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2022 **Jiaqi LI**

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Research of internationalization degree and performance of emerging market enterprises - A case study of Polish firms

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Abstract

This paper comprehensively reviews a large number of studies on enterprise internationalization in emerging markets, the relationship between enterprise internationalization and performance, and the internationalization of Polish enterprises.

Based on the previous research results, the paper selects a three-stage model of the degree of internationalization of developed enterprises, and derives a three-stage model of internationalization of multinational companies in emerging markets. Then through an empirical case study of Polish multinational enterprises, analyzes the regression results, makes the conclusions and some relevant policy recommendations.

Keywords

enterprise internationalization, emerging markets, corporate performance, return on assets, Polish firms

Range of thesis: [131958 of symbols, 73.31 pages]

Declaration of Authorship

1. The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

2. The author hereby declares that all the sources and literature used have been properly cited.

3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

Prague 02.08.2022 **Jiaqi LI**

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Master thesis proposal

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Proposed Topic:

Research of the degree of internationalization and performance of emerging market enterprises - A case study of Polish firms

Motivation:

In the process of reviewing the literature, this paper finds that no matter the literature on the internationalization of emerging market enterprises or the internationalization of emerging market enterprises, very few literature choose emerging markets in Central and Eastern Europe for research. Therefore, this paper chooses to carry out theoretical innovation and expansion from the three-stage model of international corporate expansion in developed countries, and takes Poland as the research target to conduct data collection and empirical analysis in an attempt to contribute to the degree of internationalization and performance of emerging market companies in Central and Eastern Europe.

Hypotheses:

1. Hypothesis #1: The performance of manufacturing companies in Polish emerging markets has an inverted U-shaped relationship with their degree of internationalization, and the performance of non-manufacturing companies has a linear positive relationship with their degree of internationalization.
2. Hypothesis #2: Increased enterprise scale is conducive to the internationalization of Polish MNEs and the improvement of business performance.

Methodology:

This essay follows the methodology adopted by Beck et al. (2016). Beck et al. (2016) examined the relationship between bank growth and financial innovation in 32 OECD countries between 1996 to 2010, with a special focus on the financial crisis period. A standard panel data model with fixed effects is adopted in this thesis.

In the first model, bank growth indicators are regressed on indicators of financial innovation and bank- and country-level control variables.

$$Growth_{i,k,t} = \alpha X_{k,t-1} + \beta Y_{i,t-1} + \gamma FI_{i,t-1} + \delta FI_{i,t-1} Y_{i,t-1} + v_i + \tau_t + \varepsilon_{i,t,k} \quad (1)$$

In the second model, the bank fragility indicator is regressed on indicators of financial innovation and bank- and country-level control variables.

$$Z_{i,k,t} = \alpha X_{k,t-1} + \beta Y_{i,t-1} + \gamma FI_{i,t-1} + \delta FI_{i,t-1} Y_{i,t-1} + v_i + \tau_t + \varepsilon_{i,t,k} \quad (2)$$

In the third model, change in ROA between 2018 and 2020 is regressed on indicators of financial innovation and bank- and country-level control variables.

$$\Delta R_{i,k} = \alpha X_k + \beta Y_i + \gamma FI_i + \varepsilon_{i,k} \quad (3)$$

To control for the positive trend in financial innovation over the sample period and variation inside countries, time fixed effects and country fixed effects are controlled in the first two models. In the

third model, country fixed effects are controlled. For all 3 models, clustered heteroscedasticity-robust standard errors are reported.

Expected Contribution:

In this thesis, I expected to make a new attempt at internationalizing multinational corporations in CEE emerging markets. Based on the expansion model of developed countries, I tried derive a three-stage model of expansion for emerging market countries. And then use data of Polish MNEs, try to find out which stage the Polish MNEs internalization is in.

Outline:

The thesis comprises six chapters. The first chapter introduces the practical background, research purpose and significance, and primary research methods of the thesis.The second chapter reviews many literatures on the internationalization of emerging market enterprises. Based on these current research results, this study deduces the three-stage model of internationalization of multinational enterprises in emerging markets from developed markets. The fourth and fifth chapters introduce the empirical case study of Polish MNEs, which is the core part of this paper. Chapter 6 is the conclusion and policy recommendations.

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Contents

1. Introduction

1.1 Research background

The study of the relationship between enterprise internationalization and enterprise performance is an essential subject of strategic management, industrial economy, and financial management. The debate about it has been very heated both in the empirical and theoretical fields. The reason enterprises adopt internationalization strategy to enhance their strength, and economic scale is that internationalization strategy has the synergistic effect of rapidly expanding the size of the company and making the overall performance of the company exceed the performance of the domestic sector only. However, there are also many enterprises in the process of international business, their internationalization strategy not only does not improve the performance of enterprises but also causes bankruptcy.

Since the 1960s, there has been no unified conclusion on the relationship between internationalization and firm performance in the academic circle. Scholars from various countries explain it from strategic management, industrial economics, corporate governance, financial management, and other degrees. So far, the mainstream view is that the enterprise's core competence can be a good transplant of the relevant internationalization strategy that can improve enterprise performance. But the object of this conclusion is the developed market economy in Europe and the United States. The perfection of the market system provides conditions for the formulation and implementation of international diversification, making internationalization bring economies of scale, economies of scope, and transaction costs savings while avoiding risks.

There are many differences between traditional market MNEs and emerging market MNEs when they are classified according to the level of economic development of their home countries. For transnational corporations in traditional developed countries, the home countries of these enterprises have a high level of economic development and a sound economic system. The reason for choosing internationalization as the development direction of enterprises is usually in the theory of internalization of production, such as transaction cost advantage, production cost advantage, or in order to expand the product market of enterprises. At the same time, when these countries from the domestic market began to enter the international market, they often accumulated

relatively strong resources and brand strength. These advantages enable the first-mover multinational to overcome the disadvantages of the initial stage of internationalization (such as the additional costs of multinational operations and investments, differences in consumer preferences due to differences in culture and consumption habits, and the costs of operating overseas due to differences in economic environment and institutions). Therefore, it can be considered that the foreign expansion of traditionally developed country multinationals is a cumulative and gradual pattern of international development. Its international development is after the development of the home market, and the enterprise has enough ability to gain competitive advantages in the international market and then expand outward.

Similar to the international expansion of enterprises in developed market economies, the international expansion of emerging market MNEs refers to the outward FDI activities of MNEs that take emerging market countries as their home countries to the rest of the world. However, for the multinational enterprises of emerging market countries, the economic development level of their home countries is low, and the economic system may not be perfect. This makes emerging market multinational enterprises in the international market competition is often inherent in the enterprise R&D technology level, and enterprise management level fall behind the defect. At the same time, these enterprises are often established later than the same industry and developed countries' multinational companies, so it is not easy to form a brand advantage internationally. Nevertheless, emerging-market multinationals have been able to get off to a late start because they have developed rapidly. On the one hand, emerging-market multinationals have cost advantages brought about by specific factors of their home countries, such as the advantages of energy resources such as oil and gas in Russia and the advantages of human resources in eastern and southeast Asian countries. On the other hand, emerging economies tend to have policies that encourage their firms to expand internationally. For example, the Brazilian Institute for Promotion of Trade and investment and the Brazilian Institute of Foreign Trade provides policy and advisory assistance for the internationalization of domestic enterprises from the perspective of the government and enterprises, respectively. Russian government provides financial assistance to its multinational enterprises, especially energy companies, and obtains loans and administrative support from the central bank. Malaysia provides domestic enterprises with export credit insurance and offshore project financing services.

Over the past three decades, the internationalization of enterprises in emerging market countries has achieved breakthrough progress with the in-depth development of economic globalization. According to the data released by UNCTAD in 2019, the total foreign direct investment in emerging markets reached US$706 billion, an increase of about 1250% compared with 2001, and more than half of the global total foreign direct investment. As a rising star in the international market, some multinational companies in emerging market countries, such as Lenovo and Huawei in China, and Tata in India, have also developed into world-class enterprises in the fierce international competition, thus causing extensive academic research. Thus, in the research on MNEs in emerging markets, most of the research targets are China and India, the two largest emerging market economies. Different from developed country multinational corporations, the international expansion phenomenon and business behavior of emerging market multinational corporations have broken through the understanding and understanding of traditional international business in academia, and provided new research subjects and theoretical innovation opportunities for research in the field of international business.

1.2 Research purpose

The development of the internationalization of emerging market enterprises has promoted the research progress of the internationalization of emerging market enterprises. Most of the existing theories of enterprise internationalization are put forward by economists in western developed countries, and their purpose is to guide enterprises in developed countries to conduct international operations. The actual situations faced by enterprises in emerging markets and those in developed countries are very different, and it is necessary to find suitable solutions. Methods of business internationalization. What is the relationship between their internationalization strategies and performance for multinational companies with emerging market countries in Central and Eastern Europe as their home countries? What kind of reference can it provide for the formulation of relevant policies for multinational enterprises in other emerging markets? This is the purpose of this study.

This paper chooses the three-stage model of international expansion as the research theory. Starting with a two-part literature review on emerging market multinationals, and the relationship between firm internationalization and performance, it then focuses on the findings to date on the internationalization of firms in Poland, an emerging market country in Central and Eastern Europe. The paper also presents a case study of a

Polish multinational firm as the main subject of the study and analyses the internationalization of emerging market firms from both a theoretical and practical perspective. The paper aims to help emerging market firms find new competitive advantages and achieve further development on the road to internationalization. The paper combines existing empirical research with quantitative results from the data.

This study further complements and improves the theory of corporate internationalization in the emerging markets of Central and Eastern Europe and facilitates the academic community to make more in-depth studies on this basis.

1.3 Definition of the concepts - emerging markets, emerging market enterprises, and enterprise internationalization

1.3.1 Emerging markets

The concept of the emerging market was put forth by the World Bank in 1980. The World Economic Outlook published by the International Monetary Fund. Since 2004, emerging markets and developing countries have been included in the classification of countries around the world. These countries are distinguished from advanced economies, including emerging industrial economies in Asia. Among them, emerging market countries generally refer to the gradual improvement of the market economy, rapid economic development, and large market development potential. They are trying to gradually integrate into the global economic system by implementing institutional reforms and economic development. They have contributed to the primary growth of the world economy. Emerging markets are primarily non-developed countries, composed of important developing countries, some transition countries, and individual developed countries.

Emerging markets are characterized by low income but rapid economic growth, offering local firms high risk and higher business returns (Luo, 2001); improved institutional, political, and social institutions that facilitate commerce (Khanna & Palepu, l997; Gelbuda, Meyer & Delios, 2008); the economic environment is complex, changing, diverse and heterogeneous (Tan & Litschert, 1994); unstable economic policies and the gradual reduction of foreign trade Economic policy intervention; measurement and enforcement costs with imperfect legal frameworks and high transaction costs lead to excessive transaction costs (Hoskisson et al., 2000; Khanna & Palepu, 1997; Xin & Pearce, 1996); market and planning coexist; lack of clear property

rights leads to fewer competing firms (Makino et al., 2004); corruption leads to unfair competition in emerging markets (Hoskisson et al., 2000); competition among firms power and market size and resources are relatively poor (Aulakh, Kotabe & Teegen, 2000); natural assets are more abundant but creative assets are less; lack of skilled labor, underdeveloped product and factor markets, infrastructure bottlenecks leading to high fiscal and transaction costs (Khanna & Palepu, 2000); immature corporate governance and information disclosure systems (Khanna & Palepu, 2000). Hoskisson et al. (2000) defined 64 emerging markets, including 15 in Asia, 29 in Europe, 10 in Latin America, and 10 in Africa. There is a difference between the concept of emerging markets and newly industrialized countries (NICs), and Hoskisson excludes newly industrialized countries when classifying emerging markets. Research on the characteristics of emerging markets will help to better understand how the characteristics of emerging markets affect the behavior of emerging market firms.

However, emerging markets have not yet had a unified definition internationally. The World Economic Outlook 2021 from International Monetary Fund classifies 39 economies as "advanced" based on factors such as high per capita income, diversified exports of goods and services, and greater integration into the global financial system. The remaining countries are classified as "emerging market and developing" economies. Of these countries, 40 are considered "emerging market and middle-income" economies by the IMF Fiscal Monitor because of their higher incomes. Since income is not the only characteristic of emerging markets, and some economies have experienced rapid growth in their participation in globalized trade, approaching advanced economies, the IMF used five weighted variables to calculate the score for each non-advanced economy, The five weighted variables are nominal GDP, population, GDP per capita, share of world trade, share of world external debt. There are twenty emerging market countries finally identified: Argentina, Brazil, Chile, China, Colombia, Egypt, Hungary, India, Indonesia, Iran, Malaysia, Mexico, the Philippines, Poland, Russia, Saudi Arabia, South Africa in alphabetical order, Thailand, Turkey, and the United Arab Emirates. These twenty emerging market countries are also a frequently-used list used by institutions such as J.P. Morgan, Morgan Stanley Capital International and Bloomberg to calculate emerging market data. Among them, emerging market countries in Central and Eastern Europe include Hungary, Poland and Russia. Considering the availability of data, this paper selects Poland as the main research targeting country.

