE FOREST INDUSTRY	11
2.1 Macro-level internationalization research in the forest industry	11
2.2 Micro-level internationalization research in the forest industry.....	15
2.3 Forms of internationalization in the forest industry	17
2.4 Goals of internationalization in the forest industry	17
3. METHODOLOGY AND RESULTS	20
3.1 Article I: Internationalization of the forest products industry: A synthesis of literature and implications for future research.....	21
3.2 Article II: Internationalization and financial performance in the global forest industry	22
3.3 Article III: Role of Corporate Responsibility: Insights from Three Forest-Industry Multinationals Investing in China.....	23
3.4 Article IV: Determinants of Equity-Based Entry Mode Choice in the Forest Sector: the Case of China.....	24
4. DISCUSSION AND CONCLUSION	25
4.1 Contribution of this thesis.....	25
4.2 Discussion and themes for future research	26
4.3 Limitations of this research and conclusions	29
REFERENCES	30
APPENDIX.....	49

1. INTRODUCTION

1.1 Internationalization of the forest industry under economic globalization

Along with economic development, production, markets, and technologies have been transferred across national borders through trade and investment. Closer interdependence of national economies has led to economic globalization, affecting the performance of all participants. To promote national interconnections, the General Agreement on Tariff Trade (GATT) and the World Trade Organization (WTO) aims at stimulating the reduction of trade barriers and enhancing the national trade of products, services, capital, and technology. Regional arrangements such as Asia-Pacific Economic Cooperation (APEC), the European Union (EU) and the North American Free Trade Agreement (NAFTA) have most likely provided impetus to trade and investment growing across geographical borders (APEC 2014; European Commission 2014; NAFTA 2014).

With far-reaching impact from economic globalization, the internationalization process of the forest industry has been accelerated. Compared to other manufacturing industries however, the internationalization of the forest industry began late, especially the direct investment overseas (Zhang et al. 2014). Low tariffs may be one major reason slowing down direct investments between nations, and trade is still the mainstream of the international business in the forest industry. Figure 1 shows the export value trend of forest products, which has increased from 133 billion USD in 1997 to 246 billion USD in 2011 (FAOSTAT 2014). The largest exporters and importers of forest products are listed in Table 1. The Russian Federation is the world largest industrial roundwood exporter, Canada is the largest exporter of sawnwood and pulp for paper, and China, the US, and Germany are the largest exporters of wood-based panels, recovered paper, and paper and paperboard respectively. From the importer perspective, China is the largest importer of industrial roundwood, sawnwood, pulp, and recovered paper, whereas the US acts as the largest importer of wood-based panels, and Germany is the largest importer of paper and paperboard (FAOSTAT 2014).

Internationalization (direct investment in particular) of the forest industry originally began from the bilateral investment between developed countries (North America, European countries). However, since the 1990s the internationalization process of the forest industry has significantly accelerated and expanded. Within the wood and wood products sector e.g., world inward FDI stocks accumulated from 20 billion USD in 1990 to more than 120 billion USD in 2011 (Figure 2). The market demand increase and the availability of forest raw materials restructured forest industry firms, leading them to focus operations from traditional production bases in developed countries to emerging Asian and Latin American countries (Toppinen et al. 2010). As a result, the share of FDI flows into developing and transition economies has increased from 18.8% in 1990–1992 to 73% in 2009–2011 (WIR 2013) (Figure 3). Theoretically, drivers behind the internationalization process have varied over time and place, but generally fall into categories of institutional, cultural, political, organizational and managerial realms (Elango 1998; Morten et al. 2008). In the forest industry, reduction of capital and transaction costs, enrichment of marketing channels, and mitigation of regional overcapacity have been found to motivate the corporate international expansion (e.g. Laaksonen-Craig 2008; Nagubadi and Zhang 2008).

Emerging countries (e.g. China, India, and Brazil) have played an important role as recipients of direct investments in the forest industry. Based on the newest World Investment Prospects Survey 2013–2015 (United Nations 2013), China is regarded as the most attractive FDI host economy. The large paper and wood products demand, low production costs and the stable economic environment play the most important role in attracting foreign investment to China (FAO 2009). In addition, Southeast Asia and Latin American countries have been targeted as hot spots of direct investment. Pressures created by the decreasing availability of natural forests and their limited utilization for commercial purpose force the global wood-based raw material supply chain to shift towards tropical fast growing forest areas.

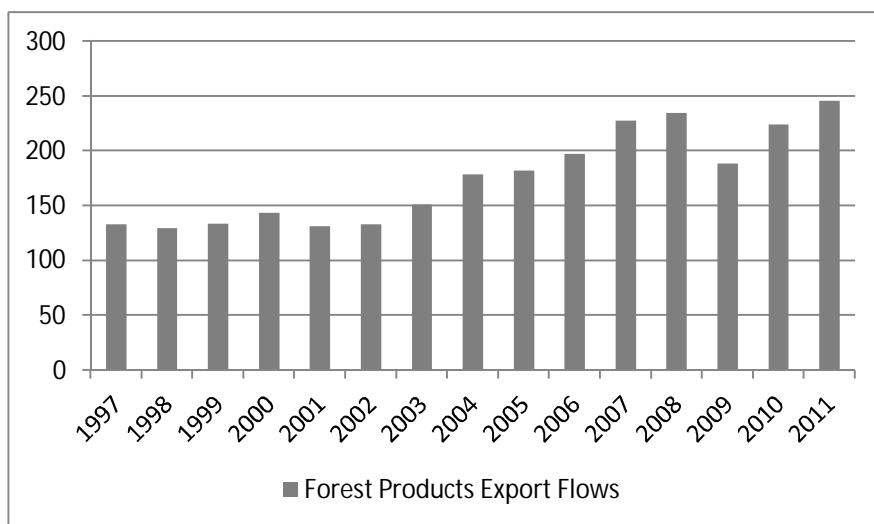


Figure 1. The nominal export value (Billions of dollars) of forest products from 1997 to 2011 (Source: FAOSTAT 2014)

Table 1. The largest exporters and importers of forest products (2012) (Source: FAOSTAT 2014)

Forest products	Largest exporter (share of export amount)	Largest importer (share of import amount)
Industrial roundwood	Russian Federation (16%)	China (33%)
Sawnwood	Canada (21%)	China (18%)
Wood-based Panel	China (18%)	USA (11%)
Pulp for paper	Canada (18%)	China (30%)
Recovered paper	USA (34%)	China (51%)
Paper and paperboard	Germany (13%)	Germany (10%)

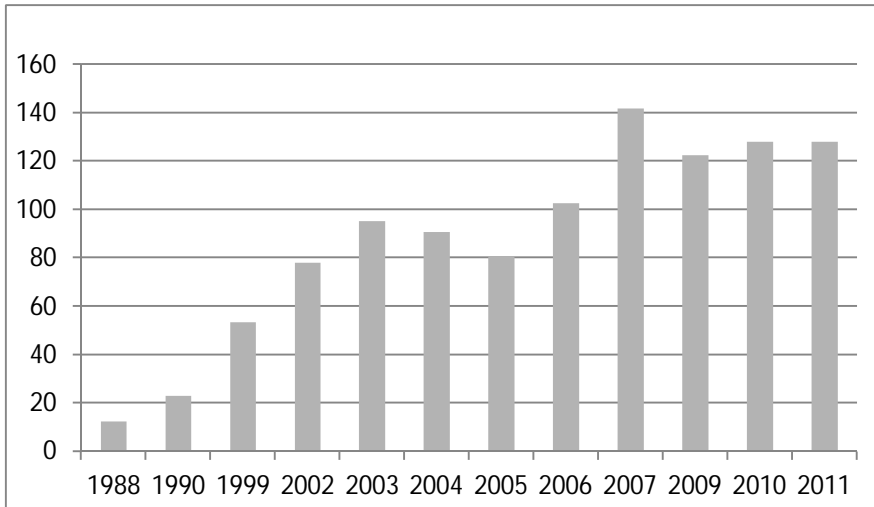


Figure 2. World inward FDI stock (Billions of dollars) in the wood and wood products sector from 1988 to 2011. (Data source: WIR 2001; 2004; 2005; 2006; 2007; 2008; 2009; 2011; 2012; 2013)

