



**UNIVERSITY OF ECONOMICS-VARNA**  
**FACULTY OF FINANCE AND ACCOUNTING**  
**DEPARTMENT OF GENERAL ECONOMIC THEORY**

**Slavena Stefanova Tsoneva**

**Transnational Corporations and the Development, and Upgrading of  
Human Capital in Bulgaria**

**ABSTRACT**

**of dissertation for acquiring an educational and scientific degree  
"Doctor" in professional direction 3.8 "Economics"**

**doctoral program "Political Economy (General Economic Theory)"**

**Varna, 2024**

The dissertation consists of 201 pages, including the main text in the introduction, four chapters and a conclusion, 38 tables, 23 figures and 9 formulas. The list of references consists of 332 sources in Bulgarian and English.

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**Varna, 2024**

The dissertation has been discussed and is scheduled for defense at a meeting of the Department of General Economic Theory at the University of Economics - Varna. The author is a doctoral candidate, affiliated with the same department. The research and development have been conducted within the same university.

## **I. General Characteristics of the Dissertation**

### **Relevance of the Research**

The relevance of the chosen topic in the dissertation stems from the intersection of two significant issues. On one hand, the Bulgarian economy is heavily reliant on foreign capital inflows, given the dominant share of Foreign Direct Investment (stock) in the Gross Domestic Product (GDP) (approximately 80%). On the other hand, Bulgaria faces serious challenges related to an aging population and negative natural population growth. To ensure economic growth under these conditions, our country must address the challenge of enhancing human capital quality to achieve higher productivity despite a declining economically active population. In short, a transition toward activities with fewer people and higher productivity is necessary.

The dissertation focuses on cross-border knowledge transfer and the potential for its absorption by the recipient economy. From a scientific perspective, it is of interest to examine the extent to which Transnational Corporations (TNCs) contribute to improving human capital quality in the host country. A comparison between foreign and local companies regarding the formation development and upgrading of human capital should be conducted. This issue is not only relevant at present but also anticipates that TNCs' impact in this regard will continue to grow, providing an opportunity to explore fundamental questions that have not yet been thoroughly analyzed in our context. Additionally, the relatively limited number of comprehensive scientific publications on this topic in the Republic of Bulgaria suggests the need for more extensive research that can contribute to deepening knowledge in this field.

The **object** of the current dissertation is the development and upgrading of human capital in the host country.

The **subject** is the effects of FDI on the process of human capital development.

The **aim** of this dissertation is to determine the impact on human capital development in Bulgaria (as a recipient country of foreign direct investment) based on existing theory and through empirical research. This impact results from the activities of transnational corporations and the extent to which there exists potential (capability) for absorbing this knowledge. Currently, specialized literature lacks a similar methodology.

### **Research tasks**

- Systematizing, analyzing, and summarizing theories, related to human capital and clarifying the conceptual framework within the context of this dissertation.

- Deriving key theoretical assumptions regarding the contemporary functioning of TNCs and defining the role of human capital within them. This involves identifying, systematizing, and studying the effects of FDI on the quality of the workforce in the host country.

- Categorizing, analyzing, and summarizing the types of knowledge and competencies that TNCs can transfer within their global networks. It also investigates the mechanisms for knowledge transfer and the extent to which TNCs are willing to invest in upgrading of human capital.

- Exploring the conceptual characteristics of absorptive capacity and its determinants, using both micro and macro approaches. The relationship between absorptive capacity and foreign direct investment is also examined.

- Assessing the impact of FDI and absorptive capacity in Bulgaria, as well as conducting a comparative analysis of human capital development and upgrading by TNCs versus local firms.

- Analyzing the link between inward FDI and the level of human capital, with a statistical significance assessment, using econometric analysis (including Welch and Mann-Whitney tests).

### **Research hypothesis**

The author formulates the hypothesis that TNCs have a significant and comprehensive impact on the development of human capital in Bulgaria, surpassing that of local businesses. Over time, this difference gradually diminishes due to the spillover effects of TNCs on local firms and the presence of absorptive capacity, which facilitates the assimilation of this knowledge.

### **The methodology of scientific research**

Although human capital is primarily studied at the macro level, this dissertation employs a microeconomic approach through the Theory of International Business and John Dunning's OLI Paradigm. The reason for this lies in the role and significance of human capital for TNCs. It explores how TNCs develop human capital, the mechanisms involved in this process, and the factors influencing TNCs' propensity to invest in human capital.

The logical analysis in this dissertation is structured into two parallel, relatively independent investigations: On one hand, it examines TNC strategies and the effects of FDI on the host economy. On the other hand, it addresses the presence of sufficient absorptive capacity to

optimally assimilate the benefits of TNC presence concerning human capital development and upgrading.

To assess the impact of TNCs on human capital development and upgrading in Bulgaria, classified statistical data provided by the National Statistical Institute has been processed. Descriptive statistics and econometric analysis using Welch (t-statistic computation) and Mann-Whitney (U-statistic computation) tests are employed

### **Limitations**

Within the scope of this research, the following bounding frame is established:

1) The dissertation is limited to examining the concept of “human capital” purely from an economic perspective. This limitation arises from the interdisciplinary nature of the concept and the avoidance of delving into other scientific domains.

2) The effects on human capital differ between the host and home FDI countries. The current study focuses solely on the effects within the host country, as the dissertation aims to analyze this process in Bulgaria. At present, our country primarily serves as an importer of FDI.

3) The empirical investigation is restricted to those effects directly related to TNC activities. The reason for this lies in the difficulty of measuring indirect effects and the lack of data to draw specific conclusions and recommendations.

4) Absorptive capacity is examined and evaluated solely concerning its determinants: R&D investment and available human capital. These factors stem from theoretical considerations and empirical research on knowledge utilization and management.

### **Approbation**

Parts of the dissertation are published in specialized scientific journals and are presented at international and national scientific conferences.

## **II. Structure and content of the dissertation**

### **Introduction**

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### **CHAPTER ONE**

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### **III. Brief Presentation of the Dissertation Work**

#### **Chapter One**

In paragraph 1, an extensive review of literary sources related to **the emergence and development of the concept of “human capital”** is conducted. First and foremost, a historical overview of the concept is presented. From a chronological perspective, the foundations of the human capital concept can be traced back to the ideas of the pioneers of the Classical School in Political Economy. William Petty is considered one of the early creators of this concept. In an unsystematic manner, Petty introduces fundamental characteristics of the human capital concept. His book “Political Arithmetick” marks the first attempt to quantify human capital. He correctly posites that fair and objective assessments of individuals should consider criteria such as age, qualifications, individual capabilities, profession, and more. Petty advocates the idea that compensation should align with acquired qualities, be adequate, and compensate for investments in those qualities. In other words, more highly qualified work, according to Petty, should receive higher incomes.

Further development of Petty’s ideas can be found in the research of A. Smith, D. Ricardo, K. Marks, and A. Marshall. The tradition established by representatives of the Classical School in exploring the fundamental aspects of human economic existence continues in Neoclassical Economic Theory and the works of scholars from the Chicago School, including G. Becker, T. Schultz, and J. Mincer. Although we find conceptual framing of the term in the reflections of the Classics, its formal definition as “human capital” emerged only in 1958 when J. Mincer publishes

an article titled “ Investment in Human Capital and Personal Income Distribution” (Minser, 1958). American economists Theodore Schultz and Gary Becker, both Nobel laureates, stand out for their significant contributions to the development of modern Human Capital Theory, as they have made substantial theoretical advancements in the field of human capital.

Among Bulgarian researchers who make serious academic and professional contributions to the study of human capital issues, we should recognize names such as L. Dulevski, An. Zahariev, At. Kazakov, P. Shishmanova, M. Neicheva, M. Atanasova, D. Shopov, M. Matev, D. Kanev, P. Simeonova, N. Dimitrov, Y. Kalchev, I. Zareva, Ml. Tonev, R. Simeonova-Ganeva, and V. Boshnakov. These scholars explore various aspects of human capital. Different authors in distinct scientific domains use diverse conceptual frameworks and terms related to human capital. Sometimes there is overlap, but a unanimous and conceptually crystallized definition remains elusive. Analyses are conducted at micro, meso, and macro levels, with varying emphases depending on research goals and the field of scientific knowledge.

In the scientific literature, various interpretations exist regarding the content of the human capital definition and its assessment measures. However, one indisputable fact is the centrality of the individual as the bearer of human capital. In this study, we limit ourselves to the economic scope of the human capital concept.

*In the context of the dissertation, “human capital” refers to the combination of innate talents, acquired knowledge, skills, abilities, and motivation in individuals, all contributing to enhancing their employability. These qualities and abilities are dynamic, not static, and should be continually developed. From a functional perspective, human capital represents a durable individual asset that accumulates over time and exhibits resilience. It has the capacity to transform into a tool for successful endeavors. From the standpoint of operational businesses, human capital is a strategically intangible asset and a competitive advantage.*

Parapgraph 2 seeks to answer why **the formation and development of human capital play a crucial role in the activities of TNCs**. It revisits the idea put forth by Stephen Hymer regarding the necessity for firms to possess a specific type of proprietary advantage to successfully engage in cross-border activities. This advantage, which Hymer suggests should be exclusive to the possessing firm, led to the concept of “ownership advantage”, later embedded in the Eclectic Paradigm by Dunning (1988). Essentially, Hymer’s argument revolves around firms owning certain intangible assets specific to their ownership, which would give them an edge over local

competitors when entering foreign markets and mitigate the impact of transnationalization and threats faced by TNCs during the initial stages of FDI. Hymer contends that FDI includes not only financial capital but also the transfer of a bundle of resources (such as technologies, managerial skills, practices, entrepreneurship, knowledge, trademarks, patents, etc.). It is precisely these firm-owned resources, inherently intangible, that should yield specific advantages. Essentially, the possession of a specific type of ownership advantage, as identified by Hymer, provides the key to understanding why certain firms can internationalize and maintain a competitive edge in foreign markets. The utilization of human capital, in all its complexity, is crucial for the organizational success of companies.