1.3.2 Emerging Market Multinational Enterprises (EMNEs)

The concept of multinational corporations arose with the overseas expansion of western developed countries. Dunning (1977) pointed out that the relative locational resource endowment between the home country and the host country and the ownership advantages of the host country's enterprises have an impact on the degree of overseas production of these multinational corporations. role, and indicate that these enterprises are engaged in production activities in countries other than where they are organized. Since the 1980s, market-oriented opening-up has been implemented in transition economies and developing countries. These emerging market enterprises include the emerging market enterprises (EMEs) studied in this paper, but emerging market enterprises are not equal to all enterprises in emerging markets. Jain (2010) made a clearer definition of emerging markets and emerging market enterprises, and divided Asia, Europe, Latin America and Africa into 64 emerging markets. Enterprises in emerging markets are called emerging market enterprises. Luo (2007) defines emerging market enterprises and considers emerging market enterprises as those multinational enterprises from emerging markets. This paper defines EMEs as international firms from emerging market markets.

1.3.3 Enterprise Internationalization

Throughout the research results of international academic circles, the interpretation of the connotation of corporate internationalization mainly includes the following viewpoints: First, Johanson & Vahlne (1977) believed that corporate internationalization is a process of gradual evolution. The gradual transition from the domestic market to the international market is a process in which enterprises participate in the international market operation gradually and orderly. Second, Stephen Young, a famous professor of international business in the United Kingdom, proposed that the way or activities involved in the transnational operation of an enterprise is the internationalization of the enterprise. This is investigated from the perspective of the form of internationalization of the enterprise. Direct investment, technology licensing, management contracts, turnkey projects, international contract production and franchising, etc. Third, Buckley & Casson (1976) explained the internationalization of enterprises from the perspective of economics. They explained it from the incompleteness of the market. They believed that the internal hierarchical governance of enterprises replaced the external market due to the incompleteness of the knowledge

market, thus promoting enterprises. Develop into a multinational enterprise across borders. Dunning's eclectic theory (1988), explained from the economic analysis of ownership, internalization and location advantage, considers firm internationalization as an investment model in foreign markets. Fourth, the resource-dependent viewpoint of enterprise internationalization. Calof & Beamish (1995) analyzed it from the perspective of the international market environment faced by enterprises. The process of enterprises adapting to these environments is the internationalization of enterprises. In this process, enterprises need to constantly adjust themselves, including the adjustment of resources, strategies and structures. to adapt to it. Fifth, Andersen (1993) made a synthesis of the previous research, analyzed from the perspective of the internationalization growth of enterprises, it is different from other growth strategies of enterprises, and believed that the internationalization growth of enterprises is the choice of the appropriate entry mode to enter the international market. process, because the transfer of services, products and resources across borders will occur, and thus there will also be choices for international markets. Chinese scholars Zhang and Chen (2003) argue that simply exporting products to foreign markets is not sufficient to describe the internationalisation of a firm. Internationalisation is mainly an expansion of the scope of resource allocation, from domestic to international, where firms have the ability to reallocate the resources they need in international markets. The internationalization of an enterprise is the result of the long-term accumulation of the enterprise. It includes the internationalization of production, the internationalization of marketing, the internationalization of R&D, the internationalization of ideas, the internationalization of talents and capital, and the improvement of an enterprise's core competitiveness. important meaning. According to the differences in target market culture, society, technology and other backgrounds, in order to meet the diverse needs of different customers, successful international companies can adapt their products accordingly.

In this study, the internationalization of enterprises mainly refers to the outward internationalization of enterprises, that is, the dynamic process in which a domestic enterprise participates in the international division of labor and grows into a multinational company, mainly including product and service export, technology transfer, overseas production, establishment of Transnational strategic alliances.

1.4 Research methods

This paper mainly adopts the literature research method, a combination of qualitative and empirical research methods, comparative analysis, and interdisciplinary research methods.

1.4.1 Literature research method

The literature research method is a research method that is guided by research questions, searches, reads, and organizes literature data, and makes a moral choice of theoretical viewpoints in the literature. In this paper, Science direct and Jstor digital library are the main archival databases used to collect and organize the literature. The international research literature in the field of enterprise internationalization has been extensively collected, sorted, and summarized by category. Literature study is the essential work of every scientific research activity. On the basis of previous research, learning from various research results, making up for the existing gaps, and carrying out further research can make breakthroughs.

1.4.2 Combining qualitative and empirical research

This paper firstly reviews the theoretical literature on the expansion of multinational corporations in emerging markets from the perspectives of strategic management, transaction costs, organizational learning theory and resource theory, and discusses the relationship between corporate internationalization and performance. The multinational companies listed in China and Poland are the research objects, and the development process of the international operation of Polish companies is sorted out. According to certain conditions, the target companies that meet the requirements are screened out and quantitative empirical research is carried out. Through the combination of qualitative and quantitative research methods, not only the argument of this article has a sufficient theoretical basis, but also the argument of this article has corresponding data support, and finally a more reasonable and convincing research conclusion is obtained.

1.4.3 Comparative analysis of international operation of manufacturing and non-manufacturing industries

Different industries have different characteristics. This paper divides the sample enterprises into manufacturing and non-manufacturing industries. It conducts a comparative study on the relationship between the international operation and performance of the two types of enterprises. The results show that there are differences

in the relationship between the international operation and performance of manufacturing and non-manufacturing enterprises. This also shows that when discussing the international operation performance of enterprises, it is necessary to differentiate the treatment of enterprises in different industries. On the basis of this conclusion, this paper analyzes the reasons for the difference and further enriches and expands the research content of this paper.

1.4.4 Multidisciplinary research method

The research object of enterprise international operation and performance is enterprise, which determines that the subject involved in this article is mainly strategic management. However, multinational operations are much more complicated than single-country operations. The host country's laws and regulations, cultural habits, and attitudes toward foreign investment directly affect the effectiveness of an enterprise's international operations. These issues are closely related to international economics. In addition, this paper makes full use of empirical research methods, compares, and selects econometric models, and evaluates the estimated results, which requires econometrics to provide a basis for judgment. Therefore, this paper comprehensively uses the relevant knowledge of management, international economics, and econometrics, and the various disciplines complement each other, which ultimately enables this research to better understand the issues related to the international operation and performance of Polish multinational enterprises in the CEE emerging markets.

1.5 Research framework

The thesis comprises six chapters, and the structure and logical framework are shown in Figure 1. The first chapter, the introduction, introduces the practical background, research purpose and significance, and primary research methods of the thesis. In addition, this chapter also briefly introduces the structure of this paper and explains possible innovations and shortcomings. The second chapter comprehensively organizes and reviews a large number of literatures on the internationalization of emerging market enterprises, the relationship between enterprise internationalization and performance and Polish enterprises' internationalization, and reviews these literatures. Based on these current research results, this study selects the three-stage model of the degree of internationalization of enterprises and deduces the three-stage model of internationalization of multinational enterprises in emerging markets from developed

markets, laying a theoretical foundation for subsequent empirical research. The fourth and fifth chapters introduce the empirical case study of Polish MNEs, which is the core part of this paper. The case study selects data from Poland's manufacturing and non-manufacturing enterprises, using the systematic GMM estimation method to estimate the parameters of the established panel data model. Then it conducts an empirical study and compares the international operation and performance of the two types of Polish listed companies, analyzes the regression results, and draws corresponding conclusions. Chapter 6 is the conclusion and policy recommendations. It summarizes the conclusions obtained by synthesizing the research from Chapters 2 to 5, and puts forward relevant policy recommendations accordingly.

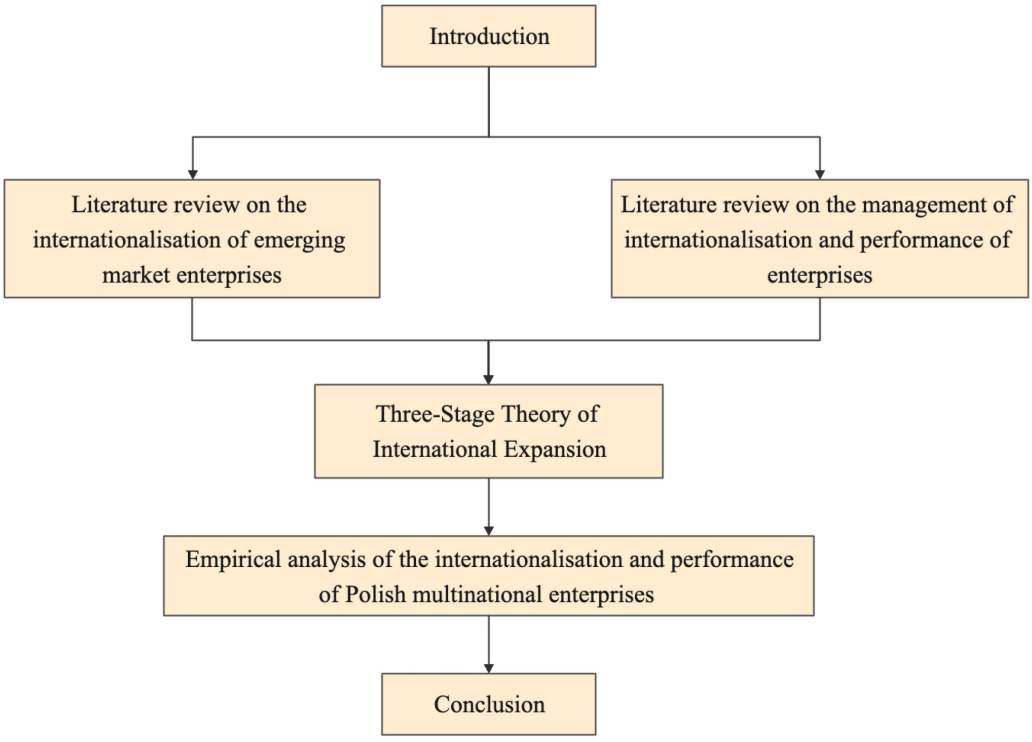

Figure 1. Research structure

1.6 Innovations and limitations

1.6.1 Innovations

In terms of research theory, this paper sorts out the current theoretical perspectives on the internationalization of emerging market companies in more detail but does not choose the more classic OLI theory, LLL theory, or resource-based theory.

The research subject of this paper is the influence of the degree of internationalization and performance of enterprises, that is, the results of international expansion. So this study chooses the three-stage international expansion model of Contractor, Kundu & Hsu (2003). Based on the expansion model of developed countries, derive a three-stage model of expansion for emerging market countries. This paper theoretically makes a new attempt at internationalizing multinational corporations in emerging markets. The follow-up empirical research also conducts a "consequence" aspect of the current situation that the existing literature overemphasizes the "cause" of multinational corporations entering the international market. In addition, the research results on the performance of multinational companies after entering the international market have been added.

From the perspective of sample data, most of the existing researches on the impact of international operation and performance of Polish enterprises use sample surveys to obtain samples, and rarely use objective accounting or statistical data to study the impact of international operation of enterprises on performance. It is a very large research object, and performance is also a more objective existence. Sampling survey is more suitable for the study of individual behavior and other fields. This paper uses the data of 38 listed companies for 8 consecutive years to establish a large sample panel data model including time dimension and individual cross-section dimension, which has the advantages of time span characteristics of time series model and no serial correlation of cross-section data model. Therefore, the sample data in this paper can make a certain contribution to the relevant research on the emerging markets of Central and Eastern Europe.

1.6.2 Limitations

In terms of sample data, this paper divides the research samples into two categories: manufacturing and non-manufacturing. Limited by data availability and time constraints, the classification is still insufficiently precise. In the follow-up research, the research samples can be refined to some specific industries, and more accurate research conclusions will be obtained.

In terms of the quantitative research method, more dimensions should be collected and quantified for indicators of internationalization, and more variables should be added. Empirical research can more accurately analyze the performance of enterprises and their influencing factors and other related issues and more accurately analyze the impact of the degree of internationalization of enterprises on performance so as to achieve the goal of linking theory with practice and supporting theory with practice. The research in this paper has made a new attempt at the theoretical research level, but the empirical research results have not perfected the derived theory. Due to the limited capacity and time, as well as the limitations of the database, it can be further developed as follow-up academic work.

2. Literature review

2.1 Literature review on the internationalisation of emerging market enterprises

Reviewing the literature, the core themes of research in the field of international expansion of multinational corporations in emerging markets can be roughly divided into six categories, which together constitute the knowledge structure of this research field. The six categories are: research on motivation and influencing factors, research on different theoretical perspectives, research on situational characteristics of emerging markets, research on characteristics of multinational corporations in emerging markets, research on operations and decision-making, and research on performance.

2.1.1 Research on motivation and influencing factors

First, the research on the antecedents of the international expansion of multinational corporations in emerging markets is mainly reflected in the motivation and influencing factors. The research results of this part are relatively rich, mainly reflected in four aspects: First, industrial factors, such as the type of industry, the position of the enterprise in the industry and the degree of competition in the industry (Rugman and Li, 2007). Second, the factor of enterprise resource capability is mainly reflected in the institutional capability, network relationship and dynamic capability of the enterprise. For example, Cuervo-Cazurra and Genc (2008) pointed out that in countries with

relatively backward economies, emerging market multinationals with institutional capabilities can adapt to the local market system more quickly, so it is easier to turn their outsider disadvantages into market competitive advantages. The research of Meyer et al. (2013) shows that the learning ability and international expansion experience of enterprises are important factors for multinational companies in emerging markets to conduct cross-border mergers and acquisitions. Third, institutional factors. Institutional factors have received extensive attention from scholars in recent years, and the existing research results focus on the exploration of factors such as the host country's institutional environment and institutional distance. According to Rugman et al. (2007) and Hoskisson et al. (2013), home country institutional factors, such as home country institutional environment, policy support, etc., will also affect the strategic decision-making and behavior of emerging market multinationals' international expansion (Lu et al., 2014). In addition, some studies have explored from the perspective of institutional changes within enterprises. For example, Deng et al. (2009) pointed out that the stronger the political orientation, government thinking and government logic, the greater the perceived policy pressure, and the more inclined to actively respond to the government's call for OFDI to gain legitimacy. Fourth, personal factors of managers, such as executives' entrepreneurial and innovative spirit and national pride, will affect the strategic decision-making of multinational companies' international expansion (Rui and Yip, 2008).