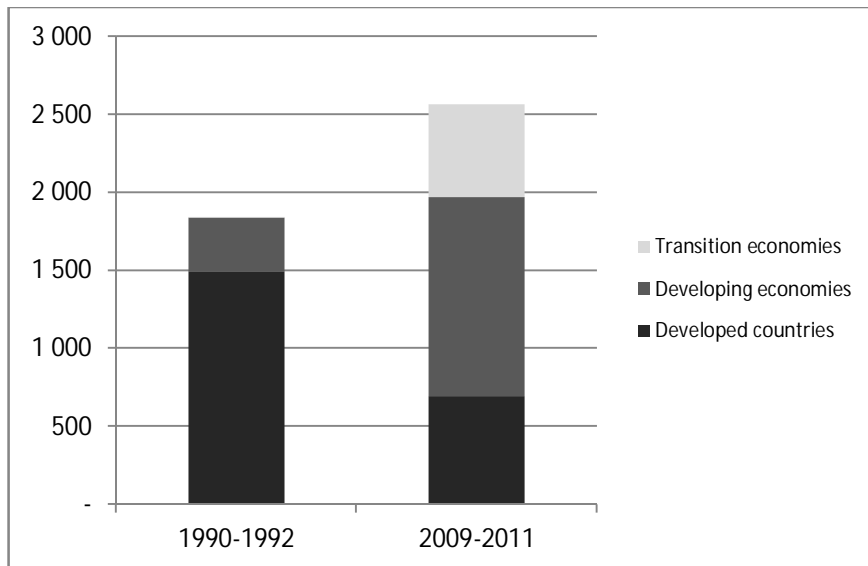


Figure 3. Comparison of wood and wood products FDI inflows (Millions of dollars) between 1990–1992 and 2009–2011. (WIR 2013)

From the corporate perspective, firms may seek for markets, resources, and operational efficiency through foreign expansions (e.g. Dunning 1993). In the forest industry, internationalization within the paper and pulp sector is far ahead of the internationalization

within the sawn timber sector, because of the former sector's capital intensiveness, profitability, and the possibility of monopolistic power based on multinational operations (Zhang 1997). A global scaled internationalization is still uncommon among paper and pulp firms in general; however, many firms have already explored neighboring countries or certain regions as targets of foreign investments (Pöyry 2013). Based on the recently published PwC Global Forest, Paper and Packaging Industry Survey (2013), operational profiles of the top five companies are listed in Table 2 below. It can be seen that the leading multinational corporations (MNCs) in the forest industry have a comparatively high ratio of foreign employees to total employees (reaching 53.4% on average). Among the largest companies, Kimberly Clark has the highest ratio of foreign employees and number of operation countries. However, its B-to-C business mode differs significantly to the other companies' B-to-B forest business. In general, firms in the forest industry have suffered from over-capacity and low profitability during the 2000s, and strategic changes are needed in the long term to add product value, minimize production costs, and accelerate technological innovations (Uronen 2010; Wan 2014).

Internationalization has also raised massive environmental concerns, and the sustainable development of the forest industry has evoked multi-stakeholders' reactions. From the policy perspective, legislations particularly in developed economies (e.g. Lacey Act in the US; the EU Timber Regulation) have prohibited illegally harvested forest products, and this could induce forest industry firms to strengthen responsible and sustainable operations in both domestic and international business contexts (e.g. Manoharan 2013). From the market perspective, the implementation of marketing mechanisms and international conventions (e.g. forest certification, ISO standards) increases the demand for green-image forest products, which forces forest industry firms to upgrade production technologies to maintain market shares (Auld et al. 2008; Toppinen et al. 2014). From the non-government organization perspective, a constant exposure of irresponsible corporate behavior (e.g. illegal logging and natural forest devastation) for public accountability also places pressure on forest industry firms to operate sustainably. From the corporate perspective, the adaptation of transparent and responsible reporting (e.g. through the Global Report Initiative) to legitimize and expose corporate operations (Li and Toppinen 2011; Toppinen et al. 2012) gives positive signals of sustainable operation, particularly for MNCs.

Table 2. Internationalization status of the Top 5 forest, paper and packaging firms (Source: corporate annual reports 2013)

Top 5	Name of company	Country	Sales (Millions of dollars)	Number of operation countries	Ratio of foreign employees
1	International Paper	US	27,833	24	40%
2	Kimberly Clark	US	21,063	37	75%
3	Oji Paper	Japan	15,161	14	36%
4	UPM-Kymmene	Finland	13,423	14	60%
5	Stora Enso	Finland	13,398	18	56%

1.2 Aim of research

The internationalization process of the forest industry has induced multifaceted concerns from economic, operational, and environmental perspectives at both country and corporate levels. Industry consolidation and production relocation have gradually shifted forest industry operation from developed to developing countries, and according to WIR (2013), developed countries absorbed only 27% of total FDI inflows in 2009-2011. At the corporate level, forest industry firms also seek international operational strategies to maintain their competitiveness. However, consequences of the international expansion of forest industry are still largely unknown. It is therefore worth to study the current status of the forest industry's internationalization process and to explore drivers and goals of this process.

Sub-study research objectives:

The first objective of this thesis is to review earlier literature concerning the internationalization of the forest industry, point out existing research gaps and provide research proposals for future empirical research. (Article I)

Based on the proposed research topics, corporate financial efficiency was chosen as the research target. The research focus of this empirical study is the relationship between corporate financial performance and its degree of internationalization. (Article II)

The objective of Article III is to explore the scope of corporate responsibility of internationalized firms in the forest industry. Using case study approach, this research compares different investment strategies and the implementation of the corporate social responsibility practices among three forest industry MNCs in China.

The objective of Article IV is to investigate the foreign entry mode strategy of forest industry firms. China is chosen as the investment destination, and the research question is which factors affect corporate entry mode choices between wholly owned subsidiaries (WOS) and joint ventures (JV).

2. REVIEW OF INTERNATIONALIZATION RESEARCH IN THE FOREST INDUSTRY

Internationalization is defined as a process involves and adapts corporate operations (strategy, structure, resources, etc.) into the international environment (e.g. Welch and Luostarinen 1988; Calof and Beamish 1995). It includes not only the expansion process of inward and outward international activities and international investments, but also involves de-internationalization processes that allows voluntary or forced actions to reduce a corporate current cross-border activities (Benito and Welch 1997). Given that internationalization is a multifaceted phenomenon involving participants from international, national, industrial, corporate, and individual levels, internationalization research in the forest industry needs to be reviewed from different perspectives.

2.1 Macro-level internationalization research in the forest industry

National and international circumstances (e.g. competition, interdependence, and economic

integration between nations) provide a basic ground for industrial cross-border expansion through both trade and investment. Back in the 18th century, Smith (1776) mentioned the factor-based advantages of a nation (e.g. capital, labor, resources) as the most important determinants of international trade. The Double diamond model (Rugman 1991; Rugman and D'Cruz 1993; based on Porter's diamond model, 1990) further expanded Smith's (1776) theory by bringing in the demand condition, supporting industry, and firm strategy as national-level advantages of the international business. With regard to international investment, institutional theories (e.g. North 1990; Peng 2002) have suggested institutional environment at the country level to be the determinant of foreign investments. Besides, the eclectic theory by Dunning (1977; 1980; 1988) also demonstrated the importance of location advantages (e.g. economic, political, social, and cultural advantages) from the firm perspective when competing with local competitors.

Forest industry research focusing on internationalization is summarized in Table 3. From the bilateral or international trade perspective, exchange rate has been a research focus and it has been argued to impact both the short- and long-term changes of export and import prices and volumes (e.g. Uusivuori and Buogiorno 1990; Hänninen and Toppinen 1999; Zhang and Buogiorno 2010). Nordic and North American countries have been highly focused in terms of how the fluctuation of exchange rate and currency value impacts the change of trading volumes and wood products prices (e.g. Uusivuori and Buogiorno 1990; Hänninen and Toppinen 1999; Bolkesjo and Buogiorno 2006; Baek 2007). In general, short run changes in exchange rate affect more bilateral forest products trade than the long run level, but research results differ among target research countries and product categories. Tariffs and policies concerning global trade liberalization (e.g. NAFTA, GATT, and WTO) have also gained the attention of several researchers. Tariff reductions were mostly concluded to positively impact the international trade of forest products (e.g. Bourke and Leitch 1998; Gan and Ganguli 2003; Gan 2004). Market demand of forest products and forest resource availability were also considered as important determinants influencing the international trade of forest products (e.g. Bonnefoi and Buogiorno 1990; Hujala et al. 2013).