In paragraph 3, TNCs are examined as drivers and channels for the international dissemination of capital, knowledge, technologies, know-how, practices, and employment opportunities in host countries. The presence of foreign-owned firms influences the conditions of the local labor market. The literature presents a wide variety of potential effects on the labor market in host countries. Numerous studies explore the impact of TNCs on skill enhancement within the recipient country. Newly created jobs and investments in the formation of human capital within the host country are part of the consequences that occur in the short-term, classified as **direct effects**. Additionally, **indirect effects** are of interest to the host economy, occurring in the medium and long term after the entry of TNCs. During this phase, the foreign subsidiary generates additional economic activity for local firms and influences labor conditions and employment quality (Jequier, 1989). The type and quantity of FDI attracted depend on the intricate combination of firm-specific advantages (ownership advantages) on one hand and the advantages of the host country's location on the other. This complex interaction, which has direct and indirect effects on human capital within the host country, finds logical explanation within the Eclectic Paradigm and its validity as a theoretical foundation for understanding this interrelationship. The Eclectic Paradigm, perhaps the most ambitious attempt to integrate the main theoretical approaches related to Transnational Corporations, Foreign Direct Investment, and International Production, has become one of the leading paradigms in the field of International Business over the last 20 years (Cantwell & Narula, 2003). This paradigm, also known as the ownership, location, internalization (OLI) model, takes a holistic approach by examining the entire relationship and interaction of various components within a business. The 'O', 'L' and 'I' components of the Eclectic Paradigm increase interactive dynamics among themselves as a result of globalization processes. A knowledge-based society means that

the effective exploitation of the O-component of TNCs and the constant need to increase and maintain their competitive advantages is increasingly crucial nowadays. From the perspective of the OLI Paradigm, the question of the intangible assets, at the core of which are: skills, competencies, talents, in short, the human capital remains open for discussion and research work. The ability of companies to attract, retain, develop, and manage human capital is critical for creating sustainable competitive advantages. While the original OLI Paradigm did not specifically emphasize human capital, subsequent research has highlighted its significance. For instance, Dunning and Lundan (2008) incorporate the availability and indirectly, the cost of highly motivated skilled labor into location decisions for TNCs. This reflects the modern highly competitive and dynamic economy, where technological changes have shifted activities from resource-based to more knowledge- and skill-intensive processes (Bevan et al., 2004; Narula & Dunning, 2000;). The I-component explains a company's inclination to internalize markets, using their specific firm ownership advantages in combination with location-specific benefits. Regarding human capital, the advantages of internalization are closely linked to what is known as absorptive capacity. On one hand, the achieved level of human capital development in a given country and the entire system associated with it serve as a prerequisite for Multinational Corporations to invest in that country. On the other hand, it becomes a condition for the company to transfer more specific, specialized knowledge that creates significant added value and competitiveness. In other words, the absorptive capacity level in the recipient country is both a precondition for attracting Foreign Direct Investment and a determining factor for the host country to extract maximum benefits from the presence of TNCs.

**Therefore, the development of human capital by TNCs should be analyzed first as motivation and strategic behavior within the OLI Paradigm, and secondly as the ability of the local economy to attract similar investments and absorb the acquired knowledge.**

Paragraph 4 provides a **systematic review of previous empirical studies regarding the impact of TNCs on employment quality**, including research related to countries in Central and Eastern Europe. These countries, similar to Bulgaria, are characterized not only by economies in transition but also belong to a broader category of so-called 'Less Developed Economies.' A common challenge faced by recipient countries in transition is to learn not only the corporate culture but also to assimilate the behavior and routines of market economies. TNCs bring essential capital, modern technologies, managerial know-how, and much-needed jobs to transitioning

countries. Additionally, they encourage the integration of these nations into the global market—an integration process that has been absent due to historical reasons but undoubtedly holds potential for development. Thus, TNCs become a fundamental instrument for the development and modernization of economies in Central and Eastern Europe.

Unfortunately, the review of existing studies conducted so far does not allow for a generalized conclusion regarding the significance of TNC impact on human capital quality in the host economy. On one hand, there are numerous studies that demonstrate strong positive effects resulting from TNC activities and their targeted efforts to develop and enhance human capital in the recipient country (Humphrey, 1993; Iyanda, 1999; Liu et al., 2001; Slaughter, 2002; Agbola, 2013; Chung et al., 2015; Inzelt, 2008). On the other hand, empirical studies reveal ‘shallow’ effects of the presence of TNCs when corporations operating in seemingly high-tech sectors engage in elementary operations that do not lead to technology transfer, know-how, or improvement of local skills (Ramstetter, 1994; Michie, 2001). A third group of studies provides information on how the high level of human capital serves as a driving motivation for TNCs to conduct Foreign Direct Investment in a given location. Simultaneously, these studies do not report evidence of the development and upgrading of local human capital, leading us to assume that such TNCs benefit from a well-trained, prepared, and qualified workforce without making additional investments in this direction or with minimal efforts (Mody et al., 1999; Lukas, 1990; Chidlow et al., 2009). The conclusions are not straightforward, and the reasons for this can be attributed to the use of different methodologies and analyses at various levels.

Paragraph 5 introduces **the methodology of the theoretical study**. From a scientific perspective, the degree to which TNCs enhance the quality of human capital in the host country is of interest. Mladenova (2004) astutely highlights that TNCs are not solely engaged in international production. They can also conduct Research and Development activities. A significant portion of contemporary private investments in Research and Development (R&D) is attributed to them. In addition to production branches, TNCs include scientific and experimental design units. They possess cutting-edge technologies, international experience, and innovative know-how that can be transferred to their overseas subsidiaries. The transfer of this knowledge can lead to the development and upgrading of local human capital. However, this overflow is not an automatic process. It is associated with targeted actions both by foreign corporations and through efforts invested by local companies and labor resources.

Although human capital is primarily studied at the macro level, the present dissertation work employs a microeconomic approach through the Theory of International Business and John Dunning's OLI Paradigm. The reason for this lies in the role and significance of human capital for Multinational Corporations. How TNCs develop human capital, what mechanisms drive this process, and the factors determining TNCs' propensity to invest in human capital are crucial. The preliminary theoretical analysis and review of empirical studies reveal that the positive effect of TNCs on human capital quality is not guaranteed. TNCs may indeed develop and enrich human capital in the host economy through direct and spillover effects. However, evidence also exists for 'shallow' effects resulting from their presence, with minimal investments in strengthening human capital. Additionally, some studies indicate a lack of commitment by Multinational Companies to transfer knowledge. Instead, TNCs capitalize on the existing human capital in the host country without additional investments in its enhancement. The reason lies in the unique combination and interaction between TNCs' motivation and their propensity to transfer and disseminate knowledge on one hand, and the host country's ability to absorb that knowledge on the other. Consequently, to clarify the effect of TNCs on human capital in Bulgaria, this necessitates shedding light on two indirectly related groups of questions:

1. What knowledge do TNCs transfer, when, why, and what factors determine it?
2. What constitutes absorptive capacity? What are the indicators by which it is evaluated, and what is its significance in the process of upgrading human capital?

The analysis in this dissertation work proceeds along two separate research paths. On one hand, we explore the strategies of Multinational Corporations and the effects of Foreign Direct Investment on the host economy. On the other hand, we delve into the question of whether there exists sufficient absorptive capacity to fully harness the benefits of TNC presence in terms of developing and upgrading human capital.

## **Chapter Two**

In the context of globalization, with the increasing role of international trade and production, national labor markets are becoming more interconnected and interdependent. The requirements for workforce development and improving the quality of labor extend beyond national boundaries. In other words, the labor market should evolve not only in harmony with the country's development and growth but also in line with changing global conditions. Building a reservoir of human capital—one that generates ongoing development and enhances

competitiveness—may require more than just public investments in education. National educational systems typically focus on providing formal education (general training), which has applicability across multiple activities or industries. Specialized training has more limited applications but is fundamental for creating sustainable competitive advantages. Private sector organizations are closer to the market and possess better insights into the specificities of particular industries, enabling them to assess skill priorities effectively. TNCs are particularly adept at identifying of **what** competencies and skills necessary in an environment of rapid technological advancement and the growing importance of knowledge-intensive industries. Understanding **how** to transfer this knowledge—specifically, the mechanisms for implementation—and **when** (under what conditions and to what extent) they are inclined to develop human capital in the host economy is crucial.

Paragraph 1 examines **the types of knowledge** that TNCs transfer. Depending on their industry, experience, and organizational goals, TNCs transfer various forms of knowledge to host countries. Thanks to their extensive geographic exposure across various national and institutional contexts, Multinational Corporations enjoy privileged access to diverse knowledge sources. The reason for distinguishing between different characteristics of knowledge stems from the widely accepted notion that certain types of knowledge are more valuable to an organization than others, as they create conditions for building higher competitiveness.

In paragraph 1.1, we explore *the technical and specialized knowledge* that TNCs transfer to host countries to enhance the efficiency and productivity of their operations (Hong & Nguyen, 2009). The volume of transferred knowledge depends on the capital intensity and technological complexity of their activities, extending beyond modern high-tech sectors to encompass all industries and sectors, including traditional primary activities (e.g., vegetable and flower exports), manufacturing (such as textiles, clothing, and footwear), and services (such as tourism and banking) (UNCTAD, 1999). This includes industry-specific knowledge, technological know-how, design, software development, engineering expertise, product design, advanced production processes, and best practices.

Paragraph 1.2 introduces *managerial and organizational expertise*, covering strategic planning, operational management, supply chain management, marketing strategies, sales, customer service, financial management, quality control, and risk management. All of these



contribute to developing the managerial capabilities of local employees and enhance overall organizational effectiveness (Hong & Nguyen, 2009).

Paragraph 1.3 introduces *intercultural competence*. TNCs transfer knowledge and experience while promoting workplace diversity and inclusion. In doing so, they encourage intercultural understanding and create a more inclusive work environment. Intercultural competence is a critical skill for Multinational Corporations operating in host countries. This type of knowledge is more complex, with a broader organizational focus, as it involves understanding the structural linkages between different units (Hong & Nguyen, 2009). TNCs transfer cultural insights to host countries, bringing their experience from operations in multiple nations and facilitating the development of intercultural skills and sensitivity among local employees.

Paragraph 1.4 discusses *innovation and entrepreneurial mindset*. The traditional model of TNC systems, which centralizes critical functions (such as innovation and technological development) in the parent company while resisting dispersion to overseas subsidiaries, is becoming outdated and giving way to integrated interaction models. The need to tap into new sources of innovation necessitates embedding modern technological functions within foreign subsidiaries. Contemporary TNCs transfer innovations (Ghosal & Bartlett, 1988; Frost, 2001) and entrepreneurial spirit to host countries. This includes fostering innovative processes (knowledge related to modern technologies like artificial intelligence, robotics, and automation), promoting creativity, and instilling an entrepreneurial thinking among local employees.