2.1.2 Research from Theoretical Perspective

Secondly, with regard to the theoretical perspective, the existing theoretical explorations in the field of international expansion of multinational corporations in emerging markets are mainly divided into two schools: the theoretical school of enterprise internationalization and the school of organizational management theory.

The school of enterprise internationalization theory is represented by the OLI theory proposed by Dunning. It believes that the international expansion of enterprises needs to have ownership advantages (Ownership), location advantages (Location) and internalization advantages (Internalization) at the same time. Competitive advantage is the result of grabbing overseas market share (Dunning, 1981). Considering that many multinational companies in emerging markets do not have the above advantages in the early stage of international expansion, Mathews (2006) further proposed the LLL theory on the basis of OLI, arguing that the starting point of internationalization of

multinational companies in emerging markets is to obtain external resources, and these The international expansion of multinational corporations can be driven by external resource Linkage, Leverage and learning to gain new competitive advantages for the company.

The second is the school of organizational management theory, which is represented by two theories, resource-based theory and system theory. Among them, institutional theory has received extensive attention in academic circles in recent years. Institutional theorists Buckley et al. (2007) and Peng (2002) believe that, for multinational enterprises in emerging markets, institutional factors are the key factors that directly affect the formulation and implementation of corporate strategies, not just a background condition. The existing research on institutional factors on the international expansion motivation of emerging market multinational corporations mainly presents two viewpoints: institutional support and institutional escape. The institutional support theory emphasizes the policy support of the home country's government for the international expansion of enterprises, such as tax relief and financing incentives (Luo et al., 2010). While the institutional escape theory emphasizes that the international expansion of emerging market multinational companies is not only to take advantage of their competitive advantages in foreign markets, but also greatly The degree is an escape from the constraints of the domestic market system (Witt and Lewin, 2007). Institutional arbitrage is to use the advantages of foreign perfect institutions to bring benefits to enterprises (Hall and Soskice, 2001). The essence is the other side of institutional escape. In addition, Luo et al. (2007) put forward a springboard view, synthesizing the viewpoints on institutions and resources, arguing that multinational corporations in emerging market countries can use international expansion as a springboard to gain competitive advantages of their enterprises, in order to overcome their endogenous latecomer disadvantages and make up for their own Insufficient competitiveness, and reduce the institutional constraints and market constraints it faces at home.

2.1.3 Scenario characteristics of international expansion of multinational corporations in emerging markets

Situational characteristics are an important source of theoretical construction, expansion and revision. The uniqueness of emerging market situations makes the multinational enterprises embedded in them unique, which in turn leads to the

uniqueness of their international expansion behaviors. Therefore, the definition, comparison and in-depth description of situational characteristics in academia are important prerequisites for studying the international expansion of multinational corporations in emerging markets.

Regarding the uniqueness of emerging markets compared with developed markets, Rugman and Li (2007), Hoskisson et al. (2013) believe that with the deepening of economic globalization and the expansion of the opening of emerging market countries, multinational companies from developed countries have entered emerging countries and quickly seized the markets of emerging countries. As a result, the monopoly advantage of local enterprises (state-owned enterprises) in emerging markets has been broken, and industry and market competition has become increasingly intensified. At the same time, Peng (2002) believe that in emerging market countries, especially emerging economies in the stage of economic transformation, the relevant institutional systems have not yet been perfected and perfected, such as property rights system, financial system, etc., and some formal systems are vague, uncertainty and discontinuity. In addition, Luo and Tung (2007), Wang et al. (2012) believe that the governments of emerging market countries will also intervene excessively in the market, such as policy protection for state-owned enterprises or local enterprises, setting up local barriers to entry, etc., which make multinational companies in emerging countries face more complex and diverse systems. surroundings.

2.1.4 Characteristics of MNCs in Emerging Markets

Regarding the research on MNCs in emerging markets, the existing research mainly includes three aspects: First, the uniqueness of MNCs in emerging markets is highlighted by comparing with MNCs in developed countries. The research of Deng (2009) and Ramamurti (2012) believes that compared with developed countries, multinational corporations in emerging markets have comparative advantages in terms of labor cost and ownership, but they still have major disadvantages in key capabilities such as branding, R&D, and marketing management. This disadvantage is even more prominent in the competition for the high-end market. Therefore, the rapid acquisition of these strategic assets through international expansion (especially cross-border mergers and acquisitions) has become the most important strategic motive for emerging market multinationals at present. Although MNCs in emerging countries have the above-mentioned disadvantages, the unique institutional experience and relationship

capability advantages of MNCs in emerging markets can effectively make up for their "later-comer disadvantage" and "outsider disadvantage" in international competition (Cuervo-Cazurra and Genc, 2008; Luo and Rui, 2009). The second is to focus on the characteristics of Chinese multinational corporations. As the world's largest emerging market country, China's economic rise and the gradual opening of its market have attracted the attention and attention of the academic community. Existing researches on the international expansion of Chinese multinational corporations are mainly reflected in the aspects of motivation and mechanism (Deng 2007), location selection (Duanmu, 2012), and strategic orientation (Rugman and Li, 2007). The third is a comparative analysis of the uniqueness among multinational corporations in emerging markets. There are few comparative studies on MNCs in emerging markets, and most of them focus on the comparative analysis of the international expansion of MNCs in China and India (Sun et al., 2012).

2.1.5 Research on Strategic Behavior

Research on strategic behavior is the core content of the international expansion of multinational corporations in emerging markets. The existing research results are mainly reflected in two aspects: strategic goals and strategic decisions.

Existing studies have different interpretations of the strategic goals of international expansion of emerging market multinationals. Cuervo-Cazurra and Genc (2008) believes that the international expansion of emerging market multinational companies is to obtain a larger international market share, and international expansion is the use and extension of specific advantages of enterprises (Yeung and Liu, 2008). Emerging economies have the advantage of location-specific knowledge of the home country and host country environment. When faced with multiple institutional pressures and complex institutional environments, multinational enterprises in emerging economies can usually respond quickly and use their non-market resource capabilities to gain market access. Competitive Advantage. Deng (2009) believes that the international expansion of multinational corporations in emerging markets is an important channel and method for enterprises to acquire strategic resources. Compared with multinational companies in developed countries, multinational companies in emerging markets are relatively lacking in technology, branding and management, which makes them often at a disadvantage in international competition. Therefore, for the sustainable development of enterprises, acquiring excellent overseas strategic resources has become an important

motivation for the international expansion of multinational companies in emerging markets. In addition, there are explanations based on the point of view of institutional escape. Witt and Lewin (2007) believes that in order to reduce the institutional pressure and risks faced by emerging market multinationals in their home countries, they are more inclined to realize domestic assets and risks through international expansion. The institutional environment is better a gradual transfer of regions or countries.

The research on strategic decision mainly includes two aspects: location selection and entry mode. First of all, from the perspective of location selection research, existing studies have controversial interpretations of this issue: on the one hand, Kang and Jiang (2012) argues that emerging market MNCs are more inclined to enter countries with a lower degree of development, in order to give full play to their institutional experience and On the other hand, Witt and Lewin (2007) the view of institutional escape believes that the international expansion of multinational corporations in emerging markets is an escape from the imperfect institutional environment of the home country in order to obtain better market competition. Secondly, from the research of entry mode, Luo and Zhang (2016) believes that the overseas market entry modes for enterprises to choose include mergers and acquisitions, joint ventures, wholly-owned subsidiaries, strategic alliances, and Sequential Entry Strategies. Most of the research on entry mode focuses on the exploration of influencing factors, such as Rugman and Li (2007) researches on corporate strategic intentions, corporate ownership forms, etc. In addition, some scholars have studied the entry time of international expansion. For example, Hitt et al. (2016) explored the influencing factors of enterprise entry time from three levels of enterprise, industry and country. Powell (2014) also found that firms that do not dominate the home market and have sufficient resources enter foreign markets more quickly than firms that dominate the home market.

2.1.6 Performance Research on International Expansion of Multinational Corporations in Emerging Markets

Performance is an important indicator to measure whether the international expansion strategy of multinational companies in emerging markets is realized, and it is also an important indicator to measure the sustainable competitive advantage of multinational companies in international expansion. The existing research mainly focuses on two aspects: the first is the influencing factors and mechanism of the international expansion performance of enterprises. Aybar et al. (2009) tested the impact of multinational M&A

behaviors of emerging market multinationals on company value, and believed that cross-border M&A of emerging market multinationals is not necessarily value creation for bidders, but may be value destruction. By comparing the international M&A behaviors of China and India, Nicholson et al. (2013) pointed out that cultural distance and industry factors are the important influencing factors of M&A performance of Indian and Chinese companies, respectively. Measuring, comparing, and validating the foreign expansion performance of multinational corporations. Deng (2012) proposed that the internationalization performance of Chinese enterprises can be measured and tested from three directions, namely, the realization of the company's goals, the company's overall competitiveness, and the company's economic or financial performance. Rugman and Li (2007) believe that for the test of the first two forms of performance, case studies are usually used, as well as the use of corporate news releases, corporate interview data, archives or questionnaires. Chittoor et al. (2008) proposed that, different from the first two performance types, the financial or financial performance of an enterprise is easier to measure, the data is easier to collect and obtain, and the data has a higher degree of objectivity, so it is widely used in existing research.

2.1.7 Summary

According to the above literature review, it is found that most of the existing researches on the internationalization of multinational corporations in emerging markets regard "enterprise entry into the international market" as the end point of the research, that is, the research on the influence mechanism of multinational corporations before entering the international market is overemphasized, and the research on the influence mechanism of multinational corporations before entering the international market is neglected. Afterwards, focus on operational management and performance issues. On the other hand, it is reflected that the existing research still focuses on multinational companies in China and India as the key research objects in the field of multinational companies in emerging markets. In addition, there are relatively few studies on multinational companies in other emerging markets. Sex research is also relatively lacking.

2.2 Literature review on the management of internationalisation and performance of enterprises

In the past few decades, international scholars have carried out a large number of theoretical explorations on the internationalization of enterprises, which has enriched the theoretical research system. At the same time, scholars have also studied the relationship between international operation and corporate performance from the perspective of empirical analysis and have drawn valuable conclusions. With the development of international operation theory, more and more scholars have begun to pay attention to the relationship between international operation and corporate performance (Horst, 1972; Tallman & Li, 1996; Vernon, 1971), trying to argue from an empirical point of view. The conclusions drawn from the empirically analyzed literature have also gone through three critical stages of development.

2.2.1 Stage 1: International operation will have a positive linear effect on corporate performance.

Initially, scholars believed that internationalization would increase the company's market size and increase the opportunities for obtaining resources, which would help the company improve its performance. Therefore, the relationship between internationalization and corporate performance is a linear and positive relationship. For example, Vernon (1971) selected Fortune 500 companies in 1964 as a research sample and found that compared with non-multinational companies, large multinational companies achieved higher returns on sales and higher net profit margins on assets. Hughes et al. (1975) conducted a comparative study on international operation activities, examining 46 US multinational companies and 50 non-multinational companies, and found that the shareholder returns of multinational companies and non-multinational companies are almost the same. However, MNEs have lower betas, which means that, after adjusting for risk, MNEs have higher overall returns. Buckley et al. (1977) examined some of the world's largest multinational companies from 1962 to 1972. They found that from 1962 to 1972, the relationship between international operations and corporate growth was not very significant.However, changing the research span from 1967 to 1972, it is found that international operation has a very significant positive effect on enterprise growth.

Dunning (1985) studied the data of 188 large multinational corporations in the UK in 1979 and concluded that there is a positive but insignificant relationship between

overseas output and return on sales. Horst (1971) used the American manufacturing enterprises in 1967 as a sample. Its research involved a total of 1197 American manufacturing enterprises. Horst studied the influence of enterprise size on the relationship between internationalization and the performance of enterprises. It is found that when the company size is added as a variable, the impact of the company's internationalization on the net profit is insignificant. Yoshihara (1985) took the research object of 118 largest Japanese companies and found that multinational companies have a higher return on equity than non-multinational companies, but the sales growth is slower. However, statistically, neither finding is very significant. Shaked (1986) studied 58 American multinational corporations and 43 non-multinational corporations from 1980 to 1982, and found that the return on assets of the two is not much different. However, the operational risk of multinational corporations decreases and the probability of corporate bankruptcy also decreases. Michel & Shaked (1986) used the data of 58 multinational corporations and 43 non-multinational corporations in the United States from 1973 to 1982, and analyzed that the risk-adjusted shareholder return of domestic corporations was higher than that of multinational corporations.

Robert M. Grant (1987) selected 304 manufacturing companies among the top 500 British companies in Time Magazine. Based on their data from 1968 to 1984, the proportion of overseas revenue in total revenue was used as the quantification of internationalization indicators; sales growth rate, and profitability are used as quantitative indicators of performance. Profitability is quantified by Earnings before interest and taxes growth rate, return on equity (ROE) and return on sales (ROS), and the annual average profit rate of 4-13 years is used to eliminate the influence of short-term factors. The OLS regression analysis method was used to carry out the empirical test.