From the foreign investment perspective, the impact of exchange rates has been comparatively well studied. Uusivuori and Laaksonen-Craig (2001) concluded that the appreciation of domestic currencies increased outward investments in the US and Sweden. Nagubadi and Zhang (2008; 2011) pointed out that the depreciation of currencies in host countries has had a significant positive effect on FDI outflows. Gross domestic product (GDP) has also been considered a factor impacting FDI. Laaksonen-Craig (2004) concluded that a bi-directional causality exists between FDI and GDP in developing countries. The bilateral FDI between the US and Canada indicated that home country GDP has a negative impact (Nagubadi and Zhang 2011). Market demand and resources have been argued as advantages for both home and host countries to attract forest industry FDI's (e.g. Zhang 1997; Laaksonen-Craig 2004; 2008). In addition, national policies supporting openness and encouraging investment could have positive impacts on inward FDI flows (Pearse et al. 1995; Laaksonen-Craig 2004; 2008). National-level foreign investment research has generally focused on economic, political, and market-related factors for analyzing their impacts on FDI. Developed countries have commonly been chosen as the research focus, whereas only two South American developing countries (Brazil, Chile) were studied by Laaksonen-Craig (2004; 2008).

The liability of foreignness has been regarded as a main obstacle for foreign investments (e.g. Zaheer 1995; Matsuo 2000). However, besides economic liabilities (e.g.

investment capitals and operational costs), the liability of foreignness is also impacted by factors beyond economic issues, such as social and cultural circumstances in the host country (Calhoun 2002). Previous research in the forest industry sector rarely considered these factors when analyzing foreign investment. Only Sajasalo (2002) discussed the psychic distance when demonstrating expansion behaviors of the four case companies in the Finnish forest industry. Therefore, in this thesis, Article IV complements the previous literature by including national cultural differences as a potential factor to explain the foreign expansion of firms.

Table 3. Summary of macro-level internationalization research in the forest industry, from the perspective of international trade and foreign investment.

International trade			
Impact	Indicators	Authors	Case country
Economic	Exchange rate	Uusivuori and Buogiorno 1990	Finland, Sweden
		Lyke 1998	North America
		Hänninen and Toppinen 1999	Finland
		Kim et al. 2003	Korea
		Sun and Zhang 2003	USA
		Wunder 2005	Gabon, Cameroon, Papua New Guinea, Venezuela, Ecuador
		Bolkesjo and Buogiorno 2006	USA
		Baek 2007	USA, Canada
		Daigneault et al. 2008	USA
		Li and Zhang 2008	China
		Zhang and Buongiorno 2010	USA
		Baek 2012	USA, Canada
		Hujala et al. 2013	Multiple nations
		Tariffs	
Zhu et al. 2001	180 countries		
Stennes and Wilson 2005	USA, Canada		
Solberg, et al. 2010	Russia		
Sun et al. 2010	180 countries		
GDP		Limaiei et al. 2011	Iran
		Cheng et al, 2013	USA
		Hujala et al. 2013	multiple nations
Production cost domestic wood price		Stennes and Wilson 2005	USA, Canada
		Li and Zhang 2008	China
		Baek 2012	USA Canada
Policy		Boyd and Krutilla 1991	USA
		Gan and Ganguli 2003	USA
		Gan 2004	China
		Daigneault et al. 2008	USA
		Li and Zhang 2008	China

		Lundmark and Mansikkasalo 2009	EU
		Zhang and Li 2009	China
Market and Demand		Bonnefoi and Buongiorno 1990	Multiple nations
		Lyke 1998	North America
		Wunder 2005	Gabon, Cameroon, Papua New Guinea, Venezuela, Ecuador
		Dieter and Englert 2007	Germany
		Li and Zhang 2008	China
		Limaei et al. 2011	Iran
		Hujala et al. 2013	Multi-nations
Resources	Forest endowment	Uusivuori and Tervo 2002	18 countries OECD
		Li and Zhang 2008	China
		Zhang and Li 2009	China
		Lundmark 2010	EU member
		Hujala et al. 2013	Multiple nations
	domestic wood production	Limaei et al. 2011	Iran
Supporting industry	housing starts	Baek 2012	USA, Canada
Distance		Li and Zhang 2008	China
Foreign investment			
Impact	Indicators	Authors	Case country
Economic	Exchange rate	Uusivuori and Laaksonen-Craig 2001	USA, Finland, Sweden
		Nagubadi and Zhang 2008	USA, Japan
		Nagubadi and Zhang 2011	USA, Canada
	GDP	Laaksonen-Craig 2004	USA, Canada, Brazil, Chile
		Nagubadi and Zhang 2011	USA, Canada
	Per capita income	Nagubadi and Zhang 2008	USA, Japan
capital/labor costs	Nagubadi and Zhang 2008	USA, Japan	
Policy		Pearse et al. 1995	Canada
Market and demand		Pearse et al. 1995	Canada
		Zhang 1997	USA
		Laaksonen-Craig 2008	Brazil, Chile
Resources		Zhang 1997	USA
		Laaksonen-Craig 2004	USA, Canada, Brazil, Chile
		Laaksonen-Craig 2008	Brazil, Chile
		Nagubadi and Zhang 2011	USA, Canada

2.2 Micro-level internationalization research in the forest industry

Corporate internationalization can be depicted as a process of adapting firms' operations into the international environment (Calof and Beamish 1995). Several internationalization theories have explored mechanisms behind corporate expansion behavior. Vernon's (1966) product life cycle theory illustrated corporate expansion over product growth stages from the new product, growth product, and mature product to the obsolete product. Transaction costs and internalization theories (e.g. Williamson 1975; 1985; Buckley and Casson 1976) demonstrated that firms internalize external resources to reduce transaction costs in an imperfect market. Nordic school (IP, Uppsala model: Johanson and Wiedersheim-Paul 1975; Johanson and Vahlne 1977; 1990) and innovation-based models (e.g. Bilkey and Tesar 1977; Cavusgil 1980) considered internationalization a gradual expansion process towards which corporate behavior is driven by the accumulation of knowledge and experiences. Theories on firm-specific advantages have argued the importance of corporate know-how (e.g. specific, transferable, and difficult to mimic) as a competition premium in the host market (e.g. Hymer 1960; Rugman 1981). Moreover, entrepreneur ability, customer behavior, and network building have also affected corporate expansion behavior (e.g. Johanson and Mattsson 1988; Calof and Beamish 1995; Cardone-Riportella et al. 2003).

In the forest industry, relevant literature concerning micro-level international trade and foreign investment has been summarized in Table 4. Although only corporate-level determinants of internationalization are listed in the table, the importance of the macro-level environment influencing corporate expansions cannot be ignored. For example, by comparing corporate operational and managerial strategies of Norwegian and Finnish forest industry companies, Moen and Lilja (2001) concluded that differences in national business systems have long-term structural effects on the nature of firm's product portfolios and managerial strategies. Similarly, Laurila and Ropponen (2003) also concluded that foreign expansion cannot be adequately understood without reference to the institutional environment in which it originated.

Only a few studies have focused on corporate-level exporting strategies from the international trade perspective. By studying the exporting behavior of North American firms to Japan, Eastin et al. (2004) concluded that firm size, shortened distribution channels, product mix, company presence in Japan, and intimate customer relationship are closely related to export success. Similarly, Parhizkar et al. (2010) targeted the exporting behavior of US firms and concluded the importance of distribution channels and partner relationships to export success. Laaksonen-Craig and Uusivuori (2006) explored firm-level exports, foreign sales and R&D investments, and concluded that R&D investments had impact on firms' exports rather than foreign sales during the 1980s, but such impact diminished in the 1990s. These results are consistent with general international trade studies which find export success to be impacted by both internal (strategy, management, firm characters) and external (domestic and foreign markets) factors (e.g. Sousa et al. 2008).

From the foreign investment perspective, Kuittinen et al. (2010) investigated global pulp and paper companies and concluded that the investment in fixed assets (e.g. capital expenditure in green field mills, pulp) appears to create more value than the acquisition of existing production capacities, suggesting that different investment strategies influence the profitability and value creation ability. Laurila and Ropponen (2003) used a case study approach to describe the change in ownership and board composition of three Finnish

companies from the corporate management perspective, and concluded that a large proportion of a company's foreign ownership might orient toward an external operational strategy. In general, corporate-level research focusing on trade and foreign investment is still very limited, and the empirical results fragmentally support the internationalization theories. Thus, more studies on the corporate level are needed, especially focusing on developing countries. To fill the gap, this thesis empirically dedicates its focus on China as a case country.