Paragraph 1.5 introduces *opportunities for Research and Development*. Driven by global competitive pressures, Multinational Corporations consistently increase their R&D expenditures. They are well-prepared to commercialize their research due to access to global markets, economies of scale, and the scope of their operations. TNCs possess technological capabilities and are leading generators of innovations. To maintain a competitive advantage, TNCs extend their R&D activities beyond their home country's borders (UNCTAD, 1995). This dispersion of R&D opportunities in host countries, especially in industries requiring high levels of innovation and technological development, involves establishing R&D centers, participating in Technology and Science parks, collaborating with local research institutions, and engaging in joint research projects.

Paragraph 1.6 outlines *ethical and responsible business practices*. TNCs set high standards for ethical and responsible business practices (Lam, 2002), encompassing their entire network of operations and transferring these practices to host countries. This includes promoting honesty,

transparency, adherence to international standards and regulations, anti-corruption policies, human rights standards, gender equality, tolerance for cultural and religious differences, and more. TNCs often have well-defined corporate social responsibility (CSR) initiatives that promote sustainability, environmental care, and social well-being in the host countries.

Paragraph 2 delves into the **mechanisms of knowledge transfer and implementation**. Transferring and embedding knowledge, skills, and abilities in the host country is a strategic decision for Multinational Corporations to ensure their long-term success. By building local capabilities, fostering innovation, and establishing strong relationships with local stakeholders, TNCs can create sustainable presence in the host country, employing various approaches to transfer knowledge and shape human capital in the recipient nations.

Paragraph 2.1 introduces *workforce selection and recruitment*. Selective hiring policies for local talent in host countries serve as a fundamental tool used by TNCs when building their international teams. TNCs can utilize local channels for personnel recruitment, such as specialized recruiting agencies, establish partnerships with local universities, colleges, and vocational schools, and even create internship programs to attract and prepare local talents.

Paragraph 2.2 presents *training and development programs*. TNCs invest in training and development programs not only to enhance the skills and abilities of their local employees but also to retain them. These programs aim to transfer specific knowledge, technical skills, managerial experience, and best practices within the industry to the local workforce. Training programs can be classified as internal or external, general or specific.

Paragraph 2.3 introduces *initiatives for knowledge transfer*. Multinational corporations employ various mechanisms to transfer knowledge to local employees and stakeholders. These mechanisms include dialogue (Schein, 1993), formal knowledge-sharing sessions, internal documentation (Hong et al., 2006), and standard operating procedures (Hong & Nguyen, 2009). Documentation may encompass operation manuals, technical instructions, and written reports containing detailed, well-codified procedures for responding to various unforeseen situations.

Paragraph 2.4 discusses *the assignment of foreign employees (expatriates)*. TNCs have highly skilled workers who possess expertise in design, production, packaging, marketing techniques, and managerial skills, primarily acquired through experience. As a result of their career development and opportunities for intercultural communication, they establish rich international networks. Skills of this nature cannot be easily or quickly replicated, making them valuable assets

for TNCs. Such skills are transferred to TNC's foreign subsidiaries by expatriates (Bonache et al., 2001; Berthoin-Antal, 2001; Lazarova & Tarique, 2005), involving both short-term and long-term relocations.

Paragraph 2.5 introduces *partnerships for collaboration and joint ventures*. Multinational corporations not only innovate by combining the resources and technological capabilities of their own systems but also by establishing relationships with stakeholders beyond their production systems. Such collaboration agreements include technological alliances between TNCs and universities, research institutions, or local firms. These agreements facilitate information sharing, joint problem-solving, and resource sharing (UNCTAD, 1995).

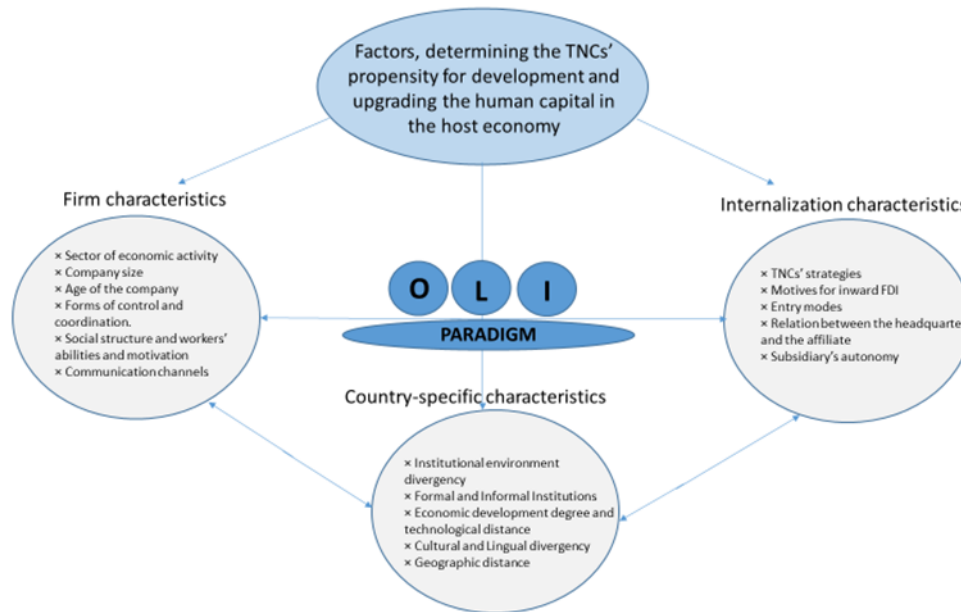
Paragraph 2.6 presents *technology and knowledge centers*. TNCs can establish technology and knowledge centers in host countries. These centers serve as hubs for scientific research, development, and knowledge creation. They provide local employees with opportunities to participate in cutting-edge research, collaborate with global experts, and develop advanced skills. These centers contribute to the transfer of human capital by promoting innovation and technology dissemination.

Paragraph 2.7 outlines *supplier development programs*. TNCs implement supplier development programs (UNCTAD: 1995, 2001; ILO, 2018;) to enhance the capabilities of their local suppliers. To ensure that delivered raw materials meet stringent technical requirements, foreign subsidiaries often need to provide not only specifications but also assistance in enhancing their technological capabilities. This strategy contributes to the transfer of human capital by strengthening the capacities of the local supply chain.

Paragraph 2.8 introduces *initiatives for corporate social responsibility*. The concept of CSR (UNCTAD: 1994, 2013) helps us understand how a company interacts with its surrounding environment. TNCs are often perceived as agents of development and change in host countries. They can play a leadership role in promoting high CSR standards, serving as examples not only for other TNCs but also for local enterprises through the codes of conduct and behavioral rules they apply.

Paragraph 3 examines **the factors determining TNCs' propensity to develop human capital in the host economy**. Due to their scale, technological complexity, and origin (primarily from developed countries), TNCs are often expected to be better employers than local firms, investing more in training and imparting modern skills to their workers. However, the inclination

of TNCs to shape and develop human capital in host countries varies (UNCTAD: 1999, 2000; Michie, 2001;). Inevitably, questions arise: What determines TNCs' propensity to transfer different forms of human capital? Why do some do it while others do not? In an attempt to find answers, Figure 1 presents the author's model of TNC impact propensity on employment quality in the recipient country, constructed within the OLI Paradigm.



**Figure 1. Impact Model of Multinational Corporations on Human Capital Quality in the Host Country within the OLI Paradigm**

*Source: Author's development*

The propensity for transferring diverse forms of human capital from Multinational Corporations to their foreign subsidiaries depends on multifaceted factors, which encompass firm-specific, location, and internalization characteristics. The presented model represents a systematic framework for developing a comprehensive understanding of the challenges associated with knowledge transfer within the TNC network.

In section 3.1, *firm-specific characteristics* are outlined. The quality of the workforce generated by a given TNC depends on the economic sector it belongs to, as well as the activities it is engaged in. Differences exist in TNC practices across various sectors. Additionally, the size and age of the company are two other determining factors worthy of attention. On one hand, large companies have the capacity to achieve economies of scale through internal training. On the other hand, they can afford higher costs for human capital investments, which may be unfeasible for smaller-sized companies. The age of the company and accumulated significant experience enable

companies to apply a more systematic approach to organizational issues and knowledge transfer. This encompasses corporate culture, adherence to ethical norms and corporate values, detailed rules, and established procedures. To achieve effective knowledge transfer, control and coordination are also essential. According to Agency Theory, three key mechanisms that TNCs utilize for control and coordination are: behavioral control, social control, and outcome control (Eisenhardt, 1989). The social structure within the global network of Multinational Companies is of paramount importance for the smooth flow of knowledge transfer from TNCs to their subsidiaries. The strength of communication channels and social interactions has the potential to facilitate or hinder the flow of both tacit and explicit knowledge (Noorderhaven & Harzing, 2009). The focus on individual participants within knowledge flows is relatively new (Nuruzzaman et al., 2017).

In section 3.2, *characteristics of the host country* are presented. At the country level, the geographical dispersion of economic activities, differences in formal and informal institutions, and national culture can impede knowledge transfer across national borders (Kotabe et al., 2007; Minbaeva et al., 2018). Regarding institutional factors, from an economic perspective, the institutional environment defines the “rules of the game in society” (North, 1990). These rules can be either formal or informal, leading to the broad categorization of institutions into formal and informal. Institutions influence the motivation and incentives for TNCs to engage in innovative activities in the host country (Malen & Vaaler, 2017; Lee et al., 2017). Differences in institutional contexts between the home country of the TNC and the host country create uncertainty regarding host markets and instill fear in TNCs of abuses by local partners and employees (Gaur & Lu, 2007; Popli et al., 2016). In addition to institutional differences, cultural and linguistic variations, as well as geographical distance, also impact knowledge flows within TNCs (Malhotra & Gaur, 2014; Minbaeva et al., 2018). Cultural and linguistic disparities among countries remain a significant factor, even when the host country has stable institutions for safeguarding TNCs’ intangible assets. These differences affect the quality of communication channels and hinder smooth knowledge flows.

In section 3.3, *the internalization characteristics*, which are a distinctive feature of Multinational Corporations, are presented. When TNCs internalize business processes, they choose different strategies, forms, and entry modes. They provide varying levels of autonomy to their foreign subsidiaries, which reflects the relationship between the parent company and its affiliates.