Grant first conducted a static regression analysis, using the average value of the variables from 1972 to 1984. At the same time, taking into account the influence of enterprise size and industry, dummy variables were added, 4-period lag variables were considered, and multiple regression analysis methods were used. The regression results show that international operation has a significant positive effect on the ROS, ROE, and sales growth of enterprises. Although the results of the static regression analysis are very significant, the dynamic and causal relationship between the two cannot be determined. Therefore, Grant then performed dynamic regression to verify further. First, changes in performance were compared using two sets of data, 1972-1975 group versus

1980-1984 group data change and 1976-1979 versus 1980-1984 group data change. Second, the rates of internationalization use 4-year lagged data. The dynamic regression results show that international management has a significant positive impact on ROE and sales growth rate but has no significant impact on ROS. At the same time, Grant also studied the location selection for the internationalization of British enterprises, divided overseas locations into three locations: Europe, North America, and other locations, and analyzed the locations.

Generally speaking, Grant's research believes that internationalization has a positive impact on the performance of enterprises, but this relationship is linear; and he added the impact of time lag variables in his research to examine the dynamic variable. However, in Grant's research, performance only refers to financial performance and does not involve a comprehensive analysis of business performance and other aspects. In addition, other scholars have also obtained similar linear relationships from the perspective of linear empirical evidence.

Errunza and Senbet (1981, 1984) used a set of indicators, the proportion of overseas assets in total assets, the proportion of overseas employees in total employees, and the proportion of overseas income in total income, to represent the degree of internationalization. The results found that internationalization of enterprises could bring excess profits. Jug (1991) concluded that overseas operations (overseas revenue as a proportion of total revenue) could increase the after-tax profit of a firm. Kim & Lyn (1987) believed that overseas operations could increase excess market value and Tobin's Q value. Tallman and Li (1996) believed that international operations could bring about an increase in sales returns.

2.2.2 Stage 2: Internationalization also has a negative linear impact on corporate performance

Some other scholars have found through empirical evidence that international management also has a negative linear impact on corporate performance. For example, Siddharthan and Lall (1982) took the 74 largest multinational companies in the United States from 1976 to 1979 as a research sample. They found that When considering factors such as company size, marketing intensity, R&D intensity, profitability, and economies of scale, there is a negative relationship between the degree of internationalization and company growth. Kumar (1984) studied 672 companies in the UK between 1972 and 1976 and found that multinational companies had a higher return

on assets and sales returns than non-multinational companies. However, at the same time, regression analysis also showed that internationalization There is a negative but not significant relationship between degree and firm profitability and growth. Brewer (1981) used the proportion of overseas employees to total employees to measure the degree of internationalization, used shareholder return to represent corporate performance, and concluded that there is a negative relationship between the two. Buhner (1987) used the proportion of overseas income to total income to represent the degree of internationalization and obtained a negative linear relationship between it and market returns. Geringer et al. (2000) "The internationalization degree is represented by the proportion of overseas revenue in total revenue, and it is concluded that it has a negative impact on ROA, ROS, and sales growth rate. Geyikdagi (1989) uses the proportion of overseas assets to total assets to represent the degree of internationalization. It can be concluded that overseas operations have a higher Beta value. Kohers (1975) believes that the impact relationship between overseas operations and corporate performance is negative. Michel and Shaked (1986) expressed the proportion of overseas income to total income as the degree of internationalization. They argued that the degree of internationalization could have a negative impact on the risk-plus income of enterprises.

2.2.3 Stage 3: The influence of international operation on enterprise performance is a curve relationship

With the development of empirical research, scholars have gradually discovered that the impact of international operations on corporate performance is not as simple as a linear impact. On the one hand, international operations can bring companies a broader market space and opportunities to obtain resources. However, at the same time, international operations also bring higher coordination and management costs, transaction costs, and greater uncertainty. It will also bring uncertainty to the operating profit of the company. Therefore, scholars believe that the relationship between international operation and firm performance should be more of a curvilinear relationship (Hitt et al., 1997).

The study by Hitt et al. (1997) stands for an empirical analysis from a managerial perspective, selecting the S&P COMPUSTAT database of 295 U.S. manufacturing firms, averaged over a total of three years of data from 1988 to 1990. The data selection criteria include manufacturing enterprises, average annual sales revenue of more than

100 million U.S. dollars, product diversification or international diversification, or both. In order to avoid multicollinearity in the data, Hitt et al. selected ROA as the performance evaluation standard when selecting variables; the overseas market was divided into four regions: Africa, Asia-Pacific, Europe, and the Americas, and the weighted score of the sales revenue of each region was used. It is a quantitative indicator of the degree of internationalization; at the same time, control variables such as the degree of product diversification, industry, and enterprise-scale are added. The results of the empirical analysis verify the author's four hypotheses: Firstly, the international operation is a very complex and difficult to manage activity, and the costs associated with the international operation are also very obvious. Increased international diversification will bring greater demand in terms of transaction costs and management capabilities. And different government regulations, trade terms, foreign exchange fluctuations, cultural differences, and logistics capabilities add difficulties. Therefore, the relationship between international operation and performance is an inverted U-shaped curve. Corporate performance first rises and then falls. There is an extreme value in the degree of internationalization that maximizes performance. Secondly, international diversification makes enterprises more motivated to innovate. From the perspective of resource theory, they can obtain resources on a larger scale to promote innovative activities. From the perspective of organizational learning theory, they can obtain More innovation returns. Therefore, international diversification has a positive role in promoting innovation. Thirdly, product diversification has a positive moderating effect on the curve relationship between international diversification and performance. Because product diversification can bring more integration experience, help international diversification activities, and improve performance. Fourthly, Product diversification has a negative moderating effect on the relationship between international diversification and enterprise innovation. From the perspective of resource theory, product diversification will make enterprise management less invested in business strategy because more resources such as time, energy, and information processing level will be distributed to more products. Therefore, management's business focus will shift from strategy to financial control. This will reduce managers' commitment to R&D activities, resulting in less financial risk and more available resources. Hitt et al. analyzed the relationship between international operation and performance from several management dimensions, such as strategic management and organizational theory, resource theory from the perspective of business and transaction

costs, and organizational learning theory. It is believed that the relationship between the two is not a simple linear relationship but a more complex inverted U-shaped relationship, which is more in line with the empirical situation. However, Hitt et al. did not take into account the lagging effect of internationalization on performance, and also did not take into account the analysis of operational performance, and only used financial performance to represent the overall performance.

Lenn Gomes and Kannan Ramaswamy (1999) also believed that the impact of internationalization on corporate performance should not be a linear relationship but a curve relationship. They selected the second-hand data of American manufacturing companies from 1990 to 1995 for a total of 6 years. These samples are distributed in 4 industries, and a total of 95 companies (28 chemical companies, 14 pharmaceutical companies, 24 computers, and office equipment companies, and 29 electronic products companies) since companies in these four industries have a large number of international operations. The selection criteria of the sample are that at least 10% of the income comes from overseas, and 70% of the income comes from a single main business to avoid the impact of diversification. Use panel data for analysis. In the selection of variables, Gomes & Ramaswamy use the proportion of overseas revenue to total revenue to represent the degree of internationalization, use ROA to represent financial performance, and use the proportion of operating costs and total revenue to represent operational performance. Dummy variables are used as control variables. Gomes & Ramaswamy established two models for empirical analysis, the first model is a linear relationship, and the second model is a curve relationship. The regression results show that the interpretation effect of model 2 is better than that of model 1. That is, the effect of the curve model is better than that of the linear model. In the curve model, both financial performance and operational performance have been significantly tested. That is, the impact of international operations on corporate performance is an inverted U-shaped relationship. When the degree of internationalization reaches a certain level, it has the greatest impact on the performance of the enterprise, and beyond this critical level, the performance of the enterprise will show a downward trend.

Qian et al. (2008) studied the impact of regional diversification on firm performance and concluded that regional diversification has both linear and curvilinear effects on firm performance. When regional diversification reaches a critical point, multi-regional diversification has a positive linear impact on corporate performance, and then it has a

negative impact. Qian et al. argue that this explains why most international firms are regional rather than global. Qian et al. selected 189 U.S. companies in the Fortune 500 as a sample. These companies have been in operation for six years or more and selected data for a total of 5 years from 1996 to 2000. In terms of variable selection, regional diversification uses a weighted average, P is the number of countries involved in diversification in a certain region, and In is the weight of the region. The performance uses two indicators, ROA and ROS, and uses three indicators: the proportion of overseas revenue in total revenue, the proportion of overseas assets in total assets, and the proportion of overseas employees in total employees to indicate the degree of internationalization. And control variables such as the age of the enterprise, and introduce variables such as R&D expenditure. The analysis results using panel data show that international operation and corporate performance have an inverted U-shaped relationship. Specifically, when the degree of regional diversification is relatively low, it has a positive linear relationship with corporate performance; and when the degree of regional diversification reaches medium to high, its impact on corporate performance is curvilinear and negative: If an enterprise in a developed country has moderate diversification in developed countries and regions, and limited diversification in developing countries and regions, its corporate performance will be maximized.

Kotabe, Srinivasan & Aulakh (2002) studied the moderating role of R&D capability and marketing capability in the impact of international operations on firm performance. It is believed that companies with stronger R&D and marketing capabilities have a greater impact on performance due to their internationalization. Because stronger R&D capabilities and marketing capabilities can bring companies stronger competitiveness and higher product prices, applying this capability to a wider market will enable companies to obtain higher profit returns. Kotabe et al. selected samples from the COMPUSTAT database, involving a total of 49 companies in 12 industries, with a total of 7 years of data from 1987 to 1993. In terms of variable selection, the degree of international operation is represented by the proportion of overseas revenue to total revenue, and corporate performance is as described in Gomes and Rama5wamy (1999), using two indicators, ROA for financial indicators and operating expenses for operational indicators, adding firm size as a control variable.

In addition, the R&D expenditure is used to express the R&D intensity, while the marketing expenditure is used to express the marketing intensity. The results of the

regression show that companies with stronger R&D and marketing capabilities have a more specific moderating effect of internationalization on performance than R&D capabilities and marketing capabilities have on the impact of internationalization on performance.

In addition, some other scholars have also adopted empirical research to believe that the relationship between international operation and corporate performance is expressed as an inverted U-shaped relationship. For example, Contractor et al. (2003) studied the impact of the proportion of overseas income in total income on ROA and ROS, and Daniels and Bracker (1989) used the proportion of overseas assets in total assets to study ROA and ROS. The impact of Geringer, Beamish & DaCosta (1989) and Sullivan (1994) using overseas income as a share of total income to study the impact on ROA and ROS, Riahi-Belkaoui (1998) and Ruigrok and Wagner (2003) also used the proportion of overseas income to total income to study the impact on ROA. Both concluded that there is an inverted U-shaped relationship between international operations and corporate performance.

However, unlike most inverted U-shaped conclusions, Capar & Kotabe (2003) examined the impact of international management on corporate performance in the service industry. They believed that international management had an impact on corporate performance. The influence of more indicates that there is an inverted U-shaped relationship between the two, and there is an extreme value of the degree of internationalization that maximizes corporate performance. However, Capar and Kotabe found that most of the studies are samples of manufacturing enterprises, especially American enterprises. The situation in the manufacturing and service industries is different, and enterprises in different countries face different levels of economic development and internationalization stages, so the inverted U-shaped relationship may not necessarily be generalized. Therefore, Capar and Kotabe selected 81 major German service enterprises for empirical research. These samples include 4 German service industries, 34 wholesale and retail, 29 public utilities, and eight tourism industries. The samples are all from the top 500 German companies. The criteria for sample selection are that at least 70% of the income comes from a single field, and at least 10% of the income comes from overseas. Data were collected over a 3-year span from 1997 to 1999 and averaged to eliminate random effects. In the selection of variables, Capar and Kotabe use ROS to measure corporate performance (one is because data is easy to

obtain, and the other is because predecessors often use this indicator), and the proportion of overseas income to total income is used to indicate the degree of internationalization. At the same time, Firm size and industry factors were added as control variables. Two analysis models are established, the first model is a linear relationship, and the second model is a curve relationship. Through the two regression models of linear and curve, it is concluded that the curve equation has a better explanation effect than the linear equation. That is, the relationship between internationalization and performance is U-shaped. Further explanation, when the degree of internationalization is less than 18%, the relationship between the two is negative, and when the degree of internationalization exceeds 18%, there is a positive relationship between the two. This is contrary to the conclusions reached by Gomes and Ramaswamy (1999) and Hitt et al. (1997), both of which showed that for manufacturing firms, there is an inverse relationship between internationalization and purity shape curve relationship. This shows that the conclusions of manufacturing enterprises are not necessarily applicable to the service industry, or it shows that the inverted U-shaped conclusion drawn from the US manufacturing industry is not necessarily applicable to other countries, regardless of the manufacturing industry or the service industry. Likewise, it is too early to define the relationship between the two as an inverted U shape. At the same time, the average internationalization rate of 18% is far lower than Gomes & Ramaswamy's average internationalization rate of 42% for the manufacturing industry, indicating that the internationalization degree of the service industry is still far lower than that of the manufacturing industry. For the service industry, the risks in the initial stage of internationalization outweigh the benefits, which will also create certain obstacles to internationalization. In addition, Germany has a small area compared to the United States. Thanks to economic integration, the border trade with neighboring countries is developed. Therefore, with the international submission, the impact on operating costs is not apparent. The research by N. Capar and Masaaki Kotabe analyzes the relationship between international operation and performance in the service industry. It draws a different conclusion from that in the manufacturing industry. However, in empirical research, Capar and Kotabe also only studied financial performance, ignoring operational performance, and operational performance is critical for the service industry. At the same time, the role of lagged variables is not considered enough.