Table 4. A summary of micro-level internationalization research in the forest industry, from the perspective of international trade and foreign investment.

International trade			
Impact	Indicators	Authors	Case country
Corporate profile	corporate history	Brodrechtova 2008	Slovakian companies
	Firm size	Eastin et al. 2004	North American companies export to Japan
	Product mix	Eastin et al. 2004	North American companies export to Japan
Management	Distribution channels	Eastin et al. 2004	North American companies export to Japan
	Logistics	Parhizkar et al. 2010	USA exports to Mexico, Europe, Asia
R&D investment		Laaksonen-Craig and Uusivuori 2006	Finnish companies
Customer relationship		Eastin et al. 2004	North American companies export to Japan
		Parhizkar et al. 2010	USA exports to Mexico, Europe, Asia
Foreign investment			
Impact	Indicators	Authors	Case country
Investment strategies		Kuittinen et al. 2010	Global pulp and paper companies
R&D investment		Laaksonen-Craig and Uusivuori 2006	Finnish companies
Management	Corporate ownership	Laurila and Ropponen 2003	Three Finnish paper companies
	Board composition	Laurila and Ropponen 2003	Three Finnish paper companies

2.3 Forms of internationalization in the forest industry

On the national level, forms of internationalization generally include two categories, trade and investments (Morgan and Karsikeas 1997). However, on the corporate level a firm's internationalization process can be depicted from irregular exporting to investing in overseas corporate subsidiaries (Johanson and Weidersheim-Paul 1975; Johanson and Vahlne 1977). Corporate foreign entry mode forms are thus classified as non-equity-based (exporting and licensing) and equity-based (joint venture and wholly owned subsidiary) (Hill et al. 1990; Pan and Tse 2000).

In the forest industry, Nagubadi and Zhang (2008) concluded a complimentary relationship between exporting and FDI outflow in the US and Japan. Similarly, Nagubadi and Zhang (2011) argued that both importing and exporting complement the outward FDI in the US and Canada. Uusivuori and Laaksonen-Craig (2001) contrastingly concluded that FDI and forest products exporting were substitutes in the US in the 1990s, whereas exporting negatively affected outward FDI in Finland and Sweden. No research has focused on the outward FDI of developing countries in the forest industry. Yet, their capabilities of engaging in foreign investment have been shown to be increasing (Gammeltoft 2008). Thus, future research is recommended under this topic.

In addition, there is also a lack of studies paying attention to the comparison of foreign entry mode strategies in the forest industry at the corporate level, although entry mode strategies have been argued to be affected by firm experiences and institutional environments (e.g. Herrmann and Datta 2006; Arslan and Larimo 2011; Dow and Larimo 2011). Article IV fills this gap by aiming to explore the corporate-level entry mode strategy in the case of China.

2.4 Goals of internationalization in the forest industry

Numerous motives for foreign expansion have been suggested, such as market seeking, resource seeking, efficiency seeking, and strategic asset seeking with the intent of gaining market opportunities, accessing natural resources, promoting efficient operations, or augmenting corporate competitive advantages in international business (Dunning 2000). Both proactive (e.g. profit and technological advantage, tax benefit, economies of scale) and reactive motives (e.g. overproduction, competitive pressures, and saturated domestic markets) lead firms to pursue internationalized operations (Czinkota et al. 2004). It has been argued that tangible goals of internationalization (e.g. cost saving) are more easily realized than tacit internationalization goals (e.g. building knowledge, competence) (Vermeulen and Barkema 2002; Wagner 2004). Ruigrok and Wagner (2004) indicated divergent goals of international expansion when distinguishing between financial performance goals and operational performance goals. In the area of internationalization-performance relationship research, the question of how corporate performance reacts under the internationalization process is still under debate; both linear and curvilinear relationships are suggested (e.g. Gomes and Ramaswamy 1999; Lu and Beamish 2004).

In the forest industry, foreign expansion has mostly been argued to be a market- or resource-seeking process (e.g. Zhang 1997; Laaksonen-Craig 2008; Nagubadi and Zhang 2008). Toppinen et al. (2006) explored Finnish forest industry companies from the

operational performance perspective and concluded that internationalized companies outperformed non-internationalized ones. Siitonen (2003) compared the financial performance between North American and European firms and concluded that the degree of internationalization positively associated with corporate performance. As no study has focused on global forest industry firms, Article II analyzed the relationship between corporate financial performance and the degree of internationalization.

The sustainability of internationalization operations has been increasingly researched in recent years (e.g. Laudal 2011; Laasonen 2012; Bondy and Starkey 2014), following the growing global attention on sustainable development since the Brundtland Commission (WCED 1987). To implement the sustainable development based on triple P bottom-line (People, Planet, Profit), firms are expected to integrate social, environmental, and economic concerns into corporate actions in a transparent and accountable manner to create better wealth for society and to maintain sustainable development (e.g. Elkington 1997; Commission of the European Communities 2011). Corporate responsibility (CR) is generally a form of corporate self-regulation aiming to contribute to social and environmental welfare (Moon 2007). The core characteristics of CR are generally described as being voluntary, going beyond philanthropy, connecting practices and values, aiming at social and economic alignment, having multiple stakeholder orientation, and managing externalities (Crane et al. 2013). Motivations of CR range from the social license to corporate competitive advantages (Porter and Kramer 2002; Kolk and Tulder 2010). However, CR is expected to be embedded into the core business of firms (as a strategic activity) rather than bolted on as a separate operation (as a public affairs' concern) (Grayson and Hodges 2004; Kolk and Tulder 2010). In the international business research, for example Chapple and Moon (2005) demonstrated that MNCs dealing with cross border activities are more attentive to CR issues than companies operating only in one country.

Forest industry plays an essential role in reaching green economy goals including low carbon, resource efficiency, and social inclusiveness (UNEP 2011). Because of its direct link to environmental disturbances, forest industry CR is expected to act responsibly as both a producer and a raw material purchaser from both the forest ecological management and community social benefit perspectives (Panwar and Hansen 2009). Forestry firms largely define CR based on activities related to sustainable forest management and accountability (Vidal and Kozak 2008a), social matters have gained increasing attention rather than pure environmental concerns showing a broader set of CR concerns (Vidal and Kozak 2008b). CR practices could legitimize forest firms by demonstrating their commitment to sustainability, as well as decrease the risk of public criticism and market share loss (Jenkin and Smith 1999; Vidal and Kozak 2008b). The Global Report Initiative (GRI) has been gradually applied in the forest industry to legitimize and expose corporate sustainable operations, especially among MNCs (Li and Toppinen 2011; Toppinen et al. 2012). Embedding socially and environmentally responsible practices into corporate core business (Vidal and Kozak 2008b) and applying the proactive strategy (Tuppura et al., 2013) positively impact corporate social performance.

As CR is still largely context-dependent, it might differ substantially from country to country (Freeman and Hasnaoui 2011). Although CR is voluntary and reaches beyond the control of regulations and legislations, the lack of consensus of international regulation on social and environmental issues brings challenges to assess CR globally. Thus, it provides firms with more self-discipline to conduct international operations. Firms in international business need to balance the interests of larger stakeholder groups at both local and global level, as well as to tackle a broader range of social and environmental issues (Vidal et al.

2010). The combination of internationalization strategies and CR considerations in the corporate decision-making process affects corporate competitiveness, profitability, and survival (Porter and Kramer 2006; Kolk and Pinkse 2008; Verbeke 2009). MNCs are argued to favor a “universal strategy” when tackling with local CR issues than a “culturally specific strategy”, which is at odds with the CR spirit of embedding local responsiveness (Bondy and Starkey 2014). In the forest industry, CR is also argued to depend strongly on contextual characteristics and under which firms’ CR activities and priorities are varied (Vidal and Kozak 2008a). For example, Matilainen (2013) argued that foreign firms are a significant impulse for changing the Russian CR from the corporate philanthropy oriented CR to the strategically oriented CR. Forest certifications have also been promoted by foreign investors in Russia. Borregaard et al. (2008) argued that the environmental behavior and impacts are similar between local investors and MNCs in Chile and Brazil. However, local firms lagged in the introduction of forest certification and environmental management systems in comparison to their foreign counterparts. Thus, Article III chose the context of China to explore MNCs’ international CR implementations.