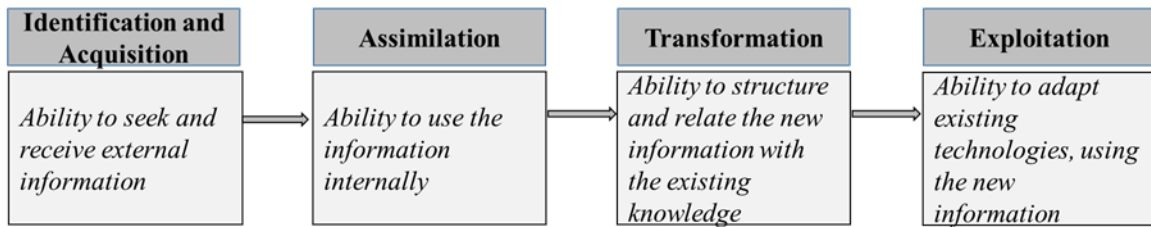
Given the complexity of interactions between the TNC headquarters and its subsidiaries, managing the smooth flow of knowledge becomes critical for the long-term competitiveness of the TNC. The TNC's propensity to shape human capital manifests in various forms and prioritizes its development, depending on *the reasons for engaging in FDI*. The strategy employed by the TNC is identified as another internalizing factor that determines the degree of integration into the local economy. Broadly, these strategies can be categorized as *shallow* and *deep penetration*. The next determining factor is the forms of penetration. The type and size of investment allow TNCs to exert greater or lesser control and coordination over the operations of their subsidiaries. The following possible scenarios regarding forms of penetration exist for TNCs: *export, representative office, non-equity contractual forms of entry, and equity-based forms of entry* (Koley, 2012). The choice of one of these penetration methods is associated with questions about the scale of corporate resources to be engaged and/or transferred, the level of control to be exercised over the foreign subsidiary, the need for local partners (distributors and/or suppliers), and more. The dissertation work pays detailed attention to all possible forms of penetration, with a special focus on the development and upgrading of human capital.

### Chapter Three

Multinational Corporations can bring capital, modern technologies, improved management skills, and practices to the location where they conduct FDI. However, these advantages do not automatically transfer to the host country. The absorption process requires the recipient country to have reached a certain level of development, meaning it possesses what is known as 'absorptive capacity.'

In paragraph 1, an attempt is made to explore **the theoretical construct and define the concept of 'absorptive capacity'**. The theoretical research on absorptive capacity covers various levels of analysis, with a wide range of definitions proposed for this concept.

At the **micro-level**, studies focus on the absorptive capability of local firms. Analysis of past research provides a broad set of definitions for absorptive capacity. One of the most widely accepted definitions is proposed by Cohen & Levinthal (1989), which includes the firms' ability to learn from external new knowledge through a combination of organizational processes and procedures related to identification, acquisition, assimilation, transformation, and exploitation. Based on Cohen & Levinthal's proposed definition, Figure 2 illustrates the absorption process schematically through the following stages:



**Figure 2. Absorption process (micro-approach)**

*Source: Author's development, based on the definition proposed by Cohen & Levinthal (1989)*

*Identification and acquisition* refer to a firm's ability to seek and acquire externally generated knowledge critical to its operations and necessary for creating specific competitive advantages. Firms should put effort into procedures for recognizing and acquiring knowledge from the external environment.

*Assimilation* pertains to procedures and processes that allow for the analysis, processing, interpretation, and understanding of information obtained from external sources (Kim, 1997; Szulanski, 1996).

*Transformation* signifies a firm's ability to develop and enhance procedures that facilitate the combination of existing knowledge with newly acquired and assimilated knowledge. This is achieved by adding new knowledge or interpreting existing knowledge in different ways.

*Exploitation* relates to procedures that enable firms to improve, expand, and utilize existing competencies or create new ones by incorporating acquired and transformed knowledge into their operations. Exploitation requires using knowledge that has already been internalized for practical use (Lyles & Schwenk, 1992).

At the **macro level**, the analysis focuses on national absorptive capacity, which is a function of variables including technological level, human capacity, financial development, and institutional development (e.g., Hermes & Lensink, 2003; Fu, 2008; Borensztein et al., 1998). Studies describe the absorptive capacity of the host country as the ability to acquire, identify, assimilate, and exploit external knowledge and skills, utilizing modern technologies and experience from developed countries. The goal is to enhance productivity and achieve long-term economic prosperity. Essentially, national absorptive capacity encompasses the absorptive capability of local firms.

A high absorptive capacity enables the local economy to benefit from spillover effects or can be seen as a condition for technology, knowledge, and know-how transfer from foreign

Multinational Corporations to local firms. In this context, viewed through the lens of Dunning's OLI Paradigm (1993), national absorptive capacity can become an attractive location advantage when high-tech and knowledge-intensive industries face choices for foreign investment locations (Cantwell & Iammarino, 2003).

A review of the scientific literature allows us to trace the emergence and evolution of the concept, enrich its constituent elements, and expand its scope through micro- and macro-level research. In practice, there is no unequivocal interpretation of what constitutes 'absorptive capacity'. According to us, it should be understood as *the ability to internalize external knowledge through processes such as identification (recognition), assimilation, and exploitation of information from the external environment. Absorptive capacity enables effective transfer of knowledge, know-how, and technologies, resulting in increased productivity and innovation capacity for the local economy (macro-level) and local firms (micro-level).*

Paragraph 2 examines **the measures for assessing absorptive capacity**. The application of the concept of absorptive capacity across different domains and at various levels of analysis has led to the identification of a rich set of factors believed to influence absorptive capability. Zahra & George (2002) attempt to synthesize the results from empirical studies regarding the conceptual framework of absorptive capacity and its measures, distinguishing the work of researchers at the national, interorganizational, and firm levels. From the summarized studies by Zahra & George, we can make the following observations. Different authors employ diverse measures, which sometimes overlap, but there is no universal consensus on the specific determinants of this construct. The agreement among different researchers boils down to a general understanding of the multidimensionality of the construct. If we attempt to synthesize the results from the presented studies, we can conclude that researchers' perspectives diverge into two main directions. Regarding the indicators defining micro-level absorptive capacity, these include the firm's technological intensity, its innovation activity, the level of employee qualifications, internal (firm-level) investments in R&D, and trained personnel for scientific Research and Development within the firm (Cohen & Levinthal, 1990; Boyton, Zmud & Jacobs, 1994; Szulanski, 1996; Kim, 1998; Girma, 2005; Görg & Greenaway, 2004). Additionally, the number of scientific publications and R&D laboratories play a role (Cockburn & Henderson, 1998; Veugelers, 1997). At the macro level, indicators for assessing national absorptive capacity encompass political, financial, educational, and economic aspects (Hermes & Lensink, 2003; Fu, 2008; Borensztein et al., 1998; Abramovitz,



1986). These factors include human capital, absorptive capacity of local firms, financial system, physical infrastructure, national innovation system, R&D, and institutions (Mowery & Oxley, 1995; Keller, 1996; Lin & White, 1997; Nguyen et al., 2009; Durham, 2004). The review of empirical studies extends beyond those described by Zahra & George. Other studies are examined, including research by Cantner & Pyka (1998), Rocha (1999), Stock et al. (2001), Rothwell & Dodgson (1991), Sellero, Martínez & Vazquez (2014), Teixeira & Fortuna (2010), Schmidt (2010), Kneller & Stevens (2006), and others.

An extensive review of scientific literature and empirical research on absorptive capacity measures has led to a focus on two assessment factors. These determinants stem from theoretical considerations and empirical investigations related to knowledge utilization and management. The two critical factors are: available human capital and R&D. These determinants are universally applicable, whether analyzing absorptive capacity at the micro or macro level. Furthermore, they play a crucial role in extracting benefits from inward FDI in terms of local labor resources. Modeling these common determinants aims to provide insights into which firms (or countries) are more likely to exhibit higher absorptive capability and whether this capacity remains stable over time.

Drawing on Schmidt’s (2010) work on analyzing firms’ absorptive capacity, an original attempt has been made to construct a factor model using these universal determinants. The schematic representation is presented in Table 1.

**Table 1.**

**Factor model for assessing absorptive capacity using universal determinants at the micro and macro levels**

| <b>First group: Research and Development activities</b> |   |
|---|---|
| <i>Micro level</i>                                      | <i>Macro level</i>  |
| 1. R&D expenditures                                     |   |
| ✓ Share of R&D expenses in the total company revenues;  | ✓ Share of R&D expenses in the GDP;   |
| ✓ Firms’ investments in R&D;                            | ✓ Aggregate investments in R&D;   |
| 2. Scientific infrastructure                            |   |
| ✓ R&D Laboratories; Centers for Innovations; Clusters;  | ✓ Science- and Tech-Parks; National Science Centers; Participation in international scientific infrastructures; National Scientific Programs; |

|  |   |
|--|---|
| 3. R&D Products  |   |
| ✓ Patents, useful models, scientific publications, innovations;  |   |
| <b>Second group: Human capital</b>   |   |
| <i>Micro level</i>   | <i>Macro level</i>  |
| 1. Educational level of the workforce  |   |
| ✓ staff structure in the company by educational level;   | ✓ structure of the human resources of a given country by acquired educational and/or scientific degree; |
| 2. Educational expenditures  |   |
| ✓ Private investments in education;  | ✓ Public investments in education;  |
| 3. Educational process assurance   |   |
| ✓ Continuing Vocational Training Centers; Training programs and acquisition of other certified skills;   | ✓ Institutional structure of the educational process;   |
| 4. Scientific Diaspora   |   |
| ✓ Share of the personnel, engaged in R&D from the total staff, employed at the firm;   | ✓ Number of the scientists from the total population;   |
| <b>Third group: Knowledge dissemination channels</b>   |   |
| <i>Micro level</i>   | <i>Macro level</i>  |
| ✓ The organizational structure, human resource management practices, and incentives used to disseminate knowledge within the firm, or the similarity of any two cooperating firms' systems for this; | ✓ Collaboration between universities, non-governmental organizations and businesses;                    |
| ✓ Relations with counterparties - suppliers, customers, distributors;  | ✓ Development of science- and tech-parks;   |

*Source: Author's development*

The model is conceptual, aiming to encompass, group, and link the indicators that determine the creation, dissemination, and development of knowledge at both micro and macro levels. These indicators are critical for assessing the level of absorptive capacity.

Paragraph 3 presents **the relation between human capital, absorptive capacity, and inward FDI**. The interaction process between the activities of Multinational Corporations and the development of local absorptive capacity is complex. On one hand, local firms should make efforts to develop human capital through investments in training activities. On the other hand, TNCs, through their penetration into the local economy, directly and/or indirectly transfer knowledge, managerial techniques, innovative know-how, technologies, and more.