2.3 Literature review on the internationalization of EMEs in Poland

Regarding the internationalization model of Polish companies, Morawczyński (2008) studied 107 small and medium-sized manufacturing companies in the Polish region and concluded that the two models of "born nationalized companies" and "traditional internationalized companies" coexist in Polish companies, and Three characteristics that influence the motivation of firms are identified: the level of internationalisation of the enterprise, the nature of the business it operates in, and the restructuring of the enterprise to meet the requirements of foreign markets.

Przybylska (2010) studied a sample of 53 Polish small and medium-sized firms, found 18 naturally globalized firms (34%) and operating at a much faster rate of internationalization than the traditional internationalization approach would suggest, concluding that the traditional model of internationalization does not fully explain the process of internationalization of Polish SMEs and that the number of naturally globalized Polish SMEs is increasing.

Jankowska & Główka (2015) used a model of internationalization of business clusters and the study proved that Polish clusters are in the early stages of internationalization process, especially outward-oriented internationalization. The most popular mode of internationalization is exporting, but overall the level of internationalization operations of Polish business clusters is still low.

2.4 Summary

Most of the literature on Polish firms is in Polish, and most of the studies still focus on examining the patterns and motives of Polish multinational firms' international expansion. This chapter focuses on the second part, i.e., the international literature on the internationalization degree and performance of enterprises in English. This part also shows that there are few studies so far that internationalization outcome and explore the performance of enterprises in emerging markets in Central and Eastern Europe, and it is worthwhile for subsequent scholars to continue to explore and use cases from Central and Eastern European countries to complement the theory of internationalization of multinational enterprises in emerging markets.

From the second part of this chapter, it can be seen that overseas scholars' empirical research on the relationship between international operation and corporate performance has experienced a gradual evolution process. Until the 1980s, scholars mostly believed that international operation had a linear impact on corporate performance, and most of the conclusions held that international operation would promote the improvement of corporate performance (Vernon, 1971; Buckley, 1977), which mainly originated from the international operation, enterprises will have a broader market space, more opportunities to obtain more resources, participate in more comprehensive competition and enhance their competitiveness. At the same time, the empirical results of some scholars show that international operation is not conducive to improving enterprise performance (Brewer, 1981; Kumar, 1984), mainly because international operation does not always bring advantages to enterprises. At the same time, it will also make enterprises invest more resources and increase the negative impact of enterprise transaction coordination costs. At the same time, different scholars use different data samples and samples from different periods, which also causes the contrast of empirical results. In addition, research methods and variable selection methods are also worth discussing. For example, early scholars mostly tended to use cross-sectional data rather than time series data or panel data (this part is limited by the availability of data). Under different economic development cycles, the performance of enterprises will show different results.

Since the 1980s, scholars have gradually evolved to believe that the impact of international operations on corporate performance is not a simple relationship such as a linear relationship but a curve-like relationship. Especially when most scholars use time-series data or panel data and take manufacturing enterprises as research samples, almost all of them find that the improvement of international operation on enterprise performance is manifested as a promotion effect in the initial stage, and when internationalization Beyond a certain level, the impact on firm performance is negative (Hitt, 1997; Lenn Gomes & Kannan Ramaswamy, 1999). This is mainly because, in the early stage of internationalization, companies generally trade less investment for more market opportunities, while with the improvement of internationalization, the increase in operating costs of the company will more than offset the increase in revenue, even more than revenue growth. Therefore, scholars believe that the degree of international operation has an optimal value for the improvement of corporate performance. That is,

the relationship between the two is an inverted U-shaped relationship. However, since most scholars use manufacturing samples (or mainly manufacturing enterprise samples) when conducting empirical research, the inverted U-shaped influence relationship is easy to think that it only applies to manufacturing. Unsurprisingly, some scholars have analyzed the relationship between the service industry, international operation, and corporate performance. The results show that the relationship between the two is not an inverted U-shape but a U-shape (Capar & Kotabe, 2003). This can be explained that for the service industry, much investment is required to form a brand advantage, achieve economies of scale, and generate economic benefits. Therefore, the impact of international operations on corporate purity shows a U-shaped relationship. In any case, in the past few decades, overseas scholars have made a lot of empirical analyses on the impact of the international operation of enterprises on performance. Scholars from different countries have also conducted special analyses based on domestic enterprise samples, but this is mainly concentrated in developed countries. These studies have greatly enriched the theory of international operation and guided the practice of international operation of enterprises. The research results show different conclusions, even diametrically opposite conclusions, which indicates that the impact of the international operation on the performance of enterprises depends on many factors. For example, the unique economic advantages of different countries, different historical cycles of economic development, and the special nature of different industries. Therefore, to explore the relationship between international operation and corporate performance, it should be analyzed based on the historical period of economic development in specific countries and limited to different industries. At the same time, this paper believes that in the empirical analysis, more time series data or panel data should be used to reduce the impact of the economic cycle, which also reflects the dynamic effect of enterprise development. When examining the level of performance, more multi-dimensional performance should be selected, including financial performance, operational performance, and overall competitiveness performance, to fully reflect the performance level so as not to be biased.

3. Research theory

Before conducting the empirical case study on the relationship between the degree of internationalization of Polish firms and firm performance, this chapter will introduce the theoretical background of the model, based on the three-stage model of international expansion by Contractor, Kundu & Hsu (2003). Contractor et al. believe that the performance of multinational corporations will go through three stages – negative slope – positive slope – negative slope with the development of internationalization. That is, the relationship between the degree of internationalization of multinational corporations and corporate performance is a horizontal S-shape.

According to the literature review above, there are apparent differences in all aspects of multinational companies before developed countries and emerging economies, so their international expansion models are also different. Furthermore, Contractor, Kundu & Hsu's (2003) three-stage model of international expansion studies the business objects basically belong to developed countries, so this chapter makes a new attempt, starting from the three-stage model of developed countries, to explain its different stages, derive a three-stage model for emerging markets.

3.1 The three-stage model of international expansion of enterprises in traditional developed countries

In terms of corporate income, it may be assumed that the company's products can be cleared, and the company's domestic company income and overseas company income are actually its production functions. To simplify the model, the production functions of domestic and overseas companies are set as Cobb–Douglas production functions:

First, calculate the corporate performance of multinational companies:

Total profit of multinational companies = (income of local companies + revenue of overseas subsidiaries) - (cost of domestic companies + costs of overseas subsidiaries + costs of multinational companies) ..... (3-1)

In terms of corporate income, it may be assumed that the company's products can be cleared, and its domestic and overseas company income are its production functions. To make the model more simplified, the production functions of domestic and overseas companies are set as Cobb–Douglas production functions:

$Y = A_{overall} A_{subsidiary} R_{selfRD} R_{learning} K^{\alpha} L^{\beta}$ ..... (3-2)

This formula indicates that a company's subsidiary in one location is affected by the subsidiary's capital K, labor L, R&D level R, and scale effect A. Among them, scale effect A has two aspects: the scale of the subsidiary itself, and the overall scale of the multinational company. The R&D level R also has two aspects: the scientific research level of the multinational company itself, and the multinational company's learning effect on the outside world, the level of research it can obtain. In terms of enterprise cost, the cost of local companies and the cost of overseas companies respectively represent the operating costs of the two sub-sectors. In contrast, the cost of multinational companies refers to the additional costs that companies need to spend on international operations. Specifically, cross-border costs include the cost of entering a country and coordinating management between different subsidiaries in different countries.

3.1.1 The first stage: the low-level internationalization stage of the enterprise

At this stage, multinational corporations in developed countries have just begun to expand internationally, and their international expansion often starts from neighboring countries (geographically and culturally) or larger economies.

Firstly, in terms of the production function, with regard to scale effects, because they already have certain market advantages and scale effects in their own countries, while overseas enterprises are small in scale and cannot form scale effects, local companies cannot obtain scale effects through internationalization at this stage. If the scale of overseas companies is too small, the effect of multinational scale on their advantages is not apparent. At the same time, in terms of research and development, since the company is a developed-country multinational company, it will not obtain a noticeable learning effect in international expansion. Therefore, the level of overseas research and development cannot improve its production. The lack of learning effect for developed-country multinational companies is established in three stages.

However, in terms of cost, the company is in the early stage of international expansion, so it is not familiar with overseas markets and culture, so the cost of overseas subsidiaries is more expensive now. In addition, companies have to spend on breaking entry barriers when they first enter a country's market, so their cross-border costs increase.

Combining the above two reasons, on the one hand, the production level of enterprises cannot be effectively improved; even the relative efficiency of overseas

subsidiaries is much lower than that of local companies. And on the other hand, the cost increases. Therefore, in the first stage, the performance of multinational enterprises in developed countries decreases as they become more internationalized.

3.1.2 The second stage: the medium internationalization stage of the enterprise

At this stage, the degree of internationalization of the enterprise is relatively high, and it has carried out a relatively wide range of businesses in neighboring countries and larger economies. It can be said that it has a certain degree of competitiveness and even a market position in the international market.

At this stage, in terms of the scale effect of the production function, on the one hand, the overseas subsidiaries of the company have formed a certain scale and can form their scale effect; on the other hand, the overall scale of multinational companies has further expanded, and the overall scale effect has become more obvious. In terms of research and development, the learning effect cannot be obtained. However, because the market scope faced by the enterprise becomes larger, the life cycle of the enterprise's products is prolonged, which in disguise improves the enterprise's research and development efficiency. Therefore, in terms of scale effects and R&D, the output of MNEs at this stage is improved.

In terms of cost, enterprises have already entered overseas countries, and the cost of entry barriers has disappeared; at the same time, overseas subsidiaries are more familiar with the local culture and system, so the operating costs of overseas subsidiaries are reduced; finally, in terms of cross-border costs, large-scale and institutionalized costs have been formed. Internal transaction processes, so the product units in this segment are also reduced.

Combining the above two reasons, the output of enterprises increases on the one hand. And on the other hand, the unit cost decreases. Therefore, in the second stage, the performance of multinational enterprises in developed countries increases with the degree of internationalization of enterprises.

3.1.3 The third stage: the highly internationalized stage of the enterprise

At this stage, the company has experienced excessive international expansion, with a small proportion of local operations. The multinational company has already launched some business in most countries and regions worldwide, often including some peripheral or smaller markets.

At this stage, regarding the scale effect of the production function, on the one hand, in addition to the overseas subsidiaries in the second stage, the company conducts business in many small countries or regions, and the market status of these countries is too small, so the local overseas subsidiaries The scale effect cannot be formed at all; on the other hand, the overall scale of the enterprise is already large enough, so the benefit of this expansion on the overall scale effect of the enterprise is not significant. In addition, in terms of research and development, although the product life cycle is further extended due to the larger international market, due to the limited market size of these small countries, they can only absorb limited products, so the extension of the product life cycle has little effect. Therefore, in general, the output of enterprises in this stage has not improved or even declined.

In terms of cost, on the one hand, enterprises increase the cost required for a new entry into small countries. On the other hand, due to the excessive degree of internationalization of enterprises, the overall coordination and management costs of multinational companies will rise rapidly.

Combining the above two reasons, on the one hand, the output of enterprises has not improved or even declined, and on the other hand, the cost has risen sharply. Therefore, in the third stage, the performance of multinational enterprises in developed countries decreases with the increase of the degree of internationalization of the enterprise.

3.1.4 Summary

Figure 2 shows the above-mentioned three-stage pattern of international corporate expansion in traditionally developed countries. It can be found that for multinational companies in developed countries, the relationship between the degree of corporate internationalization and corporate performance is a horizontal S-shaped; that is, corporate performance will follow the internationalization of the company. As the internationalized degree gets continuously deepened, it will experience three stages "negative – positive – negative" slope.

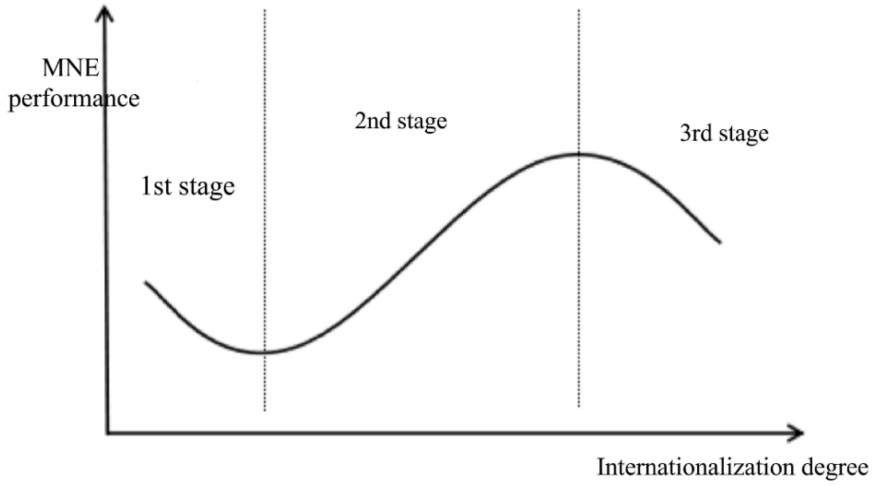

Figure 2. The three-stage model of developed-countries MNEs

3.2 The three-stage model of enterprise international expansion in emerging market countries

First, multinational companies' calculation methods and function settings are consistent with formulas 3-1 and 3-2. On this basis, a subsection discussion is conducted.

3.2.1 The first stage: the low-level internationalization stage of the enterprise

At this stage, multinational companies in emerging markets are also just beginning to expand internationally. International expansion often starts from neighboring countries (geographically and culturally) or larger economies.