To sum up, internationalization in the forest industry shows a fragmented research focus. Hence, this thesis conceptually depicts the systematic internationalization process of the forest industry (Figure 4, from Article I). Micro and macro level factors are hypothesized to drive the forms of internationalization (from exporting to FDI) to pursue multiple goals of internationalization in the forest industry. In a dynamic loop, goals of internationalization further act as corporate level impetus to respond to the underlying drivers of internationalization. To structure the empirical studies (i.e. Article II - IV), Figure 4 also points out specific research areas of internationalization in the forest industry. In specific, macro-level drivers of forest industry internationalization are comparatively well studied; however, micro-level drivers as well as internationalization forms and goals need more research attention. The empirical research of this thesis emphasizes the forms and goals of internationalization in the forest industry, and three themes to be focused on are corporate financial efficiency, corporate sustainability, and choice of corporate expansion strategy (Articles II, III, and IV, respectively).

The reasons for choosing these three themes are elaborated as follows. Based on the “business of business is business” statement (Friedman 1970), firms naturally pursue profitability in their international operations. However, FDI theories indicate that internationalization has both positive and negative impacts on corporate performance (e.g. Capar and Kotabe 2003; Lu and Beamish 2004). In the forest industry, it is essential to explore the relationship between corporate financial performance and internationalization to understand its financial implications. In addition to business profits, Grayson and Hodge (2001) argued that business nowadays is “everybody’s business” and that businesses should comply with multiple standards and stakeholder demands rather than solely pursuing profitability. As forest industry plays a sensitive role in balancing economic, social, and environmental activities at the global scale, this thesis argues that empirical research on this theme is highly needed, and that it is important to test whether sustainability could also be a goal of industrial internationalization.

Furthermore, the entry mode strategy has been argued as the frontier issue of international business research (Wind and Perlmutter 1977; Herrmann and Datta 2006). Corporate expansion strategy reflects a firm’s commitment level to its international business and the strategy relates to the degree of achieving internationalization goals. This thesis thus argues that it is important to explore the corporate expansion strategy for understanding the goals of forest industry internationalization.

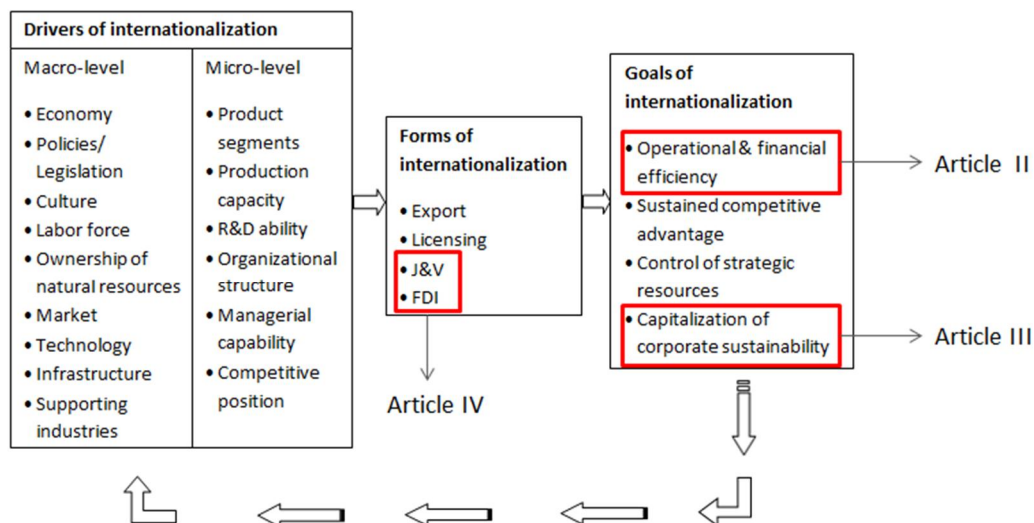


Figure 4. Systematic process of the forest industry internationalization (Modified from Article I, Zhang et al., 2014)

3. METHODOLOGY AND RESULTS

Methodologically this thesis combined a literature review, qualitative and quantitative research methods aiming to analyze the internationalization process of the forest industry. Both Article I and II targeted the analysis scope at the multi-national level. However, Article III and IV narrowed down the analysis scope to focus on forest industry firms' operations in the context of China. Although China is regarded as one of the most attractive host countries of foreign investment, research concerning corporate operations is still rare in the forest industry (Zhang et al. 2014).

Table 5 shows a summary of methodology and the main results from each article.

Table 5. Summary of methods and results

Article	I	II	III	IV
Type of research	Review	Empirical	Empirical	Empirical
Method	Systematic literature review	Linear and curvilinear modeling	case study	Logistic modeling
Data sources	Peer-reviewed journal papers 2000 – 2011	Top 100 global pulp and paper industry companies (PPI 2008)	Documents and interviews with UPM-Kymmene, Asia Pulp & Paper, International Paper and NGOs	Top 100 global forest, paper & packaging industry companies (PwC 2012)
Target country	Multiple nations	Multiple nations	China	China
Main results	Summarized internationalization literatures in the forest industry. Drew the framework of systematic process of internationalization of the forest products industry.	The depth of internationalization has a U-shaped relationship with corporate financial performance The breadth of internationalization has a positive linear impact on corporate financial performance	Scope of corporate sustainability agendas of case companies in China follows a standardized manner. The decision to integrate the plantation-based pulp-industry model seems to be a source of controversy Broadening social impact assessments in China is suggested	Main determinants of corporate entry mode choice are cultural and geographical distance, duration of corporate presence in China, and spatial concentration of local-level forest industry Market-seeking rather than resource-seeking strategies are identified in the forest sector investment in China

3.1 Article I: Internationalization of the forest products industry: A synthesis of literature and implications for future research

Article I used a systematic review as a research method to summarize literature falling within the topic of forest industry internationalization (with focus on foreign expansion). Search criteria for the literature were set as English-language, peer-reviewed journals with a time scale of 2000–2011 through the journal database provided by the electronic library of the University of Helsinki. Several keywords and keyword combinations for describing internationalization in the forest industry were used and a manual search of the well-known peer-reviewed journals in the forest industry was conducted. After a careful relevance check of the collected papers, 14 papers were eventually fully qualified.

For the 14 papers, the research results, data and methodologies, and research regions were recorded. The majority of the studies focused on developed countries in North America and Europe, and less attention was paid to transition and developing economies.

The empirical research period from the 1980s to 2008 reflected a turbulent transformational period for the global forest industry.

Compared with the general internationalization theories reviewed previously, forest industry internationalization research mainly focuses on the institutional-level factors of exchange rate, policy matters, and expansion purpose (resource seeking v.s. market seeking). However, corporate-level factors of corporate operational strategies, R&D, and corporate organizational structure have been less investigated.

Based on the review, a framework of the systematic internationalization process of the forest products industry was sketched. Institutional-level research gaps mainly lie within the non-economic perspective (e.g. analysis of national culture and socio-economic aspect); while at the corporate level, corporate strategic management requires more research attention. In addition, embedding corporate social responsibility research into the internationalization research of the forest industry is needed. Two examples of future research propositions were suggested in the final part of Article I: 1. impacts of corporate managerial backgrounds on forest industry corporate internationalization, and 2. influences of the distance (spatial and cultural) between host and home countries on gains and risks of forest industry internationalization.

3.2 Article II: Internationalization and financial performance in the global forest industry

Article II hypothesized the curvilinear model to explain the effect of internationalization on corporate financial performance in the forest industry. Ordinary least squares (OLS) regression model was empirically used to estimate the relationship between internationalization and corporate financial performance. The research sample of this study originated from the Top 100 global pulp and paper industry companies ranked by Pulp & Paper International 2008. Since the Top 100 pulp and paper firms accounted for 73% of the world total production capacity in terms of paper and board products (PPI, 2013; FAO, 2013), this sample size is regarded sufficient and representative. Financial performance as a dependent variable was operationalized in terms of return on capital employed (ROCE), while the degree of internationalization was measured with two independent variables, the ratio of foreign employees to total employees (FETE) (i.e. the depth of internationalization) and the number of operating countries (OC) (i.e. the breadth of internationalization), respectively. Corporate size and headquarter location were set as control variables, measured by corporate sales and headquarter continent dummies in the analysis. Both linear and curvilinear regression models were run to estimate the relationship between internationalization and corporate financial performance among sample MNCs in the forest industry.