The extent to which TNCs engage in shaping, developing, and upgrading human capital depends on the forms and methods of penetration, as well as their motives for expanding their

operations through foreign expansion. The effects on the host economy resulting from TNC presence (both direct and indirect) largely depend on its existing absorptive capacity at the time of TNC entry into the local market. It is essential to examine these effects over a temporal horizon. While the review of scientific literature partially reveals this relation, specific forms of penetration have been studied without yet achieving a comprehensive understanding. An original attempt is made to summarize the key relationships in tabular form.

**Table 2.**

**Interaction Model Between TNC Activity, Human Capital, and Absorptive Capacity**

| Entry modes, used by TNCs           |                                 | Absorptive capacity of the country, measured with the quality of human capital and the level of R&D | TNCs' propensity to develop the human capital, using the time horizon |                      |
|-------------------------------------|---------------------------------|---|---|----------------------|
|                                     |                                 |   | short-term  | medium and long-term |
| shallow penetration non-stock forms | Export                          | Low   | -   | -                    |
|                                     |                                 | High  | -   | -                    |
|                                     | Representative office           | Low   | -   | -                    |
|                                     |                                 | High  | -   | *                    |
|                                     | Production contract             | Low   | -   | -                    |
|                                     |                                 | High  | -   | *                    |
|                                     | Licensing                       | Low   | *   | *                    |
|                                     |                                 | High  | *   | +                    |
|                                     | Franchising                     | Low   | *   | +                    |
|                                     |                                 | High  | +   | +                    |
| Deep penetration shareholder forms  | Joint Venture                   | Low   | -   | *                    |
|                                     |                                 | High  | -   | *                    |
|                                     | Mergers&Acquisitions            | Low   | -   | +                    |
|                                     |                                 | High  | *   | +                    |
|                                     | Greenfield FDI (brownfield FDI) | Low   | +   | +                    |
|                                     |                                 | High  | +   | +                    |
| <b>Motives for inward FDI</b>       |                                 |   |   |                      |
| Market-seeking FDI                  |                                 | Low   | *   | *                    |
|                                     |                                 | High  | *   | *                    |
| Efficiency-seeking FDI              |                                 | Low   | -   | -                    |
|                                     |                                 | High  | *   | *                    |
| Resource-seeking FDI                |                                 | Low   | -   | -                    |
|                                     |                                 | High  | -   | *                    |
| Strategic asset-seeking FDI         |                                 | Low   | +   | +                    |
|                                     |                                 | High  | +   | +                    |

Legend: - absent; \* minor; + high propensity

Source: Author's development

Human capital, absorptive capacity, and inward FDI are interconnected in an organic and bidirectional relationship. On one hand, economies compete to attract FDI to achieve economic development and growth. On the other hand, absorptive capacity enhances the country's attractiveness in terms of both the quantity and quality of FDI inflows. The development and upgrading of human capital play a critical role in shaping the absorptive capacity of host countries,

enabling them to optimally benefit from direct and indirect effects. The level of human capital in the recipient country determines its ability to leverage FDI. All of this directly relates to the fundamental goal of every national economy: increasing productivity and long-term prosperity.

Next, it is essential to shed light on another crucial question: How can and to what extent can TNCs contribute to further developing absorptive capacity? Corporate training is an obvious starting point, both from foreign companies and local firms. TNCs can afford higher training costs than local firms and can provide more effective training as carriers of foreign technology, managerial techniques, organizational skills, innovative know-how, etc., which may be unknown to local companies at the moment.

Paragraph 3.1 examines *the significance of company size* concerning firm investments in training. It is widely accepted that firms, both in developing and developed countries, tend to make insufficient investments in training (Batra & Tan, 2002; OECD 2003, 2004). The inadequate investment in training becomes concerning when recipient countries with developing economies strive to catch up with the skill levels of industrialized economies, as training within companies is a crucial source for skill acquisition. To address the challenges related to corporate training, it is essential to identify the reasons behind this insufficient investment. Among the limited studies in this direction, the World Business Environment Survey (WBES) provides detailed insights, as presented in the dissertation.

In Paragraph 3.2, *training within enterprises is discussed in the context of having an educated workforce*. Several empirical pieces of evidence support the notion that firms with a higher proportion of educated workers are more likely to provide training activities (Tan & Batra, 1996; Tan & Lopez-Acevedo, 2003; Zeufack, 1999). However, the WBES study yields contrasting results: 44% of firms in the Latin America and Caribbean (LAC) region and 21% of firms in East Asia offer less or no training due to the availability of qualified workers in the labor market. Miyamoto & Todo (2003) further confirm this trend for Indonesia. Therefore, it is not straightforward to conclude whether firms invest more or less in the presence of educated workers.

Paragraph 3.3 presents a *comparative analysis of training conducted by Multinational Corporations and local firms*. Most empirical studies confirm the assumption that TNCs provide more training compared to local firms (see: Tan & Batra, 1996; Tan & Lopez-Acevedo, 2003; Miyamoto & Todo, 2003). Why do TNCs invest more in training than local firms? The literature offers several explanations. Typically, TNCs have easier access to foreign capital and are less likely

to face credit constraints. Additionally, given the scope of their operations, TNCs are more likely to quickly and cost-effectively acquire information about training techniques. They can also reduce the risk of losing trained workers by offering attractive compensation packages that retain employees after training (e.g., see Rodrigez-Clare, 2001).

Paragraph 3.4 examines *TNC investments in support of formal education*. When discussing TNCs' superior capabilities compared to local firms in investing in training, it is essential to highlight their supportive role in the development of formal education in the host country. Why do TNCs support formal education? Let's dispel any misconception that TNCs are more oriented toward charitable initiatives than local firms. Regardless of ownership structure, every company seeks economic benefits when taking specific actions, including investments in formal education. One such benefit is the opportunity to hire graduates from educational institutions that TNCs support. In other words, if investing in formal education is more profitable than providing internal corporate training, TNC investments in formal education can be justified.

#### **Chapter Four**

Bulgarian specialized literature abounds with scientific research examining the dynamics of Foreign Direct Investment, including its effects on economic growth, international trade, income inequalities, competitiveness, and more. However, to date, no study has provided an in-depth analysis of the significance of inward FDI for the development and upgrading of human capital in Bulgaria, including the role of absorptive capacity within our economy. The empirical investigation in this dissertation aims to fill this gap. Importantly, it is not an end in itself; rather, it intersects two critical economic challenges. On one hand, the Bulgarian economy heavily relies on the inflow of foreign capital, given the substantial share of FDI stock in our GDP (80%). On the other hand, Bulgaria faces serious issues related to an aging population. To achieve economic growth under these conditions, our country must enhance the quality of human capital to ensure higher productivity despite a declining economically active population. In short, a transition toward activities with fewer people and higher productivity is necessary. This places the focus on cross-border knowledge transfer and the potential for its absorption by the national economy.

Paragraph 1 introduces **the methodology of the empirical study**. The analysis in the empirical research follows this logic. First, an investigation into the inward FDI in Bulgaria is conducted. The aim is to assess whether there is sufficient accumulation of FDI and whether we can expect effects from the presence of TNCs. By analyzing investment sources, penetration forms,

sectoral structures, and other indicators, attention is focused on the qualitative aspects of inward FDI, seeking potential positive effects on the national economy, including human capital.

Second, an attempt is made to evaluate absorptive capacity using the factor model developed in the third chapter. The reason for this lies in the need to enhance the quality of human capital to ensure economic growth in the context of a declining and aging population. To effectively transition to activities with fewer people and higher productivity, our country increasingly relies on cross-border knowledge transfer from TNCs. The extent to which this knowledge can be assimilated by local companies and contribute to human capital development and upgrading is a question related to the assessment of absorptive capacity.

Third, the impact of TNCs on human capital is examined comparatively, juxtaposed with that of local firms. The rationale behind this lies in confirming or refuting the formulated hypothesis in the dissertation work.

Fourth, following the logic of theoretical analysis in the second chapter and its conclusions, the empirical study aims to establish: what are the frequency and scales of knowledge, competencies, and skills imports by TNCs, what types of knowledge TNCs bring, and what methods of dissemination they use.

Fifth, in the final stage of analysis, an empirical relationship between the inward FDI and the level of human capital is sought, using econometric methods for analysis.

The following limiting framework of the empirical study is set:

1. Unique databases provided by the National Statistical Institute (NSI) covering two periods, 2010 and 2015, is used. The sample includes information on both foreign companies that have carried out FDI in the territory of the Republic of Bulgaria and local Bulgarian firms, allowing for a comparative analysis. The information is strictly classified, and its exclusive provision for the purposes of this study requires signing sworn declarations to maintain the level of data aggregation within confidentiality norms. The observed indicators have a data collection time frame of every 5 years, with results processed within the following 3 years. In this regard, we do not have data up to 2020. Although the period is retrospective, the study possesses its uniqueness as it provides comparative analysis, findings, and conclusions regarding the relationship between FDI and human capital in Bulgaria, which have not been previously documented in scientific literature.

2. For the assessment of inward FDI, a time period from 2005 to 2015 has been used, fully aligned for comparability with unique databases provided by the NSI. It is important to note that

during this specific period, the most significant volume of FDI was accumulated, followed by a relative stagnation in attracting foreign capital until 2021. This slowdown can be attributed to the global pandemic situation, which imposed conditions beyond the scope of national influence on FDI inflows.

3. To assess absorptive capacity, a factor model developed in the third chapter has been applied solely at the micro level. The reason for this lies in the perceived micro-level approach to the theoretical study of the interaction between FDI and human capital within the framework of the Theory of International Business and John Dunning's OLI Paradigm.

4. The analysis is limited in the empirical study only to those effects directly related to TNC activities. The reason for this lies in the difficulty of measuring indirect effects and the lack of data to analyze and draw specific conclusions and directions. Nevertheless, comparing the distance between TNCs and Bulgarian firms can serve as an indirect indicator of spillover effects.

In paragraph 2, an **assessment of inward FDI in Bulgaria and their penetration into the national economy** is conducted. The analysis for Bulgaria during the period from 2005 to 2015 reveals the strong dependence that our economy has on the accumulated stock of FDI. The largest FDI inflows to Bulgaria primarily come from EU member states, indicating an increasing reliance of the Bulgarian economy on the European market. However, it is essential not to focus solely on absolute levels. A qualitative analysis is necessary, which finds application in more in-depth studies regarding the motives for penetration and their sectoral orientation. This analysis aims to evaluate whether there is potential for generating benefits for the recipient economy.