However, in terms of the production function, although the scale effect is the same as that of the "first mover" MNEs in developed countries, in terms of R&D, MNEs in emerging market countries have the advantage of the "latecomer" learning effect, which can expand through globalization, learn from and learn from advanced To improve the company's capabilities and enhance its domestic and international competitiveness. Therefore, the effect of the R&D level brought about by internationalization will increase significantly, so that although multinational companies in emerging market countries cannot obtain the scale effect of overseas subsidiaries in the initial stage, they can offset this disadvantage by significantly improving the technical level, so as to obtain better output.

At the same time, in terms of cost, although multinational companies in emerging market countries will spend more on overseas subsidiaries in the same way as multinational companies in developed countries, they often receive government policy support or even financial subsidies from their home countries, and even some multinational agreements are made by both parties. The government takes the lead, so the initial multinational cost is very low or even negative for multinational companies in emerging market countries. Overall, the company's total cost will not have too much additional expenditure in the initial stage.

Combining the above two reasons, the enterprise's output increases on the one hand, and the cost decreases on the other hand. Therefore, in the first stage, the performance of multinational enterprises in emerging market countries increases with the degree of internationalization of the enterprise.

3.2.2 The second stage: the medium internationalization stage of the enterprise

At this stage, the enterprise has completed the study and imitation of external superior technology and management experience, and has begun to move from imitation to independent innovation. The enterprise brand has begun to appeal in the international market and has certain market competitiveness. Therefore, from this stage, it has been difficult for enterprises to obtain learning effects and improve their R&D level from internationalization. In addition, it is also precisely because the company has already gained a certain amount of power in the international market and has already achieved "going out," so it is difficult to enjoy the government support policies for the initial stage of the company's internationalization to a large extent.

At the same time, due to the late start of internationalization of multinational enterprises in emerging market countries, the strength of each enterprise and the overall degree of internationalization at this stage can only be consistent with the initial stage of multinational enterprises in developed countries. Therefore, in the second stage, the latecomer "multinational corporations" face the same international market operation situation as the forerunners "transnational corporations". The first phase of the division is the same.

Therefore, in this stage, the performance of MNEs in emerging market countries decreases as the degree of internationalization increases.

3.2.3 The third stage: the highly internationalized stage of the enterprise.

At this stage, the degree of internationalization of MNCs in emerging market countries can already be comparable to that of MNCs in mature countries. However, due to the late start of the internationalization of these latecomer MNCs, even the development speed is far from reaching the excessive level. The degree of internationalization. Therefore, the "latecomer" MNCs in this stage correspond to the second stage of developed countries' MNCs. Therefore, in this stage, the performance of multinational enterprises in emerging market countries increases with the degree of internationalization of the enterprise.

3.2.4 Summary

Figure 3 shows enterprises' three-stage mode of international expansion in the above-mentioned emerging market countries. It can be found that for multinational companies in such emerging markets, the relationship between the degree of internationalization and corporate performance is exactly the opposite of that of developed countries. It is a reverse horizontal S-shaped curve. That is, the MNE performance will continue to deepen with the internationalization degree, and it will experience three stages of "negative – positive – negative" slope successively.

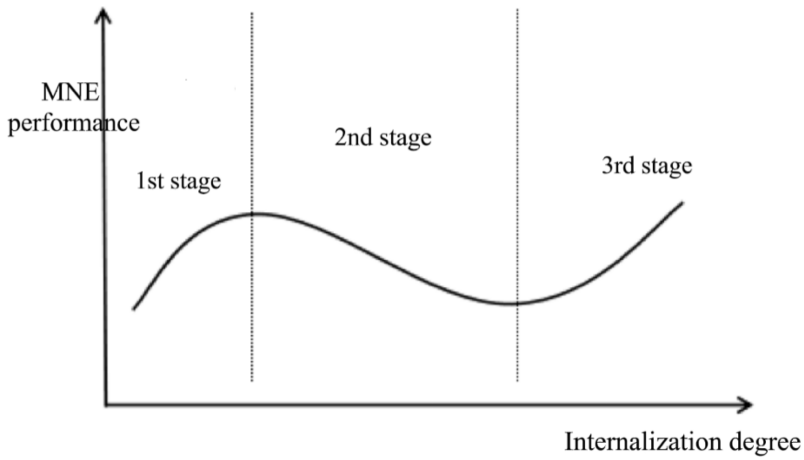

Figure 3. The three-stage model of emerging-market MNEs

3.3 Summary of the chapter

This chapter starts with the three-stage model of multinational enterprise expansion in developed countries by Contractor et al.. Then analyze each stage from the perspective of Cobb–Douglas production function and deduces a new three-stage model for multinational enterprise expansion in emerging markets.

It can be seen from the above analysis that the first stage of multinational companies in emerging market countries is a positive relationship between corporate internationalization and performance, while the second and third stages correspond to the first and second stages of multinational companies in developed countries stage. According to the conclusions of previous literature, there are many different conclusions in the empirical analysis results, such as positive slope linear relationship, negative slope linear relationship, U-shaped curve relationship, inverted U-shaped curve relationship, and horizontal S-shaped curve relationship. It may be because the selected enterprise samples belong to multinational enterprises with different degrees of internationalization in countries with different economic conditions. These empirical conclusions actually correspond to different parts of the two three-stage pattern curves of the internationalization of enterprises in developed countries in emerging markets.

4. Case study model

4.1 Selection of data

In the previous literature on the multinational operation and performance of enterprises, because the time span of a single enterprise in the vertical direction is generally not very long, time series models are rarely used. Some studies use cross-sectional data models (Robert, 2013; N.Capar & Masaaki Kotabe, 2003), and the data of a single cross-section generally selects the average value of 3-4 years to weaken a specific event or short-term The impact of factors on firm performance; some studies use panel data models (Lenn Gomes & Kannan Ramaswamy, 1999; Masaaki Kotabe et al, 2008). G.Tomas M.Hult et al (2008) reviewed 96 literatures from 8 top journals from 1995 to 2005 on the impact of internationalization on firm performance and concluded that the panel data model is useful in examining internationalization. The performance of business performance is the best, and the sample time span of a single individual should not be too short to facilitate the investigation of individual time trends. Panel data, also known as time series cross-section data or pool data, refers to taking multiple cross-sections on a time series, and selecting sample data from these cross-sections at the same time. Data in which data and time series data are fused together. Time series data or cross-sectional data are one-dimensional data, while panel data are two-dimensional data obtained in both time and cross-sectional space. Viewed from the cross section, panel data is a cross-sectional observation composed of several entities

(entity, unit, individual) at a certain time, and viewed from the longitudinal section, it is a time series. The advantages of panel data models over time series models or cross-sectional data models are:

(1) The panel data model can not only reflect the time trend of a specific individual, but also reflect the heterogeneity of different individuals at a specific time, and contains more information. Therefore, panel data can better identify and measure unobservable effects of time series or cross-sectional data, and help to build and test more complex behavioral models.

(2) For some neglected explanatory variables, the panel data model can obtain unbiased estimates of model parameters by controlling the influence of the variables on the explained variables, without the need for their actual observed values. This solves the problem that the OLS estimator does not satisfy the BLUE property (Best Linear Unbiased Estimator) due to the presence of missing variables when using a time series model or a cross-sectional data model to build a multiple regression model.

(3) The panel data model can effectively expand the sample capacity and solve the problem of insufficient sample capacity due to objective reasons such as short time span and missing data. Large sample estimation can ensure the establishment of the central limit theorem and relax the normality assumption, so as to obtain a consistent estimate.

(4) The panel data model can link the economic behavior of individuals at different time points, and describe the change process of the economic characteristics of different individual sections in the time dimension, which is conducive to better research on the dynamic correction mechanism of data.

(5) Compared with the time series model and the cross-sectional data model, the panel data model can carry out better behavior prediction, and provide a more reliable theoretical basis for the decision makers' investment behavior selection, risk prevention measures and early warning and forecast system establishment.

With the increasingly complex and changeable modern economic activities, it is necessary to better explain and explain specific economic phenomena. There may be limitations in the study of simply using cross-sectional data or time series data. Panel data can comprehensively measure cross-sectional data. Unobservable effects of data or time series data. In view of the advantages of the panel data model and the review by G.Tomas M.Hult et al (2008), this study will use the panel data model to conduct an empirical study on the relationship between the international operation and performance of listed companies in Central and Eastern European emerging markets.

4.2 Dynamic Panel Data Model

Panel data model can be divided into static panel data model and dynamic panel data model. As the name implies, the static panel data model only examines the contemporaneous correlation between economic variables, while the dynamic panel data model also incorporates historical factors into the model to examine how current variables are affected by both historical variables and current variables. Formally, the dynamic panel data model adds the lagged variable of the dependent variable to the static panel data model, that is, the entire history of all independent variables in the past several periods, so any influence of the independent variables observed in the current period is conditioned on this history , so dynamic panel data is an extension of the static panel data model. Dynamic panel data are widely used to analyze corporate production, corporate R&D issues, corporate capital structure, corporate governance, dynamic externalities, foreign direct investment, and exports.

Every enterprise goes through the process of continuous development and change, which is the unity of dynamic and static. When examining the performance of the company, it is necessary to fully consider its dynamic characteristics. For most companies, the current operating performance is related to various factors such as previous production factor inputs, scientific research expenditures, etc. Therefore, this study will establish a dynamic panel data model to examine the correlation between the operating performance and internationalization of multinational companies listed in the emerging markets of Central and Eastern Europe. relationship, which is not only conducive to a more comprehensive and comprehensive study of the problem, but also helps to obtain more effective estimation results.

The basic form of the basic model of dynamic panel data can be expressed as:

$$y_{it} = \delta y_{i,\,t-1} + X'\beta + \mu_i + v_{it} \ (i=1, 2,..., N; T=1, 2,...T)$$

Among them, y and X are the explained variables and explanatory variables, respectively, δ and β are parameters to be estimated, μ_i and v_{it} are random disturbance terms.

A prominent advantage of the dynamic panel data model is that it can better overcome the problem of omitted variables and reverse causality by controlling for fixed effects. Excellent properties of the random perturbation term vit. However, the use of dynamic panel data models for parameter estimation often encounters the following problems:

(1) If the panel data belongs to the "big N, small T" type, that is, the wide panel data type, when traditional estimation methods, such as OLS, MLE, etc. are used for estimation, the bias of the estimated parameters cannot be ignored; When the autoregressive coefficient is close to 1, the traditional GMM estimation method will also fail.

(2) The dynamic panel data GMM model has special properties: as the time T increases, the number of moment conditions also increases accordingly. This makes the model likely to have over-identification problems due to too many constraints (that is, there are far more orthogonal conditions than estimated parameters), so that a unique parameter estimator cannot be obtained.

(3) Traditional econometric theories have carried out a lot of fruitful proofs on the dynamic economic structure of linear relationships, but in fact, the economic relationships explained by economic theories are usually not simple linear relationships, but mostly non-linear. Estimating a dynamic nonlinear panel data model with unobservable effects requires a reasonable setting of the density function of the unobserved effect exogenous variables and the initial observed value of the dependent variable. However, it is quite difficult to determine these initial conditions (Woodridge, 2003) Therefore, the establishment of a dynamic panel data model with nonlinear parameters must be based on the assumption that all regression parameters are constant (Arellano, 2003; Hsiao, 2003; Baltagi, 2008).

The emergence of the above problems makes whether μi is a fixed parameter to be estimated (at this time, the dynamic panel data model is a fixed effect model), or μi is random (at this time, the dynamic panel data model is a random effect model), even if νit does not exist In the problem of autocorrelation, the lagged dependent variables yi, t-1 also have a correlation with the interference term νit. This makes the OLS estimator biased and inconsistent (Baltagi, 2008) despite the absence of serial correlation problems for νit. If the fixed-effects model is treated as a traditional regression model with lagged dependent variables, the estimator based on observations at T time points is still biased in a finite-sample model, because the explanatory variables are correlated across observation time points. This problem is even more pronounced in random-effects models, because the observed equations for each time point in section i are accompanied by the same μi, which means that the lagged dependent variable is

correlated with the compound disturbance in the model. At this time, neither the least squares dummy variable model (LSDV) nor the generalized least squares estimation (FGLS) can be used to obtain an effective estimator. Therefore, choosing the correct estimation method is very important to ensure the excellent statistical properties of the parameters of the dynamic panel data model. This will also be compared and discussed below.

4.3 Model settings

The early literatures on multinational business performance of enterprises mainly took large-scale manufacturing enterprises in developed countries as the research objects. , product diversification and regional diversification are independent variables. From the literature review in Chapter 2, it can be seen that the academic circle has not yet reached a conclusion on the relationship between the international operation of enterprises and performance. The theoretical model deduction in chapter three shows that the relationship between the two will have differences in research conclusions due to the development level of the country or region where the sample enterprises are located, the industry, and the measurement methods of various indicators.

According to the research results of the existing literature, this research hypothesizes that the degree of internationalization of Polish manufacturing multinationals has an inverted U-shaped relationship with performance, and the degree of internationalization of Polish non-manufacturing multinationals has a linear positive correlation with performance.

Combined with the three-stage theory of international expansion of emerging markets in this paper, the basic form of the dynamic panel data model for the international operation and performance of Polish listed companies is established as follows:

$$perfor_{it} = \eta_i + \theta_t + \beta_0 + \beta_1 intnl_{it} + \beta_2 intnl_{it}^2 + \omega perfor_{i,\,t-1} + \beta_1 X_{it} + \mu_t \quad \text{..... (4-1)}$$

where β_0 is the constant term, η_i and θ_t represent the unobservable regional effect and time effect, respectively, the enterprise performance $perfor_{it}$ is the dependent variable, the degree of international operation of the enterprise $intnl_{it}$ is the independent variable, X_{it} is the control variable, μi is the random disturbance term, and Both satisfy the white noise process. It can be seen that the formula contains the quadratic term of $intnl_{it}$,

which is intended to study whether there is a significant curve relationship between the degree of international operation and performance of Polish listed companies. If $\beta_2 < 0$ passes the significance test, it means that there is an inverted U-shaped relationship between the two; if $\beta_2 > 0$ passes the significance test, it means that the two have a U-shaped relationship; if β_2 is not significant, but β_1 is significant, it means that there is a significant linear relationship between the two If the sum of β_1 and β_2 is not significant, it means that there is no specific relationship between the two.