Results of Article II showed that the depth of internationalization (FETE) has a U-shaped relationship with corporate financial performance (ROCE), while the breadth of internationalization (OC) has a positive linear impact on corporate financial performance. Neither corporate size and headquarter continent dummies, nor the interaction variable (FETE*OC) has significant impact on corporate financial performance. Article II thus indicates that corporate performance declines until a lowest point during the initial phase of internationalization (based on estimation, 35% of FETE), then begins to benefit from its overseas operations. The increasing scope of geographical operations meanwhile promotes the corporate financial performance growth at large. These results from the corporate

management point of view suggest that both international- and domestic-focused firms are worse off than either highly internationalized or domestic-oriented firms. This suggestion is consistent with Michael Porter's typology (1985) - "if you go global, do not get stuck in the middle".

3.3 Article III: Role of Corporate Responsibility: Insights from Three Forest-Industry Multinationals Investing in China

A qualitative case studies analysis was applied as a research method in Article III to study and compare the corporate operational status and their response to implementing corporate sustainability in China. Three case companies (UPM-Kymmene, Asia Pulp & Paper, and International Paper) which have large-scale investments in China and are originally from different continents, representing diverse corporate backgrounds were selected. Documentary sources and interviews were used as main research data. More specifically, content-analyzed documents include corporate annual reports, financial fillings, sustainability reports, corporate websites, brochures, as well as featured articles found from newspapers, journals, magazines, and NGO publications during the time period of 2002–2012. A semi-structured interview guide was designed for senior managers of MNCs and consulting companies/NGOs. Eventually, one senior manager from each focal company working in China, two representatives from NGOs, and one Finnish industry expert were interviewed via video or telephone. The interview data were analyzed through thematization, which refers to the process of choosing and analyzing particular topics as the central subject. In this study, themes including institutional environment in China, corporate managerial structure, market performance, community relationship, stakeholder interactions, and plans and challenges in the future were covered in the in-depth interviews (see the semi-structure interview guide in Appendix 1). The process of transcribing, analyzing, verifying and reporting information based on above themes was implemented to interpret research results (Kvale 1996).

The results of Article III demonstrated the investment path of three companies, addressed the impacts of global conventions and policy initiatives on corporate operations, compared local-level corporate responsibility and stakeholder involvement, and examined the operation vision of operations and the corporate responsibility of the case companies in China. The conclusion based on comparison is that the scope of corporate sustainability agendas of the three case companies in China appears to have followed a standardized manner. The decision to integrate the plantation-based pulp-industry model in the local context of China seems to be a source of controversy towards corporate legitimacy among the three companies, suggesting land tenure establishment and the enforcement of ownership rights as a key condition in problem solving. Perceiving the role of social impact assessments in China was not emphasized, although they might help in prioritizing relationships with e.g. government authorities, local communities, and civil society members to sufficiently ensure wide stakeholder support and the legitimacy of operations (Gifford et al. 2010; Du and Vieira 2012; Zulhamri and Yuhanis 2013).

3.4 Article IV: Determinants of Equity-Based Entry Mode Choice in the Forest Sector: the Case of China

Article IV aimed to examine the equity-based entry mode choice of large forest sector MNCs in the context of China. Logistic regression was empirically applied as a research method. The target population is large MNCs listed on the Top 100 global forest, paper & packaging industry companies (PwC 2012). Their investment projects, which have already been established in Mainland China at the subsidiary-level (with the initial entry mode either WOS or JV), were explored. Determinants of entry mode choice are selected based on international business theories, and cultural distance, geographic distance, scope of host country experience, investment size, forest resource availability, and the spatial concentration of industry were specifically argued as possible determinants. Subsidiary-level information is mainly collected from MNCs' annual financial reports, subsidiary's home pages, and other relevant brochures, where open-accessed corporate information is available. Macro-level information concerning the local operational environment in China was additionally collected through government authorities (i.e. China Forestry Statistical Yearbook 2011; China Statistical Yearbook 2011; 2012). A few investment projects with incomplete information had to be dropped out of the sample due to low data availability, and 109 subsidiary-level investment projects in Mainland China established between 1986 and 2011 were eventually included in the sample.

Article IV shows that the main determinants of corporate entry mode choice are the cultural and geographical distance between the corporate home country and China, the duration of corporate presence in China (i.e. the years that an MNC had presence in China before establishing a new WOS or JV project), and the spatial concentration of local-level forest industry. However, investment size and local resource availability are found to have no significant impact on corporate entry mode choice in China. Specifically, cultural distance showed a negative effect on the choice of WOS over JV as an entry mode. This result demonstrates that cooperating with a local partner when starting a business has been a viable choice when a forest sector MNC is less familiar with the Chinese market and culture. However, geographic distance positively affects the choice of WOS as an entry mode for MNCs in the forest sector, indicating that companies with long distance operations prefer direct corporate management rather than local cooperation. Prior host country experiences of MNCs also positively affect the entry choice of WOS in China, indicating the importance of local knowledge for MNCs in order to gain the highest control of their subsidiary (e.g. Phan and Vu 2012). Cluster effects, as measured by the spatial concentration of the industry, are also found to positively impact the entry mode choice of WOS. As forest sector MNCs are seeking low cost operations and closer market proximity in Chinese growth markets, tapping into a local spatial cluster (through JV) is likely to be less important (Dunning 1993; Birkinshaw and Hood 2000); and WOS as an entry mode could lower the transaction costs of MNCs and improve their operational efficiency.

From the managerial implication point of view, our results suggest that forest sector MNCs investing in China need to observe cultural differences, evaluate market familiarity, and observe local-level forest industry concentration before making entry mode decisions (e.g. Wei et al. 2005). Corporate managerial strategies should rely on the corporate internal raw material supply chain rather than be based on local raw material suppliers. Results from this study further confirm that forest sector MNCs' investments in China are based rather on market-seeking than resource-seeking strategies. The strategic management of MNCs

should thus clearly focus on reaping market and supply chain benefits from their Chinese subsidiaries instead of pursuing pure cost efficiency strategies based on local resources.

4. DISCUSSION AND CONCLUSION

4.1 Contribution of this thesis

This thesis contributes both theoretically and empirically to the internationalization research concerning the forest industry. Specifically, Article I contributes by building a conceptual framework of the forest industry internationalization process (see Figure 4.), which is considered a systematic process driven by both macro- and micro-level factors. Aligned with the diamond model by Porter (1990), at the macro level, internationalization is driven by factor-based advantages (e.g. capital, labor, resources), as well as demand conditions (e.g. economy, markets) and the supporting industries of a nation. Corporate specific advantages (e.g. differentiated products, technological innovations, managerial capabilities, and competitive position) are also noted as driving forces of corporate cross-border operations. Foreign expansion is determined by both the macro- and micro-level operational environment ranging from low-risk and low-return exporting to high-risk and high-return FDI.

Operational and financial profitability has been argued as one goal of forest industry internationalization, and empirical studies have confirmed that internationalization has a positive relationship with corporate financial performance (Siitonen 2003; Toppinen et al. 2006; Zhang and Toppinen 2011). Firms could acquire competitive advantages through the internationalization process (Dunning 2001; Kotabe and Murray 2004), and thus accumulating complementary assets that contribute to competitive advantage is argued as another goal of forest industry internationalization. Wernerfelt (2011) additionally argued that asymmetrical abilities exist to compete for new resources based on the control capacity of current resource stocks. In the forest industry, the control of strategic resources (e.g. forest and plantation land) would provide firms an improved security of raw material supply (FAO 2000). Thus, it has also been regarded as a goal of the forest industry's internationalization process. Besides, firms aim to maintain long-term sustainability through sustainable management at the global scale (Kleindorfer et al. 2005). However, the achievement of internationalization goals could be constrained by forest resource deficiency (e.g. limited forestland for industrial use) and national-level socio-economic dynamics (e.g. public awareness of environmental concerns, policy supportiveness, or economic stability). Corporate business operations and competitiveness could also be affected in the long run. The framework (Figure 4) of the forest industry internationalization process thus emphasizes the dynamic process of pursuing sustainable development to tackle forest resource constraints, socio-economic challenges, and corporate operational risks on the global operational scale.

This framework in Figure 4 is in line with the mainstream internationalization theories, but combines a variety of theoretical outcomes. As a branch of manufacturing industry, the forest industry does follow the general industrialization process through efficiency-seeking motive in international expansion. However, the scarcity and the high environmental sensitivity of forest resources highlight advocating sustainability as a special but important goal in the internationalization process of the forest industry. Thus, while this framework

mainly contributes to the forest industry specific literature, it also enriches the general internationalization research in providing a conceptual reference to other resource-intensive industries.