Within the examined time frame of inward FDI, two contrasting periods are distinguished. Pre-crisis Period (2005 to 2008): During this period, FDI inflows experiences rapid annual growth until the onset of the Global Economic Crisis in 2008. Post-crisis Period (2009 onwards): After 2009, inward FDI levels remain relatively unsatisfactory and fail to fully recover their pre-crisis values. It is important to note that the significant decline in FDI inflows to Bulgaria due to the Global Economic and Financial Crisis lies beyond the scope of national efforts to stimulate attraction.

The accumulated stock of FDI in Bulgaria as of 2015 amounts to €39.9 billion. For comparison, in the same year, outgoing investments from Bulgaria to foreign countries total a relatively small €1.7 billion. This makes the Bulgarian economy a significant net importer of foreign capital, which is one of the main reasons for its more in-depth study. The substantial stock

of FDI raises questions about its effects on the economic environment. Kolev (2010) highlights something crucial: during the period of intense FDI inflows before the crisis, the government's efforts are primarily directed toward quantitatively attracting FDI rather than focusing on its quality. In cases of short-term interest expressed by foreign investors, it is unrealistic to expect FDI to significantly contribute to national development, including strengthening absorptive capacity through human capital development and upgrading.

The fluctuating long-term investment interests in the country become evident through reinvested profits from the inward FDI. Notably, in six out of ten years, these reinvested profits have negative values. However, in years with positive values, their average share of the overall net inflow of direct foreign investments reaches 13.5%. The behavior of present foreign investors significantly changes in 2015, when reinvested profits account for 47% of the total. This serves as an indicator of serious interest going forward in developing business within the country by Transnational Corporations, including the possibility of establishing lasting connections with local suppliers and advancing human capital.

The sectoral distribution also undergoes changes, with non-tradable sector activities continuing to lead but experiencing a decrease of nearly 10%. The primary inward FDI is concentrated in sectors related to financial intermediation, real estate operations, and construction, which do not exhibit significant potential for creating added value. This trend persists until 2008, when the Global Economic Crisis occurs. Overall, the sectoral distribution is not particularly favorable up to this point. Notably absent are investments in high-tech manufacturing, which could accelerate the modernization processes of the Bulgarian economy. During the recovery period, although foreign investment activity remains modest, a positive sectoral shift is observed. FDI is increasing in medium and high-tech sectors such as IT activities, scientific research, and electronics. The development of human capital depends on the presence of TNCs engaged in high-tech activities and technology transfer. Therefore, we recognize this emerging trend in the national market as positive in the years following the Global Economic Crisis.

Based on all the findings from the conducted analysis, it can be inferred that in the period after the Global Economic and Financial Crisis, FDI inflows into the national economy, including sectoral restructuring, create a favorable environment for human capital development and upgrading.



In paragraph 3, an **assessment of Bulgaria's absorptive capacity** during the period 2005-2015 is conducted, following the structure of the developed factor model in Chapter 3. The analysis is solely constructed at the **micro level**, driven by the perceived micro approach in the studied relationship between FDI and human capital. The results regarding the qualitative assessment of absorption capacity at the micro level is summarized in a SWOT analysis.

The researched information in the dissertation provides opportunities for conclusions in several directions, which, in turn, lead to an evaluation of absorptive capacity concerning available human capital and R&D at the micro level. Considering the demographic challenges faced by the country, the Bulgarian economy, including firms, increasingly relies on enhancing productivity through the development and upgrading of human capital.

Regarding investments in R&D, three sectors stand out where Bulgarian companies incur significant expenses for scientific Research and Development. These sectors are: professional scientific activities, manufacturing industries, and the creation and dissemination of creative products. For instance, in the IT sector, investments doubled in 2015 compared to 2007. Substantial growth is also observed in trade and repair of automobiles and motorcycles (17 times more in 2015 compared to 2006). Businesses actively invest in healthcare as well. These sectors are characterized by high levels of automation and robotics, and their investments are crucial for enhancing companies' competitiveness, the need for qualified personnel, and consequently increasing firm absorptive capacity.

Despite a significant 14-fold increase in firm investments in R&D in 2015 compared to the base year of 2005, the innovation activity of private businesses in Bulgaria remains heavily dependent on financial support from the European Union (EU). This is evidenced by the numerous cluster organizations registered during the period from 2005 to 2010. The establishment of clusters provides an opportunity for Bulgarian firms to access EU funding through Operational Programs (OPs). To regulate the flow of subsidies, the country implements a mechanism for differentiating among various cluster structures. Through an introduced classification, funding is linked to those clusters that qualify for access. As a result, only 10 clusters in the country hold the quality mark, representing the functioning cluster organizations during the examined period. This indicates that Bulgarian businesses are still far from effectively combining business and scientific ideas to achieve large-scale innovations through this knowledge dissemination channel.

On the other hand, there are several positive trends regarding the formation of absorptive capacity in the country, along with potential for its development. The evidence lies in the share of large firms engaged in innovative activities (78%). However, we should not underestimate the fact that the Bulgarian economy is primarily composed of small and medium-sized enterprises (SMEs), which exhibit significantly weaker innovation activity. Only 21% of small enterprises and 39% of medium-sized enterprises actively participate in innovation. To accelerate their activity, the presence of high-tech Multinational Corporations is essential. These TNCs can conduct developmental activities within the country, and the concentration of local SMEs around these major corporations has already begun. This is evident from the increasing number of R&D centers established by Multinational Companies, particularly in high-tech sectors such as the automotive industry, IT products, microelectronics, and business process outsourcing.

Regarding human capital, it is essential to note that 60% of employment in the country is provided by private businesses, highlighting the crucial role of Bulgarian firms in shaping absorptive capacity through their engaged workforce. In a comparative analysis of the occupational structure in 2015 compared to the base year, there has been growth in the number of analytical specialists. Additionally, the count of individuals in managerial positions requiring high qualifications is increased. However, a negative trend is evident in craft professions, which constitute a significant portion of employment in the manufacturing industry. These include technicians, skilled production workers, machine operators, and assemblers. The decline in the number of these specialists can be offset by automation of various production processes, replacing manual labor with machinery, necessitating investments in innovation. The sectors with the highest-skilled workforce include healthcare, IT, scientific activities, information creation and dissemination, manufacturing, trade, and automotive and motorcycle repair. Efforts have also been made to deepen collaboration between business and academia. An increasing number of researchers and personnel engaged in scientific research and development are associated with businesses. Investments in personnel are becoming a priority for private companies.

In light of all the observations from the micro-level analysis, it is reasonable to conclude that the country possesses sufficient absorptive capacity necessary for assimilating knowledge and skills brought by Multinational Corporations through spillover effects.

Paragraph 4 conducts a **comparative analysis to assess the development and upgrading of human capital by TNCs versus local firms**. Following the logic of the theoretical analysis in

Chapter 2, the empirical study aims to achieve the following objectives through comparative analysis with respect to local Bulgarian firms: investigate how frequently and to what extent TNCs import knowledge and skills; examine the specific types of knowledge and skills transferred by TNCs; analyze the methods employed by TNCs for disseminating knowledge. The study also explores whether positive changes occur in the behavior of local firms concerning the development and upgrading of human capital over time. The research covers 340 TNCs and 3 415 Bulgarian firms in 2010, as well as 582 TNCs and 3 301 Bulgarian firms in 2015. While the samples for both TNCs and Bulgarian firms are coded, making precise comparisons challenging, they serve as a solid foundation for drawing general conclusions in support of or against the formulated hypothesis.

In section 4.1, **the scale, scope, and intensity of investments in human capital development by local firms and TNCs** are analyzed based on diverse qualification indicators. The goal is to identify specific trends and observations. Table 3 presents overall data on the scale of investments made in human capital development and upgrading through various forms of training by both Bulgarian companies and TNCs during the examined years.

**Table 3.**

**The total number of Bulgarian and Multinational Companies conducted any form of training in 2010 and 2015 year**

| Conducted any form of training | 2010 |       | 2015  |       |
|--------------------------------|------|-------|-------|-------|
|                                | TNC  | 150   | 44.1% | 342   |
| Bulgarian firms                | 953  | 27.9% | 1296  | 39.3% |

*Source: Development by the author based on NSI data*

The calculations made unequivocally demonstrate mutual growth in the shares of companies (both local and multinational) that conducted any form of training in 2015 compared to 2010. Undoubtedly, the statistical data indicate that TNCs provide more training than local firms.

Next, comparative data on the scope of training provided by local and Multinational Companies are presented (Table 4).

**Table 4.**

**Scope of trained workers from Bulgarian companies and TNCs  
in 2010 and 2015 year**

| 2010            | Share of trained workers<br>in the total number of<br>workers (%) | 2015            | Share of trained<br>workers in the total<br>number of workers (%) |
|-----------------|---|-----------------|---|
| TNC             | 52.70%  | TNC             | 44.30%  |
| Bulgarian firms | 30.30%  | Bulgarian firms | 21.40%  |

*Source: Development by the author based on NSI data*

Regarding the *scope* of trained employees in 2010, TNCs trained approximately 53% of directly employed individuals in foreign companies. For 2015, the data indicate that 44% of employees in Multinational Corporations received training. By comparison, in 2010, Bulgarian firms trained 30% of their employees, while in 2015, the figure dropped to 21%. Although the proportional decline from 2010 to 2015 is evident in both groups of companies, the absolute values are striking. Specifically, they reveal that in 2015, there are 3 times more engaged human resources and 2.6 times more trained individuals in TNCs. Additionally, Bulgarian firms had nearly twice as many employed individuals and 1.3 times more trained personnel compared to the previous year.

Next, an analysis is presented, regarding *intensity* of training activities conducted by both local and foreign companies during the examined years (see Table 5).