4.4 Variable selection and measurement

4.4.1 Enterprise performance $perfor_{it}$

Most of the existing literatures use one or more of return on equity (ROE), return on assets (ROA), return on sales (ROS), Tobin's Q value or stock price return to measure corporate performance. It is generally believed that ROA is the best indicator to measure the financial performance of a company, which can reflect the ability of the company to obtain profits from the assets owned by the company, while ROE is an indicator to measure the return on investment relative to shareholders' equity, which can reflect the company's use of net assets to generate net profit. ability. ROA and ROE are both important indicators to measure the profitability of an enterprise. Therefore, this research will use ROA as a proxy variable of corporate financial performance, and conduct robustness test with ROE indicator.

ROA = net income after tax ÷ total assets, ROE = net income after tax ÷ shareholders' equity. The higher the ROA and ROE, the better the financial performance of the company.

4.4.2 The degree of internationalization of enterprises $intnl_{it}$

Hu et al. (1992) found through reviewing the previous literature that indicators often used to measure the degree of internationalization of enterprises are: the proportion of overseas employees to the total number of employees, the export experience of enterprises, and the export profits of enterprises. Capacity, the proportion of overseas sales to total sales, etc., among which the proportion of sales created by overseas subsidiaries to total sales (FSTS) is the more commonly used. In addition, the ratio of overseas assets to total assets (FATA), the number of overseas subsidiaries (OSC), the

number of countries or regions operating internationally (OCC), and the ratio of overseas employees to total employees (FETE) are also used in some studies. Measure the degree of internationalization of enterprises.

In view of the common practice in the existing literature and the availability of relevant data on Amadeus listed companies, this study uses FATA as a proxy variable to measure the degree of internationalization of Polish multinational enterprises.

4.4.3 Control variable X_{it}:

Control variables are used to control other factors that affect the performance of the enterprise and minimize the negative impact on the statistical performance of the estimated coefficients due to the problem of omitted variables. According to the existing research (Contractor, 2003), the main factors as control variables include enterprise scale, R&D intensity, and industry attributes.

The proxy variables for specific factors are described as follows:

4.4.3.1 Enterprise scale TS_{it} ($Size_{it}$)

According to Hymer's monopoly advantage theory (Hymer, 1976), the unique monopoly advantage of an enterprise is an essential condition for its international operation. It will also have a substantial impact on the performance of the enterprise. For Polish enterprises, enterprise scale is usually one of the manifestations of enterprise strength. It is generally believed that large-scale enterprises have certain advantages compared to small-scale enterprises, and will perform better in international business performance. Generally speaking, the scale of an enterprise is often measured by the total assets of the enterprise, the annual sales of the enterprise, the number of employees, and the number of branches of the enterprise. Among them, the annual sales of enterprises are one of the common proxy variables to measure the size of enterprises. Due to the lack of the number of employees in some enterprises, and to avoid the collinearity between performance variables expressed by indicators based on enterprise asset measurement.

Therefore, this paper selects the annual sales of 38 parent companies from 2012 to 2019 as a proxy variable for enterprise scale.

4.4.3.2 R&D intensity RD_{it}:

Many studies have shown that the intensity of corporate R&D investment has a significant impact on the international operation and performance of enterprises (Cockburn and Griliches, 1988; Hall, 1993; Toivanen et al., 2002; Cefis and Ciccarelli, 2005). It is generally believed that the greater the R&D investment intensity of an enterprise, the stronger the advantage it has in carrying out international operations, and the greater the impact on performance. Most of the relevant literatures use R&D expenditure as a proxy variable of enterprise R&D intensity.

This study believes that scientific research investment has a stock effect, and the impact of scientific research investment on performance is a relatively long-term process, so it is biased to simply examine the impact of R&D expenditures on performance in the corresponding year. Therefore, this study uses net intangible assets as a proxy variable for R&D intensity.

4.4.3.3 Industry nature dummy variable Mfg_{it}

Micro-enterprise performance is generally difficult to get rid of the macro-influence of industry attributes, and the differences between industries will also form large differences in corporate profit margins. Therefore, this study introduces the industry dummy variable mfg_{it} as a control variable. $mfg_{it}=1$ indicates that the company belongs to manufacturing industry; $mfg_{it}=0$ indicates that the company belongs to other industries except manufacturing.

The industry divisions are based on NACE code (Nomenclature of Economic Activities). It is a standard classification system of economic activities of European industries, which is similar to Standard Industry Classification (SIC) and North American Industry Classification System (NAICS) for classifying business activities. According to NACE Revision 2 established by Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006, the level 1 code of C section is manufacturing.

4.4.4 Summary

Dependent variable	Enterprise performance	Financial performance	ROA (stationarity test with ROE)
Independent	Internationalization	FATA	The proportion of

variable	degree		the total assets of overseas subsidiaries to the total assets of the parent company
	Control variable	Enterprise scale	Total sales
		R&D intensity	Net intangible assets
		Industry nature	Manufacturing, non-manufacturing

Table 1 Summary of Polish MNEs variables

4.5 Research hypothesis

4.5.1 Hypothesis 1

The performance of manufacturing companies in Polish emerging markets has an inverted U-shaped relationship with their degree of internationalization, and the performance of non-manufacturing companies has a linear positive relationship with their degree of internationalization.

Based on the three-stage theory of emerging market MNCs deduced in Chapter 3, Polish companies will usher in many development opportunities in the early stage of international operations, such as expanding product sales markets, increasing expected profits, improving international competitiveness, and acquiring more production and learning. Of course, it also faces more complex management and operation problems. However, at this time, the benefits brought by international operations are greater than the costs. Therefore, the performance of enterprises at the beginning of international operations will increase with the degree of internationalization. Improve and improve. When the degree of internationalization exceeds a certain critical value, international operations will put forward higher requirements for enterprises in terms of transaction costs and management capabilities, while different policies and regulations, trade terms, foreign exchange fluctuations under regional diversification and product diversification, cultural differences, logistics capabilities, etc. have increased the difficulty of international operation of enterprises. From the perspective of resource theory,

excessive product and regional diversification will make the management of the enterprise less invested in business strategy, because more resources such as time, energy, and information processing level will be distributed to more products In terms of maintenance and regional maintenance, the management's focus on business will shift from strategy to financial control. This means that when the international operation of an enterprise is higher than a certain critical level, it is likely to cause the cost of international operation to exceed the benefits, so that the high degree of international operation of the enterprise will have a negative impact on performance, showing a relationship of rising first and then falling.

This paper argues that the manufacturing companies of Polish multinational corporations reached a turning point in 2012-2019, showing an inverted U-shaped relationship; non-manufacturing companies are still in the first stage, that is, the degree of internationalization is positively correlated with corporate performance.

4.5.2 Hypothesis 2

Increased enterprise scale is conducive to the internationalization of Polish MNEs and the improvement of business performance.

According to Hymer's monopoly advantage theory (Hymer, 1976), a company's unique monopoly advantage is an important condition for its international operations and has a significant impact on its performance. The size of a firm is also one of the manifestations of monopoly advantage. It is generally believed that the larger the size of a firm, the better its performance in internationalisation due to the effect of economies of scale and market leadership. Therefore, this study hypothesizes that firm size is conducive to the internationalisation and performance of listed manufacturing companies in emerging markets in Central and Eastern Europe.

4.5.3 Hypothesis 3

Increased investment in R&D by MNEs in Polish emerging markets will enhance their international operation capabilities and improve their performance.

According to innovation theory, innovation activities can bring economic rent to enterprises, and increased investment in R&D, new products and improved productivity can create more sales markets and profit opportunities for enterprises. According to Chauvin, Hirschey（1993）[94]、Roberts（1995）[95]、Sharma（2003）[96]、 Hu and Jefferson（2004）[97], the studies concluded that increasing the intensity of a firm's R&D

investment can help to enhance the firm's ability to internationalize and has a significant contribution to performance. For China among the emerging markets, according to Xie, Tang (2009)[98], some studies have concluded that increased R&D investment by manufacturing firms has a significant positive effect on firm competitiveness, and that this boost has a lag, with a lag period of about 1-3 years. The increase in competitive strength, on the other hand, will boost the performance of firms. Therefore, this study hypothesizes that increased R&D investment by listed manufacturing firms in Polish emerging markets will also enhance their ability to operate internationally, and that R&D investment is positively related to performance.

5. Empirical analysis

5.1 Final model and data processing

According to the above analysis, the model is finally determined as follows:

$$ROA_{it} = \eta_i + \theta_t + \beta_0 + \beta_1 FSTS_{it}^{+} + \beta_2 FSTS_{it}^{2-} + \beta_3 TS_{it}^{+} + \beta_4 R\&D_{it}^{+} + \omega ROA_{i,t-1}^{+} + \mu_t \quad (5\text{-}1)$$

Equation 5-1 represents the relationship between the financial performance of the company and the degree of internationalization. The symbols at the top of the estimated parameters represent the theoretically assumed correlation between the respective variables and the dependent variable. The positive sign represents the positive correlation, and the negative sign represents the negative correlation. In order to reduce the fluctuation range of data and reduce heteroscedasticity, this study performs logarithmic processing on the total sales of enterprises and the net intangible assets of enterprises in formula 5-1.

Most of the previous literature using panel data models uses wide panel data with "large N and small T", which is not conducive to observing individual trends in the time dimension. Many studies have introduced lagged terms of dependent variables in panel data models to examine the dynamics of firms' internationalization performance. However, there is a possibility that the estimates are invalid due to the short time period. According to scholars, the study of firms' internationalization operations and effectiveness should be best conducted using time series data or panel data (Geringer et al., 2000). The time period should be chosen as long as possible to better reflect the dynamics of performance changes. In view of this, this study attempts to use panel data for the empirical analysis and to select the time dimension as long as possible.

Considering the availability of data, this study uses the Amadeus database to collate listed Polish companies in emerging markets with revenues from overseas subsidiaries for the period 2012-2019 to determine the sample scope for the econometric analysis. There are reasons for choosing the sample period 2012-2019. Firstly, there is a significant difference between Polish companies with data available in the Amadeus database in 2011 and 2012, with only twenty-one listed companies containing all data from 2011-2019, while excluding 2011, the number of listed companies containing all data from 2012-2019 increases to 184. Secondly, from the beginning of the new crown pandemic in 2020, in order to mitigate as much as possible the impact on corporate performance caused by being an exogenous variable, and at the same time to make the sample size of this paper's research as large as possible, this paper finally selects data on Polish listed companies for the years 2012-2019.

The study collected a sample of Polish listed companies with overseas income from 2012 to 2019 from the Amadeus database. There was a total of eighty listed companies; forty-two companies with missing overseas subsidiary data were excluded, and thirty-eight companies were finally identified, including fifteen manufacturing companies and twenty-three non-manufacturing companies. The overseas income sources include export, export, business, and operation. In addition to manufacturing, the involved industries include the service industry, retail trade, transportation & public utilities, wholesale Trade, Finance, Insurance, and Real Estate. Among the thirty-eight companies, there are four companies with missing data in individual years. This study uses the nearest-neighbor substitution method to impute ten missing values.

5.2 Descriptive statistics

Descriptive statistics

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
company	304	19.50	10.98	1	38
year	304	5.500	2.295	2	9
ROA	304	5.415	8.277	-39.98	40.22
ROE	304	8.510	46.03	-462.4	345.4
FATA	304	19.42	21.93	0.224	96.52

FATASquare	304	856.5	1,743	0.0503	9,316
RD	304	41,213	152,199	3.061	1.564e+06
lgRD	304	8.533	2.292	1.119	14.26
TS	304	1.093e+06	3.923e+06	58.60	2.937e+07
lgTS	304	12.13	1.906	4.071	17.20
Number of company	38	38	38	38	38

Table 5.1

In this study, the units of ROA, ROE and FATA are all percentages, with an expanded treatment of multiplying by one hundred; the units for both MNE sales and net intangible assets are one thousand euros.

5.3 Parameter estimation

5.3.1 Parameter estimation method

Due to the possible endogeneity of variables such as degree of internationalization and performance in model 5-1, there may also be an interaction between firm size and R&D investment. Therefore, traditional OLS, fixed effects, and random effects methods may yield biased estimates. Arellano and Bond (1991) proposed a generalized method of moments (GMM) estimation, which considers that the predetermined explanatory variables are not correlated with the current residual terms are uncorrelated. By differencing the model once, all lagged terms of the explanatory variables can be used as instrumental variables; it is known as the differenced GMM approach. The problem with this approach is that if too many lagged terms are used as instrumental variables, the weak instrumental variable problem tends to occur.

Therefore, this paper uses the System GMM method, whose basic idea is to eliminate the fixed effects through the difference equation and use the horizontal lags of the independent variable as the instrumental variables of the difference term on the one hand, and use the lags of the difference term as the instrumental variables of the horizontal term on the other hand, in order to expand the number of instrumental variables and thus solve the weak instrumental variable problem of the horizontal lags (Blundell & Bond. 1998), System GMM estimation consists of one-step estimation and two-step estimation, and this paper finally adopts the Windmeijer-corrected System GMM two-step estimation. In addition, in order to test the validity of instrumental variables, it is usually necessary to use the Sargan test and Hansen test to determine

whether the instrumental variables have over-identification problems. The original hypothesis is that the instrumental variables are jointly valid, the Sargan test is conducted under the assumption of conditional homoscedasticity, and the Hansen test is more general. The Hansen test was mainly used in this study, and the tables also include some of the Sargan test results. Since the consistency of GMM estimation requires that the differential residuals are not serially correlated in the second order, the AR(2) test is used in this study to determine whether there is autocorrelation in the original residual series. Some of the AR(1) test results are also included.

5.3.2 Parameter estimation results

5.3.2.1 Autocorrelation test

Before the parameter estimation, the study firstly tested whether there was autocorrelation between different periods within the same individual. The study used stata MP, and the xtserial command statement is used to perform F test on whether there is autocorrelation in each variable of the model. The test results are shown in Table 5.2. The null hypothesis of "there is no first-order intragroup autocorrelation" is rejected at the 5% significance level of the data series, which supports the use of the dynamic panel data model in this study.

Autocorrelation order	ROA	FATA	TS	RD
AR(1)	1.699 (0.2045)	40.078 (0.0000)	4134.787 (0.0000)	5928.285 (0.0000)

Table 5.2 First-order autocorrelation test for each data series

5.3.2.2 Model estimation results

Based on previous studies, this study examines the effect of one-period lagged order variables on the financial performance of firms.

The regression results when Mgti=1 are shown in Table 5.3.

Table 5.3

	(1)	(2)	(3)
	Model1	Model2	Model3
L1ROA	0.7063***	0.7893***	0.8011***

	(0.0000)	(0.0000)	(0.0000)
FATA	0.1254	0.0564	0.0486
	(0.2019)	(0.2642)	(0.7056)
FATASqu	-0.0013	-0.0004	-0.0004
	(0.2336)	(0.4111)	(0.6751)
lgTS		0.4556	0.5201
		(0.2870)	(0.5770)
lgRD			-0.2294
			(0.6401)
_cons	-0.3162	-5.5542	-4.2456
	(0.8504)	(0.3803)	(0.7473)
N	119	119	119
AR(1) test	0.036	0.029	0.023
AR(2) test	0.123	0.120	0.107
Hansen test	1.000	1.000	1.000

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

As the results from Table 5.3, the correlation coefficient of FATA square is negligibly low, indicating that the financial performance and the degree of internationalization of Polish listed manufacturing companies do not have an inverted U-shaped relationship. The coefficient of FATA is positive but the absolute value is lower than the correlation coefficient of the logarithm term of enterprise size and R&D investment, indicating that both enterprise size and R&D investment have higher influence on MNE performance than the internationalization degree indicator quantified by FATA. According to the sign of firm size and R&D investment, firm size in Polish manufacturing industry has a positive effect on firm performance, while R&D investment has a negative effect.

The final regression equation of the model is

$$ROA_{it} = -4.2456 + 0.0486FSTS_{it} - 0.0004FSTS_{it}^2 + 0.5201TS_{it} - 0.2294R\&D_{it} + 0.8011ROA_{i,t-1} \quad (5\text{-}2)$$

The regression results when Mgti=0 are shown in Table 5.4.

Table 5.4

	(1)	(2)	(3)

	Model4	Model5	Model6
L1ROA	0.2379	0.3666	0.4020*
	(0.1995)	(0.1909)	(0.1759)
FATA	-0.0950	-0.0755	-0.0445
	(0.1224)	(0.1041)	(0.1018)
FATASqu	0.0015	0.0015	0.0010
	(0.0014)	(0.0011)	(0.0012)
lgTS		0.6601	0.3787
		(0.9058)	(0.6491)
lgRD			-0.8934
			(0.4657)
_cons	4.2948*	-4.9009	5.4244
	(1.7087)	(11.2757)	(8.6952)
N	147	147	147
AR(1) test	0.160	0.153	0.122
AR(2) test	0.361	0.448	0.184
Sargan test	0.280	0.331	0.391
Hansen test	1.000	1.000	1.000

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

From Table 5.4, regarding the non-manufacturing sectors in Poland, the correlation coefficient of the FATA square still remains negligibly low, which indicates that the degree of internationalization of neither Polish manufacturing nor non-manufacturing listed companies shows an inverted U-shaped relationship with MNE performance.

In the regression model for the non-manufacturing sector, the sign of the FATA coefficient is opposite to that of Table 5.3, indicating that it is significative to treat manufacturing and non-manufacturing sectors in separate regressions. It indicates that during the same time period, the internationalization degree of MNEs of different sectors can have opposite effects on MNE performance.

In Table 5.4, the effects of firm size and R&D investment both on firm performance still exceed firm internationalization degree indicator quantified by FATA. According to the sign of the correlation coefficients of firm size and R&D investment, firm size has a

positive effect on firm performance and R&D investment has a negative effect in the Polish non-manufacturing sector, which is the same as the regression results for the manufacturing sector.

The second final regression equation of the model is

$ROA_{it} = 5.4244 - 0.0445FSTS_{it} + 0.0010FSTS_{it}^2 + 0.3787TS_{it} - 0.8934R\&D_{it} + 0.4020ROA_{i,t-1}$ (5-4)

Tables 5.5, 5.6 show the estimation results of the robustness tests conducted using ROE instead of ROA as a measure of firm performance.

Table5.5

	(1)	(2)	(3)
	Model7	Model8	Model9
L1ROE	0.5236*	0.6948***	0.8440***
	(0.2276)	(0.1422)	(0.1450)
FATA	0.9448	0.5287	0.5214
	(0.8455)	(0.4188)	(0.4734)
FATASqu	-0.0097	-0.0045	-0.0047
	(0.0089)	(0.0039)	(0.0046)
lgTS		1.1840	-1.2018
		(0.8677)	(2.1116)
lgRD			2.3548
			(2.4902)
_cons	-8.9300	-22.5780	-14.8907
	(9.9575)	(15.7570)	(13.1593)
N	119	119	119
AR(1) test	0.090	0.023	0.068
AR(2) test	0.585	0.107	0.511
Hansen test	1.000	1.000	1.000

Standard errors in parentheses

$^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table5.6

	(1)	(2)	(3)
	Model=10	Model11	Model12

L1ROE	-0.0580	0.0399	0.1012
	(0.1644)	(0.1657)	(0.1384)
FATA	-1.2002	-1.0785	-0.8655
	(0.7796)	(0.6831)	(0.6272)
FATASqu	0.0143	0.0139	0.0107
	(0.0092)	(0.0085)	(0.0079)
lgTS		3.4929	2.9512
		(5.3175)	(3.6070)
lgRD			-3.9573*
			(1.6211)
_cons	22.7649**	-22.9741	14.4308
	(7.1756)	(66.1405)	(48.8384)
N	147	147	147
AR(1) test	0.090	0.023	0.068
AR(2) test	0.585	0.107	0.511
Sargan test	0.161	0.102	0.233
Hansen test	1.000	1.000	1.000

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.4 Conclusion and explanation

The empirical results show that there is no inverted U-curve relationship between the degree of internationalization and performance of Polish multinational firms. There is a non-significant positive linear relationship between the degree of internationalization and firm performance for manufacturing firms and a non-significant negative linear relationship between the degree of internationalization and firm performance for non-manufacturing firms in Poland over the period 2012-2019. Hypothesis 1 is not supported by the data, which may be due to the small sample size and the bias of measuring the internationalization of firms by FATA. However, due to the missing data from Amadeus, this study could not select FSTS, FOTO or the average data of the three indicators for more accurate measurement. There is a positive, albeit insignificant, relationship between firm size on the post-internationalization performance of Polish firms, and Hypothesis 2 is somewhat supported by the fact that an increase in the size of

multinational firms across borders during the period 2012-2019 contributes to the operational effectiveness of firms. There is a negative relationship between R&D intensity on the performance of Polish firms' international operations and hypothesis 3 is also not supported, the reason for this result may be that the increase in the net value of intangible assets of the firm to some extent leads to an increase in depreciation, which in turn reduces profits. This also suggests that Polish multinational companies have a long way to go in terms of investment in R&D technology and the transformation of the results.

The empirical study shows that at this stage, Polish manufacturing or non-manufacturing industries are still not mature enough in terms of internationalization compared to multinational companies in Western countries. There is no direct dependence between the degree of enterprise internationalization and the level of enterprise ROA after internationalization.

6. Conclusions and suggestions

This paper takes the international business activities of enterprises as the research target, mainly focusing on the degree of internationalization and the performance of enterprises in emerging markets. Based on a large number of relevant international theories and empirical research literature, this paper deduces the three-stage theory of emerging market countries through the three-stage theoretical model of developed countries.

The theoretical part of this paper explains the internationalization status of global large-scale enterprises from the two situations of developed countries and emerging market countries. Specifically, large enterprises in developed countries have a higher degree of internationalization and a larger scale, far exceeding that of other countries, but relatively speaking, the overall scale has changed less in recent years, while the overall internationalization scale of large enterprises in emerging market countries. It is relatively small and started late, but it has developed rapidly in recent years. Generally speaking, the average degree of internationalization of large enterprises in emerging market countries has increased rapidly. In addition, the internationalization characteristics of an enterprise are closely related to the industry characteristics of the industry in which the enterprise operates.

By sorting out and summarizing the actual internationalization status of large-scale global enterprises, this paper expands the theory based on the three-stage international expansion model of Contractor, Kundu & Hsu (2003). It draws the following theoretical conclusions: (1) Internationalization of multinational enterprises in developed and emerging market countries is different. (2) Specifically, the performance of multinational enterprises in developed countries will continue to deepen with the degree of internationalization of the company, and will experience three stages of "negative - positive and negative"slope curve, that is, the two are horizontal S-shaped relationships; emerging market countries The performance of a large-scale enterprise will continue to deepen with the degree of internationalization of the company. (3) The home country's economic development level and industry characteristics have a moderating effect on the relationship between the internationalization and performance of large enterprises. Among them, the curve fluctuations of different industries are different in terms of industry characteristic factors.

According to the theory of technological change and industrial upgrading, emerging market countries can accumulate the ability to conduct international business operations in neighboring countries, especially other developing countries, through the accumulation of technology, and finally achieve the goal of international business operations in developed countries. As an important developing country in Central and Eastern Europe, Poland is still dominated by traditional industries in its current international business operations. It also appears to be relatively rudimentary in international competition. Through active innovation and technology accumulation, realizing the upgrading of industries, encouraging the development of modern service industries, and promoting more high-end industries to participate in international operations are also important means to improve the level of economic development in Poland.

This paper selects a sample of Polish enterprises in emerging market countries for empirical analysis, and the conclusions obtained to a certain extent improve the theoretical assumptions. In the process of taking the international operation of Polish enterprises as a case study, this paper establishes a performance evaluation index system. Through the empirical analysis of the data samples from 2012 to 2019, the performance level of Poland, one of the emerging markets in Central and Eastern Europe, and its international business performance are demonstrated. This study provides a reference for the relationship between the degree of internationalization and

the performance of enterprises in emerging markets. Although the empirical analysis in this paper does not fully support a new attempt at a three-stage theoretical model, there are still some valuable conclusions that can be drawn to make recommendations for emerging markets in Poland and other Central and Eastern Europe.

First of all, for different industries and types of enterprises, the impact curve of internationalization on business performance is different, and attention should be paid to the appropriate degree and progress of internationalization. The research of this paper shows that the performance of Polish manufacturing enterprises and non-manufacturing enterprises shows an opposite impact trend in the process of internationalization. Secondly, the R&D investment of Polish multinational enterprises has a negative impact on the performance of the enterprise, so it is necessary to plan the asset allocation of the enterprise more rationally and strengthen the organization and management ability of the enterprise. Based on the above-mentioned status quo, theoretical analysis, and empirical verification. This chapter argues that the internationalization of large enterprises in developed countries and the internationalization of large enterprises in emerging market countries have different impact mechanisms on their own corporate performance. Therefore, for the international development of large enterprises in Poland, the government cannot blindly copy the internationalization experience of large enterprises in developed countries.

On the basis of collating a large number of literatures, this paper adopts a combination of qualitative and quantitative research methods to carry out theoretical research and empirical test on the nationalized operation and performance evaluation of Polish enterprises. The limitations of this study are that, first, the data publicly available for Polish companies is limited, and more samples cannot be used for a more accurate analysis; The relationship between degree and performance. At the same time, the empirical research in this paper only uses the first-order lag variables, and other empirical methods or more-order lag variables still need to be used for more in-depth testing and verification, so as to increase the objectivity and scientificity of the research conclusions.

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DISSERTATION PROJECT
Name: **Jiaqi Li**
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Academic year: **2021-2022**
Dissertation title: Research of internationalization degree and performance of emerging market enterprises - A case study of Polish firms
Expected date of submitting: **August 2022**
Head of the Seminar: **Jiri Vykoukal**
Supervisor: **Karel Svoboda**
Title: **PhD**
Short description of the topic: **This paper comprehensively reviews a large number of studies on enterprise internationalization in emerging markets, the relationship between enterprise internationalization and performance, and the internationalization of Polish enterprises. Based on the previous research results, the paper selects a three-stage model of the degree of internationalization of developed enterprises, and derives a three-stage model of internationalization of multinational companies in emerging markets. Then through an empirical case study of Polish multinational enterprises, analyzes the regression results, makes the conclusions and some relevant policy recommendations.**
Proposed structure: **Introduction, Literature review, Research theory, Case study model, Conclusions and suggestions**
Sources (basic selection): **Amadeus**