Based on the theoretical contribution, three empirical themes focusing on corporate financial performance, corporate sustainability, and corporate entry mode choice under the forest industry internationalization process (Article II, III, and IV) were empirically studied. Strategic managerial implications derived from research results indicate that firms could aim for either internationalized or domestic-oriented operational strategies to pursue high financial performance. Firms are suggested to more efficiently use their social and environmental impact assessment and build open communication channels with local stakeholders to maintain sustainable overseas operations. A positive corporate image from voluntary initiatives toward sustainable development (e.g. efforts for forest certification, CSR reporting) could strengthen support from stakeholders and thereby benefit firms in coping with operational challenges overseas, especially in the case of developing countries where civil society empowerment is lacking and institutional and governance structures are comparatively weak. Concerning foreign entry mode strategies, firms are suggested to accumulate operational experiences and become familiar with local culture before investing in the wholly owned subsidiary. Establishing JV is suggested as a moderate investment strategy when dealing with unfamiliar host markets.

4.2 Discussion and themes for future research

Internationalization of the forest industry is an ongoing and dynamic process, and it will continue to evolve in the future. One question arising from this study is whether forest industry internationalization will predominantly occur at the regional or global level. Examples from the automotive industry (e.g. Sturgeon et al. 2009) have shown a comparatively high degree of globalization. However, globalization (from the operational scope perspective) is still difficult to achieve as most international business and operations take place in Asia, North America, and Western Europe rather than other regions of the world (Rugman and Verbeke 2004; Rugman and Doh 2008).

In the forest industry, internationalization is described as a dynamic process pursuing sustainable development to tackle forest resource constraints, socio-economic challenges, and corporate operational risks. From the resource constraints point of view, the basic assumption used in neoclassical economics of unlimited resources cannot be upheld in the resource-based forest industry (Daly and Farley 2010). On the contrary, land use for accumulating forest resources is becoming more and more limited. For the natural forest, the increasing recognition of a broader scope of environmental and social forest ecosystem services (e.g. carbon sequestration, biodiversity, and eco-tourism) set limitations for forestland being used for industrial purposes. The implementation of logging bans and natural forest protection programs at the national level has also affected the availability of wood raw materials (e.g. FAO 2001; Wijewardana 2005). In addition, rising pressure from poverty and population growth has moreover induced the competition between forestland and farm / graze land and resulted in the forest land being converted to other uses (e.g. Johansson and Azar 2007; Golub et al. 2009). The shrinking of industrial forest availability from the natural forest would not be reversed in the future, and this would adversely impact on the global wood supply. For the planted forest, although the amount of plantations is continuously increasing, the fierce competition to obtain long term tenures to secure raw

material supply will boost the intensive investment competition especially to developing countries. Recently e.g. Korhonen et al. (2014) mentioned that the plantation investment in non-OECD countries has almost doubled from 75 million hectares in 1990 to 130 million hectares in 2010, whereas in OECD countries, the investment growth has been only moderate.

From the socio-economic and corporate operational risk point of view, the competitiveness of an industry is driven by its structure and corporate strategic decisions (Porter 1985). In the forest industry, the highly competitive structure of the wood products industry has limited firm ability to reap monopoly profits and increase their market share through globalized operations (Zhang 1997). For the paper and pulp industry, although the capital intensity and its oligopolistic industrial structure attract firms' globalized operations, threats from digital media decrease the demand for paper products (e.g. newsprint, graphics paper), especially in developed economies (EPN 2011; PwC 2011). This thesis thus argues that the forest industry is more likely to be operating at the scale of regionalization rather than globalization.

However, technological innovations (Rodriguez and Rodriguez 2005; Kyläheiko et al. 2011) as well as collaboration with supporting industries (Porter 1990; Rugman and Verbeke 1993) may turn regional forest industry operations more global. Product diversification has been argued to moderate the relationship between internationalization and corporate performance and to reduce the corporate operational risks (e.g. Hitt, et al. 1997). Thus, innovations on wood plastic composite (e.g. Ashori 2008), recycling technologies, and the concept of bio-refinery in the forest industry may diversify the production mix and intensify the use of forest raw material, all of which could lead forest industry operations to become more globalized. Furthermore, collaboration with the energy sector (e.g. producing bio-energy and biofuel) and cooperation with the printing and packaging sectors (e.g. developing intelligent packaging, RFID tagging applications) also motivate forest industry firms to produce more value-added products and improve their competitive advantages (Pätäri 2009; Wan et al. 2012).

Hence, two emerging research themes can be pointed out. First, future studies should pay special attention to new innovative products and to the analysis of their impacts on the structural change and the operational scale of the forest industry. From the corporate perspective, it is interesting to learn how strategic changes (e.g. focusing on the biofuel business) would challenge the international operations of forest industry firms. Although biofuel has been regarded as an eco-friendly substitute for fossil energy with bright market potentials, it is still a capital intensive and a risky new business area to be explored (Wan et al. 2012). Based on recent surge of biomass based investments in many regions, we hypothesize that production of renewable forest based biofuels will remain in the corporate strategic agenda in the future, and the diversification of raw-material mix will inevitably also have implications to sustainable land use. However, there are very limited academic studies focused on the business perspectives of forest bioenergy. Pätäri (2010) identified the main industry- and company-level factors influencing the bioenergy sector and its value-creation potentials. Wan et al. (2012) further confirmed the value-creation ability of bioenergy businesses and mentioned the volatile policy changes as a major factor affecting the investment in bioenergy business. Future research could trace corporate operational status in terms of investments, sales, and bioenergy product strategies through interviews and surveys, and infer their impact on corporate international business.

Second, the research question of how industry collaboration promotes competitive advantages and internationalization is worth further analysis. Collaboration indicates long-

term relationships between industry members with aims of reducing transaction costs and increasing resource sharing and knowledge learning (Cousins 2002). Establishing collaboration between competing suppliers at various levels also improves supply chain efficiency and responsiveness. From the corporate perspective, collaboration is argued to be a strategy through which competitive effects can be minimized (Lau 2002). Cross-sector collaboration between firms and nonprofit organizations could additionally help both parties to implement a better CR strategy, decrease the risks of negative publicity, improve stakeholder engagement, and eventually improve corporate sustainability (McDonald and Young 2012). In the forest industry, Pätäri (2010) suggested collaboration between forest and energy industries for sharing existing knowledge and infrastructure in order to gain profitability in the bioenergy business. Kourula (2010) concluded that the institutional context and the local NGO base have important implications on the strategies and forms of business-NGO engagement. Future research should take into consideration the supporting industries, which lie on the same value or supply chain with the forest industry, to be able to capture the impacts of industry collaboration on internationalization. Methodologically, conceptual research based on expert interviews can be applied to depict the value-creation process of industry collaboration as well as to argue its impacts on industry internationalization.

Another question arising from this study is how to promote and maintain CR during the internationalization process of the forest industry. The environmental and social values of forests have been recognized and largely evaluated through e.g. forest certification and ecosystem services to improve the sustainable development of the forest sector (e.g. Tikina and Innes 2008; Laband 2013). However, Kozak (2013) argued these activities to be merely an indication of less unsustainable strategies largely indicating the profit-driven motivation of sustainable development (Li and Toppinen 2011; Ehrenfeld and Hoffman 2013). From the corporate perspective, CR has been argued as an increasingly important strategy (McWilliams and Siegel 2001) and as a potential source of corporate competitive advantage when firms operate internationally (Porter and Kramer 2006; Kolk and Tulder 2010). However, the impact of MNCs on sustainable development under the global context is still largely unclear and needs further investigation (Meyer 2004; Dunning and Fortanier 2007).

Future research could discuss impacts of strategic resources on MNCs' sustainable operations, as resources are regarded as a critical antecedent of internationalization (Hitt et al. 2006). The forest industry has gradually increased its reliance on fast growing plantation forests as raw materials, and plantation forest areas have constantly increased during recent years (Carle et al. 2002; Hujala et al. 2013). The corporate plantation investments especially in tropical areas will be continuously increasing in order to tackle land price increases and to secure corporate land tenures. Plantations has been argued as a dynamic resource which could profoundly change forest sector competitiveness in the long run (Carle and Holmgren 2008; Toppinen et al. 2010; Korhonen et al. 2014). Korhonen et al. (2014) analyzed factors driving the investment in planted forests from the national level and differentiated investment determinants OECD and non-OECD countries. However, at the corporate level, the way that investments in overseas plantations affect corporate operations is worthy of analysis. Regression modeling over determinants of plantation investments at the firm level can be conducted to analyze their impacts.

Moreover, firms need to efficiently balance their economic and environmental performances to meet sustainable requirements in international operations. However, previous research on environmental performance impacts on firm performance remains inconclusive (Konar and Cohen 2001; Wagner 2001). The negative relationship

demonstrated that environmental performance brings in additional costs for firms, while the positive relationship showed that the innovation stimulated by environmental regulations offsets environmental costs (e.g. Palmer et al. 1995; Porter and van der Linde 1995). The reconciliation between corporate sustainability performance and financial performance (e.g. Wagner 2005; 2010; Horvathova 2010) can be analyzed under the global context of the forest industry to evaluate the sustainability of MNCs' international operations in the short and long term. For example, Wagner (2005) concluded that the relationship between environmental and economic performance is more positive for firms in Europe with pollution prevention-oriented corporate environmental strategies. Similar research at the global level involving the impact of corporate international operations can be conducted in the future. Regression modeling can be applied to analyze the relationship between corporate sustainable performance and financial performance among the Top 100 forest industry firms.

Research on corporate internal factors driving the internationalization process of the forest industry can additionally be enhanced. Several studies have focused on the corporate strategic management aiming to improve corporate competitiveness. For example, from the resource-based view, Wan (2014) indicated a stakeholder-oriented, value-added, and differentiated production strategy as the source of corporate sustainable competitive advantage. Uronen (2010) concluded different firm strategic responses (e.g. improving cost efficiency, investing in emerging markets, enhancing R&D) for adapting into the transformation of the paper and pulp industry. Lahntinen et al. (2009) explored four intangible resource classes (personnel, collaboration, technological know-how, and reputation and services) and two tangible resource classes (raw material and geographic location) for explaining business success (mainly evaluated from financial performance perspective). However, how specific corporate strategies could be dealing with dynamic international market and overseas' operations from the production, innovation, and managerial ability perspective will be worth exploring in future research.

4.3 Limitations of this research and conclusions

This thesis theoretically and empirically focused on the analysis of the forest industry's internationalization process. Some clear limitations in the research are carried out here. First, only large firms from the pulp and paper industry were targeted. The reason for focusing on firms in the pulp and paper industry is that they more actively participate in international operations. Moreover, firms in the pulp and paper industry could gain more monopolistic power than firms in the wood industry (Zhang 1997). For example, the Top 100 pulp and paper firms accounted for 73% of the world total production capacity in terms of paper and board products (PPI, 2013; FAO, 2013). However, the foreign expansion of wood products and wooden furniture firms should also be studied (e.g. Ratnasingam and Ioras 2009). In addition, small- and medium-sized enterprises (SMEs) are key contributors to global forest enterprises, contributing approximately 130 billion USD of gross value added globally (Macqueen 2004; Mayers 2006; Kozak 2007; 2013). Thus, the future forest industry internationalization research could analyze the impact of SMEs. Comparisons between MNCs and SMEs in the global context would also be interesting to conduct.

The second main limitation of this thesis is that only China among the emerging countries was targeted as a host economy for analyzing the foreign operational behavior of forest industry MNCs. However, other hot spot areas (e.g. Brazil, India, Southeast Asia, and

Russia) where foreign investments are intensively being attracted in deserve more research attention. For future research, the analysis of corporate strategies in broader investment destinations could contribute more conclusive research results in this domain.

The third limitation of this thesis is connected to the empirical methodology. The data sources of this thesis are mainly publicly accessible corporate annual reports, financial fillings, sustainability reports, corporate websites, brochures, and articles from newspapers, journals, magazines, and NGO publications. The data availability from these sources is comparatively limited and some companies with incomplete information had to be dropped out from the sample in e.g. Article IV. Conclusions generalized from these data are therefore more from the external point of view and since most of the data sources are corporate self-reported documents, the lack of independent evaluation could be argued as a limitation. Thus, future research could compensate this drawback through conducting a larger set of in-depth interviews with corporate managers and industry experts, as well as highlight or prioritize the corporate data which has been examined by CR audits. In addition, only cross-sectional data has been analyzed in this thesis indicating a limitation of analyzing the dynamic industry change in a time span, which gives rooms for time-series or panel data to explore the longitudinal aspects in the future research.

As a conclusion, sustainability will continue to be a focal theme in the forest industry internationalization process when moving towards a global green economy. However, under the current gloomy business operational environment (Panwar et al. 2012), maintaining sustainable operations while simultaneously gaining business profitability at the global scale is a big challenge for forest industry firms. Although investment in sustainability is argued as mostly profit-driven (Li and Toppinen 2011), this behavior still has a very positive reflection on the sustainable internationalization process of the forest industry. In the future, forest industry internationalization requires both national- and corporate-level efforts to build corporate competitive advantages upon sustainability under the globalization and diverse institutional environments. Furthermore, deepening industry collaboration could weaken the role of the forest industry as a traditional resource-based industry, but enhance its ability as an innovation-led industry to better maintain its sustainability in the internationalization process.

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APPENDIX

Article III: Semi-structured interview guide for senior managers of MNCs and for other organizations (including consulting companies and NGOs)

Questions for Company:

Institutional environment in China

1. Could you list the three most important factors motivating your investment in China?
2. How do Chinese government and relevant policies influence your operations in China?
3. After more than 10 years of operations, how do you evaluate the investment environment in China in general, pros and cons? How does the investment environment when you compare the present to the 1990s (when your company initially invested)?

Managerial structure

1. How would you describe the organizational structure of your company in China?
2. Does your chairman work closely with the CEO? Are there board committees for audit, remuneration and nomination? If not, do non-executives work independently from executive directors in your company?
3. How many local employees does your company employ (or what percent)? How about the number of local employees at the management level?
4. Why have FDI or J&V been chosen as the investment mode in China? How would the investment mode be different between your industrial packaging and consumer packaging?

Market performance

1. What is your main customer group in China? Where is your target market, China, Asia, Asia Pacific or elsewhere?
2. Do you maintain your own logistic system in China or do you cooperate with local logistic companies? Why?
3. How efficient do you evaluate your sales network in China? Is there any challenge concerning brand and product recognition?
4. How competitive is your company compared to others? What are your key strengths?
5. How important is green image (e.g. forest certification) in influencing Chinese buyers?

Community relationship

1. In your view, what are the best ways to work with local communities in China? Why?
2. Do you conduct social impact assessment studies on your operations? If yes, please specify how does it impact operations? If no, why not?

Stakeholder interactions

1. What are the best ways to work with stakeholders in China? Why?
2. Have you been accused of green washing? If no, in your opinion, what are the best ways to prove that your operations are sustainable? If yes, what is your response of accusations

from NGOs and what are the best ways to prove that your operations are sustainable?
 3. How do you evaluate your corporate brand and image with Chinese customers?

Plans and challenges

1. How does China fit into your global investment strategies?
2. What is your company's operational plan in China in the future?
3. What kinds of challenges does your company face now and future? Which is most urgent? What could be the solution?
4. Is there anything you want to add concerning your operations in China?

Thanks for your time!

Questions for other organizations:

Market performance

1. In general how do you evaluate the competitiveness of forest industry MNCs in China? What are key strengths for MNCs compared to local competitors? (Or: you can also comment on this issue based on one of our case companies, UPM, APP or IP.)
2. How important is green image (e.g. forest certification) in influencing Chinese buyers?

Community relationship

1. In your view, what are the best ways to work with local communities in China? Why?
2. How efficient do you think the social impact assessment studies influence operations of forest industry MNCs in China? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)

Stakeholder interactions

1. What are the best ways to work with stakeholders in China? Why?
2. What do you think about the green washing in the forest industry? In your opinion, what are the best ways for company to prove that their operations are sustainable? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)
3. How do you evaluate MNCs' brand and image with Chinese customers? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)

Plans and challenges

1. For MNCs, how does China fit into their expansion plans? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)
2. In your opinion, what kinds of opportunities or benefits could MNCs gain through their operations in China in the future? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)
3. What kinds of challenges could MNCs face now and future in China? How about the solution? (Or: you can also comment this issue on one of our case companies, UPM, APP or IP.)
4. Is there anything you want to add concerning MNCs operations in China?

Thanks for your time!