**Table 5.**

**Training intensity in Bulgarian and Multinational Companies in 2010 and 2015 year**

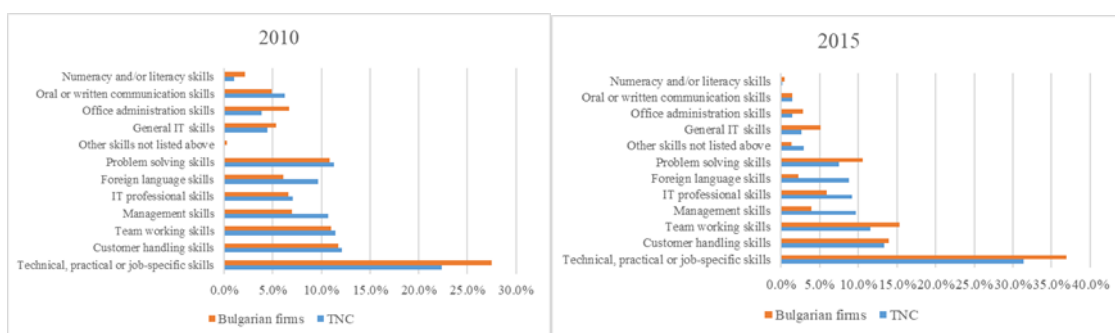
| 2010            | Average value per<br>company (number<br>of hours) | Average value per<br>trained worker<br>(number of hours) |
|-----------------|---|--|
| TNC             | 1039  | 7.0  |
| Bulgarian firms | 236   | 3.4  |
| 2015            | Average value per<br>company (number<br>of hours) | Average value per<br>trained worker<br>(number of hours) |
| TNC             | 4614  | 36.0   |
| Bulgarian firms | 1120  | 24.0   |

*Source: Development by the author based on NSI data*

The data presented in the table above clearly show that Multinational Corporations invest four-fold more time in training compared to Bulgarian firms during both examined years. This conclusion is supported by the data related to paid training hours. However, it appears that local firms have significantly recognized the need for such investments. In 2015, they increase the total number of training hours (averaged per firm) by nearly five times, and at the employee level, the increase is approximately eight times. This means that while Bulgarian firms train a smaller number of workers, their investments in the targeted employee group are more substantial. The average value per trained employee in the second examined year confirms this observation.

In the dissertation, comparative analyses are also presented across various dimensions, including: firm size, sectoral distribution, and technological intensity of production. These analyses reveal even greater differences between TNCs and local Bulgarian firms.

Section 4.2 provides data on **the knowledge transfer** that both TNCs and local firms aim to achieve through investments in employee training. Overall, firms focus on eleven types of knowledge and competencies to develop in their workforce. These include: technical, practical or job-specific skills; customer handling skills; team working skills; management skills; IT professional skills; foreign language skills; problem solving skills; general IT skills; office administration skills; oral or written communication skills and numeracy and/or literacy skills. Figure 3 presents data on the specific types of skills and competencies that TNCs and local firms aim to develop through investments in employee training.



**Figure 3. Share of different types of competencies among the total number of acquired competencies in 2010 and 2015 year for both Bulgarian firms and Multinational Corporations**

*Source: Development by the author based on NSI data*

It is worth noting that the total number of acquired competencies increased for both groups of firms in 2015 compared to 2010. Among multinational corporations, the reported total number of competencies rise from 497 in 2010 to 786 in 2015, representing a 58% growth. In comparison, for Bulgarian firms, the total number of acquired competencies increase from 2057 in 2010 to 2498 in 2015, indicating a 21% growth.

Section 4.3 highlights **knowledge transfer mechanisms**. The study presents data on all utilized training sources and conducts a comparative analysis between Bulgarian and Multinational Companies that have either an independent training unit or a responsible individual for conducting training. The dissertation also examines data related to ongoing professional training offered by multinational corporations and local Bulgarian firms in 2010 and 2015, considering factors such as company size, sectoral distribution, and technological production intensity.

In an attempt to briefly summarize the presented information, the following observations can be made. Multinational Corporations undeniably invest more in training than local firms. The proportion of foreign companies conducting training surpasses 40% in 13 out of 15 sectors. In other words, at least every second TNC in various sectors invests in knowledge dissemination among its employees. The data reveal that TNCs allocate four times more time to training compared to Bulgarian firms during both examined years. Furthermore, this trend holds true for TNCs classified as medium-sized and large, as well as for those with medium- and high technological production intensity. The increasing presence of medium- and high-tech TNCs in the Bulgarian market serves as a prerequisite for the development of local labor resources directly engaged in TNC activities, as well as for local firms benefiting from spillover effects. Notably, the data indicate a positive trend: the percentage of Bulgarian firms providing training increased across all industry sectors in 2015 compared to 2010. This underscores the importance of TNCs with high added value and their investments in training for the development and upgrading of human capital in the host economy. The growing number of Bulgarian companies utilizing high technological intensity could be attributed to an increase in the absorptive capacity of these firms, coupled with indirect positive effects resulting from TNC presence. In a comparative analysis of Bulgarian firms between 2010 and 2015, an increase in the proportion of local companies conducting professional development activities across all industry segments is evident. This trend suggests that operating in a competitive environment with the presence of Multinational Corporations in the national market motivates Bulgarian companies to invest more in training activities.

It appears that local firms significantly recognize the need for such investments. In 2015, they increase the total number of training hours (averaged per firm) by nearly five times, and at the employee level, the increase is approximately eight times. Collaboration between business and academia is also intensified. TNCs actively seek knowledge acquisition through cooperation with universities, a trend more pronounced than that observed among Bulgarian firms in 2010. However, by 2015, local businesses increasingly follow the example set by TNCs and turn to universities.

Regarding the types of knowledge, there is an elevation in the total number of acquired competencies in 2015 compared to 2010, both for TNCs and Bulgarian firms. Impressively, in 2015, Bulgarian firms shift their focus toward developing more soft skills, including problem-solving abilities, teamwork, and customer interaction. Furthermore, they are actively providing these types of knowledge and competencies to their employees on a larger scale than Multinational Corporations.

**As a result of the comparative analysis using descriptive statistics, it can be concluded that the findings support the hypothesis formulated in the dissertation. Multinational Corporations have a significant and comprehensive impact on human capital development, surpassing that of local businesses. The presence of TNCs positively affects Bulgarian firms in terms of human capital development and upgrading. Over time, this difference gradually diminishes, thanks to the spillover effects of TNCs on local companies and the presence of absorptive capacity, which facilitates the assimilation of this knowledge.**

In paragraph 5, the goal is to evaluate the statistical significance of the **relationship between inward FDI and the level of human capital** through econometric analysis. Similar to the approaches of Minser (1958) and Kazakov (2001), the author adopts the perspective of William Petty, using wages as an indicator. Following Petty's example, it is assumed that wage levels are directly related to the quality of human capital. To fairly and objectively assess individuals, a wage criterion directly linked to their qualifications, acquired through the development of individual capabilities via training in new knowledge and skills, should be used.

The data are drawn from two random samples related to the study of Continuing Vocational Training (CVT). These samples pertain to the years 2010 and 2015. Given that the study involves different units and participants in each sample, it significantly limits the applicability of econometric methods for analysis. Consequently, the author finds it appropriate to utilize Welch

and/or Mann-Whitney statistical tests<sup>1</sup>. The use of both tests is necessitated by the varying sample sizes. The Welch test is employed under the following assumptions:

- The variances of the two populations are unknown and unequal.
- The populations follow a normal distribution.

In cases where the population distribution is not normal, but the sample size is large (over 50), the Central Limit Theorem can be applied.

The Mann-Whitney U-test is typically used when the distributions of the populations are unknown and the sample size is small (below 50).

For each group of firms, we compare the average wages between those that conducted training and those that do not. We formulate the following hypotheses:

- Null hypothesis ( $H_0$ ) - The difference between average wages is not statistically significant;
- Alternative hypothesis ( $H_1$ ) - The difference between average wages is statistically significant.

In paragraph 5.3, the analysis of the relationship between conducted training and wage levels is carried out using various data **grouping criteria**: based on company size, technological production intensity, and sectoral distribution. The sectors are divided into 15 groups. **Across all these groups, it is observed that the average wage in firms that conducted training is higher than the average wage in firms that do not conduct training. The question now is whether this difference is statistically significant.** Since the means and variances of the general populations from which the samples are drawn are unknown, and we cannot assume normal distributions, we can use either the Welch test (for sample sizes over 50) or the Mann-Whitney U-test (for sample sizes under 50) to assess differences in means.

The data analyses are presented in 19 tables within the dissertation, providing detailed information across different dimensions. The 19 tests, including 10 t-statistic calculations and 9 U-statistic calculations, yield the following summarized 83 results. From the Welch tests, 29 are statistically significant, while 5 are not. From the Mann-Whitney tests, 21 are statistically significant, and 28 are not, possibly due to the small number of observations. Overall, 50 results are statistically significant, and 33 tests yield statistically insignificant results. **Therefore, considering the higher number of statistically significant results from both tests, we can**

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<sup>1</sup> <https://www.itl.nist.gov/div898/handbook/>



**conclude that there is indeed a relationship between inward FDI and the level of human capital, as measured by the difference in wage levels.**

### **Conclusion**

Despite the political tension in recent years, the modern global economy still exhibits a high degree of economic globalization. As a consequence, national development cannot be achieved independently; it is directly linked to that of other countries. Part of these contemporary processes involves the sustainable transformation of sources of competitiveness for national economies. This includes factors such as resource availability, infrastructure, macroeconomic stability, and the ability to develop and apply new technologies, education, and human capital. Creating and developing such capacity independently is a formidable task for small economies and emerging markets, including Bulgaria. Consequently, most countries open their economies and focus their efforts on attracting FDI, aiming for integration into international value chains, capital transfer, knowledge exchange, and more.

The presence of Transnational Corporations serves as an engine for economic growth in host economies and leads to improved well-being for the population. This improvement occurs not only through direct effects of FDI, such as job creation, investment in development, and upgrading of human capital, but also through spillover effects that, although challenging to measure precisely, are indeed present. Key drivers of productivity and competitiveness include research and innovation, both at the level of individual companies and national economies. Companies play a crucial role in workforce training because they possess experience, knowledge, and a direct link to the technologies they employ. They are aware of the skills that are lacking and those that will be necessary in the future. The diffusion of technologies depends significantly on the presence of high-tech TNCs on one hand and the absorptive capacity of local companies on the other. Absorptive capacity can be built and developed through internal investments in human capital.

In addition to limited internal resources and the need for accelerated catch-up development, Bulgaria faces demographic challenges with long-term implications. The consistently negative values of the natural growth rate coefficient serve as evidence of this. To address this and ensure economic growth amidst the emerging negative trend, the Bulgarian economy will increasingly rely on enhancing productivity through the development and upgrading of human capital. This can be achieved through cross-border transfer of knowledge, skills, technologies, and more from TNCs.

Motivated by the previous challenges, the author of this dissertation attempts to theoretically and empirically analyze the intersection between them—specifically, the effects of Foreign Direct Investment on human capital in Bulgaria. The dissertation aims to prove the hypothesis that Transnational Corporations have a significant and comprehensive impact on the development of human capital in Bulgaria, surpassing that of local businesses. Over time, this difference gradually diminishes, thanks to the spillover effects of TNCs on local firms and the presence of absorptive capacity, which facilitates the assimilation of this knowledge.

In the first chapter, an extensive review and analysis of fundamental paradigms from the Theory of International Business and the resulting specific theoretical models linking FDI and human capital are conducted. The findings from dozens of empirical studies on this topic are systematized and summarized, supporting or refuting certain theoretical conclusions and providing the groundwork for empirical research in Bulgaria. The goal of the theoretical analysis is not only to answer why the formation and development of human capital play a crucial role in TNC activities but also to explore under what conditions and to what extent TNCs are inclined to enhance human capital in the recipient country of FDI.

We believe that this dissertation contributes two valuable insights to the existing theoretical knowledge.

First and foremost, the developed and presented Eclectic Factor Model within the framework of John Dunning's OLI Paradigm sheds light on the combination of assumptions that determine the propensity of TNCs to develop and upgrade human capital in the host country through knowledge transfer. We believe that this model holds not only theoretical and analytical value but can also serve as a tool for formulating a much more effective policy for attracting Foreign Direct Investment than the current one. For instance, firm characteristics can be used to selectively target specific companies (or sectors) based on their expected impact on human capital in the recipient country. By doing so, a more precisely targeted policy for promotion, encouragement, and support of these specific TNCs can be implemented. On the other hand, location factors, along with their dimensions, clearly delineate the areas and processes where the state should focus its efforts and allocate public resources. Lastly, reducing risk, transaction costs, and providing additional effective support to foreign investors would allow for deeper penetration of TNCs into the local economy, resulting in positive effects on the labor market and human capital. As a recommendation for the development of state policies aimed at attracting FDI, it is essential to prioritize quality over

quantity when attracting such investments. In other words, the focus should be on attracting activities with high added value. To successfully achieve this goal, maintaining an absorptive capacity that attracts such types of companies is crucial. In the medium and long term, the presence of such TNCs will contribute not only through direct effects but also by transferring knowledge, skills, technologies, and more to local Bulgarian firms. Better human capital can assimilate technologies more effectively and contribute to higher productivity and long-term development of the national economy.

Secondly, the developed System of Indicators for Analyzing Absorptive Capacity at macro and micro levels can serve for periodic assessment and identification of potential “weak” areas and socio-economic structures that require enhancement. This ensures an adequate level of absorptive capacity and maximizes the benefits from the presence of foreign investors in the country. Infrastructure and the financial system should stimulate goods transportation and support businesses. Institutional development is also essential, but human capital and local firms serve as the primary channels and bridge between Foreign Direct Investment and the local economy. The intensity of knowledge assimilation from FDI relies on the qualitative development of human capital. We believe that the relation between inward FDI, human capital, and absorptive capacity is interdependent. Differences in absorptive capacity among countries, measured by the stock of human capital, are reflected in the degree of location advantage that TNCs consider before engaging in foreign activities. The existing review of scientific literature broadly leads us to two diametrically opposite scenarios: high absorptive capacity, measured by the level of accumulated human capital, creates a favorable climate for attracting large quantities of technologically intensive foreign TNCs, significantly contributing to further development of labor skills. Conversely, economies with less developed human capital receive a smaller influx of FDI or foreign firms that employ simpler technologies, resulting in minimal impact on local training and skill development. In summary, low absorptive capacity attracts low-tech activities or shallow forms of penetration that do not contribute to upgrading the existing absorptive capacity in the host country.

Likely, the most significant contribution to new applied knowledge and specific findings regarding the role of FDI in the labor market and human capital in Bulgaria comes from the empirical research conducted in the last chapter. For the purposes of this dissertation, classified databases provided by the National Statistical Institute are analyzed. These databases have not been

publicly disclosed or used in other studies until now. Within this analysis, the following key conclusions are drawn.

First and foremost, when assessing the impact of inward FDI on a country, it is noticeable how the fluctuating long-term investment interests in the country are significantly changed. Specifically, in 2015, re-invested profits from the inward FDI account for a 47% share. This indicates a serious interest going forward in developing business within the country, including the possibility of establishing lasting connections with local suppliers and enhancing human capital by TNCs. The sectoral distribution also undergoes changes. Prior to 2008, the primary inflow of FDI is concentrated in sectors related to financial intermediation, real estate operations, and construction—sectors that do not inherently create substantial value-added. However, during the recovery period, despite relatively low foreign investment activity, there is a positive shift in specific industries. FDI increase in medium and high-tech sectors such as IT activities, scientific endeavors, electronics, and more. The development of human capital is closely tied to the presence of TNCs engaged in high-tech activities and technology transfer. Therefore, we observe a positive trend shaping the national market in the years following the Global Economic Crisis.

Secondly, the analyses conducted at the micro level to assess absorptive capacity in Bulgaria provide grounds for making observations in support of the existence of absorptive capability necessary for effective knowledge and skill transfer from TNCs. However, we should not underestimate the fact that the Bulgarian economy is primarily composed of small and medium-sized enterprises that exhibit low innovation activity and require additional efforts for stimulation.

Thirdly, although TNCs directly employ only 5% of the country's labor force, their presence in the national market has a favorable impact on human capital development and upgrading. Analyzed statistical data confirm the hypothesis that Multinational Companies invest more significantly in local human capital through various forms of training, acquiring a broad range of knowledge, skills, and competencies. Over the periods examined (2010 and 2015), a positive trend is evident not only regarding investments in training by TNCs but also by local Bulgarian firms. This serves as a tangible example of spillover effects and a conscious priority for Bulgarian companies to intensify efforts in human capital development and upgrading. Conducting business in a highly competitive environment with the presence of TNCs creates conditions for reevaluating corporate strategies and emphasizing the need to develop competencies relevant to contemporary market conditions. Steps are also being taken to deepen collaboration between business and

academia. Increasingly, local firms, following the example of Multinational Companies, turn to universities as reliable channels for knowledge dissemination. We believe that this collaboration would have subsequent positive effects. Higher education institutions and research organizations, armed with up-to-date information about business needs, could reshape their curricula to prepare suitable candidates for the labor market. Increasingly, researchers and personnel engaged in scientific Research and Development are collaborating with businesses. In recent years, Bulgaria witnesses the establishment of cluster structures and R&D centers by TNCs in medium- and high-tech sectors, demanding a highly skilled workforce. This serves as a clear testament to the adequate (or improved) quality of local labor resources. Another indicator of human capital development and absorptive capacity lies in Bulgaria's attractiveness as a destination for the IT sector. Additionally, there is a rise in the number of companies investing in enhancing the qualifications and skills of their employees through various forms of Continuous Vocational Training. Furthermore, 60% of employment in the country is provided by businesses. Lastly, but no less important, improving the well-being of human resources is crucial. This conclusion is supported by the results obtained from the Welch and Mann-Whitney tests in econometric analysis, which are largely statistically significant. The accumulation of new knowledge and skills resulting from training investments directly correlates with higher remuneration for employees.

Despite numerous analyses and conclusions, several general theoretical questions, particularly related to Bulgaria, remain unanswered by the present dissertation. This is natural given the volume and nature of this work. The most important among them include: How does the COVID crisis and the slowdown in globalization alter the effects of FDI on human capital? To what extent are spillover effects significant in Bulgaria? How effective is the developed Factor Model in predicting the effects of FDI on human capital and formulating more efficient policies? These questions, along with others, open up a wide field for future scientific research, engaging both the doctoral candidate and other researchers interested in Bulgarian and global issues.

#### **IV. Reference to the contributions in the dissertation**

The conducted research achieves results that allow us to address the questions posed in the development. As a result, the following main theoretical and applicative contributions can be outlined:

1. Eclectic Factor Model: Developed within the framework of John Dunning's OLI Paradigm, this model clarifies the combination of assumptions determining TNCs' propensity to develop and upgrade human capital in the host country through knowledge transfer. It includes firm characteristics, host country characteristics, and internalization characteristics.

2. System of Absorptive Capacity Indicators: Created for analyzing absorptive capacity at macro and micro levels, this system can serve for periodic assessment and identification of potential "weak" socio-economic structures and processes requiring enhancement. It ensures an adequate level of absorptive capacity and maximizes the benefits from foreign investors' presence in the country.

3. An original model of interaction between TNC activity, human capital, and absorptive capacity is developed, considering all possible forms of TNC penetration. These contribution provide valuable insights into the interplay between FDI, human capital, and absorptive capacity, contributing to both theoretical understanding and practical policy formulation.

4. Through the use of descriptive statistics and modern econometric methods, a comparative analysis is conducted on the impact of TNCs and Bulgarian firms on the development and upgrading of human capital in Bulgaria. The statistical significance of the relationship between inward FDI and the level of human capital, measured by wage differences, is tested, demonstrating the positive effect of TNCs on its development and upgrading in Bulgaria.

## **V. Publications related to the dissertation paper**

### **Articles**

1. Tsoneva, S. (2021). The relation "absorptive capacity – foreign direct investment". *Izvestiya*, 65, (3), pp. 280-294, ISSN (Print): 1310-0343, ISSN (Online): 2367-6949

### **Conference reports**

1. Tsoneva, S. (2020). Assessment of Inward Foreign Direct Investment in Bulgaria After the Global Economic Crisis. *Economic Science, Education and the Real Economy: Development and Interaction in the Digital Age: Proceedings of the Jubilee International Scientific Conference*, 11-12 May 2020, University Publishing House „Science and Economics“, Vol. 1, pp. 567-578, ISBN 978-954-21-1037-8

2. Tsoneva, S. (2020). The Role of Human Capital in Value Assessing of People in the Digital Era. *Human Resource Management in the Age of Digital Challenges: Conference Proceeding of the International Scientific-Practical Conference*, 25 September 2020, University Publishing House „Science and Economics“, pp. 97-104, ISBN: 978-954-21-1051-4

## **VI. Declaration of originality**

I, the undersigned, Slavena Stefanova Tsoneva, declare that the current dissertation paper "Transnational Corporations and the Development, and Upgrading of Human Capital in Bulgaria" is a completely author's product and no external papers and publications have been used in violation of their copyright.

Varna, 2024

Signature: