

# **FIRM-LEVEL INTERNATIONALISATION AND ITS BUSINESS ENVIRONMENT**

Knowledge-based and Entrepreneurial Approach

edited by  
Nelly Daszkiewicz  
Krzysztof Wach

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# INTRODUCTION

This book is the result of the project no. StG-21310034 entitled “Patterns of Business Internationalisation in Visegrad Countries – In Search for Regional Specifics”<sup>1</sup> financed by the International Visegrad Fund (IVF) and conducted in the years 2013-2014 by five Central European universities, namely:

- **Cracow University of Economics** – Faculty of Economics and International Relations (Kraków, Poland),
- **Gdańsk University of Technology** – Faculty of Management and Economics (Gdańsk, Poland),
- **University of Economics in Prague** – Faculty of International Relations (Prague, Czech Republic),
- **University of Miskolc** – Faculty of Economics (Miskolc, Hungary), and,
- **Slovak University of Agriculture in Nitra** – Faculty of Economics and Management (Nitra, Slovakia),

and coordinated by the Cracow University of Economics and its Centre for Strategic and International Entrepreneurship as well as its Department of Entrepreneurship and Innovation.

The book includes 7 chapters and is divided into two thematic parts – business internationalisation and business environment.

The first four chapters (chapters 1-4) deal with internationalisation of firms from both theoretical and empirical perspectives.

Chapter 1, *Firm-level Internationalization from Theoretical Perspective: knowledge-based and entrepreneurial approach* (Nelly Daszkiewicz), discusses different theories of internationalisation process of firms. It highlights the role of knowledge in the firm-level internationalisation process and presents the selected theoretical proposals as well as the direction of development of theoretical perspectives.

Chapter 2, *The Significant Elements of Business Knowledge in the Internationalisation Process of the Visegrad Group* (Andrea Gubik, Zoltan Bartha), identifies the knowledge elements that are crucial in the internationalisation process of the Visegrad Group firms.

Chapter 3, *Contextual Factors of Early Internationalisation Process* (Przemysław Zbierowski), empirically examines the influence of selected contextual factors on international orientation of ventures in early stage of their activity. The author uses the Global Entrepreneurship Monitor data.

Chapter 4, *Firm Characteristics and Export Performance in Post-communist Countries* (Andrzej Cieřlik, Jan Michaćek, Tomasz Michaćek), investigates the firm-level determinants of export performance in five groups of post-communist countries: the Visegrad, Baltic, Caucasus, Eastern European and Central Asian countries.

The next three chapters (chapter 5, 6 and 7) discuss different problems concerning business environment in macro, meso and micro levels.

Chapter 5, *Knowledge as a Public Good in the Modern Economy* (Agnieszka Witoń), presents the consequences of knowledge as a public good for the creation of the

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<sup>1</sup> For details please visit: <http://www.visegrad.uek.krakow.pl> (accessed 2 November 2014).

knowledge-based economy, and tries to identify and describe the role of the state in building this economic model.

Chapter 6, *Regional Context of Corporate Growth. An Empirical Investigation among SMEs from Southern Poland* (Krzysztof Wach), verifies the existence of relations between growth and development of small and medium-sized enterprises and the particular factors of regional business environment as well as demographic parameters of entrepreneurs and their enterprises.

Chapter 7, *Localization Factors for Outsourcing and Offshoring Projects in the V4 Countries. An Attempt of Initial Investigation* (Mateusz Muchlado, Piotr Grudowski), investigates the advantages and disadvantages of locating outsourcing activities in each of the Visegrad countries.

All seven chapters reveal the Central European specifics and features of the business external environment and its internationalisation.

*Nelly Daszkiewicz*

*Krzysztof Wach*

(scientific editors of the book)

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Part 1.

## **Business Internationalisation**



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# FIRM-LEVEL INTERNATIONALISATION FROM THE THEORETICAL PERSPECTIVE: KNOWLEDGE-BASED APPROACH

Nelly Daszkiewicz

Gdańsk University of Technology, Poland

## Abstract

Nowadays, under the conditions of the knowledge-based economy and the emergence of a new paradigm of entrepreneurial economy there is no doubt that the role of knowledge is crucial for growth and development of economies and businesses. Thus, a growing number of research explore the role of knowledge in firm development which often means also its international expansion. This paper discusses different theories of internationalisation process of firms, especially SMEs. It highlights the role of knowledge in the firm-level internationalisation process. The objective of the paper is to present the role of knowledge in internationalisation process of the firm as well as the selected theoretical proposals which assume that the role of knowledge in international expansion of firms is crucial. The article first presents the selected but best known, the oldest internationalisation paradigms. Then it shows the direction of development of theoretical perspectives. Due to the multiplicity and still growing number of publications exploring the role of knowledge in firm internationalisation process, this article does not cover all of them. It ends with conclusions and points at further opportunities and directions of research.

**Key words:** internationalisation, knowledge-based models, international entrepreneurship

**JEL classification:** M16, L20

## 1.1. Introductory Remarks

There is number of definitions of internationalisation, however in this article, it is understood widely as “any economic activity undertaken by a firm abroad” (Rymarczyk, 2004, p. 19). The early internationalisation theories of businesses have initially appeared and developed within the theories of international trade and foreign direct investment (FDI). The first theories describing internationalisation process of SMEs appeared in the 1970s and since then they are continuously evolving. The early theories proposed quite simple explanations of firm internationalisation as an incremental process (eg. stage models). However, over time they evolved and became more sophisticated, holistic and integrative.

This was in response to changes in the business environment which resulted in the adaptation of firms to new conditions (Horská *et al.*, 2014). Moreover, the significance of internationalisation factors has been also changing with the shift towards the growing role of knowledge in firm international expansion. As a result, for example, the concept of born global firms (BG) appeared two decades ago. It highlights the role of knowledge in BG firm accelerated internationalisation and its faster growth as a result. Currently the number of theoretical approaches and research exploring the role of knowledge in firm internationalisation process is continuously growing.

## 1.2. Internationalisation Theory Background

The early theories of internationalisation of businesses have initially appeared within the theories of international trade (e.g. Adam Smith's *Theory of Absolute Advantage*, 1954) and foreign direct investment (FDI). Dunning Eclectic Theory (OLI Theory, 1993) seems to be the best known and most often cited position among FDI theories (Wach, 2012; Daszkiewicz & Wach, 2013). It describes how multinational enterprises (MNE) exploit ownership (O) and location (L) advantages by internalizing (I) markets.

However, the research of firm-level internationalisation as a separate field is dated back to 1950s and 1960 with its fast development in the mid-1970s (Daszkiewicz, Wach, 2012; 2013; 2014; Wach, 2014). The numerous of so called stage theories were created and developed at that time. In spite of significant differences, the stage models describe internationalisation of firms as an incremental process (e.g. Johanson, Wiedersheim, 1975; Johanson, Vahlne, 1977; Bilkey, Tesar, 1977; Cavusgil, 1980). Uppsala Model (U-Model) (Johanson, Vahlne, 1977; Johanson, Wiedersheim, 1975) is considered a pioneering one. However, due to ongoing changes in world economies and international behaviours of businesses, Johanson & Vahlne (2009) and Schweizer, Vahlne & Johanson (2010) updated their U-model four times (Wach, 2014a, p. 17). It should be noted that in both original U-model and revised U-models the authors emphasize the role of knowledge and learning in firm's internationalisation process. They claim that:

1. Firms change by learning from their experience in foreign markets.
2. Knowledge is fundamental for firm's internationalisation. Thus, learning by experience results in gradually more differentiated view of foreign markets as well as firm's capabilities (Johanson, Vahlne, 1977).
3. Relationships offer potential for learning and for building commitment. Thus, both are preconditions for internationalisation (Johanson, Vahlne, 2009).

At the turn of 1970s and 1980s a new approach to the study of internationalisation started to develop intensively i.e. *network approach*. Network theories assumed that entry into a new (foreign) market requires building networks in this market (Johanson, Mattsson, 1988; Coviello, Munro, 1999; Daszkiewicz, 2014b). Networks significantly influence firm's internationalisation processes – its pace, pattern, market selection and entry mode (Daszkiewicz, 2014b; Wach, 2014d, pp. 135-148; Wach, 2014a, pp. 22-26). Being in a network helps a firm to obtain initial credibility, lower costs and minimise risks of internationalisation (Zain, Ng, 2006; Daszkiewicz, 2014b). However, as Gorynia & Jankowska (2007) noted that network approach is characterized by the multiplicity of trends analysis – there is no one, clearly specific paradigm that would precisely define area of research.

1990s was the period of intensive development of numerous new approaches towards internationalisation of SMEs. The resource-based view (RBV) is one of the best known and strong paradigm among internationalisation theories. It assumed that firms possess

resources which enable them to achieve competitive advantage (Barney, 1991). Thus, not only the actual condition of firms but also their potential have impact on the internationalisation process. Later, the RBV has undergone some important modifications which concern especially the perception of strategic planning has significantly changed.

In recent years, the U-Model was criticized as inadequate in explaining the internationalisation of particularly high-techs and high-tech related industries. As a result, a new approach – international entrepreneurship developed (Wach, Wehrmann, 2014). It assumed that the internationalisation of a firm may be driven by entrepreneurs because of their individual characteristics (Zahra, 2005; Busenitz, Barney, 1997). Entrepreneur (a business owner), due to his rich industrial and international business experiences may invest in a foreign market. In 1994 McDougall and Oviatt proposed the INV theory (*International New Ventures*). The scholars noted that at least some SMEs are “international from inception” and they do not follow the incremental path of internationalisation (as explained in stage models). It is due to entrepreneurs who seek growth opportunities in foreign markets. They are defined “as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the scale of outputs in multiple countries” (Oviatt, McDougal, 1994, p. 49). It must be stressed that the INV theory concerned particularly high-techs and high-techs related industries which skip stages or do not have any in their internationalisation process. These firms may control assets, especially unique knowledge that create value in more than one country (Oviatt, McDougal, 1994, p. 60).

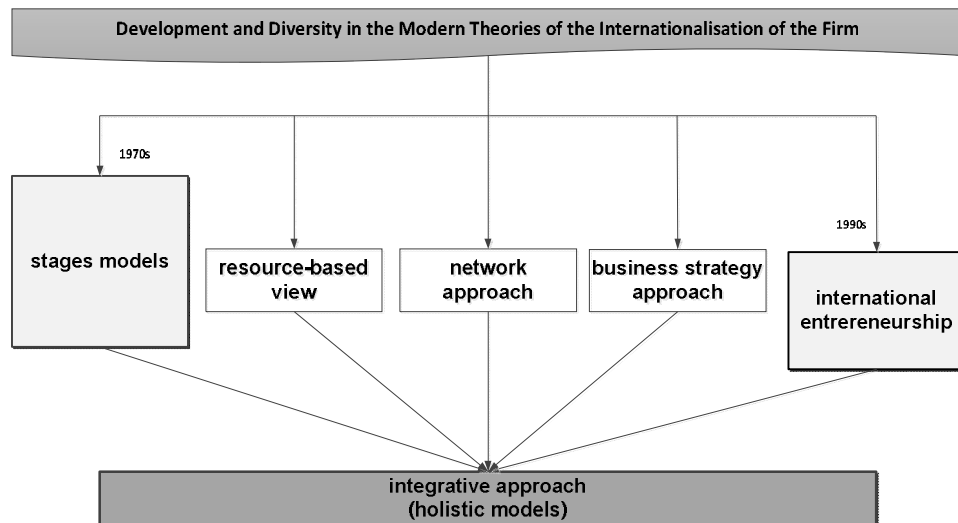
Since the INV theory was published, classification of firms into “international at inception” and “international by stage” became very popular among researchers (Daszkiewicz, 2004, 2014; Wach, 2014c; Duliniec, 2013; Przybylska, 2013; Jarosiński, 2012, 2013; Freiling, Zimmerman, 2014; Paweła, 2013). However, Wolff and Pett (2000) argued that it represents only the end points of continuum for internationalisation. According to them, there exist firms that are not international-at-founding but they are able to skip stages in their internationalisation activities. Later, their observation has received increased attention (Daszkiewicz, Wach, 2012, p. 71).

As claims Wach (2014) although there is agreement in principle on the major assumptions for systematic of the trends in the firm-level internationalisation modeling, some models can be classified in many ways, especially the holistic approaches which are based on earlier theories and models.

For instance, Daszkiewicz (2004) divides the internationalisation models of firm into 5 groups, namely: (i) stage models, (ii) resource-based view, (iii) intensions-based models, (iv) network approach and (v) other models.

In turn, Ruzzier, Hisrich and Antonic (2006) proposed the typology which divides the approaches to internationalisation of firms into 4 groups such as: (i) stage models, (ii) network approach, (iii) resource-based view and (iv) international entrepreneurship theory.

However the most extensive and complex typology was proposed by Wach (2012). He classified the internationalisation theories of firm into 7 groups, namely: (i) stage models, (ii) resources-based view, (iii) networking approach, (iv) international entrepreneurship, (v) managerial and strategic approach, (vi) integrative approach (protoholistic approach), (vii) alternative concepts (fig. 1.1).



**Fig. 1.1.** Main approaches to firm-level internationalisation according to Wach  
*Source:* (Wach, 2012, p. 99; quoted in Wach & Wehrman, 2014, p. 11)

### 1.3. The Role of Knowledge in Internationalisation Process of a Firm

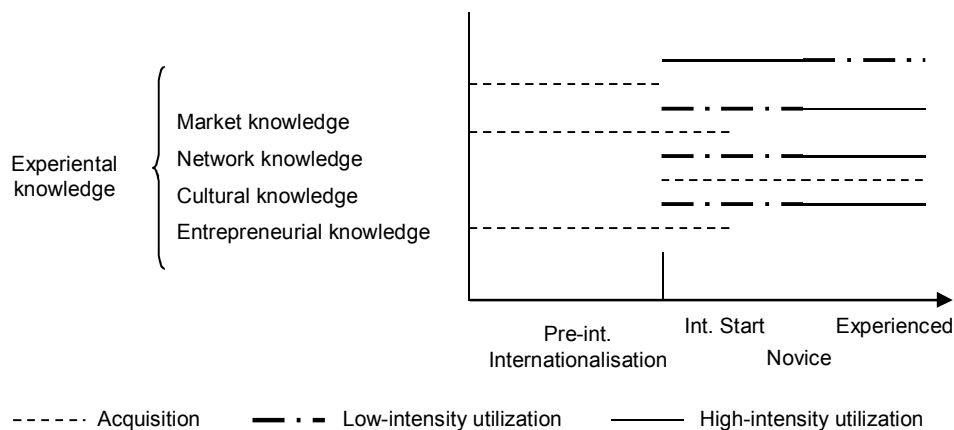
As a preliminary point it should be clarified that the knowledge-base view of the firm is considered as an extension of the resource-based view which was originated from the work of Penrose (1966) about the growth of the firm. She focused on the firm internal resources, especially the productive services available to a firm from its own experienced management. Later, Barney (1991) focused on heterogeneity of resources of firms. He argued that a firm possess valuable and rare resources which enable it to achieve competitive advantage. The key assumptions of the RBV theory are (i) the identity of firm's potential key resources, (ii) evaluation if these resources fulfil so called VRIN criteria: valuable, rare, inimitable and non-substitutable (Barney, 1991; Conner, Prahalad, 1996). However, VRIN criteria are not necessary for a sustained competitive advantage.

Since Barney (1991) proposed his RBV approach, in the 1990s, the knowledge-based view of the firm was intensively developed. It assumed that knowledge constitutes the most critical, intangible resource for existence and development of firms, especially SMEs which have relatively less resources than large firms. Thus, insufficient tangible resources should be compensated by intangible resources, that is knowledge. Moreover, knowledge is the core of human competences and thus internationalisation of firms is a consequence of knowledge.

Mejri and Unemoto (2010) referred to resource-based view developed by Barney (1991) and proposed a model that includes so called knowledge factors i.e. market knowledge, experiential knowledge composed of network knowledge, cultural knowledge, and entrepreneurial knowledge (Daszkiewicz, Wach, 2012). To conclude, the knowledge-based model is a step added to stage models and it perceives internationalisation from a knowledge perspective.

The model consists of three phases during which four kinds of knowledge are involved (fig. 1.2). These phases are the pre-internationalisation, the novice-internationalisation

phase, and the experienced internationalising phase. Experiential knowledge is perceived in the model as the essential for firm internationalisation. It includes network knowledge, cultural knowledge and entrepreneurial knowledge. The acquisition of experiential knowledge starts in pre-internationalisation phase and continues when the firm starts its internationalisation.



**Fig. 1.2.** A knowledge-based model of SME internationalisation according to Mejri and Umemoto

*Source:* (Mejri, Umemoto, 2010, p. 162)

Market knowledge is usually acquired by the firm in the pre-internationalisation phase and it is critical for start and its first phase of firm's internationalisation process. The intensity of use of market knowledge decreases as the firm progress in the internationalisation.

Network knowledge involves both social and business networks. Network knowledge acquisition starts in the pre-internationalisation stage and continues during the novice internationalization phase. In spite network knowledge is used in different phases of internationalization, the degree of its use differs in particular stages.

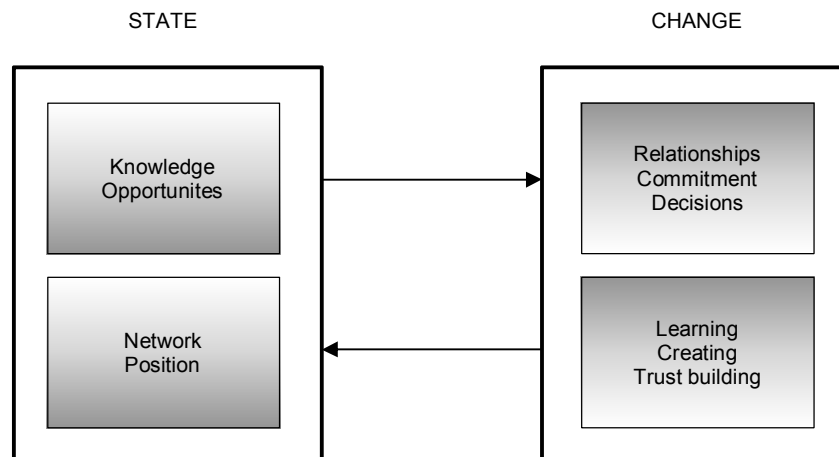
Cultural knowledge of a foreign market refers to the knowledge of values, manners and ways of thinking of people in that market. The acquisition of cultural knowledge starts with the beginning of internationalisation. The firm gradually knows how to behave from a cultural perspective, with partners in the foreign markets. The utilization of this knowledge increases together with its acquiring. During the novice-internationalisation stage, there is a low intensity of utilization of cultural knowledge. Later, it may grow to high intensity when a firm becomes more experienced in a foreign market. The authors of knowledge-base model accept that psychics distance is important when choosing a foreign country to enter in.

Entrepreneurial knowledge refers to knowledge of the existence of opportunities. The opportunity recognition ability and its exploitation are acquired from the start of the firm. During the novice-internationalisation phase, the firm gradually applies the acquired opportunity recognition and exploitation ability.

Also the Uppsala internationalisation process model (1977) was revised by its authors. Johanson and Vahlne (2009) developed different aspects influencing internationalisation process of the firm. Generally, they emphasized the role business of networks of relationships of firms. They claimed that relationships offer potential for learning and for building

commitment which are preconditions for internationalisation. The involvement of firms in a number of business relationships may create new knowledge through exchanges in the network of interconnected relationships. Knowledge creation is the result of confrontation between producer of knowledge and user of knowledge. Thus a network of business relationships provides a firm with an extended knowledge base. In their original model (1977), Johanson and Vahlne assumed that knowledge is crucial for firm's internationalisation. However, in the new, revised model, they argue that the general internationalisation knowledge including foreign market entry, mode-specific, core business, alliance, acquisition and other specific kinds of internationalisation experience is more important than they earlier assumed. As a result, the researchers added to their revised model the concept of *relationship-specific knowledge*, which is developed through integration between two partners, and that includes knowledge about each other's heterogeneous resources and capabilities.

The 2009 revised model (as the old model from 1977) consists of the two sets of variables: stable variables and change variables. The model emphasizes dynamic, cumulative process of learning and trust and commitment building. An increased level of knowledge may lead to trust and commitment building (fig. 1.3). The authors also added to the new model a new variable "recognition of opportunities" to the "knowledge" concept. They consider opportunities the most important element of the body of knowledge. Other components of knowledge include needs, capabilities, strategies and networks related firms in their institutional contexts.



**Fig. 1.3.** The Uppsala internationalization process model revised: from liability of foreignness to liability of outsidership

Source: (Johanson, Vahlne, 2009, p. 19)

Another research approach which highlights the role of knowledge in a firm internationalisation indicates the so called *born globals* (BGs). Gabrielsson et al (2008) claim that there is lack of conceptualization regarding born globals. However they defined a BG firm as *“one having products with global market potential. Moreover, it can combine this potential with an entrepreneurial capability to seek methods of accelerated internationalisation. In addition it must have a global vision at inception. It must also carry the risk of a small*

*start-up company; it cannot be a spin-off of a larger firm*" (Gabrielsson et al., 2008, p. 385). The BGs usually offer unique products that may have a unique technology, know-how, superior design, production methods or other highly specialised competence (Gabrielsson, Kirpalani, 2004; Gabrielsson et al., 2008). The scholars claim that BG's uniqueness is rooted in a knowledge base and a related learning process. As it has been already mentioned, the theoretical concepts of BGs are mainly derived from the theory of international entrepreneurship (IE). As Wach (2012, pp. 118-120) argues *born global* models are usually distinguished as a separate group within the conceptual models of immediate internationalisation (international entrepreneurship).

IE theory identifies four research fields explaining the internationalisation of enterprises: (I) international new ventures (INV), (II) models of immediate internationalisation (BG), (III) models of accelerated internationalisation and (IV) general models of international entrepreneurship (IE) (Zahra, 2005). Currently, international entrepreneurship is developing on the border of entrepreneurship theory, however it is perceived as a single theory by a growing number of researchers (Mtigwe, 2006; Gubik, Wach, 2014). It specifically focuses on the role of the entrepreneur as a key factor in the internationalisation process of the firm (Wach, 2014c).

Also the integrative approach towards internationalisation proposed by Bell et al. (2004) perceives the knowledge intensity as a key source of firm's competitive advantage. Within this approach authors distinguish three groups of firms which differ in the internationalisation behaviour, especially motivation, objective, pace, pattern, entry modes and used strategies. These are "traditional", "born global", and "born-again global" firms. "Traditional" firms usually follow incremental approach to internationalisation, hence some quite sophisticated processes may be involved. "Born global firms" have a high added value of knowledge embedded in product and/or process. However they can be further classified as "knowledge-intensive" and "knowledge-based". The main difference between them is that the "knowledge-based" firms (e.g. software firms, internet providers) exist because of emergence of new technologies (e.g. ICTs, biotechnology) whereas, "knowledge-intensive" firms use knowledge to develop their products, improve productivity, introduce new methods of production and/or improve service delivery (the users of computer aided design (CAD), computer aided manufacturing (CAM) or high-tech fabrics in clothing industry). Moreover "knowledge-based" firms usually internationalise very rapidly. Nevertheless, in both categories, the knowledge-base is a core competence and a source of competitive advantage.

In turn, "born-again global" manufacturing firms function rather in traditional than high-tech industries. However their knowledge may increase with product and/or process development or sometimes through takeover of another firm and as a result may accelerate internationalisation pace.

## 1.4. Conclusions

The knowledge-base view of the firm internationalisation is regarded as an extension of the resource-based view originated by Penrose (1966) about the growth of the firm. Later, Barney (1991) focused on heterogeneity of valuable and rare resources of firm which enable it to achieve competitive advantage. In the 1990s, the knowledge-based view of the firm was intensively developed. It was based on the assumption that knowledge constitutes the most critical, intangible resource for existence and development of firms. Moreover, knowledge is perceived as the core of human competences and thus internationalisation of

firms is a consequence of knowledge. Among numerous approaches which highlights the role of knowledge in firm internationalisation the BGs concept that derives from the theory of international entrepreneurship seems to be the best developed. In spite that there is lack of conceptualization regarding born globals there is a consensus that their uniqueness is rooted in a knowledge.

Concluding, in recent years knowledge seems to be a key factor influencing and the process of firm internationalisation. It is also a key variable while modelling the process of internationalisation. As claims Wach (2014b, p. 155-156), knowledge-based models and international entrepreneurship models will dominate in coming years as a major issue of research on the internationalisation of the firm.

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# THE SIGNIFICANT ELEMENTS OF BUSINESS KNOWLEDGE IN THE INTERNATIONALISATION PROCESS OF THE VISEGRAD GROUP CORPORATIONS

Andrea S. Gubik & Zoltán Bartha  
University of Miskolc, Hungary

## Abstract

The aim of this chapter is to identify the knowledge elements that are crucial in the internationalisation process of the Visegrad Group firms. It uses a two-dimensional model of business knowledge, which separates business knowledge along two dimensions: the tacit or explicit nature; and the codified or uncoded one. This model tells us that tacit and codified knowledge is the most difficult to transfer, while the explicit-uncoded part is the easiest. The five types of business knowledge were measured with a questionnaire conducted among 1124 firms from the V4 countries, including 240 Polish, 597 Czech, 113 Hungarian and 144 Slovak firms. It was found that knowledge is significantly related to the internationalisation process. The most important knowledge elements in both the decision of going international, and the intensity of internationalisation are the tacit and codified parts.

**Key words:** Internationalisation, business knowledge, Visegrad countries

**JEL classification:** M16, L20, L21

## 2.1. Introduction

Government support to smaller or larger local corporations is a standard structural policy instrument in the Visegrad countries. The support can come as a direct subsidy (for creating extra jobs, engaging in innovation, exporting goods etc.), or it can come in some indirect form as well (providing key infrastructure, information, consultancy services etc.). Apart from the fact that standard economic models discourage from the use of any form of government subsidy (with the small exception of market failure remedies) as they claim that such transfers inevitably distort efficiency, deciding on the correct form of government support is a major economic policy dilemma. The dilemma is related to the question of whether it is resources (capital, energy), infrastructure (financial, transportation,

telecommunication) or information and knowledge (qualified labour, market information, experience) that are in the scarcest supply.

The OECD published its report on knowledge-based economies in 1996, stating: “The OECD members’ economy is based more and more on knowledge and information. It is widely accepted that only through knowledge can productivity and economic growth be increased, and as a result of it, information, technology and learning play a central role in economic performance” (OECD, 1996, p. 3). The main message put forward by the report almost 20 years ago is now a reality. Knowledge has become the key success factor on the micro and the macro level as well. Knowledge is also very important in the internationalisation process of the firms. It is therefore essential to identify which kind of knowledge is most needed in an internationalised firm.

For the reasons mentioned above this chapter focuses on business knowledge, and its role in the internationalisation process of the V4 corporations. Using a questionnaire conducted among 1124 firms from V4 countries, obtained through the support of IVF Standard Grant no. 21310034 we identify which knowledge elements are most closely related to the international activities of the surveyed firms. The pattern uncovered can be used to determine the areas which government sponsored consultancy services should concentrate at. As, depending on the stickiness, business knowledge can be rather easy but also extremely difficult to transfer, our research can enlighten why some consultancy efforts seem to lack efficiency.

The chapter is made up of four sections. Theories on the connection between internationalisation and knowledge are presented first. The literature review is followed by the introduction of a model of business knowledge, which shows which parts of knowledge are easy, and which ones are difficult to transfer. An analysis of the survey data follows in the next section, pointing out the key correlation relationships among business knowledge parts and international activities. Finally, the conclusion sections points out the main lessons to be learnt from the analysis.

The research presented in this chapter is a direct follow-up to the analysis conducted on Hungarian survey data in Bartha-Gubik, 2014. The current results are more reliable, compared to the previous paper, because of the much larger sample. Although the companies in the current, extended sample come from different countries, the V4 share a common historical, cultural and geopolitical background, which allows us to aggregate the experience coming from Czech, Hungarian, Polish and Slovak firms. As a result, the recommendations put forward are better based as well.

## 2.2. Literature Review

### **The Role of Knowledge in Internationalisation**

Besides geographic distance other dimensions like cultural differences, language barriers, differences in educational and political systems (Johanson, Wiedersheim, 2006) has to be overcome during the internationalisation process. Different internationalisation theories emphasise different knowledge elements in the process, but there’s no consensus which of them are crucial.

One group of models emphasize the gradualism in the internationalisation process. This perspective is included in the Uppsala model (Johanson, Vahlne, 1977, 1990) according to which the engagement in international activities evolves gradually. In the first stage, when a company has insufficient knowledge of the market and the partners operating in it, it chooses a simple form of appearance in the market (for example, export). Later, due to its

accumulated experience, the company transforms in a more complex form (for example, sets up a subsidiary).

In this model knowledge is based on previous experience, obtaining it in a learning-by-doing process. As a result this knowledge is embedded in individuals. According to the model as the employees' knowledge increases, their international involvement of the company increases as well. Knowledge can be embedded not only in individuals, but also in teams and company organisations. Organizational learning is viewed as routine-based, history-dependent, and target-oriented (March, Levitt, 1988).

The export development models, such as the Reid export behaviour model (Reid, 1981), also emphasize the gradual character of the company's internationalisation process. However, they primarily analyse decision-making processes in terms of export activities and main factors related to this. This model pays far more attention to individual characteristics and how these influence export behaviour.

In the 1990s a new group of companies emerged, which rapidly broke into international markets (born-global enterprises). Their common characteristics are that the entrepreneur has a strong international entrepreneurial orientation, he is proactive and aggressive during the internationalisation (Cavusgil, Knight, 2009).

There is a general consensus that apart from personal experience and professional knowledge of company managers, social and economic networks created around companies also play a key role in decision-making processes. Network theory (Johanson, Mattsson, 1987) highlights the firm's business context as a crucial factor in companies operation. It emphasizes the role of long term relationships and the role of the individual's personal networks in firms' successful operation.

See Wach (2014a) for further details on the topic.

### **Knowledge typologies, the relevant knowledge for businesses**

In order to set up a model of business knowledge that can be used to explain the internationalisation process, we need to distinguish between relevant and irrelevant elements of knowledge. During the literature discussion we follow the logic of Bartha, 2011.

'We are drowning in information, but starved for knowledge' – wrote John Naisbitt in his famous book, *Megatrends*, written in 1982. The dual nature of knowledge and information is clearly shown by this quote, and this duality affects the transferability of knowledge quite significantly. Statistical data, for example, are quite easy to transfer. It can be made available online, in easy to process format, but in order to make profitable decisions based on it, one has to be able to understand the pattern behind raw data, which can be rather difficult and time consuming. On the other hand, if one possesses adequate data processing skills that make it possible to crunch big chunks of data, the previous problem can be solved within hours, however if that knowledge is not available inside the company, the transfer (learning) can take years. The tacit or explicit nature of knowledge is one dimension along which different elements of it can be sorted.

Some elements of knowledge may only be valuable within a certain firm or industry (e.g. experience on whom you have to contact to successfully push through a cost cutting plan; who are the most valuable partners in a given sector). Others can be widely used across many firms and industries (e.g. knowledge on how to avoid taxes through offshoring). The codified/uncodified nature of knowledge is the other dimension that greatly influences the success rate of knowledge transfers. Our model incorporates these two dimensions into the analysis.

Polanyi (1966) was the first one to distinguish tacit and explicit knowledge. Knowledge can be publicly available and private at the same time. It is this duality of

knowledge that is reflected in the different categories of Polanyi. A smaller part of our knowledge is public and for that reason explicit, consisting of factual knowledge and knowledge of rules and regulations. Tacit knowledge on the other hand forms the basis of all our explicit one, it can be regarded as tool that helps us in acquiring and creating new knowledge. Usually we would not even call it knowledge, and use expressions like intuition, logic, associative skills, experience, traditions or apprehension instead. These are the skills that are used to identify and understand new knowledge, and help us integrating into the community.

One of the first attempts at the classification of business knowledge (knowledge relevant for companies) was done by Lundvall (Lundvall, Johnson, 1994). He set up four categories:

1. Know what: it basically is equal to information. It comprises of knowledge that is easily recorded and stored in forms of bits.
2. Know why: includes the knowledge of scientific rules.
3. Know how: it comprises skills and experiences that help the solving of certain problems. Know how usually is acquired when doing things. Because of that we tend to think that know how is rather a practical than a theoretical category, but this is far from the truth. We not only need know how to carry out practical tasks, but theoreticians also heavily rely on it. It was Polanyi (1966) who pointed out that the mind schemes used to help in understanding complicated situations, are key to theoreticians as well.
4. Know who: consists of information and experience about who knows things about certain problems. As organisations become more and more complicated, coordination becomes more and more important. When we have to coordinate in a large organisation, know who is of key importance.

This classification is quite similar to Polanyi's. The first two, know what and know why can be called explicit knowledge, while the second two, know how and know who are tacit knowledge.

The market value and the book value of public companies often is very different, with the market value being a lot higher than the book value. It was pointed out long ago that the difference is largely thanks to the accumulation of intangible assets. The intangible part is called goodwill, the intellectual value of business. Opinions differ on what exact types of intangible assets does goodwill comprise of. Sveiby (1997) attempts to detect the intangible assets of the company, and distinguishes among three types of so called invisible assets: external structure, internal structure and competence.

Sveiby's classification was driven by the will to separate intangible assets linked to individuals from the ones linked to the organisation. Personal knowledge is shown by the competencies of the employees, structural knowledge on the other hand by the inside and outside structure. The competencies of the employees mean the ability of employees to create physical and intellectual value. Into the inside structure category fall the patents, theories, models, IT and administration systems either created by the company or purchased by it, and also the corporate culture, and the organisational atmosphere. All the links formed with clients and sellers, are part of the outside structure, and also the signs that help distinguishing the company and its products from the competitors: trade marks and corporate image.

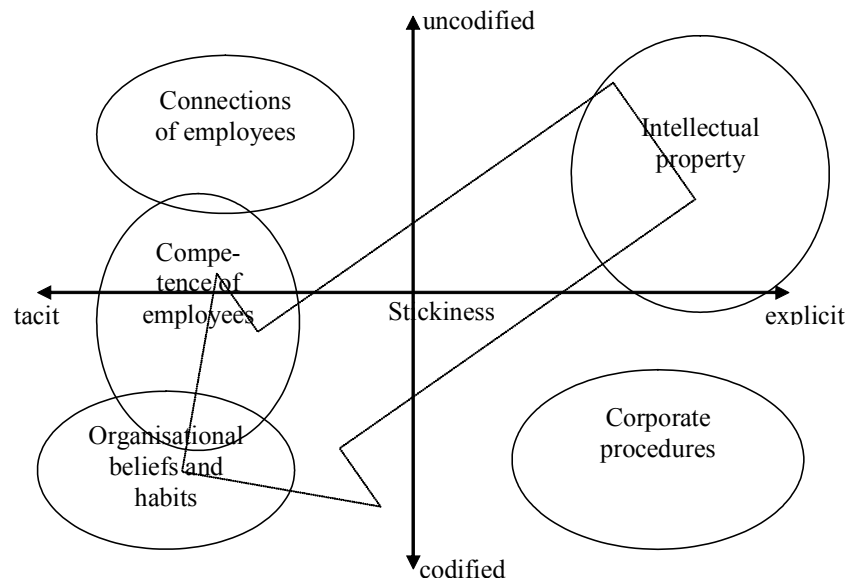
The idea behind Sveiby's three categories was used to formulate our own model, however the structure had to be rearranged and complemented with another dimension (complexity or the specific nature of knowledge) to better suit the purposes of our analysis. Specific nature means the rate at which the knowledge is linked to the organisation, and we consider a certain body of business knowledge more and more specific if it is linked more and more

to the inside systems of the organisation. Specific business knowledge is deeply coded in the routines of the organisation, and without knowing these routines it is impossible to interpret it. We can also distinguish between specific knowledge coded into employees (Starbuck, 1992) and organisational routines (March, Levitt, 1988). While in case of availability we have explicit and tacit on the two ends of the scale, in case of specific nature we can talk about codified and non-codified knowledge. The latter is also in line with Kuwada's typology of corporate strategic knowledge (Kuwada, Asaba, 1989), separating corporate level knowledge from industry level knowledge.

### 2.3. The Dual Knowledge Model

We use the dual knowledge model to analyse the connection between internationalisation and business knowledge. It was first suggested in 2006 (Bartha, 2006), and made available in English in 2011. Most of this section follows the ideas put forward in Bartha, 2011. The dual typology makes it possible to separate individual-bound knowledge from explicit one, and also corporate-bound knowledge from more general one, that can be easily interpreted in all circumstances. So the specific and tacit part of business knowledge is very sticky, it is difficult to copy or transfer, while the explicit-non-specific part of business knowledge can get easily out of control.

We now proceed by discussing all five elements in Figure 2.1 one by one, and we also list the questions posed in our survey that may be used as a proxy to measure them.



**Fig. 2.1.** The dual or two-dimensional knowledge model

Source: (Bartha, 2011, p. 4.4)

**Competence of Employees**

The first category of Sveiby, the competency of employees is directly transferred to our model. But we will not only include the competency of employees into this category, but also those of the entrepreneur or owner-manager. This first group of business knowledge therefore reflects the ability of people to create new physical or intellectual value through interactions. What abilities are we talking about? The know what and know why of all the employees, the experience and logical models applied by them.

While the competency of employees is evidently tacit, the specific nature of it is unclear. Some elements are non-specific, like know what or know why. Other elements however are highly codified, they cannot be learnt in school (unlike the previous, non-specific parts), and can only be acquired and increased after joining the company.

**Organisational Beliefs and Habits**

The competency of employees is a unanimous category because the organisational beliefs and habits integrate the employees working on the managerial level with the ones working lower down the organisational hierarchy. These beliefs and habits are integrated into the minds of the employees, and so they contribute to the efficient cooperation. The organisational beliefs and habits form the common knowledge of all of the employees, so they are the common knowledge of the whole organisation. As a result they are tacit and specific in nature. They can only be learnt after joining the organisation, and when an employee changes a job, loses this part of his business knowledge.

**Connections of Employees**

The cooperation among parties taking part in the creation and diffusion of knowledge is crucial for success. Those who have a lot of friends, and know a lot of people who are willing to help them, can learn faster, and so they can solve problems at a quicker pace. That is why the know who of individuals is part of business knowledge, and it will be called the connections of employees. The basis of the connections of employees is trust, the belief in the fact that the help given will result in help received when needed. The trust is linked to persons, so it is tacit, but it is mostly unrelated to organisations, so it is non-specific. Its value is not decreased if someone leaves an organisation, and is not necessarily increased when joining a new firm.

**Corporate Procedures**

Most of the explicit knowledge that is possessed by the company at a given time was created by the tacit knowledge of the company. A smaller part comes for procurements, or some other forms of non-commercial transfer. Obviously there are some companies which get most of their explicit knowledge from transfers (like franchise firms, for example), but they cannot be called typical for an average company. The explicit knowledge base of the enterprise can be divided into two main categories. The factor of division is whether the explicit knowledge can be patented or not, more precisely whether there is any reason to patent the knowledge. Patented explicit business knowledge can be regarded as a product as well, the commercial transfer of it is more or less possible. Those elements of business knowledge that cannot be patented (or for some practical reasons there is not much point in patenting them) on the other hand, embody the most quickly evaporating resources of the company. As they were already recorded, there are low cognitive barriers during the learning process, so the competitors can copy them with relative ease. These unpatented explicit elements of business knowledge are called corporate procedures.

Despite the above statements corporate procedures have elements that are relatively difficult to copy. The reason for that is the fact that many of these procedures are highly

codified. Many elements of the corporate procedures are only efficient if some other conditions also apply, like a certain type of corporate culture, organisational hierarchy etc. These bodies of knowledge are not patented, still, the fact that they are hard coded into the organisation, makes it difficult for other companies to mimic and copy them.

#### **Intellectual Property**

All other parts of explicit knowledge that are patented fall into the category of intellectual property. These bodies of business knowledge are very general, and the least coded into the organisational specifications. The two main subcategories here are patents coding technological instructions and copyrights protecting the intellectual property of individuals. Patents usually represent a high value for corporations, copyrights on the other hand only if the copyrighted material is relevant to the main profile of the company.

### **2.4. Material and methods**

The chapter presents the results of the research project no. StG-21310034 (Patterns of Business Internationalization in Visegrad Countries – In Search for Regional Specifics) financed by the International Visegrad Fund in the years 2013-2014. The data was obtained from a survey (an e-mail or a telephone conversation request followed by an online password protected questionnaire) conducted among 1124 firms from V4 countries, including 270 Polish firms, 597 Czech firms, 113 Hungarian firms and 144 Slovak firms (Gubik, Karajz, 2014; Wach, 2014b; Daszkiewicz, Wach, 2014; Duréndez, Wach, 2014; Gubik, Wach, 2014).

The sample does not represent the Visegrad Group companies since this was not the purpose of the data collection. A sample with the same ratio of different company size groups would have encompassed mainly micro-sized enterprises, which were less active internationally and would have been less suitable for achieving the goals of the research. The purpose of this survey was to include an approximately similar amount of companies of different sizes in the research, that's why large and internationally active companies are over-represented in the sample. When evaluating the results of this paper this fact has to be considered because it may affect the generalizability and applicability of the results. Company size is especially important, because the larger the firm, the higher the chance that it uses some sort of business information system (Sasvari, 2012), and such systems can form the backbone of the corporate-level business knowledge.

#### **Sample characteristics**

As for company size, approximately 24.5% of companies were micro-sized enterprises, 42.1% were small-sized enterprises, 21% were middle-sized companies and 12.5% were large companies. Most companies were founded after 1990, less than 10.8% had a longer lifespan than 25 years. Only 47.2% of companies reported that the business was a family business. According to our definition they are firms that are solely (or dominantly) owned by the same family, employ family members or are active in supporting the business processes of the family members. In our database 684 (61%) of companies are owned by domestic investors and 131 (11.7%) of companies are in foreign ownership with 100% share.

As for the business activities of the surveyed companies, the ratio of industrial companies are 39.6%, 40.2% are service providers, 16.5% are trade companies and 3.5% are involved in agricultural activities. Within the industrial firms, construction and manufacturing were the most often mentioned economic activities. Besides them companies with professional,

scientific and technical activities and information and communication technology firms are also above the average.

#### Questions used to assess the business knowledge of firms

The proxy variables used to measure the five elements of business knowledge come from the IVF survey conducted during 2014. Some of these knowledge elements will only be measured by one variable, while a combination of two or more variables is used to operationalize others. Table 2.1 summarises the proxies of our analysis.

In case of the competence of employees we rely on the answers given to the following three questions:

1. Evaluate the internal resources of your firm for the internationalization process, please. Human resources for internationalisation (e.g. staff members fluent in foreign languages, experienced with foreign markets and different cultures).
2. Evaluate the attitude of the owner/entrepreneur/manager of your firm for the internationalisation process, please. Experience on international markets.
3. Evaluate the attitude of the owner/entrepreneur/manager of your firm for the internationalisation process, please. Professional business experience in general.

**Table 2.1.**

Proxies used to measure the five elements of business knowledge

Business knowledge element	Proxy	Measurement method
Competence of employees	1. Human resources for internationalization 2. Experience on international markets 3. Professional business experience in general	1-5 Likert scale
Organisational beliefs and habits	1. Motivation to go international 2. Cosmopolitanism and international openness	1-5 Likert scale
Connections of employees	Cooperation methods	Multiple choice question
Corporate procedures	1. Planned strategy 2. Knowledge on international markets	Multiple choice question 1-5 Likert scale
Intellectual property	Innovations implemented	Multiple choice question

*Source:* own elaboration

Organisational beliefs and habits are measured using the answers given to questions:

1. Evaluate the attitude of the owner/entrepreneur/manager of your firm for the internationalisation process, please. Motivation to go international
2. Evaluate the attitude of the owner/entrepreneur/manager of your firm for the internationalisation process, please. Cosmopolitanism and international openness.

The following question measured the connections of employees:

While going international, do you operate in any formal or at least informal networks? (we do not cooperate in any international and/or national networks for internationalisation / we operate in at least one informal network, which helps us in the internationalisation process / we operate in at least one formal network, which helps us in the internationalisation process).

For the measurement of corporate procedures two questions were used:

1. Do you have a planned strategy for internationalisation of your firm? (no / partially, but the strategy is not formalised / yes, we have the international strategy).
2. Evaluate the attitude of the owner/entrepreneur/manager of your firm for the internationalisation process, please. Knowledge on international markets.  
Finally, the intellectual property of firms was evaluated with this question:  
Has your firms implemented any innovation for the last 3 years (yes/no)? If yes, what type of innovation was it and what was the scope of innovation?

### **Hypotheses**

Based on the literature review, and the results of our previous study on the topic (Bartha-Gubik, 2014) three hypotheses were formulated. We assume that the most difficult decision in the internationalisation process is made in the beginning, when a firm first decides on venturing to foreign markets. The attitude of the employees and the corporate culture may strongly influence this first decision.

Knowledge plays a key role in the internationalisation process of the firms.

Among the different types of knowledge that a firm may possess, the codified and tacit parts are the more important ones when the internationalisation decision is made.

Among the different types of knowledge that a firm may possess, the uncoded and explicit parts are the more important ones in the internationalisation intensity of the firm.

## **2.5. Results and Discussion**

### **Appearance in International Markets**

The relationship between each individual proxy variable and the international activity of firms was tested. The question related to measuring the international appearance was the following: Does your firm run any international activities, at least importing from other countries? Table 2.2 shows the result of the analysis. The results of the survey indicate that the decision of the firms about internationalisation depends on all the knowledge elements analysed. The strength of the relationships, however, is not the same. The two elements with the strongest influence are: competence of employees, and organisational beliefs and habits. Namely cosmopolitism and international openness has a Cramer  $V=0.409$ , and in case of the motivation to go international the Cramer  $V=0.508$ ; the same indicator for the experience on international markets is 0.448.

The professional business experience in general (competence of employees), and the implemented innovation (intellectual property) variables are only weakly correlated with internationalisation; while the knowledge on international markets (corporate procedures) is moderately correlated. The variables measuring the connections of employees and partly the corporate procedures cannot be computed here.

The most important knowledge elements are the more embedded parts (codified and tacit), which are difficult to transfer. Internationalisation therefore is rather difficult to influence, because the key knowledge parts can hardly be changed from the outside. As the most commonly used methods of support services are concentrated on giving factual information to the firms, such methods of support are unlikely to have a considerably impact on the decision. The sample data makes it very clear that the individual knowledge element variables are not only correlated with internationalisation, but they are also correlated with each other (see Table 2.3).

**Table 2.2.**

## Decisive factors of going international

Business knowledge element	Proxy	Cramer V	Sig.
Competence of employees	Human resources for internationalization	0.350	0.000
	Experience on international markets	0.448	0.000
	Professional business experience in general	0.256	0.000
Organisational beliefs and habits	Motivation to go international	0.508	0.000
	Cosmopolitism and international openness	0.409	0.000
Connections of employees	While going international, do you operate in any formal or at least informal networks?	---	---
Corporate procedures	Do you have a planned strategy for internationalization of your firm?	---	---
	Knowledge on international markets	0.373	0.000
Intellectual property	Has your firms implemented any innovation for the last 3 years?	0.219	0.000

--- No statistics are computed because Does your firm run any international activities, at least importing from other countries? is a constant

Source: own elaboration based on the V4 survey results of 2014 (N=1124)

**Table 2.3.**

## Firm knowledge and its internationalisation

Criteria	1	2	3	4	5	6	7	8	10
1 Human resources for internationalization	1								
2 Experience on international markets	,545 (.000)	1							
3 Professional business experience in general	,344 (.000)	,531 (.000)	1						
4 Motivation to go international	,558 (.000)	,610 (.000)	,418 (.000)	1					
5 Cosmopolitism and international openness	,497 (.000)	,592 (.000)	,465 (.000)	,698 (.000)	1				
6 While going int., do you operate in any formal or at least informal networks?*	,113 (.000)	,134 (.000)	,126 (.001)	,120 (.003)	,105 (.024)	1			
7 Do you have a planned strategy for int. of your firm?*	,303 (.000)	,315 (.000)	,212 (.000)	,310 (.000)	,267 (.000)	,182 (.000)	1		
8 Knowledge on international markets	,516 (.000)	,805 (.000)	,538 (.000)	,600 (.000)	,622 (.000)	,130 (.001)	,326 (.000)	1	
9 Has your firms implemented any innovation for the last 3 years?*	,282 (.000)	,216 (.000)	,203 (.000)	,256 (.000)	,232 (.000)	,127 (.001)	,251 (.000)	,217 (.000)	1

\*Cramer V is calculated

Source: own elaboration

This intercorrelation among the variables probably comes from the fact that the different knowledge elements together form the knowledge base of the firm, where they complement

and also substitute each other. The intercorrelation might also mean that basic information provided by support institutions can still have an impact on the internationalisation decision, as it spills over to the more complex parts of the knowledge base. Our database is not suited to test such speculative propositions; qualitative research (e.g. interviews, case studies) would be needed to get a clearer picture.

### Intensity of Internationalisation

A considerable proportion of companies are engaged in more than one international activity. An intensity indicator has been elaborated to measure internationalisation (Gubik, Karajz, 2014). It indicates how many possible foreign market entry modes a company has utilised during its international activities. The indicator ranges from 0 to 1, where 0 means that the company does not conduct activities in international markets and 1 means engagement in all activity types (import, direct export, indirect export, cooperative export, contractual modes and investment).

There are divergences in terms of size and activity areas of the companies. It is obvious, that the more resources are available, the more intensive internationalisation is. Beyond that, growing size of companies is closely correlated to the increase in motivation, knowledge and experience related to internationalisation. Beside the physical resources the importance of human resources like the employees' appropriate foreign language knowledge and experience in foreign market (Hitt et al., 2006) and experiential knowledge (Barkema et. al., 1996; Erramilli, 1991) is also indisputable.

Table 2.4 Shows the relationship between each individual proxy variable and the intensity of internationalisation.

**Table 2.4.**

Decisive factors of intensity

Category	Criterion	Spearman's Rho <sup>2</sup>	Sig.
Competence of employees	Human resources for internationalization	.322	.000
	Experience on international markets	.394	.000
	Professional business experience in general	.169	.000
Organisational beliefs and habits	Motivation to go international	.401	.000
	Cosmopolitanism and international openness	.321	.000
Connections of employees	While going international, do you operate in any formal or at least informal networks?	.100*	.016
Corporate procedures	Knowledge of international markets	.334	.000
	Do you have a planned strategy for internationalization of your firm?	.261*	.000
Intellectual property	Has your firms implemented any innovation for the last 3 years?	.225*	.000

\*In case of these variables Eta was calculated

Source: own elaboration based on the V4 survey results of 2014 ( $n = 1124$ )

The responses showed that all variables correlate with the intensity indicator. Although the decision on how to go international (intensity indicator) is a different one from the decision on whether or not going international at all, the results in Table 2.4 have a very

<sup>2</sup> As the precise measurement of these variables is not possible, an attitude scale was used, and so only rank correlation can be used (Varga, Szilagy, 2011).

similar pattern to Table 2.2. Here again, the relationship between the variables of organisational beliefs and habits knowledge element (motivation to go international, cosmopolitanism and international openness) was the strongest. The competence of employees and the corporate procedure are moderately correlated with the intensity indicator, and there is a very weak (but significant) stochastic relationship in case of the connection of employees.

As for intensity, both financial recourses and attitudes toward internationalisation seem to be important determinants. Similar to the decision about going international, the knowledge elements, which are deeply embedded into the firms' habits, are also of determining importance.

If subjective matters affecting internationalisation are taken into account and the support apart from the financial ones (coaching, consulting, etc.) is provided to promote internationalisation, companies are likely to take a more active part in different support programs.

## 2.6. Conclusion

The strongest relationship between internationalisation and the different elements of business knowledge was identified in the area of organisational beliefs and habits. It was closely followed by the competence of employees, and corporate procedures, while some significant relationship was detected in case of the intellectual property. The connections of employees has a weak, but significant effect on the internationalisation process in our sample (see Table 2.5).

**Table 2.5.**

Relevant knowledge elements based on our sample

Feature	Competence of employees	Organisational beliefs and habits	Connections of employees	Corporate procedures	Intellectual property
International activities	++	+++	x	++	+
Intensity of internationalisation	++	+++	+	++	+

+: significant relationship (weak+; moderate++; strong+++), x: cannot be computed

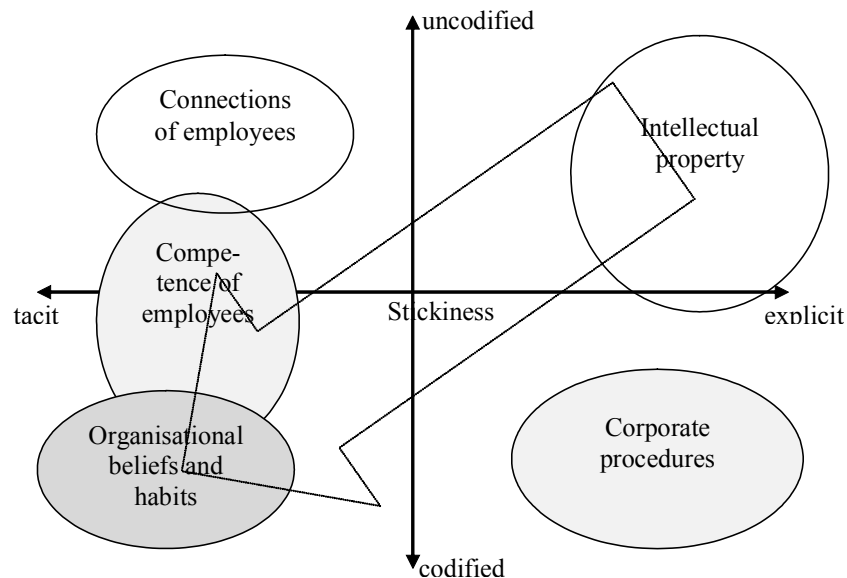
Source: own elaboration based on the V4 survey results of 2014 (n = 1124)

One of the striking features of our findings is that easily transferable business knowledge elements (explicit and uncoded ones) have little effect on internationalisation. Intellectual property, which is both explicit and uncoded, therefore the easiest to transfer, has a weak influence on the international activity of the firm. Corporate procedures on the other hand, an explicit but highly codified knowledge element, moderately affect the intensity of internationalisation.

Yet, most of the government sponsored services provide knowledge on these, easier to transfer areas. They offer market information, they try to teach young entrepreneurs how to prepare a formal strategy for the internationalisation process. They also provide information on the red tape barriers related to internationalisation.

Based on the findings above, such support is of no real help to firms looking to go international. More than that, the success would be questionable even if the government wanted to restructure its instruments, and focus on tacit and codified elements, because they

are way more difficult, and very time consuming to transfer. Organisational beliefs and habits, the knowledge element most strongly associated with internationalisation are exactly like that: tacit and codified in the same time. They are determined inside the firm, dependent on the corporate culture, and so they can barely be transferred outside.



**Fig. 2.2.** Relevant elements from the dual model

Source: own elaboration based on Bartha, 2011

One of the most common ways of transferring such sticky knowledge components is through formal and informal meetings, conversations. Meetings for exchanging experience among entrepreneurs, government institutions and researchers are not uncommon. Some government agencies regularly organise such conferences and gatherings. The other striking feature of our findings however is that connections which may easily be established at such meetings are very weakly correlated with the internationalisation process.

**Table 2.6.**

Checking the hypotheses

Hypothesis	Accepted	Rejected
Knowledge plays a key role in the internationalisation process of the firms.	✓	
Among the different types of knowledge that a firm may possess, the codified and tacit parts are the more important ones when the internationalisation decision is made.	✓	
Among the different types of knowledge that a firm may possess, the uncodified and explicit parts are the more important ones in the internationalisation intensity of the firm.		✓

Source: own elaboration

It worth noting that the intercorrelation among the variables used to measure the different knowledge elements might mean that basic information provided by support institutions can still have an impact on the internationalisation decision, as it spills over to the more complex parts of the knowledge base. Our database is not suited to test such speculative propositions; qualitative research (e.g. interviews, case studies) would be needed to get a clearer picture. In addition to that the sample is not representative wither. One has to be very cautious therefore when interpreting the results, and further research on a more representative sample is definitely needed before policy recommendations are established.

Based on the above we can accept Hypotheses 1 and 2, but we have not found evidence to support Hypothesis 3. It seems that tacit and codified knowledge is the most important in both the initial decision on internationalisation, and also in the intensity of internationalisation.

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# FIRM CHARACTERISTICS AND EXPORT PERFORMANCE IN POST-COMMUNIST COUNTRIES<sup>3</sup>

Andrzej Cieřlik\*, Jan Michalek\*, Tomasz Michalek\*\*

\* University of Warsaw, Poland,

\*\* National Bank of Poland, Warsaw, Poland

## Abstract

In this paper we investigate the firm-level determinants of export performance in five groups of post-communist countries: the Visegrad, Baltic, Caucasus, Eastern European and Central Asian countries. Our analytical framework refers to the recent strand in the new trade theory literature based on the Melitz (2003) model that stresses the importance of firm productivity in entering the export markets. The empirical implementation of the theoretical framework is based on the probit model and the BEEPS dataset. Our empirical results confirm the importance of firm characteristics for export performance in the post-communist countries. In addition we find significant heterogeneity between different country groups.

**Key words:** export activity, firm heterogeneity, post-communist countries

**JEL classification codes:** F14, P33

## 3.1. Introduction

About 25 years ago, most of the former communist countries started their economic transition from non-market to market economies. Some of them radically liberalized their multilateral and regional trade and integrated successfully with the European Union in three subsequent waves of the Eastern enlargement in 2004, 2007 and 2013. Given the positive changes in the international institutional environment and deepening integration with the EU, firms from New Member States (NMS) gained access to foreign markets and became the leaders in export activity among the post-communist countries. The majority of previous studies evaluating the effects of trade liberalization in these countries were traditionally based on aggregate trade flows data and gravity models derived either from the neoclassical or new trade theories.

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However, recently the attention in the trade literature has switched from the sector and country-level to the firm-level determinants of successful export performance. In contrast to the previous international trade literature which assumed that firms are symmetric the recent strand in the literature puts emphasis on firm heterogeneity in terms of productivity and its effect on export performance. The existing empirical evidence based on firm-level data compiled for many countries shows that only a small fraction of the most productive firms are responsible for the majority of exports while most firms do not export at all concentrating their activities on domestic markets only (EFIGE, 2010).

The majority of empirical studies on the relationship between firm productivity and exporting were so far conducted for individual developed and also some developing countries while the empirical evidence for the post-communist countries was rather limited. Recently this situation started to change as more and more studies for particular Central and East European (CEE) countries started to appear. However, more general firm-level evidence for different groups of the post-communist countries is still missing. Therefore, in this paper we study empirically the relationship between labor productivity and exporting, having controlled for other firm and country characteristics in five groups of post-communist countries: the Visegrad (V4) group, the Baltic states, the Caucasus countries, as well as Eastern European and Central Asian countries.

In the early 1990s all these groups of countries faced the transition from non-market to market economies. While the degree and the speed of the transition differed across countries, they all liberalized their international trade and investment policies allowing for the participation of foreign capital in their economies, even if the extent of liberalization differed significantly across countries. Finally, some of these countries integrated successfully with the European Union. Therefore, in our study we devote specific attention to the role of economic integration with the EU and the role of foreign capital participation versus the state ownership of enterprises. Our study is based on the BEEPS firm-level data for the post-transition period starting in 2002 and ending in 2009.

The structure of this chapter is as follows. In Section 4.2 we provide the review of the relevant literature. In Section 4.3 we discuss the dataset and the empirical methodology. In Section 4 we discuss our empirical results. Section 4.5 summarizes and concludes.

### 3.2. Literature Review

The empirical trade literature of the firm-level determinants of export activity was initiated by Bernard and Jensen (1995) for the United States and Clerides et al. (1998) for Columbia, Mexico and Morocco. Subsequently, a large number of empirical studies for other countries followed. Examples include Bernard and Wagner (1997) and Wagner (2002) for Germany, Delgado et al. (2002) for Spain, Castellani (2002) for Italy, Girma et al. (2003, 2004) for the UK; Baldwin and Gu (2003) for Canada, Hansson and Lundin (2004) for Sweden. These empirical studies served as a basis for the list of micro-level stylized facts concerning the export activity at the firm-level. In particular, it turned out that only a fraction of all firms exports while the majority of them concentrate their activity of the domestic market only. Moreover, the exporters were found to be bigger and more productive than non-exporters.

Following the developments in the empirical literature a new strand in the theoretical trade literature emerged. This strand was initiated by Melitz (2003) who relaxed the key assumption of the firm symmetry in the Krugman (1980) monopolistic competition model and introduced firm heterogeneity in terms of labor productivity. In the Melitz (2003) model

the relationship between the level of labor productivity and exporting was placed in the center of analysis. This model assumes that productivity differences are exogenously given and each firm has to pay fixed costs of entry into domestic and foreign markets. The model predicts that only the most productive, firms with lowest marginal costs, can cover the fixed cost of entry to the foreign market, and become exporters.

A large number of empirical studies confirms the key prediction of the Melitz (2003) model, i.e. that more productive firms self-select into foreign markets. The extensive summary of recent empirical evidence on the relationship between productivity and export performance is provided by Wagner (2007, 2012). The importance of firm productivity for exporting has also been emphasized by the more recent EFIGE (2010) report. In this report it has been demonstrated that firm export performance in several large EU countries depends on labor productivity as well as other firm characteristics. Unfortunately, these studies did not include the post-communist countries with the exception of Hungary.

Similar studies for Poland and the whole group of the Visegrad countries (i.e. the Czech Republic, Slovakia, Hungary and Poland) were initiated by Cieřlik, Michałek and Michałek (2012, 2013a, b). In their most recent study, Cieřlik, Michałek and Michałek (2014) extended their analysis to also include the Baltic and Caucasus countries in addition to the Visegrad countries. First, they estimated probit regressions for the pooled dataset that included all three groups of countries, and then they disaggregated the sample into particular country groups to study the differences and similarities between these groups of countries.

Their estimation results obtained for the whole sample indicated that the probability of exporting increases with the higher level of productivity and the measures of human capital, including the share of university graduates in total employment and spending on R&D activities. Moreover, the internationalization of the firms, proxied by the use of foreign technology licenses and the foreign ownership, was found to be positively related to the probability of exporting. Finally, they found that firm size was also a significant variable for the probability of exporting. These results were similar to the results presented in the EFIGE (2010) report obtained for the firms from large EU countries.

The estimation results obtained separately for specific country groups revealed a similar pattern in the case of the Visegrad countries and the Baltic states, although a smaller number of explanatory variables were statistically significant. However, in the case of the Caucasus countries only two explanatory variables were statistically significant: the firm size and the R&D variable, while the link between the level of productivity and the probability of exporting was not statistically significant. Thus, the firm size was the only explanatory variable which was statistically significant in the case of all groups of countries. This confirmed the importance of economies of scale for exporting.

In this study we focus on the firm-level determinants of export decisions. In particular, we focus on the theoretical relationship between firm-level productivity and exporting postulated by the Melitz (2003) model in the following five groups of the post-communist countries: Visegrad (V-4) group, the Baltic states, Caucasus countries, as well as Central Asian and Eastern European countries. This approach is an equivalent of studying the extensive margin effects. In other words, this means a positive effect on trade through an increase in the number of exporting firms or products exported.

In addition, we try to take into account other firm characteristics that may affect export performance such as the age and the size of the firm, the use of human capital proxied by R&D spending and the share of university graduates in total employment, as well as the role of foreign and state ownership.

### 3.3. Data Description and Empirical Methodology

Our study is based on "Bank Business Environment and Enterprise Performance Survey" (BEEPS) data. This dataset is collected jointly by the World Bank and the European Bank for Reconstruction and Development. The main objective of the BEEPS survey is to obtain feedback from enterprises on the state of the private sector. The survey examines the quality of the business environment as determined by a wide range of interactions between firms and the state. The surveys cover manufacturing and services sectors and are representative of the variety of firms according to sector and location within each country. They cover the post-communist countries located in Europe and Central Asia (ECA) as well as Turkey. The data were collected for years 2002, 2005, and 2009.

Our study focuses on five groups of post-communist countries: the Visegrad (V-4), the Baltics, the Caucasus, Eastern European and Central Asian countries. The Visegrad countries include: the Czech Republic, Hungary, Poland and Slovakia. The Baltic states include: Estonia, Latvia and Lithuania. The Caucasus countries include: Armenia, Azerbaijan and Georgia. The Eastern European countries include: Belarus, Moldova, Russia and Ukraine. Finally, the Central Asian countries include: Kazakhstan, Kyrgyz Republic, Tajikistan and Uzbekistan.

The Visegrad countries and the Baltic states were the leaders in multilateral and regional trade liberalization in the early 1990s with the clear intention of joining the European Union in the near future. Already in December 1991 the Visegrad countries signed the Europe Agreements creating free trade agreements with the European Union followed by the agreement establishing the Central European Free Trade Area as well as the series of bilateral free trade agreements with the Baltic states. The Caucasus countries and the Eastern European countries, with the exception of Russia, participate in the Eastern Partnership agreements. The Eastern Partnership works in the framework of the European Neighborhood Policy, which covers the EU's neighbours in the East and South.

This initiative aims at tightening the relationship between the EU and the Eastern partners by deepening their political co-operation and economic integration. Within this framework the EU puts forward concrete ideas for each partner country. In particular, a new generation of Association Agreements, that are going to replace the old Partnership and Cooperation Agreements concluded with the partner countries (with the exception of Belarus) in the late 1990s, is being negotiated with these countries on an individual basis. However, the majority of the partner countries still have not signed the free trade agreements with the European Union. So far, the Association Agreements were signed only with Georgia, Moldova and Ukraine and they are currently under ratification, while the agreements with Armenia and Azerbaijan are still under negotiations.

Given the positive changes in the international institutional environment and the accession to the EU of the Visegrad and the Baltic countries one can expect that firms from these states are also leading in export activity. Therefore, it is worth investigating whether the accessions of these countries positively affected the propensity to export of their firms in comparison with other post-communist countries that did not join the European Union.

The export activity in our study is defined as the situation when at least one percent of sales revenue of the firm comes from the sales made abroad. In Table 3.1 we present the average export propensity of firms from the Visegrad countries, the Baltic states, the Caucasus countries, Eastern European countries and Central Asian countries as well as other post-communist countries treating Turkey as a benchmark – a market economy from the region free of a communist past.

**Table 3.1.**

Comparison of the propensity to export among the firms from the post-communist countries and Turkey (benchmark)

<b>Export (national sales less than or equal 99% of establishment's sales)</b>		
<b>Country</b>	<b>Mean</b>	<b>Freq.</b>
Turkey	0.57896874	2463
Slovenia	0.55167394	687
Croatia	0.41551724	1160
Serbia	0.37222222	900
<b>Slovakia</b>	<b>0.36555891</b>	<b>662</b>
FYRMacedonia	0.36005435	736
<b>Estonia</b>	<b>0.35454545</b>	<b>660</b>
<b>Lithuania</b>	<b>0.35441176</b>	<b>680</b>
<b>Hungary</b>	<b>0.35099913</b>	<b>1151</b>
<b>Czech Rep.</b>	<b>0.34458673</b>	<b>859</b>
Bosnia	0.34366577	742
Bulgaria	0.31840259	1853
<b>Latvia</b>	<b>0.28527607</b>	<b>652</b>
Albania	0.27459016	732
<b>Poland</b>	<b>0.27253886</b>	<b>1930</b>
<b>Belarus</b>	<b>0.25825472</b>	<b>848</b>
<b>Moldova</b>	<b>0.23562570</b>	<b>887</b>
<b>Ukraine</b>	<b>0.21819138</b>	<b>1902</b>
Romania	0.21345876	1382
<b>Armenia</b>	<b>0.18994413</b>	<b>895</b>
<b>Russia</b>	<b>0.18341232</b>	<b>2110</b>
<b>Kyrgyz Rep.</b>	<b>0.17049180</b>	<b>610</b>
<b>Georgia</b>	<b>0.16890080</b>	<b>746</b>
Montenegro	0.13636364	154
<b>Uzbekistan</b>	<b>0.12526998</b>	<b>926</b>
<b>Tajikistan</b>	<b>0.11836735</b>	<b>735</b>
<b>Azerbaijan</b>	<b>0.11000000</b>	<b>900</b>
<b>Kazakhstan</b>	<b>0.10079768</b>	<b>1379</b>
<b>Total</b>	<b>0.28795883</b>	<b>29341</b>

Source: own calculations based on the BEEPS data

Table 3.1 shows a great deal of heterogeneity across the firms in the post-communist countries. Moreover, it can be noted that firms in Turkey – our benchmark country free of the communist past – are on average more export-oriented than the firms from the post-communist countries. On the one hand, the highest share of exporting firms is reported for the countries that emerged from the former Yugoslavia, such as Slovenia, Croatia and Serbia. This could be explained by the fact that those countries were traditionally more market-oriented and had more liberal trade regimes in the past compared to other post-communist countries. On the

other hand, the share of exporting firms from the former Soviet Union is the lowest. In particular this applies to the Caucasus countries, the Eastern European countries as well as the Central Asian countries; the Baltic states which successfully integrated with the European Union are an exception. The Visegrad countries are located in the upper-middle of the group with the exception of Poland which appears to be more similar to the group of the East European countries than to the rest of the Visegrad countries. This could potentially be explained by the fact that Poland has a bigger internal market compared to the remaining Visegrad countries. However, except country characteristics there may be a variety of firm-level characteristics that may be driving this heterogeneity in terms of export performance.

Therefore, it is worth studying also the role of individual firm characteristics in determining the export performance stressed in the recent strand in the new trade theory. In particular, the theoretical model developed by Melitz (2003), which emphasizes the positive relationship between firm-level productivity and exporting, seems to be a convenient point of departure for further empirical analysis. The key explanatory variable stressed by the Melitz (2003) model is labor productivity – expressed as the total amount of annual sales per full time employee (*prod*). Other factors that may affect firm export performance include the level of innovation proxied by the R&D spending (*R&D*), the stock of human capital proxied by the percentage of employees with university degrees (*univ*). We also control for the foreign ownership (*foreign\_owned*) and the state ownership (*state\_owned*), as well as the age of the firm (*firm\_age*) and the size of the firm (*firm\_size*). In addition, we control for the effects of the EU membership (*EU\_dummy*) and individual time effects for particular years of our sample.

The sample used in our empirical study consists of cross-section data for firms located in five groups of the post-communist countries: the Baltic states, the Visegrad (V-4) group, the Caucasus countries, the Eastern European countries and the Central Asian countries for which explanatory variables were available in all analysed years. The detailed descriptions of firm characteristics used in our study are shown in Table 3.2.

Table 3.2.

Description of variables used in empirical study

Variable Name	BEEP input Name	Description
Export	d_d3a	binary variables, that takes the value 1 if the establishment is exporting and zero if not
prod	prod=log(lprod) prod=d2/11	logarithm of productivity expressed as total amount of annual sales per full time employee
firm_size	l1	logarithm of no. permanent, full-time employees of this firm at end of last fiscal year
Firm_age		logarithm of number of years since start of operations
State_cap	b2c	share of capital owned by the state (%)
Foregin_cap	b2b	share of capital owned by private foreign individuals, companies or organizations (%)
R&D	R&D=(ECAo4/d2)*100	logarithm of % of total annual sales spent on research and development
Univ	IECAq69	logarithm of % employees at end of fiscal year with a university degree

Source: BEEPS dataset

To investigate empirically the theoretical relationship between labor productivity and exporting, postulated by the Melitz (2003) model, we use a probit regression, having controlled for additional firm characteristics. We develop the following empirical model to investigate the impact of individual firm characteristics on firm export performance. Let  $Y_i^*$  be our dependent variable indicating the export status of firm  $i$ . According to this model the export status of  $i$ -th firm can be related to the set of individual firm characteristics  $X$  in the following way:

$$Y_i^* = X_i\theta + \varepsilon_i \quad (3.1)$$

where the error term  $\varepsilon_i$  is independent of  $X_i$  which is a vector containing explanatory variables that affect exports with the first term equal to unity for all  $i$ ,  $\theta$  is the vector of parameters on these variables that needs to be estimated and  $\varepsilon_i$  is assumed to be normally distributed with a zero mean.

However, instead of observing the volume of exports for a particular firm, we observe only its export status described by the binary variable  $Y_i^*$ .

$$Y_i = \begin{cases} 1 & \text{if } Y_i^* > 0 \\ 0 & \text{if } Y_i^* = 0 \end{cases} \quad (3.2)$$

Hence, the probability whether a particular firm exports ( $Y_i^* > 0$ ), expressed as a function of firm characteristics, can be written as follows:

$$\Pr(Y_i = 1 | X_i) = \Phi(X_i\theta) \quad (3.3)$$

where  $\Phi(\cdot)$  denotes the standard normal cumulative distribution function (cdf).

### 3.4. Estimation Results

In this section we discuss our estimation results for different country groups reported in Table 3.3 In column (1) we report estimation results obtained for the Baltic countries. In column (2) we present estimation results obtained for the Visegrad countries. In column (3) we report estimation results obtained for the Caucasus countries. In column (4) we report estimation results obtained for the Eastern European countries. Finally, in column (5) we report estimation results obtained for the Central Asian countries. In all cases the estimation results came from the same specification that includes the labor productivity variable (*lprod*), having controlled for additional firm-level determinants of export activity mentioned in other studies. These include R&D spending (*R&D*), the stock of human capital proxied by the percentage of employees with university degrees (*univ*), foreign capital (*foreign\_cap*), state capital (*state\_cap*), the age of the firm (*firm\_age*) and the size of the firm (*firm\_size*). In addition, for the first two groups of countries we also control for the EU accession effect. In the case of all groups we control for individual time dummies.

In column (1) we display the estimation results for the Baltic group. The estimated parameter on the labor productivity variable displays a positive sign and is statistically significant already at the 1 per cent level. This result confirms the positive link between the level of productivity and the probability of exporting predicted by the Melitz (2003) model in the case of the Baltic countries. Moreover, the majority of our control variables are statistically significant already at the 1 per cent level and the estimated parameters display the expected signs. The only exception is the age variable which displays a negative sign but it is not

statistically significant. The firm size variable displays a positive sign indicating the importance of economies of scale for exporting. The foreign capital variable displays the positive sign which means that firms with foreign capital are more export oriented compared to the domestically-owned firms. The estimated parameters on both human capital variables also display positive signs. This means the level of R&D and the share of workers with university degrees in total employment are positively related to the probability of exporting. The estimated parameter on the state capital variable displays a negative sign which means that enterprises with state capital are less export-oriented compared to privately-owned firms. Finally, the estimated parameter on the EU dummy shows a positive sign which means that after the accession of the Baltic states to the EU the export activity of their firms has increased.

**Table 3.3.**

Estimation results for particular groups of countries.

Variables	Baltics	Visegrad	Caucasus	Eastern Europe	Central Asia
	(1)	(2)	(3)	(4)	(5)
lprod	0.0600***	0.0315***	0.0262***	0.0331	0.00548
	(0.0124)	(0.00789)	(0.00950)	(0.0217)	(0.00418)
firm_size	0.275***	0.264***	0.526***	0.312***	0.400***
	(0.0525)	(0.0200)	(0.0608)	(0.0305)	(0.0264)
age	-0.00495	0.00272*	0.00466***	0.00460***	0.00171
	(0.00362)	(0.00156)	(0.000855)	(0.00136)	(0.00243)
foreign_cap	0.00553***	0.00814***	0.00760***	0.00702***	0.0108***
	(0.00107)	(0.000336)	(0.00286)	(0.000932)	(0.00220)
R&D	0.0280***	0.0267*	0.0204	-0.000480	0.00147
	(0.0102)	(0.0147)	(0.0166)	(0.000432)	(0.0123)
univ	0.00746***	0.00574**	0.00419***	0.00819***	0.00803***
	(0.00286)	(0.00267)	(0.000956)	(0.00267)	(0.00229)
state_cap	-0.00597***	-0.00403***	-0.00467	-0.00175	-0.00136
	(0.000772)	(0.00136)	(0.00290)	(0.00156)	(0.00204)
EU dummy	0.888***	1.339***			
	(0.0102)	(0.261)			
time effects	yes	yes	yes	yes	yes
Constant	-2.211***	-1.878***	-3.407***	-2.783***	-2.966***
	(0.244)	(0.191)	(0.310)	(0.592)	(0.284)
Observations	696	1,709	661	1,302	1,078
Log likelihood	-379.8	-886.4	-246.1	-606.4	-359.5
Pseudo R2	0.190	0.200	0.279	0.184	0.215

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: own estimations based on the BEEPS data

In column (2) we show the estimation results for the Visegrad group. These results are very similar to the results obtained for the group of the Baltic countries reported in column (1) of Table 3 and also to the results obtained for the old EU members discussed in the literature review (EFIGE, 2010). In particular, the estimated parameter on the labor productivity variable displays a positive sign and this variable is statistically significant also at the 1 per cent level. This means that a higher level of productivity is positively related to the probability of exporting. Again, this result is in line with the main prediction of the Melitz (2003) model concerning the positive nexus between productivity and exporting. However, it can be noted that in the case of the Visegrad countries the magnitude of the estimated parameter on the labor productivity variable is visibly lower compared to the one obtained for the Baltic countries. This means that the productivity–exporting nexus is weaker in the Visegrad group than in the Baltic countries. The majority of control variables are statistically significant at the 1 per cent level with the exception of the firm age which is statistically significant at the 10 per cent level and displays the expected positive sign. The estimated signs of parameters on other explanatory variables are also in line with the expectations and the results of other studies discussed in the literature review section.

In column (3) we report estimation results for the Caucasus countries. In the case of this country group the positive link between the level of productivity and the probability of exporting is also statistically significant at the 1 per cent level. In the case of the Caucasus countries the magnitude of the estimated parameter on the labor productivity variable is lower compared to the parameter estimates obtained for both the Baltic countries and the Visegrad group. This means that the productivity–exporting nexus in the Caucasus countries is the weakest among all the post-communist countries in which this relationship turned out to be statistically significant. Moreover, the majority of control variables are statistically significant already at the 1 per cent level with a few exceptions that include the R&D and the state-ownership variables which are not statistically significant at all.

In column (4) we show estimation results obtained for the group of the Eastern European countries. However, it can be noted that in the case of these countries the estimated parameter on the labor productivity variable is not statistically significant at all. This means that the probability of exporting is not related to the level of productivity in Eastern European countries. Also a smaller number of control variables are statistically significant in the case of these countries compared to the Baltic countries and the Visegrad group. In particular, the statistically significant control variables include only: firm size, firm age, foreign capital and the share of university graduates in total employment – all of which display the expected positive signs and are statistically significant already at the 1 per cent level.

Finally, in column (5) we report estimation results obtained for the Central Asian countries. Similar to the results obtained for the Eastern European countries also in this case the estimated parameter on the labor productivity variable is not statistically significant. Therefore, the probability of exporting in these countries is not related to the level of firm productivity. The only statistically significant variables are: firm size, foreign capital and the share of university graduates in total employment. All these variables display the expected positive signs and are statistically significant already at the 1 per cent level.

### 3.5. Conclusions

In this study we investigated the determinants of export activity of firms in five groups of the post-communist countries: the Baltic states, the Visegrad countries, the Caucasus countries, the Eastern European countries and the Central Asian countries. The study was

based on firm level data for the period starting in 2002 and ending in 2009. Our empirical results obtained for particular country groups reveal significant degree of heterogeneity among them. In particular, the estimation results indicate that the probability of exporting increases with higher firm productivity, having controlled for other explanatory variables, only in three groups of the post-communist countries. These include: the Baltic states, the Visegrad countries, and the Caucasus countries, while in the Eastern European and Central Asian no statistically significant relationship between the level of productivity and the probability of exporting was reported. In all country groups the probability of exporting was positively related to a number of firm-level characteristics such as firm size, foreign capital and the share of university graduates in total employment. These results allow us to formulate a number of policy recommendations for the development of the export promotion strategy for the authorities in post-communist countries. In particular, the export competitiveness of firms from these countries can be improved through the development of modern educational systems allowing to accelerate the accumulation of human capital. Moreover, the export performance can be improved by attracting foreign direct investment which can not only directly affect export performance of firms with the participation of foreign capital but can also generate a whole range of positive spillovers onto domestically-owned firms.

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# CONTEXTUAL FACTORS OF EARLY INTERNATIONALISATION PROCESS

Przemysław Zbierowski

University of Economics in Katowice, Poland

## Abstract

The decision of an entrepreneur to internationalise the business is under the influence of many factors, including the contextual ones. It seems that they play even more important role when it comes to early internationalisation or starting up a born-global company. The chapter aims at empirically examining the influence of selected contextual factors on international orientation of ventures in early stage of their activity. The results indicate that male entrepreneurs are more internationally oriented than women, knowing other entrepreneurs increases international orientation, also contextual factors like desire for the equality in the society, perceiving entrepreneurship as a good career choice, high status of entrepreneurs and media coverage of successful entrepreneurial stories influence the decision of early internationalisation. In terms of household size single entrepreneurs are the most likely to internationalise, there is also significant influence of household income (wealthier entrepreneurs internationalize more often) and occupation (entrepreneurs with other full-time occupation are more likely to internationalise).

**Key words:** internationalisation, international business, international entrepreneurship, GEM

**JEL codes:** M16, L20

## 4.1. Introduction

It has been proven many times that entrepreneurship is the driver of economic and social development. It is also beyond discussion that international entrepreneurship brings even bigger benefits. Therefore, it should be one of the priorities to promote both entrepreneurship and internationalisation of enterprises. This especially concerns born-global start-ups – enterprises that from the very beginning of their existence are oriented internationally. After closer look it can be noticed that there is a substantial variation of international orientation of early-stage entrepreneurial activity depending on contextual factors. Therefore, it is important to investigate their impact on international orientation of ventures which in consequence might provide some practical recommendations on how to support international activities of start-ups.

The purpose of the paper is to empirically examine the influence of selected contextual factors on international orientation of ventures in early stage of their activity. Those factors include: gender, household income, employment status, household size, acquaintance with another entrepreneur, desire for the equality in the society, perceiving entrepreneurship as a good career choice, high status of entrepreneurs and media coverage of successful entrepreneurial stories. To test the hypotheses I use the Global Entrepreneurship Monitor data from 2012. I use the pooled sample of 13 383 nascent entrepreneurs from 69 countries. I employ independent sample t-test and one-way ANOVA analyses. As the literature in some of the researched areas is scarce or non-existent, the study is exploratory in some respects.

#### 4.2. Contextual Factors in Early Internationalisation Process

The international entrepreneurship research lies on the cross-section of international management and entrepreneurship and various theories developed to explain internationalization have been adapted by international entrepreneurship. Those two areas began to merge in late 1990s. as earlier international business research had focussed most often on established, large multinational companies, and entrepreneurship researchers have focussed primarily on new venture creation and the management of small- and medium-sized businesses within the domestic context (McDougall, Oviatt, 2000).

Probably the most wide-spread school of international management is the notion of stage process. In this approach, internationalisation is viewed as an incremental process that occurs gradually as a result of organizational learning. In the process of managing the company managers gain knowledge and experience of foreign markets and when it reaches certain level the organization internationalises (Coviello, McAuley, 1999). Similarly, the global horizon approach had linked the internationalisation with the growth of organization. In this approach internationalization is the result of expansion and limited domestic opportunities. Both theories exclude the possibility of early-stage internationalisation: in stage process theory the managers have no knowledge and experience to operate at international markets, in global horizon theory in the early stage of firms life the horizon is limited to domestic market. Supporting that, Autio, Sapienza, and Almeida (2000) found negative relation between age of the firm at international entry and growth in international sales.

Process-stage theories fail to explain early-stage internationalisation. They have been especially challenged when high-tech young firms began to internationalise at their earliest stages of existence. Oviatt and McDougall (1994) proposed the framework able to explain the rapid growth of new entrepreneurial ventures in the international market. I also agree with other scholars that process-stage theories cannot explain internationalisation in the early stage of activity, therefore I seek explanation in resource-based theories, foreign direct investment theories and population ecology approach (McDougall, Oviatt, 2000; Zahra, et al., 2000; Hitt, et al., 2001).

Resource-based view attributes the decision of internationalisation to configuration of resources. In some cases the reason for internationalisation is abundance of resources in others it is a lack of them. Foreign direct investment theories attribute the decision to internationalise to economic factors such as differences in costs, level of economic growth or technological development. External forces of internationalisation are also the foundation of population ecology approach. Entrepreneurs might enter new markets due to high competition on domestic market. All those theories direct attention towards contextual factors in internationalisation process. The list of factors taken into consideration in this study is mainly shaped by their availability in GEM project, however, some of them have strong theoretical foundation.

There is a lot of evidence that women and men have different approaches to starting up and running a business. This also concerns its international activity. Welch, Welch and Hewerdine (2013) in their study on women exporting entrepreneurs argue that women use different terms to describe exporter and entrepreneurial characteristics to those found in extant literature and that they treat exporting as a life-changing experience that allowed the women to grow personally as well as grow the business and succeed as exporters. On the other hand Williams (2013) proves that it is the firm's size and not the gender of the entrepreneur or the age of the firm that is most important in the internationalisation decision making. As I focus on start-ups which have similar size I hypothesize that:

**H1. Women and men nascent entrepreneurs have similar international orientation.**

There seems to exist a group of factors at the family level in the pre-nascent phase that have the impact on entrepreneurial propensity of a person and other characteristics including innovativeness, growth aspirations and international orientation. Those factors include household income, family size and occupation. For example Hundley (2006) proves that men with self-employed fathers and higher parental incomes are more likely to be self-employed. Aldrich and Cliff (2003) promote the whole philosophy in entrepreneurship research that they call 'family embeddedness perspective'. Also Zellweger, Sieger and Halter (2011) highlight the importance of family context in entrepreneurial traits and propensities. Aldrich and Cliff (2003) claim that one of the factors shaping entrepreneurship is the family size. I extend this view to international orientation and hypothesize that:

**H2. Family size influences international orientation.**

Hundley (2006) also claims that some entrepreneurial intentions are leveraged by higher family income. The possible explanation is that entrepreneurs coming from wealthier families possess higher financial resources that should also enable international activity, therefore I hypothesize:

**H3. International orientation of nascent entrepreneurs with higher household income is higher.**

Characteristics of nascent entrepreneur and start-up also depend on the previous and present occupation of the entrepreneur. Fritsch and Rusakova (2011) for instance point out that the propensity of a person to become an entrepreneur is strongly influenced by that person's previous occupation. They generally take the position that occupational level of analysis is well suited for investigating entrepreneurial choice, since occupations form tight environments with distinct characteristics that may affect individuals in those occupations to a different extent. This findings are also supported by Politis (2005), therefore I hypothesize:

**H4. Other occupation of entrepreneur influences the international orientation in a way that full-time employees are more often engaged in international operations.**

There is a body of literature concerning the dependence of entrepreneurial intentions on some secondary entrepreneurial experience, such as having an entrepreneur in the family. For instance Zellweger, Sieger and Halter (2011) found some important differences in entrepreneurial propensity between people with and without entrepreneurial experience in the family. That is also supported by Tervu (2006). Global Entrepreneurship Monitor model (Amorós & Bosma, 2014) assumes that the secondary entrepreneurial experience might be extended beyond family by being acquainted with entrepreneurs. Therefore, I hypothesize:

**H5: Nascent entrepreneurs who are acquainted with other entrepreneurs have higher international orientation.**

Cultural factors have always been attributed an explanatory power in level of overall entrepreneurship and internationalisation models. Valdez and Richardson (2011) found a positive relation between cultural norms and level of both opportunity- and necessity-based entrepreneurship. The impact of national culture on entrepreneurial intentions and growth aspirations is also supported by Schlaegel, He and Engle (2013) and Autio, Pathak

and Wennberg (2013). Also Chou (2010) claims that cultural factors play major role in determining born-globals success. Also other authors (Ojala, Tyrväinen, 2007) prove the influence of cultural factors in the process of internationalisation. The paper in this part is partly explorative as there is a complete lack of literature evidence on cultural norms that are captured by GEM, however, I hypothesize:

**H6: Expectation of equality of standard of living in the society has negative impact on international orientation.**

**H7: Desirability of entrepreneurship as a career choice positively influences international orientation.**

**H8: High status attributed to entrepreneurship positively influences international orientation.**

**H9: Media coverage of successful business stories positively influences international orientation.**

### 4.3. Research Methods, Sample, Variables and Measures

The research carried out to test the above hypotheses is based on Global Entrepreneurship Monitor study. It is the biggest scientific project of researching entrepreneurship worldwide. It was started in 1999 when 10 countries took part in the study, in 2013 it encompassed 70 economies, 75% of world population, 90% of world GDP. In GEM project the same research is repeated in yearly cycles. Moreover, the same methodology is applied in all countries taking part in the research. This results in full comparability of the results both longitudinally and across countries. GEM has two main research parts. Adult population survey (APS) is completed by a representative sample of at least two thousand adults in each economy. The total sample in 2013 accounted for 197.000 respondents across the globe. The purpose of APS is to capture the attitudes, activities and aspirations of society in the field of entrepreneurship. APS has two main advantages over official statistics: it captures not only people registering their activity but also entrepreneurs-to-be – people who intend to start a business or even start to prepare to do so, and it provides in-depth view into motivations, attitudes and aspirations of entrepreneurs. The other part of the research is called National Experts Survey (NES) where national experts are consulted on entrepreneurial framework conditions – factors that explain the nature and level of entrepreneurship in the economies: financing, governmental policies, governmental programs, education and training, research and development transfer, commercial infrastructure, internal market openness, physical infrastructure and cultural and social norms.

While entrepreneurship is a multifaceted phenomenon with many different meanings, GEM operationalises entrepreneurship as: any serious attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business, by an individual, a team of individuals, or an established business. While entrepreneurship is defined narrowly as new business activity, it takes a broad view of what it recognises business activity to be. This has its implications in measuring the level of entrepreneurship in GEM that is not limited to registration of new business activity, but it is treated rather in behavioural than in institutional terms, and it includes both entrepreneurial activities aimed at registration of new business entities, and entrepreneurial activities in the existing organisations.

GEM employs socio-economic approach in its research (Kelley, et al., 2012; Xavier, et al., 2013; Amorós, Bosma, 2014). This model attempts to present entrepreneurship in two ways. First of all, it documents how entrepreneurship is affected by national conditions. It also shows that three major components of entrepreneurship cover: attitudes, activity and aspira-

tions. These three components are presented in the form of conglomerate creating innovations, economic growth and new jobs. Detailed interactions between the components are subject to analysis.

In GEM it is important to differentiate a phase of the business activity (Amorós, Bosma, 2014), while phases before its formal implementation are also subject to the analysis, and most attention is paid to the phase of early-stage activity. It is one of the significant elements distinguishing GEM from other research projects on entrepreneurship where registration of new entities is studied on the basis of data of national statistical offices which does not enable good insight in the nature of the new enterprises. In modelling the process of entrepreneurship, GEM applies three stages of economic project development. Depending on the phase an entrepreneur is in, they may be defined as a nascent entrepreneur, a new entrepreneur or an established enterprise. In the GEM methodology, nascent entrepreneurs are individuals who have not established business activity yet but they plan to, and those who have already established business activity and are at its early stage – up to 3 months from establishment of business activity. Business activity is considered to be new in the case of paying wages for the period of three months. Such persons start to take first steps to establish a business: they obtain financial support, do the business planning, apply for legal protection of their intellectual property. New entrepreneurs are people who established their business activities from 3 to 42 months before the beginning of the research.

To test the hypotheses I use the Global Entrepreneurship Monitor data from 2012. I use the pooled sample of 13 383 nascent entrepreneurs from 69 countries. I employ independent sample t-test (where the independent variable has dichotomous distribution) and one-way ANOVA analyses (where the independent variable has distribution other than dichotomous). To measure international orientation I use the 'suexport' variable which answers the question: What proportion of your customers will normally live outside the country? The answers are coded as 1 – 90-100%; 2 – 76-90%, 3 – 51-75%; 4 – 26-50%; 5 – 11-25%, 6 – 1-11%; 7 – none. Therefore, the higher the value the lower the international orientation of the entrepreneur is. The variables for gender, knowing an entrepreneur, expectation of equality of standard of living, desirability of entrepreneurship as a career choice, high status attributed to entrepreneurship, media coverage of successful business stories are simple variables with dichotomous distribution with yes/no answers. Income of the household is measured in distinction into 3 33% tiles, occupation recognizes 7 groups: full-time, part-time, retired and disabled, homemakers, students, not working and self-employed. Size of the family is measured by the number of people in the household, all the numbers above 10 were replaced by value '10', so it should be understood '10 and more'.

#### 4.4. Results

**Table 4.1** presents the results of independent sample t-test analyses. The mean of international orientation for male entrepreneurs is 5.91 and for female 6.12, which means that men have higher international orientation than women. This is also supported by t-test result, therefore hypothesis H1 is falsified. Nascent entrepreneurs who know other business-people have international orientation at the level of 5.96, those who are not acquainted with other entrepreneurs at 6.06. The difference is not big, however it is statistically significant, therefore hypothesis H5 is supported.

**Table 4.1.**

Results of t-test analyses (Author's own work based on GEM data).

Variable	Levene's test		t-test of means' equality						
	F	Sig.	t	df	Sig.	Mean's diff.	SE of diff.	95% conf. range	
								Lower	Higher
gender	69.229	.000	-7.052	10527	.000	-.216	.031	-.276	-.156
serial ent.	.008	.930	-.127	10474	.899	-.006	.047	-.099	.087
knowent	14.001	.000	3.124	10448	.002	.099	.032	.037	.160
equalinc	4.589	.032	-3.965	8027	.000	-.141	.036	-.211	-.071
nbgoodc	76.671	.000	-7.060	8526	.000	-.263	.037	-.336	-.190
nbstatus	55.965	.000	-6.912	8512	.000	-.260	.038	-.334	-.186
nbmedia	30.990	.000	-5.247	8345	.000	-.188	.036	-.258	-.118

*Source:* own study

Independent t-test analyses provide no support for hypotheses H6-H9. All mentioned cultural norms have influence on international orientation. The difference is biggest in two cases: entrepreneurs who claim that in their countries most people consider starting a new business a desirable career choice have international orientation at the level of 6.07, those who think otherwise at 5.81; similarly, entrepreneurs who claim that in their countries those successful at starting a new business have a high level of status and respect have international at the level of 6.07 and those who think otherwise at 5.81. Respondents who claim that in their countries most people would prefer that everyone had a similar standard of living have international orientation at the level of 6.06, those who don't – at 5.92. Respondents who answer that you will often see stories in the public media about successful new businesses have international orientation at the level of 6.07, those who don't at 5.88. All above mean differences are statistically significant.

Hypotheses H2-H4 have been tests using one-way ANOVA. For the clarity of the presentation from all tables with inter-group mean differences the results that were not statistically significant were removed. Tables 4.2.-4.4. present the one-way ANOVA analysis of relation between household size and international orientation.

**Table 4.2.**

Results of one-way ANOVA of household size and international orientation (Author's own work based on GEM data)

	N	Mean	Std. dev.	Std. err.	95% confidence interval for mean	
					Lower bound	Upper bound
1	658	5.73	1.713	.067	5.60	5.86
2	1496	5.86	1.636	.042	5.78	5.95
3	2066	6.02	1.528	.034	5.95	6.09
4	2478	6.08	1.479	.030	6.02	6.13
5	1553	6.09	1.447	.037	6.01	6.16
6	858	6.09	1.471	.050	6.00	6.19
7	462	5.92	1.597	.074	5.77	6.06
8	336	6.04	1.512	.082	5.87	6.20
9	152	5.95	1.571	.127	5.70	6.21
10	362	5.94	1.670	.088	5.77	6.12
Total	10421	6.00	1.540	.015	5.97	6.03

*Source:* own study

**Table 4.3.**

Results of one-way ANOVA of household size and international orientation (Author's own work based on GEM data)

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	114.852	9	12.761	5.403	.000
Within groups	24591.139	10411	2.362		
Total	24705.990	10420			

Source: own study

**Table 4.3.**

Results of one-way ANOVA of household size and international orientation (Author's own work based on GEM data) (\*. The difference is significant at 0.05)

		Mean diff. (I-J)	Std. err.	Sig.	95% confidence interval	
					Lower bound	Upper bound
1	3	-.290*	.069	.000	-.43	-.16
	4	-.346*	.067	.000	-.48	-.21
	5	-.357*	.071	.000	-.50	-.22
	6	-.365*	.080	.000	-.52	-.21
	7	-.186*	.093	.046	-.37	.00
	8	-.306*	.103	.003	-.51	-.10
2	10	-.215*	.101	.032	-.41	-.02
	3	-.155*	.052	.003	-.26	-.05
	4	-.211*	.050	.000	-.31	-.11
	5	-.221*	.056	.000	-.33	-.11
3	6	-.229*	.066	.000	-.36	-.10
	1	.290*	.069	.000	.16	.43
	2	.155*	.052	.003	.05	.26
4	1	.346*	.067	.000	.21	.48
	2	.211*	.050	.000	.11	.31
	7	.160*	.078	.040	.01	.31
5	1	.357*	.071	.000	.22	.50
	2	.221*	.056	.000	.11	.33
	7	.171*	.081	.036	.01	.33
6	1	.365*	.080	.000	.21	.52
	2	.229*	.066	.000	.10	.36
	7	.179*	.089	.044	.00	.35
7	1	.186*	.093	.046	.00	.37
	4	-.160*	.078	.040	-.31	-.01
	5	-.171*	.081	.036	-.33	-.01
	6	-.179*	.089	.044	-.35	.00
8	1	.306*	.103	.003	.10	.51
10	1	.215*	.101	.032	.02	.41

Source: own study

There are some statistically significant differences in international orientation depending on household size. The most international are single entrepreneurs (5.73). With the growth of the family the international orientation drops up to the level of 5-6 members of the household (6.09). Then it rises again and stabilizes with the exception of households with 8 members. That supports hypothesis H2.

Tables 4.5.-4.7. present the one-way ANOVA analysis of relation between household income and international orientation.

**Table 4.4.**

Results of one-way ANOVA of household income and international orientation (Author's own work based on GEM data)

	N	Mean	Std. dev.	Std. err.	95% confidence interval for mean	
					Lower bound	Upper bound
Lowest 33%tile	1956	6.11	1.468	.033	6.04	6.17
Middle 33%tile	2929	6.08	1.484	.027	6.02	6.13
Upper 33%tile	4021	5.92	1.577	.025	5.87	5.97
Total	8906	6.01	1.525	.016	5.98	6.04

Source: own study

**Table 4.5.**

Results of one-way ANOVA of household income and international orientation (Author's own work based on GEM data)

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	64.472	2	32.236	13.897	.000
Within groups	20652.360	8903	2.320		
Total	20716.832	8905			

Source: own study

**Table 4.6.**

Results of one-way ANOVA of household income and international orientation (Author's own work based on GEM data) (\*. The difference is significant at 0.05)

		Mean diff. (I-J)	Std. err.	Sig.	95% confidence interval	
					Lower bound	Upper bound
Lowest 33%tile	Middle 33%tile	.030	.044	.504	-.06	.12
	Upper 33%tile	.187*	.042	.000	.11	.27
Middle 33%tile	Lowest 33%tile	-.030	.044	.504	-.12	.06
	Upper 33%tile	.158*	.037	.000	.09	.23
Upper 33%tile	Lowest 33%tile	-.187*	.042	.000	-.27	-.11
	Middle 33%tile	-.158*	.037	.000	-.23	-.09

Source: own study

There is a very clear relationship between household income and international orientation. Entrepreneurs from the upper 33% tile have international orientation at higher level (5.92) than those from the middle 33% tile (6.08) and lower tile (6.11). This provides support for hypothesis H3.

Tables 4.8.-4.10. present the one-way ANOVA analysis of relation between occupation and international orientation.

**Table 4.7.**

Results of one-way ANOVA of occupation and international orientation (Author's own work based on GEM data) (\* The difference is significant at 0.05).

	N	Mean	Std. dev.	Std. err.	95% confidence interval for mean	
					Lower bound	Upper bound
Full time	3199	5.85	1.624	.029	5.80	5.91
Part time	738	6.01	1.517	.056	5.91	6.12
Retired, disabled	140	5.99	1.536	.130	5.73	6.24
Homemaker	469	6.41	1.143	.053	6.30	6.51
Student	361	5.99	1.555	.082	5.83	6.15
Not working	705	5.94	1.572	.059	5.82	6.06
Self-employed	4749	6.05	1.526	.022	6.00	6.09
Total	10361	5.99	1.550	.015	5.96	6.02

Source: own study

**Table 4.8.**

Results of one-way ANOVA of occupation and international orientation (Author's own work based on GEM data) (\* The difference is significant at 0.05).

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	159.549	6	26.592	11.127	.000
Within groups	24744.616	10354	2.390		
Total	24904.165	10360			

Source: own study

**Table 4.9.**

Results of one-way ANOVA of occupation and international orientation (Author's own work based on GEM data) (\* The difference is significant at 0.05).

		Mean diff. (I-J)	Std. err.	Sig.	95% confidence interval	
					Lower bound	Upper bound
Full time	Part time	-.163*	.063	.010	-.29	-.04
	Homemaker	-.553*	.076	.000	-.70	-.40
	Self-employed	-.195*	.035	.000	-.26	-.13
Part time	Full time	.163*	.063	.010	.04	.29
	Homemaker	-.390*	.091	.000	-.57	-.21
Retired, disabled	Homemaker	-.419*	.149	.005	-.71	-.13
Homemaker	Full time	.553*	.076	.000	.40	.70
	Part time	.390*	.091	.000	.21	.57
	Retired, disabled	.419*	.149	.005	.13	.71
	Student	.413*	.108	.000	.20	.63
	Not working	.465*	.092	.000	.28	.65
	Self-employed	.358*	.075	.000	.21	.50
Student	Homemaker	-.413*	.108	.000	-.63	-.20
Not working	Homemaker	-.465*	.092	.000	-.65	-.28
Self-employed	Full time	.195*	.035	.000	.13	.26
	Homemaker	-.358*	.075	.000	-.50	-.21

Source: own study

Nascent entrepreneurs who are also full-time employed have the highest international orientation (5.85). It is also significantly higher than for part-time employees, homemakers and self-employed. The lowest international orientation is registered for homemakers (6.41) and it is statistically different from any other occupation group. Those results support hypothesis H4.

#### 4.5. Discussion and Conclusions

Above research results show that the level of nascent entrepreneur's international orientation depends on many contextual factors. First of all, men have higher international approach than women. The difference is relatively big and might indicate that male entrepreneurs have generally higher aspirations than female ones. That might also be caused by time sacrificed for family life. Women on average have more family responsibilities (in most cultures, however, not all) and hence less time to spend on business activity even if they become entrepreneurs. International activities, as time consuming, might be avoided by some women that may cause the difference. For the same reason entrepreneurs with less family members have higher international orientation. The interesting finding that entrepreneurs coming from families with 7, 9 and 10 and more members have international orientation higher than those from families with 5, 6 and 8 members. That could indicate that big families are better organized and some responsibilities are shared by younger members.

Higher international orientation of entrepreneurs who know other businesspeople is probably caused by the advice and encouragement that others might provide. International activity is easier when supported by other entrepreneurs who have such experiences. The same phenomenon might work with the occupation of entrepreneurs – those who are full-time employed are more internationally active that might be caused by international experiences that they have at work. On the other extreme – homemakers have the lowest international orientation.

One of the most significant factors determining international orientation of nascent entrepreneurs is the income of the household. The higher it is, the higher the international orientation. However, the strongest impact is for the wealthiest families. That might be explained by the abundance of the resources necessary to run international operations and is consistent with findings of other scholars (e.g. Hurst, Lusardi, 2004) who prove that the difference in entrepreneurial features is strongest above 95<sup>th</sup> percentile.

The impact of cultural norms is a bit surprising and contradictory to assumptions. Higher international orientation is presented by nascent entrepreneurs who claim that in their society people: do not want equality in the standard of living, do not treat entrepreneurship as a good career choice, do not attribute high status to entrepreneurship and do not see a lot of successful stories of entrepreneurship in the media. Therefore, it seems that international orientation is higher in the hostile environment from the point of view of cultural norms. This is consistent with other findings (e.g. Zahra, Garvis, 2000) which point out that entrepreneurship is a better choice in hostile environments. The possible explanation of this phenomenon is that nascent entrepreneurs know that they operate in hostile domestic conditions and therefore want to internationalize to lower the risk and possible move some of the operations to countries with more friendly environment. The fact that international orientation is higher in places where people do not endeavor the equal standard of living proves that in this kind of environment aggressive business behaviors are promoted.

Summing up, contextual factors play an important role in shaping international orientation of nascent entrepreneurs. The perfect candidate for international entrepreneur would be therefore single man with high income, working full-time who has entrepreneurial friends and comes from a country with the environment hostile towards entrepreneurship. That, of course, is a serious simplification of things. It has to be taken into consideration that some of the contextual factors has not been taken into consideration, therefore the configuration of factors might look slightly different while analyzing the picture comprehensively.

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Part 2.

## **Business Environment**



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## KNOWLEDGE AS A PUBLIC GOOD IN THE MODERN ECONOMY

Agnieszka Witoń

Cracow University of Economics, Kraków, Poland

### Abstract

The aim of this article is to present the consequences of knowledge as a public good for the creation of the knowledge-based economy, and to identify and describe the role of the state in building this economic model. The following hypotheses are considered: that the development of the knowledge economy requires an involvement of the state, especially in providing access to knowledge, and that changes in knowledge production require changes in the access to knowledge. They are verified using the analysis of the literature. The results indicate the importance of changing current models of access to knowledge and the necessity of state involvement in this process. The Open Access model still does not offer the optimal solution. Further analyses are needed. The added value of the work derives from discussing recent changes in knowledge production and trends in providing access to knowledge.

**Key words:** academia, knowledge, knowledge-based economy, open access, state intervention

**JEL codes:** I2; O3

### 5.1. Introduction

A contemporary economic thought has entered a new paradigm - the knowledge-based economy. This term is attributed to an economic model, which is characterized by elements such as a significant increase in production and diffusion of various forms of knowledge, the domination of innovation, which serves as the key to achieving competitive advantages by companies, regions and countries, the growth of intangible capital on a global scale, and a specific revolution concerning the tools used to produce and diffuse knowledge. The knowledge-based economy, in which knowledge is treated as one of the primary factors of production, responsible for the dynamic economic growth, is the next, more efficient than the former one, stage of the evolution of economic systems. The most developed countries of the world have already applied this model to their economies, others, including Poland, express aspirations to reform their economies and join this elite club to be able to enjoy the benefits of the knowledge-based economy (Włodarczyk, 2008; Wach, 2014).

At the foundations of the knowledge-based economy there is, unsurprisingly, knowledge, taking the form of scientific publications, research results, technology or innovation. The most basic characteristic of knowledge is the fact that it is a public good.

The aim of this article is to present the consequences of the knowledge as a public good for the creation of knowledge-based economy, and to identify and describe the role of the state in building this economic model.

This aim and the presented context allow to propose the following research hypotheses:

- the development of the knowledge-based economy requires an active involvement of the state,
- one of the necessary forms of state involvement is providing free, permanent, and instantaneous access to knowledge resources,
- changes in the processes of producing and utilizing knowledge require parallel changes in the access to knowledge.

## 5.2. Literature Review

Knowledge has always been an important part of economic processes through its manifestation in the technological progress and human capital, but the term "knowledge-based economy" has been used by economists only for about 20 years. Most credit for this fact should be attributed to The Organization of Economic Cooperation and Development. The main forces behind changes in the economy, that inspired the creation of this term, are: the revolutionary changes in Information and Communication Technologies, rapid scientific and technological progress, increasing global competitiveness, and the revision of the characteristics of the consumer demand towards including aspects such as quality, design, leisure time and sustainable use of the environment in the preferences (Coates, Warwick, 1999).

Especially the term "new economy" has been often and eagerly used by OECD at the beginning of the XXI century. Woroniecki (2001) characterizes the new economy with the following features:

- the economy being driven mostly by the services sector,
- an increase in the investment in the intangible capital,
- an increase in the employment in knowledge-intensive sectors,
- an increase of the efficiency, causing more rapid economic growth,
- an opportunity to modify economic cycles through lowering the inflationary pressure by using ICT on a mass, global scale,
- economies of scale and positive externalities.

OECD (1996) defines the knowledge-based economy as an economy that is directly based on the production, distribution and use of knowledge and information. Z. Sadowski (2004) defines it as an economy, in which knowledge has become not only an independent, but also a fundamental factor of production. Knowledge is said to be a substitution for the traditional factors of production, labor and capital, in a sense that it increases their productivity, thus reducing their required amount.

The important elements of the knowledge-based economy are: the use of the technological policy and social knowledge in economic activity, training of the human capital, new organizational methods, and necessary institutions (Woroniecki, 2001).

R. Galar (2001) differentiates between two approaches to understanding knowledge-based economy. The first one treats the knowledge-based economy as the part of the economy, which produces and processes information or requires highly educated labor force.

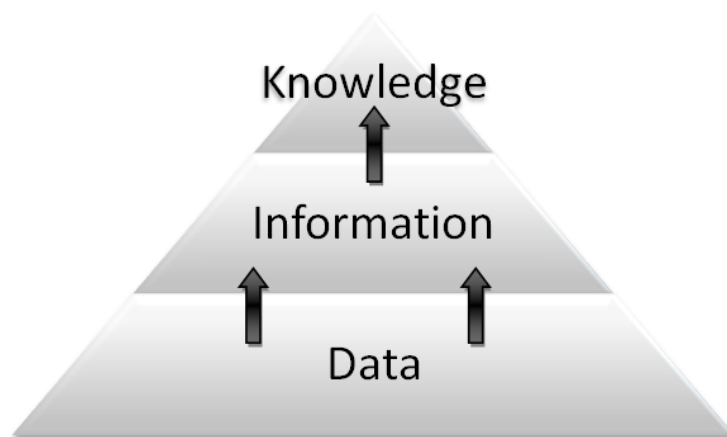
The knowledge-based economy will therefore include the ICT sector, the automotive industry, the chemical industry, the mechanical industry, educational, financial, and medical services (Włodarczyk, 2011). The second approach treats knowledge-based economy as a new theoretical concept, which defines the system based on information, knowledge, and human capital.

In the economic context knowledge can be understood in two ways. The first approach considers knowledge as information, that is processed, and then used in economic models to make a rational decision concerning economic activities. The second approach considers knowledge as an asset that takes part in the production process. These assets can be private or public property. If they are a private property, they can be the subject of an exchange. Knowledge as a public property is the centre of the theories concerning the knowledge-based economy (Chojnicki, 2001).

However, this approach is not a perfect description of knowledge. The majority of researchers uses the three-element model to define knowledge. This model consists of data, information, and knowledge. Data is a set of undifferentiated and unrelated facts, presented without context. They are structured through the processes of categorization and classification, and put in the context they become information. The last and the most complex element of the model is knowledge. It is a set of information, which possess a subjective meaning and personal relation to the experiences of the owner of said knowledge. Knowledge is an image of the reality placed in the context of a certain function to serve a certain purpose (Kowalczyk, Nogalski, 2007). The term "knowledge" is often mistaken with the term "information". The difference can be quite easily understood by underlining the fact that knowledge gives the owner the ability to take some action, manual or intellectual. In this way it can be described as a cognitive ability. Information, however, as a structured dataset, remains passive until it is used by a subject possessing knowledge necessary to interpret and process this information (David, Foray, 2002).

OECD characterizes knowledge using the functional criterion. There are four different types of knowledge: know-what, know-why, know-how, and know-who (Lundvall 2000). The know-what knowledge concerns facts, and in this way it is closely related to information. It is also called a descriptive-informative knowledge. Generally, it has a public character. It can be accessed through publications, databases, and information technology. This type of knowledge is coded, which means it is expressed using a code known by a certain group of subjects. To show a simple example: a child cannot understand a scientific text because of its more advanced language. The know-why knowledge is an explanatory knowledge. It concerns the rules and laws of nature, human body, and society. This type of knowledge also has a public character thanks to the publications of research results, but the access to it can sometimes be restricted if the research was founded by a big corporation. It is a coded knowledge, but it has a non-explicit element: the abilities of the researchers connected to conducting research. The know-how knowledge is a practical-technical knowledge. It concerns the abilities to perform a certain action. In a small part it has a public character, but generally it should be classified as tacit knowledge. The know-who knowledge contains information summarized as "who knows what" and "who can do what". This type of knowledge requires the ability to cooperate and communicate with various people and experts. It is non-public and tacit. This classification has been modified by adding other categories of knowledge: know-when (i.e. when to apply organizational changes), know-which (i.e. which functions need monitoring), know-between (i.e. concerning the relations between markets), know-where (i.e. where to search for new resources), know-whether (i.e. whether to continue expensive research), and know-if (i.e. if the organization should hire new workers) (Kwiatkowski, 2001).

In the context of the economic and management sciences it is important to differentiate between the explicit and tacit knowledge. The explicit knowledge can be sometimes identified with the formal knowledge. It is precise and systematized, it can be expressed with words, numbers, signs, and symbols. It can manifest physically in documents, databases, and other types of written information. It is easy to articulate, codify, store, and popularize. The tacit knowledge is the knowledge, about which one knows it exists, but has troubles expressing it in a precise way. It has an experimental and situational character. The tacit knowledge is accumulated by an individual subject along with experiences. It is related to subjective opinions and intuition, and this renders it hard to store and convey. Usually it is communicated verbally and through shared experiences. In the enterprises tacit knowledge takes form of organizational values, visions, customs, models of behavior, and opinions (Grudzewski & Hejduk 2004). In most cases tacit knowledge can become explicit through the codification process, the precise articulation, which allows to externalize the subject's internal knowledge using a set of symbols and language. Codification plays an important role in the knowledge-based economy, because it eases the process of communication, learning, and creates a foundation for a new knowledge (David, Foray, 2002).



**Fig. 5.1.** Data-information-knowledge model

*Source:* own compilation based on (Kowalczyk, Nogalski, 2007)

The following features are often attributed to knowledge (Jarugowa, Fijałkowska, 2002):

- a dominating character: knowledge is a foundation of competitive advantages, its role is superior to other resources,
- non-exhaustibility: the more it is used the more its value grows,
- intangibility: knowledge is intangible, only its product or its medium can be tangible,
- simultaneous use: it can be used in many places by many people at the same time,
- nonlinear character: the same amount of knowledge can yield different effects in different contexts.

Some of these features determine the fact that knowledge is a public good.

### 5.3. Material and Methods

The process of changes in the economy, as well as in the academia, forces changes in current models concerning knowledge. On the one hand, several important phenomena can be observed: increasing dynamics of knowledge production and innovation, a growth of their role in economic processes, the saturation of the economy with knowledge and its products (Włodarczyk, 2009). Knowledge and its derivative, innovation, determine a significant part of the competitiveness of an enterprise. The value of knowledge is reflected in the advantage of the knowledge-based economy over the traditional one. On the other hand, the fact that knowledge is a public good, creates problems for the efficient functioning of the knowledge market.

In this context this article considers the following hypotheses: that the development of the knowledge-based economy requires an active involvement of the state, that one of the necessary forms of state intervention is providing free, permanent, and instantaneous access to knowledge resources, and that changes in processes of knowledge production and utilization require parallel changes in the access to knowledge.

These hypotheses will be verified by the critical analysis of the existing literature of the topic. The analysis will be qualitative in nature. The research process consisted of the following stages:

- an analysis of the literature concerning the background of the research topic: the knowledge-based economy,
- an analysis of the characteristics of knowledge and its role in the economy, based on the literature,
- an identification and analysis of problems related to the inefficiency of the knowledge market,
- proposing the hypotheses,
- an analysis of the benefits of free access to knowledge, and the currently undertaken actions aiming towards it,
- the verification of the hypotheses and propositions of future actions.

### 5.4. Results and Discussion

#### **Knowledge as a public good**

The public goods concept was created by Paul Samuelson. In 1954 he identified the characteristics of this group of goods. He defined them as non-rivalrous and non-excludable. The lack of rivalry in consumption means that the consumption of the good by one person does not exclude the consumption of the same good by another person. The good does not exhaust during its consumption. The non-excludability means that excluding someone from the consumption of the certain good is either expensive and difficult, or impossible (Samuelson, 1954).

Goods that fulfill both of these conditions are called the pure public goods. The impure public goods may fulfill just one of the conditions above or fulfill both of them partially. There are also local public goods, benefits from which concern only a specific local society, and national public goods, i.e. national defense.

J. Stiglitz proposed a category of global public goods. These are: the international economic stability, international safety, global environment, international humanitarian aid, and knowledge (Stiglitz, 2006). Knowledge is traditionally considered a public good, what is more, it often serves as an example of a pure public good. Once produced, knowledge

does not diminish its value when it is used by other people. Sharing knowledge does not mean that a person stops possessing it, thus, it is a non-rivalrous good. Similarly, one cannot be excluded from possessing knowledge. Once certain knowledge has reached a person, he or she cannot be excluded from possessing it. One cannot unlearn knowledge once learned. The characteristics of a public good can also be attributed to information, which is a crucial aspect of the discussion on knowledge.

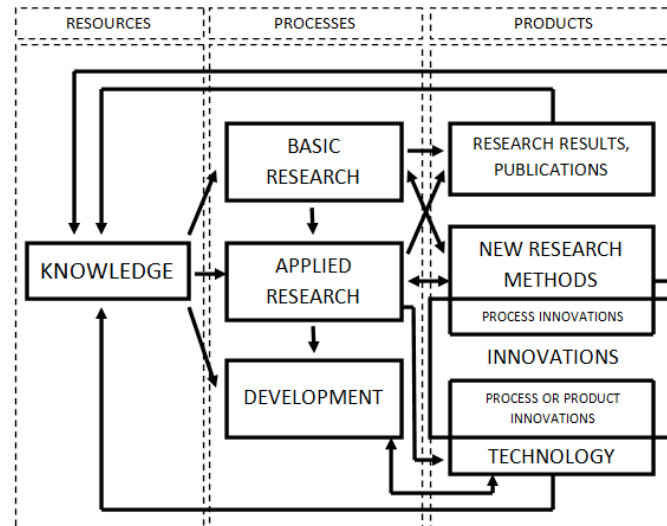
The utility of knowledge derives from its numerous functions and characteristics. The obvious positive function of knowledge is its role in the economic growth: through creation of new technologies, new products, and new methods of production. The accumulation of knowledge in a society increases its well-being through increasing the standard of living by providing better and cheaper appliances, more efficacious and accessible health care, and education accessible to people by methods of e-learning. It must be highlighted that the value of knowledge not only does not diminish during its consumption, which is the reason why it is considered a public good. In numerous cases the value of knowledge actually increases the more it is used. Databases are a perfect example of this phenomenon. Thanks to the fact that they are used by a big group of people, their utility increases: data contained in them is examined, corrected, updated. The value of this data increases by being shared with other researchers (David, 2001). Knowledge creates new knowledge in a cumulative process. Without basic research, applied research and development processes would not be possible, thus, innovation would not be possible. Discoveries enable new discoveries, research enables new ways of utilizing knowledge already possessed.

Figure 5.2 presents the model of knowledge accumulation. Knowledge is a resource used in basic research, applied research, and development. These processes can, but do not have to, be parts of one bigger process, and occur one after another. The products of basic research are: results of the research, presented in the form of publications, and new research methods. New research methods can also result from applied research. The other products of applied research are publications and technology. Technology can also be produced in a development process, which, in turn, is driven by new technologies in a feedback loop. A part of new research methods and technology can be considered innovation, either the product innovation or the process innovation.

Knowledge, technology, and innovation have a complementary character. Coupled with other technologies or innovations, their shared value is higher than the sum of both their values separately.

The fact that knowledge is a public good has serious consequences for the process of its production and distribution. The market does not deal with public goods in an efficient way. The basic problem are the difficulties faced by a producer of a certain public good when trying to control the secondary distribution of this good. The secondary distribution means that the producer does not achieve higher profits in spite of more people using the good. This situation renders the economic incentives to produce a good inefficient. It can have the following consequences (West, 2000):

1. The market for the certain good won't emerge. This is a classic example of market failure, when despite the demand for a good, no one offers it to the consumers.
2. The other possibility is the involvement of the state in the production of the good. This is sometimes considered to be a basic function of the state.
3. The last one of the possible consequences is the emergence of an incomplete, inefficient market for the good. For example, a public good may be tied to a private good, the price of which will take into consideration the value of the public good, or public goods will be offered for a higher price, compensating for the possibility of the secondary distribution.



**Fig. 5.2.** Knowledge accumulation model

*Source:* own study

There are situations, when the enterprises provide public goods without special incentives, deeming the current conditions to be enough to achieve profit (Jain, Jha, Mukundan, 2010). This is not a common occurring, though. A part of public goods is produced voluntarily by individuals creating groups for this particular purpose. Those goods accumulate, which under the condition of a low depreciation rate could resolve the free-riding problem. However, such voluntary production of public goods does not provide their optimal amount (Cox, 2012; Okada, 2008).

#### **Access to knowledge and scientific information – current trends**

The debate concerning the Open Access model and the role of state in providing free access to knowledge products is currently being carried out in many countries. Last year in the United States the administration of the president Barack Obama proposed a project obligating institutions and researchers to provide free access to scientific articles concerning publicly-funded research after a short period of time after the publication (six or twelve months) (Noorden, 2013). This proposal was implemented as a White House Directive. Similar solutions can be found in National Institutes of Health Public Access Policy, Omnibus Appropriation Act and the proposed Fair Access to Science and Technology Research Act (FASTR).

Open access to at least the results of the publicly-funded research is also a part of the European Union policy. Decisions regarding the Open Access model can be found in documents concerning the following initiatives: A Digital Agenda for Europe, Innovation Union, and Horizon 2020. A Digital Agenda for Europe, as an element of the European information policy, presents the open access policy regarding the full range of information produced, stored, or bought by public entities in the EU. The Innovation Union, as an element of the scientific policy, contains strategies regarding scientific research and development, and innovation. Table 5.1 contains a more throughout overview of the European initiatives in this field.

**Table 5.1.**

The development of the open access to knowledge model in Europe in 2003-2013

<b>Year</b>	<b>Documents and events</b>
<b>2003</b>	– Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities
<b>2004</b>	– An analysis of the open model of publication,
<b>2006</b>	– Recommendation of the European Research Council and the European Research Area Board,
<b>2007</b>	– Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on scientific information in the digital age: access, dissemination and preservation, – Outcome of proceedings of the Council (Competitiveness) on 23 November 2007- Council conclusions on scientific information in the digital age, – OECD Principles and Guidelines for Access to Research Data, – Start of the DRIVER Project – an integration of European repositories
<b>2008</b>	– Recommendation of the European University Association, – Open Access Pilot as a part of 7th Framework Programme
<b>2009</b>	– Report: Preparing Europe for a New Renaissance. A Strategic View of the European Research Area,
<b>2010</b>	– Report: Realizing the New Renaissance. Policy proposals for developing a world-class research and innovation space in Europe 2030, – Communication from the Commission of 3 March 2010 - Europe 2020: A strategy for smart, sustainable and inclusive growth, – Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 6 October 2010 - Europe 2020 Flagship Initiative: Innovation Union, – Communication from the Commission of 19 May 2010 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A Digital Agenda for Europe, – Start of the OpenAire repository,
<b>2011</b>	– Commission Recommendation on the digitization and online accessibility of cultural material and digital preservation, – Revised draft strategy on UNESCO's contribution to the promotion of Open Access to scientific information and research, – Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Open data: An engine for innovation, growth and transparent governance,
<b>2012</b>	– Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee - Security Industrial Policy Action Plan for an innovative and competitive Security Industry, – Scientific data: open access to research results will boost Europe's innovation capacity. (Press Release), – Policy Guidelines for the development and promotion of Open Access, – Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Towards better access to scientific information: Boosting the benefits of public investments in research.
<b>2013</b>	– Commission welcomes Member States' endorsement of EU Open Data rules. (Press Release) – Open access to research publications reaching 'tipping point'. (Press Release) – Report of the European Commission - Public Consultation on Open Research Data

*Source:* Adapted from (Przyłuska, 2012) and updated by A. Witoń

According to the Framework Programme Horizon 2020 for the 2014-2020 period, till 2014 all member countries were supposed to work out the rules concerning the open access to scientific articles and data, and till 2016 the percentage of scientific articles based on publicly-funded research accessible in the open model is supposed to rise from 20 to 60% on the EU scale (European Commission, 2012). This initiative must be commended, because it may bring significant benefits. J. Houghton and P. Sheehan show in their research that GERD expenses bring 50% of social return on investment, and that the open access increases this number by additional 5%. Other research estimate only 25% of social return on GERD, but the open access to publicly-funded research brings 50 times more benefits than costs (Suber, 2012).

## 5.5. Conclusions

Knowledge is regarded as a fundamental factor of the economic growth. This fact must be considered in the context of rapid changes in the knowledge production and diffusion: changes in the prevalent forms of scientific publications, as well as change of tools used to create knowledge. Science is becoming a social process, research stops being limited to academia, the society takes part in solving problems, innovations are created in a multidimensional process based on feedback loops. While considering the contemporary scientific environment, it is important to focus on the new trends: apart from the traditional channels of communication, researchers use blogs, message boards, and social media. A significant part of the cooperation, sharing opinions, and project coordination takes place virtually, using networking tools. In the light of an enormous amount of data being generated, it is logical that science and research broaden their scope.

Turning towards the knowledge-based economy requires restructuring current models and institutions. The knowledge-based economy cannot be built by limiting access to knowledge. The closed-access model of scientific journals stops being a solution adequate to the conditions in the academic environment. An Open Access model offers faster and more efficient scientific progress. It allows to improve the conditions of research and to increase its quality, while at the same time lowering the costs, it facilitates cooperation between researchers and research groups through better project coordination, it helps to avoid duplicating the efforts and wasting time and financial resources, shortens the time between the basic research results and the application of the new technology, and it involves the society in the process of citizen science. Apart from its active involvement, the society can also passively observe the scientific progress, which facilitates the openness, especially in the case of publicly-funded research. This corresponds well with the knowledge society concept, which is a foundation of the knowledge-based economy and its related notion at the same time.

The role of state in providing an open access to knowledge derives from the fact that knowledge is a public good. The market tries to cope with this situation by privatization of knowledge, however, it does not bring socially optimal results. The social loss caused by various kinds of monopoly connected to the intellectual property protection is especially severe, because knowledge is both the final and the production good. When the market fails in providing the optimal amount of knowledge, the state has a legitimization for its involvement in the economy to solve the problem. The Open Access model allows to fulfill the basic functions of the knowledge-based economy: the creation of knowledge, and the creation of wealth through implementing new knowledge and innovations.

Taking these conclusions into consideration, the proposed hypotheses can be verified positively. The development of the knowledge-based economy requires an active involvement of the state, and one of the necessary forms of state intervention is providing free, permanent, and instantaneous access to knowledge resources. Changes in the processes of producing and utilizing knowledge require parallel changes in the access to knowledge.

To conclude, it must be mentioned that the Open Access model is still far from being a homogenous and complete solution. Further analyses are necessary to answer the question of the most beneficial form of access to knowledge resources, the institutions, the intellectual property protection, and providing access to other knowledge products. However, at this moment it can be certainly said that the state involvement in providing free access to knowledge is a big step towards competitive and dynamic knowledge-based economy.

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# REGIONAL CONTEXT OF CORPORATE GROWTH: AN EMPIRICAL INVESTIGATION AMONG SMES FROM SOUTHERN POLAND

Krzysztof Wach

Cracow University of Economics, Krakow, Poland

## Abstract

The paper verifies the existence of relations between growth and development of small and medium-sized enterprises and the particular factors of regional business environment as well as demographic parameters of entrepreneurs and their enterprises. SMEs localized in Southern Poland (*malopolskie* and *śląskie*), are main research subjects. The paper is based on the own survey on the sample of 109 firms. The main aim of the research is to indicate factors of regional business environment, which have stimulating and/or restrictive influence on the growth and development of SMEs. These factors, having varied character, range and meaning, create conditions for the development of SMEs in a given region. The paper tries also to assess regional environment behaviour as well as indicate desirable directions of its changes. Eight working hypotheses were formulated, five of which were positively verified statistically. The results of empirical research can be used in the theoretical dimension (as the inspiration to further research in this range), as well as in the practical dimension (as the basis of changes for local decision-makers while creating regional business environment). The analysis of literature as well as the results of own empirical research confirm, that the proper functioning as well as development of small and medium-sized enterprises depends among others on particular factors of regional business environment. The undertaken research problem has pragmatic character. Desirable directions of changes in regional business environment of small and medium-sized enterprises in Southern Poland especially including regional institutional environment as well as regional and local policy in favour of small and medium-sized enterprises were determined on the basis of own empirical research results.

**Key words:** regional environment, mesoenvironment, business environment, corporate growth, corporate development, entrepreneurship, small and medium-sized enterprises (SMEs)

**JEL classifications:** M13, M21, D80, L20

## 6.1. Introduction

Regional factors play a crucial role in small and medium-sized enterprises' growth and development. Nowadays, small and medium-sized enterprises (SMEs) are not operating in

easy, stable or protected environments, they are operating in the turbulent environment, which for the purpose of the analysis can be divided into macro-, micro- and becoming more and more important mesoenvironment<sup>4</sup> (Wach, 2008; Wach, 2012, pp. 60-67). It is a paradigm, that some regions have a more entrepreneurial attitude than others. More and more researchers attach great significance to regional factors of SMEs' growth and development. Many scientists find considerable differences in entrepreneurial attitudes between regions within one country (Bergman, Japsen, Tamásy, 2002). Studies on regional differences in start-up rates can explain these differences in a large extent on the basis of differences in socio-demographic variables and the regional industry structure (Rachwał, Widerman, 2008). Entrepreneurial attitudes are to some extent dependent on the region of origin, but a number of questions concerning the regional influence still remain unresolved in a theoretical and empirical way (Bergman, 2002; Wach, 2008), and this was the inspiration for conducting this research. Fragmentariness of scientific knowledge based on empirical investigation conducted in Polish reality, made the author prepare own empirical research in this field. The aim of the paper is to present regional business conditions which affect small and medium-sized enterprises' growth and development in Southern Poland.

## 6.2. Literature Review: Regional Business Environment of SMEs

Competitiveness of economic units, especially small and medium-sized enterprises (SMEs), is co-created by the conditions lied in the closest surroundings, both local and regional, therefore the understanding of proper sources of competitive advantage requires undertaking the analysis on a mesoeconomic level. Thus delimitation and identification of regional factors, taxonomy of regional business environment as well as possibilities of optimization is very crucial for understanding the impact of regional environment on small business success, development and growth. Domestic as well as international literature points out a number of factors, which impact growth of small and medium-sized enterprises in qualitative and quantitative dimensions. The factors can be divided into three groups (Littunen, Sorhammar, Nenonen 1998, p. 191). The first one consists of characteristics and competences of a firm. Another very important group of factors depends on entrepreneurial potential of an owner or a manager. The last but not least group is made up of environmental factors in macro-, meso- and micro-dimension. During the last decade scholars focused on regional environment conditions as business success factors (for example Reynolds, 1999; Audretsch, 2003; Hart, 2003; Reynolds, et al., 1994; Makiela, 2008; Makiela, 2013). Some scholars even pay a special attention to regional factors (for example Hart, 2003, p. 12; Audretsch, Fritsch, 1996, p.140). In Porter's opinion particular regions compete in offering the most profitable business environment, in which the public and private sector play different, but related roles in creating the economic growth (Porter, 2002b, p. 3). The suitable macroeconomic policy determines economic growth, but is not sufficient because economic growth and competitive conditions depends mainly on mesoenvironment conditions. The critical factor of small business success and economic growth is the quality of the regional environment (Porter, 2002a, p. 22).

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<sup>4</sup> Mesoanalysis may be dualist considered - by sectors (referring to sectors, branches, or trading markets) or by regions (the level of economic regions, and very often the administrative sub-regions). It is worth noting that the meso level from the viewpoint of economics can be seen differently than in management. In the management science, M.E. Porter's five factors analysis of the industry is called task environment or microenvironment, while the concept of regional factors is called mesoenvironment (Wach, 2012, p. 177).

Although scholars agree that regional business environment plays an essential role in formation, survival, functioning, growth and development of small and medium-sized enterprises, but simultaneously there is the lack of a common identification and classification of regional factors. Nevertheless it is difficult, and sometimes impossible to differentiate between regional and supra-regional or national factors (Sternberg, Arndt, 2000, pp. 3-7; Meyer-Krahmer, Grundrum, 1995, p. 177). In order to determine the regional factors affecting SMEs' growth the study of literature was conducted, which allowed to arrange regional factors in order. The most popular and wide accepted research from different parts of the world were chosen, among them Porter (2002a; 2002b) in the USA, Frenkel (2001) in Israel, Bergman, Japsen and Tamásy (2002) in Germany, Sfiligoj, Glas et al (2000) in Italy and Slovenia, Sternberg and Litzenberg (2004) in Germany, Malecki (1997) in the USA as well Kalinowski et al in Poland (2005). The above mentioned authors indicated different regional factors, which had much in common, but very often were not sharply determined enough (table 6.1). Those factors were grouped in eight factors, which impact small business development (based on literature studies and a query search) as follows:

- availability of capital and financial support (e.g. Porter, 2001; Frenkel, 2001; Bergman, et al. 2002; Sfiligoj, Glas, 2000; Sterberg, Litzenberg, 2004, Malecki, 1997),
- local self-government initiatives and entrepreneurship infrastructure (e.g. Frenkel, 2001; Bergman, et al. 2002; Sterberg, Litzenberg, 2004; Sfiligoj, Glas, 2000; Kalinowski et al. 2005),
- availability and quality of business to business services (e.g. Porter, 2001; Frenkel, 2001; Bergman et al. 2002; Sfiligoj, Glas, 2000; Kalinowski et al. 2005),
- availability of well-educated labour source (e.g. Porter, 2001; Frenkel, 2001; Bergman et al. 2002; Malecki, 1997; Kalinowski et al. 2005),
- physical, transportation and telecommunication infrastructure (e.g. Porter, 2001; Frenkel, 2001; Bergman et al. 2002; Sterberg, Litzenberg, 2004, Malecki, 1997; Kalinowski et al. 2005),
- mobility of a local community (e.g. Bergman et al. 2002; Sterberg, Litzenberg, 2004; Ochowski, 2013; Wach, 2007b),
- knowledge and technology transfer (e.g. Porter 1998; Bergman et al. 2002; Sterberg, Litzenberg, 2004, Malecki, 1997; Kosała, Wach, 2011, 2013, 2014).

The accessibility of capital as well as financial support is the key conditioning factor for formation, survival and development of SMEs, especially in an initial stage of development. Local authorities can use a wide variety of tasks in favour of entrepreneurship. Regional policy should be focus on fostering entrepreneurship, but it is recommended not only to introduce new ideas, but also to deal with efficiency of a local administration, which is very important for entrepreneurs (for example 'one-stop shop'). Entrepreneurship infrastructure (Matusiak, 2006), consists of non-commercial units specialized in activities for small business, is crucial for SMEs' development in order to assist them on different phases of development (especially in a start-up stage). Small and medium-sized enterprises need B2B services, especially legal, tax, market research, IT and strategic consulting, to develop. This factor is very important in a mesoanalysis because firms offering such services are located in a region. Factors connected with labour market (among others the accessibility of well-educated workers, work culture) depends stronger on regional than national level (Dryglas, Wach, 2007). Communication and telecommunication infrastructure (e.g. quality and accessibility of roads, railway connections and air traffic, access to Internet) plays the essential role for small business functioning and development. Factors connected with R&D, knowledge and technology transfer (Włodarczyk, 2009; Kosała, Wach, 2011,

2013) are very important, especially under globalization and knowledge-based economy circumstances. Regions can offer industry clusters, technology parks or innovation centres, which can assist to commercialize the development and research units' results in order to stimulate not only formation, but also growth of innovative firms. Social mobility, understood as readiness of a local community to active participation in economic processes, which is moulded by regulative, normative and cognitive norms, determines entrepreneurial behaviours in a region (Kostova, 1997). Life standard of a local community can stimulate demand conditions, which makes this factor very important in a mesoanalysis. Regional conditions, especially efficient and effective utilization of locally diverse chances, development predispositions as well as co-operation between units is significant for development stimulus of micro, small and medium-sized enterprises (Rachwał, Boguś, 2012).

**Table 6.1.**

Comparative review of regional business environment factors in the view of different reserachers

<b>Regional factors</b>	<b>Authors (years)</b>	<b>M.E.Porter (1998)</b>	<b>A.Frenkel (2001)</b>	<b>H.Bergmann, A.Japsen, Ch.Tamásy (2002)</b>	<b>A.Sfiligoj, M.Glas et al (2000)</b>	<b>R.Sternberg, T.Litzenberg (2004)</b>	<b>E.Malecki (1997)</b>	<b>T.Kalinowski at al (2005)</b>
physical infrastructure		+	+	+		+	+	+
business-to-business services		+	+	+	+			+
local/regional policy in favour of SMEs			+	+		+		+
financial support		+	+	+	+	+	+	
well-qualified labour resources		+	+	+			+	+
local life standard		+	+					+
image of a region and its promotion			+		+			
natural resources		+						
knowledge and technology transfer		+		+		+	+	
public administration efficiency		+			+			
local competitiveness and cooperation		+					+	
business support centres				+	+			+
entrepreneurial attitudes (norms and values)				+		+		
education and training				+	+	+		

Source: own study based on the literature indicated in the table

### 6.3. Material and Methods

The research topic is quite interesting in Tamásy's (2002, p. 5) point of view because "there have been only a few such research so far" (e.g. Porter 1998; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Sterberg & Litzenberg 2004; Malecki 1997; Kalinowski et al. 2005; Tödtling, 2001; Wach, 2008; Rekowski et al. 2008). Porter's research on competitiveness and the role of regions is one of the most popular found in the literature. His

competitive advantage diamond is the most often quoted and used conception of regional business environment (Porter, 1998); nevertheless it represents the microeconomic more than the managerial point of view. Most authors researching regional environment focused on the economics of any territorial conceptions at microeconomics level of an analysis. As Bergman (2002, p. 19) stated "a number of questions concerning this regional influence still remain unresolved. (...) it furthermore needs to be analysed which factors might be most important to improve attitudes and views about entrepreneurship". Thus the author decided to investigate the regional factors from the organizational and managerial point of view, that is pursuing the impact on small and medium-sized enterprises' growth.

### **The Research Sample**

During the own empirical research process, two assumptions were made. As far as a business life circle of a firm is concerned the regional business environment influences SME growth and development in different ways according to the needs of a firm on different stages of its development. It allows us to assume that the regional environment impacts firms differently depending on the age of a firm. For small firms operating within a local market the regional factors play an important role. The second assumption allows us to limit the research only to the regional environment, apart from the general environment (macro-environment).

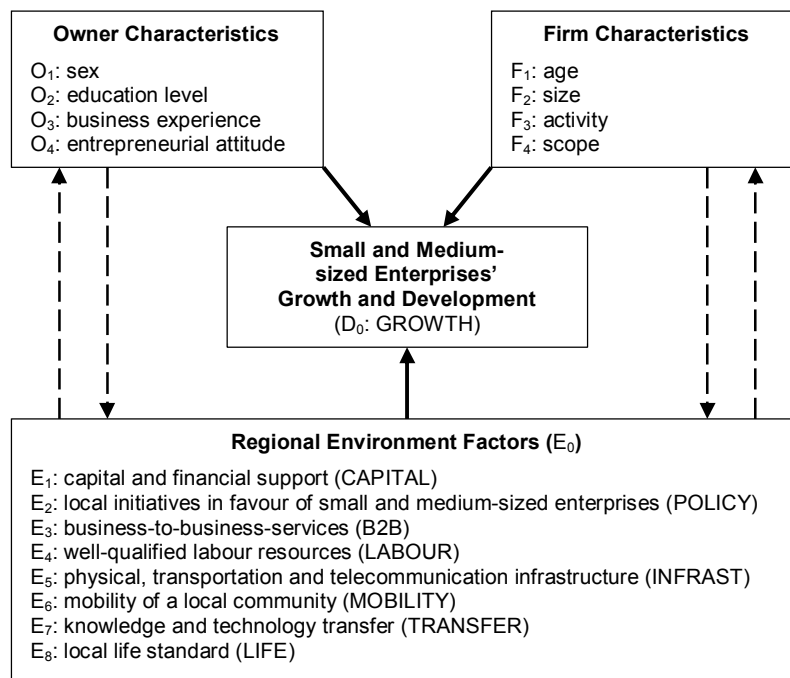
The research was conducted within entrepreneurs. The research was restricted to two regions in southern Poland (*małopolskie* voivodeship and *śląskie* voivodeship). The group consisted of 109 micro, small and medium-sized firms. The questionnaire dedicated to entrepreneurs includes questions on all four variables, but the questionnaire dedicated to communes was limited only to questions on regional factors. It was assumed that in each of two voivodeships making the Southern Poland Region, at least 44 surveys would be collected. Taking into account previous experiences, it was assumed that the return of questionnaires should hover around 15%. Taking these assumptions, 500 questionnaires (250 in each voivodeships) were sent by regular post and 109 completed questionnaires were received, which means that the response rate was 22%. It should be noted that the size and representativeness of the sampling carried out in recent domestic and international empirical research in this area ranged from 40 to over 1000 (which may confirm the credibility of the results based on a sample of 109 firms).

### **The Questionnaire and the Variables**

Managerial perception was chosen as an operationalization method, thus it assures the acceptable correctness and the reliability, and first of all tops other methods in relation to practical usage, what is more it is applied in analogous research very often (Lyon, Lumpki, Dess, 2000). This method was applied for all qualitative variables. Thus a survey (preceded with a diagnostic pre-survey) was applied as a main investigative technique, replenished with technique of observation. For quantitative variables as operationalization method data analysis was applied. In support of received and accepted variables the questionnaire of inquiry was constructed as a basic investigative tool. Qualitative approach in an inquiry was applied mainly, which is the most often applied approach in analogous investigations. The survey was based on a questionnaire divided into four main parts: regional climate for entrepreneurship; characteristics of the firm; characteristics of the entrepreneur (the owner of the principal manager); growth and development of the firm. The different types of questions were used, however in most cases the 5-point Likert's scale was used.

To determine the level of growth/development of the studied firms, an overall assessment index of enterprise growth/development was constructed through the sum of values (the interval from 1 to 5) indicated by the respondents at each question, and then it was divided by

the sum of maximum values possible to be obtained. Finally, the averaged total assessment was obtained, standardized in the interval from 0 to 1 (given in percentage in the interval from 0 to 100). The synthetic index took into account eleven sub-indices evaluating the level of development of the studied enterprises, namely the market share, sales growth, tangible resources, the size of employment, intangible and legal values, organization and management, financial liquidity, profitability, the value of equity, investments, the growth rate against the industry. The evaluations of the individual factors of the studied enterprises' growth/development adopted continuous values in the double side closed interval  $<0;100>$ , and the following weights were adopted:  $[0-25]$  - strong regression;  $[26-50]$  - regression;  $[51-75]$  - development;  $[76-100]$  strong development. At the same time, the quasi continuous variable was obtained. For the needs of the analysis of the regional environment influence on the development of small and medium-sized enterprises in the studied region, synthetic indexes in the studied region were prepared. Each index was constructed on the basis of the sum of values (the interval from 1 to 5) indicated by the respondents, and then it was divided by the sum of maximum values possible to be obtained. Finally, the averaged assessment which was subject to standardization in the interval from 0 to 1 was obtained (given in percentage in the interval from 0 to 100). At the same time, the quasi continuous variable was obtained. The index was constructed on the basis of the managerial assessment of such factors. The indices constructed in such a way enabled to use the verification methods of the hypothesis both for qualitative data and continuous data.



**Fig. 6.1.** Research model

*Source:* author's elaboration

### **The Research Model<sup>5</sup>**

The empirical study was based on numerous questions, which thematically can be divided into three input groups (regional business environment, the entrepreneurial attitude of the owner and the basic characteristics of the firm) as well as one output group (the growth and development of a firm). The model was based on the first three factors mentioned above and then compared with the last one in order to verify the hypothesis (see figure 6.1). The first main synthetic variable – region environment ratio – is made up of eight general regional factors variables, each of which consists of sub-variables. The second main synthetic variable – features of enterprise – consists of 5 sub-variables (age, number of employees, type of activity, legal form, and range of activity). The third main synthetic variable – features of entrepreneur – is made up with 4 sub-variables (entrepreneurial attitude, sex, education level, and experience). The growth/development ratio as the last main variable, consist of 12 sub-variables.

## **6.4. Empirical Results**

### **The Characteristics of Studied Firms**

The average age of the firms ( $F_1$ : AGE) was 10 years old, while 25% of studies firms had operated on the market for less than 3 years. The oldest firm was 140 years old.

As for the size of the firm ( $F_2$ : SIZE) the sample was very diversified, including 81.6% of microenterprises, 9.3% of small enterprises and 9.1% of medium-sized enterprises. The minimum employment was 0 and the maximum was 239 employees.

The business activity of the studied firms ( $F_3$ : ACTIVITY) was also diversified and the firms operated in 10 different sections of NACE. Such as 32.2% of the studied firms operated in industry and 63.3 in services.

The scope of the firms ( $F_4$ : SCOPE) was very diverse as well: 23.8% of the studied firms operated on local and 36.7% on regional markets, while 29.4% on national market and 10.1% on international markets.

### **The Characteristics of Studied Entrepreneurs**

The distribution of the surveyed entrepreneurs by sex ( $E_1$ : SEX) was almost even, but with a slight advantage in favour of men (women 45.7%, men 54.3%).

Given the level of education ( $E_2$ : EDUCATION), the largest group of entrepreneurs was with higher education (46.7%), followed by secondary education (40.2%), vocational education (11.2%), additionally only two entrepreneurs had only primary education (1.9%).

The average business experience measured in years ( $E_3$ : EXPERIENCE) among the surveyed firms was 10.2 years, and in case of half of the surveyed entrepreneurs it did not exceed 10 years.

### **The Evaluation of Business Environment**

Based on the survey results, the partial factors of the regional business environment were evaluated as beneficial for seven out of the eight factors, except for  $E_1$  (Table 6.2), whereby it is worth noting that the individual assessment of specific factors were varied.

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<sup>5</sup> The model is understood broadly, not as the econometric model (see Stachak, 2006, pp. 252-256; Daszkiewicz, 2004, p. 33).

**Table 6.2.**

Descriptive statistics for the evaluation of regional business environment factors from the managerial perception perspective

Factor (variables)	$\bar{x}$	Me	Mo	Appearance of Mo	Min	Max	S	Q <sub>1</sub>	Q <sub>3</sub>
E <sub>0</sub> : (overall variable)	62.29	32.15	multi	2	47.00	78.59	6.30	57.72	66.74
E <sub>1</sub> : CAPITAL	46.33	45.00	45,00	16	20.00	90.00	15.02	33	55
E <sub>2</sub> : POLICY	55.97	56.00	60,00	17	26.66	90.00	14.70	46.66	65
E <sub>3</sub> : B2B	57.52	60.00	60,00	22	30.00	90.00	14.82	48.60	68.60
E <sub>4</sub> : LABOUR	65.87	60.00	80,00	40	20.00	100.00	21.48	40	80
E <sub>5</sub> : INFRAST	59.08	60.00	multi	16	30.00	86.66	12.71	50	70
E <sub>6</sub> : MOBILITY	67.85	66.66	60,00	17	30.00	100.00	11.17	60	63.30
E <sub>7</sub> : TRANSFER	72.32	73.33	66,66	29	46.66	93.33	10.53	66.70	80
E <sub>8</sub> : LIFE	69.05	66.66	60,00	29	20.00	100.00	13.25	60	80

\* The features take values in a continuous mutually closed range  $<0, 100>$ , where:  $|0-25|$  – extremely unbeneficial;  $|26-50|$  – rather unbeneficial;  $|51-75|$  – rather beneficial;  $|76-100|$  – extremely beneficial

Source: own study based on the survey ( $n = 109$ )

#### **Links between the Characteristics of Firms and Entrepreneurs and the Regional Business Environment**

In the studied sample there is no statistical significance dependence between the factor E1 and the sector in which the studied firms operate (F3). Nevertheless there is statistical significance dependence between the factor E1 and three others variables describing the studied firms, namely the age of the firm (F1), the size of the firm (F2) as well as the range of firms' activities (F4). The dependence between the factor E1 and the size of the enterprise was proved by using chi-square test ( $\chi^2 = 10.56$  at  $p = 0.01$ ) as well as chi-square of the highest credibility test (at  $p = 0.01$ ). It shows, that predominant number of the micro and small enterprises estimate this factor negatively, however small-sized enterprise estimate this factor favourably. Statistically strong negative correlation between the factor E1 and the age of the studied enterprise F1 was proved by using linear Pearson's correlation ( $r = -0.45$  at  $p = 0.044$ ). In the studied sample it was observed that firms functioning on the market more than 3.5 years more often estimate the factor E1 negatively, while the youngest firms more often estimate this factor favourably. Strong positive dependence advocating that the bigger the range of activities is, the more positive evaluation of the factor E1 is (it was confirmed by using linear Pearson's correlation, whose statistics carried out  $r = 0.47$  at  $p = 0.038$ ). The largest percentage of negative evaluations stepped out in the case of firms operating on the local market, and positive in the case of firms operating on international markets. Nevertheless it can be explained by the fact that banks are more favourably disposed towards internationally-orientated firms. Using linear Pearson's correlation allows to confirm the dependence between the factor E1 and the sector of economy in which the firm operates (F3). On the basis of the value of the statistics ( $r = 0.44$  at  $p = 0.043$ ) as well as a two-dimensional schedule it might be stated that industrial and building companies more often estimate the factor E1 negatively than servicing and trading firms. Probably it results from the size of the firm as the firms operating in the production or construction industry

are bigger, than those operating in services and commerce industry, which can be taken into account while making decisions on credit support. One can not accept the thesis that the evaluation of the factor E1 depends on the demography of the enterprise with regardless of statistical verification. The test results on the sex of the entrepreneur (O1), the level of education (O2), the experience in business management (O3) as well as the entrepreneurial attitude (O4) are not statistically significant.

On the basis of chi-square test ( $\chi^2 = 7.3$  at  $p = 0.006$ ), as well as chi-square of the highest credibility test (at  $p = 0.003$ ) the dependence between the evaluations of the factor E2 and the age of the studied enterprises (F1) was proved. The histogram shows that firms operating on the market no more than 3.5 years more often estimate this factor favourably, while firms functioning on the market more than 3.5 years negatively. Moreover, the bigger the firm is (F2), the bigger the percentage of negative evaluations is, which was confirmed by chi-square test ( $\chi^2 = 7.06$  at  $p = 0.05$ ). The least negative evaluations were observed among self-employed entrepreneurs. Taking statistical verifications into account only one out of four variables describing the studied entrepreneurs is related with the evaluation of the factor E2. The dependence between the factor E2 and the entrepreneurs' experience in business management was observed ( $\chi^2 = 4.13$  at  $p = 0.04$ ). Respondents with at least 3.5-year-experience more often estimate the factor E2 favourably. Using statistics there are no grounds for confirming the dependence between the factor E2 and other variables (O1, O2, O4, F3, F4).

The value of chi-square test ( $\chi^2 = 7.5$  at  $p = 0.05$ ) confirms the dependence between the evaluations of the factor E3 and the size of the studied enterprises (F2). This correlation was also confirmed using chi-square of the highest credibility test. In the studied sample it was observed that the larger the firm is, the higher of positive evaluations frequency is. Among studied enterprises employing up to 9 workers the percentage of negative evaluations carried out near 50%, while among small enterprises and medium-sized enterprises the percentage of positive evaluations carried out 90%. The value of linear Pearson's correlation carried out the  $r = 0.50$  at the level of  $p = 0.025$ , which testifies strong positive correlation between the factor E3 and the variable F4. The histogram shows that the larger the range of the enterprise is, the higher the percentage of positive evaluations is. For example in the studied sample among enterprises operating on international markets the percentages of positive evaluations carried out 90.91%, while among enterprises operating on local and regional markets it oscillated round 60%. The evaluation of factor E3 depends on such variables describing entrepreneurs as his or her sex (O1) and experience in business management (O3). The first of these dependences was confirmed on the basis of the value of chi-square statistics, which carried out  $\chi^2 = 4.4$  at  $p = 0.04$ , as well as of chi-square of the largest credibility statistics (at  $p = 0.03$ ). Moreover the average positive correlation was confirmed using linear Pearson's correlation ( $r = 0.42$  at  $p = 0.066$ ), which means that men more often estimate this factor favourably, while women are more prone to negative evaluations. In the studied sample it was observed that there is the dependence between the evaluation of this factor and the experience in business management, which was confirmed by using the linear Pearson's correlation ( $r = 0.42$  at  $p = 0.068$ ). This moderated positive correlation testifies that the longer experience the manager has, the higher percentage of positive evaluations is. Two-dimensional schedule of variables frequency affirm that studied entrepreneurs, who have at least 3.5-year experience, more often estimate this factor favourably. There are no statistical significances as far as the remaining demographic features (O2, O4, F1, F3) in the studied sample are concerned.

On the basis of the value of standard deviation it is necessary to state that entrepreneurs' evaluations differ about 21.5% from average evaluation of this factor. The moderated negative correlation among the evaluations of the factor E4 and the size of firm (F2) was confirmed by using linear Pearson's correlation ( $r = -0.43$  at  $p=0.06$ ). It means that the smaller the firm is, the higher the percentage of negative evaluations is. Among studied small and medium-sized enterprises the percentage of positive evaluations carried out 75%, while among firms employing up to 9 workers (microenterprises or self-employed entrepreneurs) the percentage of negative evaluations carried out almost 30%. In the studied sample there was the regularity that the higher the level of education is (O2), the higher the percentage of positive evaluations is, which was confirmed by the value of chi-square test ( $\chi^2 = 7.6$  at  $p = 0.05$ ). This dependence was also confirmed by chi-square of the largest credibility test (at  $p = 0.04$ ). On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E4 and the remaining features (O1, O3, O4, F1, F3, F4).

The value of the statistics  $\chi^2 = 4.9$  at the level of  $p = 0.03$  confirms the dependence between the evaluations of the factor E5 and the age of the studied enterprises (F1). The older the firm is, the higher the frequency of negative evaluations is. Among firms functioning on the market no more than 3.5 years 82.76% of positive evaluations was noted, while among these operating on the market more than 3.5 year the percentage of negative answers carried out 40%.

The factor social mobility degree in a studied region became negatively estimated only by the smallest enterprises, these employing up to 9 workers, which was confirmed by the value of chi-square statistics ( $\chi^2 = 6.9$  at  $p = 0.07$ ). These results prove the correlation between the variable E6 and the variable F2. This dependence became also confirmed using chi-square statistics of the highest credibility at typical level of significance. With regard to four characteristics describing studied businessmen as well as four describing studied enterprises only one proved dependence was observed. The higher education level of entrepreneur is (variable O2) the bigger frequency of positive answers is. This dependence was confirmed using chi-square statistics ( $\chi^2 = 19.7$  at  $p = 0.05$ ), as well as chi-square statistics of the highest credibility (at  $p = 0.01$ ). The results of tests with regard to a sex of an entrepreneur (O1), the length of experience in enterprise management (O3), as well as the entrepreneurial attitude of an entrepreneur (O4), the age of a firm (F1), the sector in which it functions (F3) as well as the range of its activity (F4) there are not statistically essential dependences, which means, that there are no bases nor to prove, nor to reject verifying hypotheses in this incident.

On the basis of the value of standard deviation we can draw out the conclusion, that the evaluation of factor E7 is the least diverse (min = 46.7, max = 93.3). The most numerous group of studied entrepreneurs estimated this factor as 'favourable' (Mo = 66.7 at the mode size amounted to 29). The strong positive correlation between the respondents' education (O2) and the evaluation of regional knowledge and technology transfer (E7) was observed by using linear Pearson correlation ( $r = 0.48$  at  $p = 0.03$ ). The higher level of education is, the higher the frequency of positive evaluations is. On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E7 and the remaining features (O1, O3, O4, F1, F3, F4).

The dependence between the evaluation of factor E8 and the sector of economy in which the enterprise operates (F3) was confirmed by using chi-squared test ( $\chi^2 = 3.6$  at  $p = 0.05$ ). Negative evaluations have been noted down only among servicing and trading enterprises, which can testify about special sensibility of these enterprises to life standard of

local community. Two out of four variables describing entrepreneurs four variables were proved. Using chi-squared test ( $\chi^2 = 3.6$  at  $p = 0.04$ ) shows that the evaluation of the factor E8 depends on the sex of the studied entrepreneurs (O1). It was observed that men more often estimate favourably this factor, while among women the relatively high percentage of negative answers was noted down. On the basis of linear Pearson correlation ( $r = 0.48$  at  $p = 0.03$ ) we can point out moderate positive correlation between the evaluation of the factor E8 and the level of education (O2). The higher the level of education is, the higher the percentage of positive evaluations is. On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E8 and the remaining features (O3, O4, F1, F2, F4).

The synthetic coefficient of managerial evaluation of regional environment in the studied region was prepared (E0) in order to conduct the analysis of influence of regional business environment on small and medium-sized enterprises' development. The coefficient was constructed pursuant to the sum of values (in the 1-to-5 range) indicated by respondents for every partial factor (E1-E8), and then it was divided by the sum of maximum values possible to obtainment. In the end the average estimation standardized in the 0-to-1 range (expressed in percentage terms in the 0-to-100 range) was obtained. As a result the quasi continuous variable was obtained. The average managerial evaluation of regional environment was classified as 'rather favourable' on the basis of both the value of arithmetical average  $\bar{x} = 62.3$  and established ranks.

#### **Links between Regional Business Environment and SMEs' Growth**

In order to define the dependence between particular factors of regional business environment and small and medium-sized enterprises' development detailed analysis was conducted. During the statistical verification five of eight detailed factors were successfully verified (see table 5.2), namely: degree of accessibility of capital and financial support ( $E_1$ ), local initiatives in favour of small and medium-sized enterprises ( $E_2$ ), degree of social mobility in a studied region ( $E_6$ ), knowledge and technology transfer ( $E_7$ ) as well as life standard of local community ( $E_8$ ).

The first two factors were indicated using linear Pearson correlation, in addition to which between degree of capital and financial support accessibility in the region and small and medium-sized enterprises' development there is moderate correlation ( $r = 0.44$  at  $p = 0.046$ ), whereas weak correlation was observed for local initiatives in favour of small and medium-sized enterprises ( $r = 0.25$  at  $p = 0.014$ ). Next three dependences were confirmed using chi-square test, in addition to which two of them at typical statistical significance ( $\alpha < 0.5$ ), these are degree of social mobility of a local community ( $\chi^2 = 14.3$  at  $p = 0.006$ ) and knowledge and technology transfer ( $\chi^2 = 6.4$  at  $p = 0.04$ ), whereas dependence between life standard of local community and small and medium-sized enterprises' development was proved at acceptable statistical significance ( $\chi^2 = 2.8$  at  $p = 0.09$ ). Studied dependences became also confirmed using different statistical tools among them Yates correction chi-square test, Mann-Whitney test U as well as test t-Student).

For the rest three factors there are not statistical significance, which allows neither to prove nor to reject the given hypotheses, namely: degree of business-to-business services availability ( $E_3$ ), degree of well-qualified labour resources availability ( $E_4$ ) and condition of physical, transportation and telecommunication infrastructure ( $E_5$ ).

Table 6.3.

## Research results

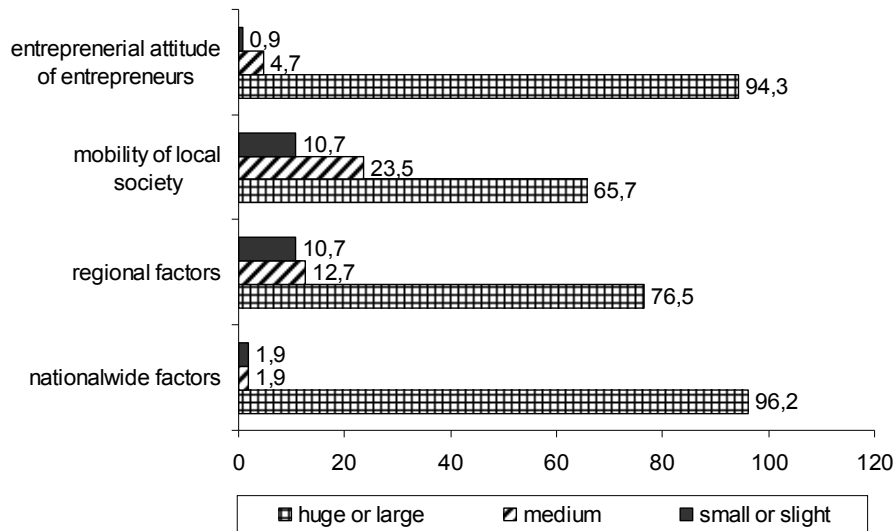
Hypotheses		Results
<b>H 1</b>	<b>Regional business environment factors impact small and medium-sized enterprises' development in a studied region.</b>	+
H 1.1.	Availability of capital and financial support impacts small and medium-sized enterprises' development in a studied region.	+
H 1.2.	Local initiatives in favour of SMEs impact small and medium-sized enterprises' development in a studied region.	+
H 1.3.	Availability and quality of business-to-business services impacts small and medium-sized enterprises' development in a studied region.	–
H 1.4.	Availability of well-qualified labour resources impacts small and medium-sized enterprises' development in a studied region.	–
H 1.5.	Condition of physical, transportation and telecommunication infrastructure impacts small and medium-sized enterprises' development in a studied region.	–
H 1.6.	Mobility level of local community impacts small and medium-sized enterprises' development in a studied region.	+
H 1.7.	Knowledge and technology transfer impacts small and medium-sized enterprises' development in a studied region.	+
H 1.8.	Life standard of local community impacts small and medium-sized enterprises' development in a studied region.	+

„+” – the hypothesis was proved

„–” – lack of statistical significance

Source: author's elaboration based on own empirical research (survey,  $n = 109$ )

In order to check the dependence between regional business environment and small and medium-sized enterprises' development, the general ratio estimating regional environment ( $E_0$ ) was created. The ratio was formed using eight detailed variables used in the research model ( $E_1$ – $E_8$ ). On the basis of results of own empirical investigations conducted in Southern Poland including two voivodeships – *małopolskie* (Lesser Poland) and *śląskie* (Silesia) – the hypothesis stating that there is dependence between regional environment factors and small and medium-sized enterprises' development became favourably verified. Such correlation was also showed by other researchers testing different regions of Poland. Between general ratio of regional business environment factors in Southern Poland and small and medium-sized enterprises' development there is weak positive correlation, which was confirmed using linear Pearson correlation ( $r = 0.3$  at  $p = 0.006$ ). Observed correlation is admittedly weak, however has strong statistical significance. Strong correlation steps out very seldom, because many factors including both exogenous and endogenous ones, influence studied phenomenon. Therefore such results could be expected. The mention above result can not surprise first of all with regard on large centralization of policy supporting small and medium-sized enterprises in Poland as well as more or less equal conditions of regional environment in the whole country as the remaining after the previous economic system. Moreover in entrepreneurs' perception from a studied region the factors of regional business environment play the third-rate part (76.5 %) in small and medium-sized enterprises' development, whereas nationwide conditions play the main influence in their opinions (96.2 %) as well factors connected with the businessmen's personal characteristics (fig. 6.2). Received results confirm the given hypothesis H1, that the regional business environment influence small and medium-sized enterprises development in a studied region.



**Fig. 6.2.** Importance of environment dimensions in entrepreneurs' view (in %)

Source: author's elaboration based on own empirical research (survey,  $n = 109$ )

### Regional Barriers and Stimuli

The most often indicated barrier by entrepreneurs (see table 6.4) was the lack of suitable financial support offered by territorial authorities (58.7%). This opinion was confirmed also by local communes, which indicated this factor as second in turn barrier (46.6%). Local policy (created mainly by communes) in favour of small and medium-sized enterprises was also equally often appointed by entrepreneurs as a barrier (55.1%). Nevertheless territorial authorities indicated this factor among three the most essential stimuli to the development of small and medium-sized enterprises. Entrepreneurs as well as local authorities indicated further the following barriers: lack of commercial financial support (firms 54.1%, communes 55.7%); high business rent (firms 47.7%, communes 33.6%); life standard of local community (firms 44.1%, communes 33.6%). As a regional barrier of SMEs' development entrepreneurs indicated equally often local business support centres (45.9%), while communes as a regional barrier recognised weak accessibility and low quality of B2B services (32.1% - 5th rang). Unlike entrepreneurs defined this factor more often as a stimulus (36.7%) than a barrier (25.7%).

Collating barriers indicated by entrepreneurs with the assessment of regional environment factors accomplished by entrepreneurs (according to worked out research methodology) one can confirm negative impact of financial support on SMEs development in the given region. The majority of entrepreneurs evaluated the available capital and financial support in the region negatively, while most of the communes estimated it positively or did not evaluate it stating as difficult to say. Nevertheless there is a moderate correlation between the mentioned factor and the development of small and medium-sized enterprises. The Pearson correlation is 0.44 at significance level  $\alpha < 0.05$ , which means that capital availability and financial support in the region impact the development of SMEs. Any significant differences between evaluation of young firms (up to 3.5 years old) and older were not observed using Chi-square Pearson test. This factor in comparison with remaining regional business circumstances was the lowest estimated by entrepreneurs. What is more

businessmen pointing out the main barriers of SMEs' development indicated simultaneously the lack of suitable public and commercial financial support. This phenomenon is called Macmillan gap, that is a gap between demand for capital from small and medium-sized enterprises side and supply of money to firms, especially on regional level (Jóźwiak-Mijał, 2005, p. 49-53). The division of studied firms on these using external financial sources (54.1%) and these not using (45.9%) was almost equal, while bank credits and loans from family and relatives were found as the most popular external financial sources among entrepreneurs (see table 6.5).

**Table 6.4.**

Regional barriers of SMEs development in Southern Poland in entrepreneurs' perception

Barrier	Rang	Percentage
public financial support	1	58.7%
local policy in favour of SMEs	2	55.1%
commercial financial support	3	54.1%
business rent prices	4	47.7%
regional business support centres	5	45.9%
life standard of local community	6	44.1%
regional business associations	7	32.1%
transport and physical infrastructure	8/9	27.5%
regional labour resources	8/9	27.5%
business-to-business services	10	25.7%
distance to/from suppliers	11	19.3%
distance to/from sale market	12	17.5%
image of the region	13/14	16.5%
supply of business offices	13/14	16.5%
IT infrastructure	15/16	12.8%
distance to/from cooperants	15/16	12.8%

Source: author's elaboration based on own empirical research (survey,  $n = 109$ )

**Table 6.5.**

External financial sources used by studied firms

Popularity of usage	Type of external financial sources
54.7%	bank credits and loans
29.1%	loans from family, relatives and friends
10.5%	EU Structural funds
3.5%	public subsidy and grants offered by central and local government
1.2%	non-commercial funds (low interests)
1.2%	other sources

Source: author's elaboration based on own empirical research (survey,  $n = 109$ )

Regional stimuli (table 6.6) to small and medium-sized enterprises development (Wach, 2007a) are in principle convergent both in the entrepreneurs' and local authorities' opinion of southern Poland region (*małopolskie* and *śląskie*). Both studied groups as a stimulus showed telecommunication infrastructure the most often (firms 64.2% - 1st posi-

tion, communes 49.6% - 4th position) as well as closeness of sale markets (firms 54.1% - 2nd position, communes 54.2% - 1st position). Entrepreneurs additionally indicated remaining resources factors the most often as well as closeness of suppliers (48.9%) and closeness of the cooperants (45.9%), under this regard similar opinions presented communes. Local policy in accordance with self-evaluation of communal decision-makers is peaceably one of main stimuli (52.7% - 2nd position), while entrepreneurs had an opposite opinion. Local self-government indicated equally often regional image as a regional stimulus of small and medium-sized enterprises development (52.7% - 2nd position). Evaluation of this factor accomplished by entrepreneurs was somewhat lower (36.7% - 5th position).

**Table 6.6.**

Regional stimuli of SMEs development in southern Poland in judgement of entrepreneurs and communes

Stimulus	Firms		Communes	
	rang	percentage	rang	percentage
IT infrastructure	1	64.2%	4	49.6%
closeness to/from sale markets	2	54.1%	1	54.2%
closeness to/from suppliers	3	48.6%	6	43.5%
closeness to/from cooperants	4	45.9%	7	40.5%
image of the region	5-7	36.7%	2/3	52.7%
supply of business offices	5-7	36.7%	9	32.8%
B2B services	5-7	36.7%	11	28.2%
regional labour resources	8	35.8%	5	48.8%
transport and physical infrastructure	9	27.5%	8	35.1%
life standard of local community	10	26.6%	12	23.7%
business rent prices	11	19.3%	14/15	19.1%
regional business associations	12	13.8%	13	22.9%
regional business support centres	13	11.9%	10	30.5%
commercial financial support	14	10.1%	16	11.4%
local policy in favour of SMEs	15	6.4%	2/3	52.7%
public financial support	16	5.5%	14/15	19.1%

Source: Author's elaboration based on own empirical research (survey,  $n_1 = 109$ ,  $n_2 = 131$ )

Analysing regional barriers and stimuli of small and medium-sized enterprises development it is necessary to stress also, that some entrepreneurs recognised a particular coefficient as a barrier, while the others as a stimulus. Almost the same percentage of answers was noted down for two factors: transport and technical infrastructure as well as services for business (B2B services). These results testify to differentiation of particular enterprises needs taking their age and size or the phase of development into account. Conclusions for regional authorities and regional business environment institutions, which can be drawn out, are obvious. While planning (regional) support policy in favour of small and medium-sized enterprises it is necessary to adopt the instruments to different needs of target enterprises resulted from their specifications.

The achieved results show, that the largest barrier in small and medium-sized enterprises' growth and development in Southern Poland is low degree of capital and financial support accessibility (that means its shortage or lack), which results from the fact that small

and medium-sized enterprises are subject to the larger limitations than large enterprises in the range of external financing costs as well as access to external funds. Small and medium-sized enterprises, in contrast to large firms, generally are not able to gain funding on capital markets and therefore they have to depend mainly on traditional external funding institutions (for example bank credits) as well as on informal sources of financing (for example informal loans from relatives).

## 6.5. Conclusions

Regional business environment plays a crucial role in stimulating small business development. Present worldwide research focus mostly on the microeconomic point of view, passing over the managerial dimensions of the issue. Thus, own empirical research tried to solve the problem from the managerial point of view. While evaluating the current state of the regional factors, the entrepreneurs' perception was implemented as a research technique. The research assumed eight regional factors, which can impact success of small and medium-sized enterprises. The factors were appointed on the basis of the literature study by grouping various factors indicated by various authors. Factors, appointed in this way, treated the regional environment more comprehensively than presented in previous research.

The analysis of literature as well as the results of own empirical research confirm, that the proper functioning as well as development of small and medium-sized enterprises depends among others on particular factors of regional business environment. Local and regional conditioning, and especially efficient and effective utilization diverse chances, developmental predispositions as well as cooperation can be significant stimuli for small and medium-sized enterprises' development in a studied region. Affirming on the basis of conducted investigations, that regional factors are key stimuli for SMEs' development can be going too far, however it is for sure that regional factors are ones of essential determinants of SMEs' development, and their analysis delivers valuable directions for changes in this range.

It was the first such research conducted in southern Poland, however the results are convergent to research results conducted in other regions of Poland dedicated only to regional barriers and stimuli, which means that the period from introducing territorial self-government in Poland (from 1999 up to now) did not allow to shape a proper regional framework for entrepreneurship development and diversification in this field. Similar results was noticed also by Daszkiewicz (2000; 2004a; 2004b), Nogalski and his team (2004), Krajewski & Śliwa (2004) or Strużycki and his team (2004).

Based on thoroughly verifiable empirical material the following conclusions can be drawn:

1. Regional financial support is aimed mainly at forming or newly formed enterprises omitting mature enterprises and microfirms in all stages of their development. Thus, decision-makers should adjust the financial support to the needs of both grown-up and very small firms.
2. Local policy in favour of entrepreneurship in southern Poland takes mainly only potential entrepreneurs into consideration. Policy-makers have to bear in mind mature enterprises. Thus, there is a need to educate local authorities in this field.
3. Low evaluation of entrepreneurial knowledge and skills within the community is alarming according to entrepreneurs opinions. Thus, implementing 'entrepreneurship' as an obligatory academic subject at all majors of studies is recommended. Although Poland

has already implemented 'introduction to entrepreneurship' in secondary school, but the syllabus is theoretically overloaded.

4. Low percentage of enterprises benefit from entrepreneurship support centres, *nota bene* the lowest ratio is noted for newly formed enterprises. It can signify that entrepreneurship support centres should focus on their promotion among both potential and mature entrepreneurs.
5. Surprisingly the low assessment of entrepreneurship support centres should be alarming. These institutions should treat their activities as providing professional services instead of free aid. What is more they should adjust their offer to the needs of entrepreneurs.

The presented research results can be used as directions for future research (theoretical usage) and as recommendations for local authorities in Poland (pragmatic usage). As far as directions of future research are concerned it is necessary to emphasize that in the long run it will be possible to determine the impact power of regional factors on small and medium-sized enterprise development in Poland.

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# LOCALIZATION FACTORS FOR OUTSOURCING AND OFFSHORING PROJECTS IN THE V4 COUNTRIES. AN ATTEMPT OF INITIAL INVESTIGATION

Mateusz Muchlado<sup>6</sup>, Piotr Grudowski  
Gdańsk University of Technology, Poland

## Abstract

Outsourcing and offshoring is becoming more and more popular in developing countries which create very attractive locations for more developed western countries to outsource or offshore their business activities. The authors will investigate the advantages and disadvantages of locating outsourcing activities in each of the Visegrad countries. The authors, through the observation and analysis of macroeconomic factors presented in international reports, selected twelve key factors that helped to resolve the following research problems: what are the key problems for investors who intend to outsource or offshore in the V4 countries, what factors cause those problems, do the Visegrad countries have similar problems, and finally, which country, according to the collated data and analyses, creates the best conditions to outsource or offshore business. The main objective of this paper is to identify the advantages and disadvantages for investments in the V4 countries and to present the similarities and differences in the analyzed factors to help investors in making outsource or offshore decisions.

**Key words:** outsourcing, offshoring, V4 Countries, investments

**JEL Codes:** L23, F64

## 7.1. Introduction

Due to the growing costs of maintaining a business, more and more companies look for cost reduction methods. If there is no possibility to ensure the reduction of costs in the home country, a company looks for new markets and possibilities and starts to consider doing their business abroad.

In the case of big international companies, offshoring or outsourcing is becoming more and more popular. Many new investments are also located in the Visegrad countries: Po-

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<sup>6</sup> graduate at the Gdańsk University of Technology.

land, the Czech Republic, the Slovak Republic and Hungary. The main objective of this paper is to present conditions for investors in the context of the outsourcing or offshoring provided by the V4 countries and to identify the good and bad aspects of investing in a particular Visegrad country.

## 7.2. Literature review

There are many literature sources describing offshoring and outsourcing in the case of foreign direct investments. These concepts of offshoring and outsourcing are very closely related and usually difficult to distinguish.

In the opinion of the authors, the best definition was proposed by D. Chadee and R. Raman. According to these authors, offshoring, referred to also as international sourcing, means using more services to manage supply from another country either through internal or external suppliers. Outsourcing focuses on the provision of services in the home country. If provided by foreign organizations, it is called international outsourcing (Chadee, 2009, p. 1).



**Fig. 7.1.** Outsourcing and offshoring: illustrative concepts

*Source:* own elaboration based on (Chadee, 2009, p. 412)

Offshoring and outsourcing have become typical solutions for mature economies, because they reduce costs in the short run (Maskell, 2007, pp. 239-247). On the other hand, offshoring and outsourcing are applied to obtain added value which cannot be obtained in the home country or if obtaining this is costly. (Debmalya Mukherjee, 2013, p. 378)

Offshoring and outsourcing are becoming more and more popular because of the reduction in travel costs, the transfer of knowledge, the implementation of new communication technologies, etc. (Grossman, 2006).

In the globalized economy, any information can be sent immediately, so the Visegrad group is able to create equal conditions to other European countries in terms of service accessibility.

According to the literature, the main determinants in choosing a country to offshore or outsource in are: costs, availability and quality of the labor force, infrastructure and technology, geographical aspects, culture, geopolitical risks, property rights security (Gartner, Inc., pp. 2-3), size of market, and goods market efficiency (World Economic Forum, 2013, pp. 22-23). Using these factors, the authors present the characteristics of the V4 countries to help potential investors to choose the best country to invest in.

### 7.3. Methods and Results

An extensive literature study enabled the authors to select the key factors for making offshoring and outsourcing decisions in the Visegrad countries.

The decision to modify an existing methodology was made because reports have been done to rank countries from all over the world. To analyze such a range of countries with different economies, political systems, tax systems, geographical range, internal problems, etc., it is necessary to properly weigh up many factors and be faced with many problems such as lack of or falsified data.

The Visegrad countries face similar political and legal problems, have similar tax system regulations (regulated by the EU), similar cultures and what is most important, they are located in central Europe.

Bearing in mind that those countries do not differ significantly concerning the mentioned factors, the authors focus on the key factors which differentiated them. The analysis is based on six groups of factors:

1. Macro-economic environment.
2. Cost factors.
3. Infrastructure.
4. Rankings analysis.
5. Analysis of recent government decisions influencing foreign investors.

The choice of methods of analysis has been made in terms discussed in the literature to analyze the main factors causing the country is or is not attractive in terms of direct investment. According to the A. Szymaniak the main factors are: low systems, transport, government decisions, stable GDP growth, membership in the European Union, the cultural closeness with western European countries (Szymaniak, 2008, p. 298). According to the S. Szukalski the main factors are: location, security of investment, level of corruption, regulation, stability and clarity law, macroeconomic infrastructure of host country (growth rates, the level of GDP growth, government deficit level), business conditions (labor resources, quality of work, the cost of work, the experience of other investors), telecommunications infrastructure and physical infrastructure and others (such as personal contacts of investors in the country) (Szukalski, 2013, pp. 2-3).

Authors besides factors mentioned in literature to the analyses used international rankings scores to make bigger perspective of researched topic.

Data and information for this analysis were collected from common and trusted sources, like the World Bank database, the OECD and statistical departments of particular countries. It is worth remembering that the authors analyze those factors only in the case of outsourcing and offshoring and ranking was done only for this purpose. For example, Slovakia has the biggest unemployment of all the V4 countries, which in the case of macroeconomic analysis is treated as a disadvantage, but in the case of a location for business it is not always a disadvantage because there is no problem with lack of a labor force.

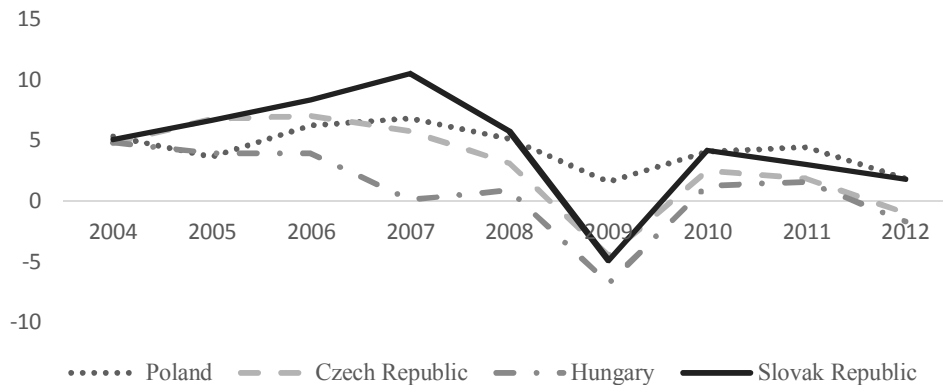
The authors, to show changes in trends in factors like GDP or FDI, intentionally used data referring to after the Visegrad countries joined the EU to better show the current situation.

The authors, in the analyses, purposefully used more factors showing the % trend or change rather than in numbers. This step was taken because of differences in the scale of the economies in the analyzed countries, thus thanks to this kind of data the countries can be properly compared.

### Macro-economic research results

The first step of analysis taken in this paper would be the analysis of macro-economic factors.

To begin with, the authors will analyze GDP growth – to see the development trend in the Visegrad countries. Secondly, to analyze the wealth of citizens of the V4 countries, the authors will analyze GDP per capita. Finally, to see how interested foreign investors are in outsource and offshore to the Visegrad countries an analysis of Foreign Direct Investment will be made.



**Fig. 7.2.** GDP growth in V4 countries (annual in %) in years 2004-2012

*Source:* own elaboration based on (The World Bank Database)

The basic factor to present the stability and growth rate of the economy is the analysis of the GDP growth trend. Besides the cost factor of offshoring or outsourcing, it is necessary to take into consideration this factor carefully.

As we can see from the figure 7.2 of global gross domestic product change, the V4 countries were treated as developing countries in the years of prosperity (between 2004 when they joined the EU and 2009) as their economy was growing. In 2009, when the crisis began, all the economies besides Poland weakened and the annual GDP fell below zero %. After the year when the crisis started, the economies were developing continually, but less dynamically. Poland is a specific case which all the time was stable and grew continually.

Returning to the theme of where to locate an offshoring or outsourcing business, if we search for an economy which is stable and “crisis proof”, we should select Poland. However, generally, all the V4 countries are rebuilding their GDP very fast following a crisis period, so it can be said that in the long term they all are a good option for offshore business operations, if we consider the stability of a region.

The table 7.1 shows the changes in GDP per capita in the years after the V4 countries joined the EU.

According to the table 7.1, all the V4 countries experienced a considerable loss of GDP per capita. But this table shows us how quickly countries are able to rebuild after a shock to business. Poland did so in almost one year, losing 9% in 2012, but the total improvement in the wealth of citizens was about 76%. In the Czech Republic citizens experienced a 13% loss in wealth in 2009 and could not rebuild because of recent losses. But in total they increased the wealth of citizens by 59% - the second-best score after Poland.

Table 7.1.

GDP per capita change, in % in V4 countries in years 2005-2012

Country \ Year	2005	2006	2007	2008	2009	2010	2011	2012	Total growth
Poland	20%	12%	25%	24%	-19%	9%	9%	-5%	76%
Czech Republic	14%	14%	21%	24%	-13%	0%	9%	-9%	59%
Hungary	8%	2%	21%	14%	-18%	1%	8%	-9%	27%
Slovak Republic	9%	12%	22%	16%	-11%	0%	11%	-5%	54%

Source: adapted from (The World Bank Database).

Hungary also did not increase their GDP per capita after the crisis shock, but after 2005 they increased the wealth of citizens by 27%, which is the worst score of all the Visegrad countries.

The citizens of the Slovak Republic lost the least wealth during the crisis shock and continued very well after it. Considering the small size of the country, their increase in GDP per capita at the level of 54 % is an impressive score.

According to the data and a brief analysis, we can assume that all the countries besides Hungary greatly increased the wealth of their citizens in 9 years, but in crisis times the loss in GDP is also high.

Foreign investors should bear in mind that those countries, after joining the EU, developed very dynamically, making their citizens richer. On one hand, this creates a bigger market for offshore outsourcing but it also increases salaries, which increases the costs of maintaining business.

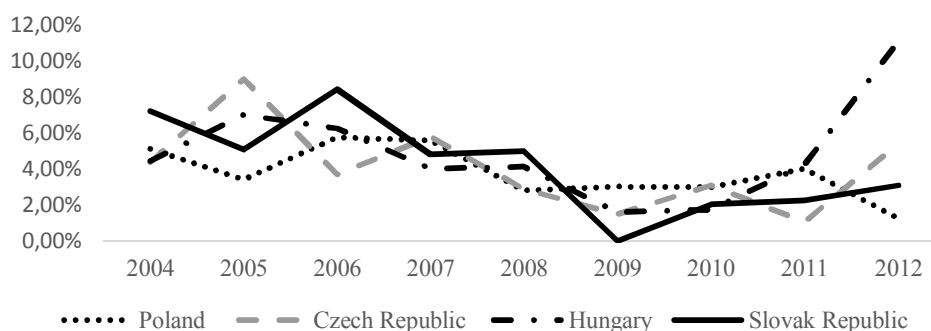


Fig. 7.3. Foreign direct investment inflows in V4 countries (% of GDP) in the years 2004-2012

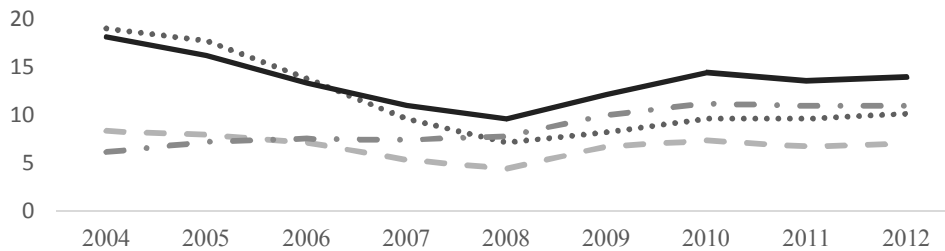
Source: own elaboration based on (Organisation for Economic Co-operation and Development)

If we locate our capital in one of the V4 countries, it is important to look at how other investors behave over the years. The FDI net inflow shows the capacity to hold and attract foreign investors.

If we look at the popularity of a region among foreign investors, we can see that Hungary was chosen the most from the Visegrad countries in the years before the crisis. Generally, all of the V4 countries before crisis received about 4 to 8% of their GDP from FDI per year – which made those countries very attractive for investors. After the crisis, till 2009, all

the analyzed countries lost the interest of foreign investors (except Poland). But after 2009, the Visegrad countries are once again likely to be chosen by foreign investors – especially Hungary, which in 2012 noted 12% FDI inflows in their GDP, which is a great result.

From the analyzed countries, only Poland, after years of stability when FDI inflows were falling in the other Visegrad countries, is currently experiencing less FDI investment.



**Fig. 7.4.** Unemployment in % in V4 countries in the years 2004-2012

*Source:* own elaboration based on (The World Bank Database)

As we can see, the unemployment rate in all the Visegrad countries besides Hungary decreased after joining the EU. In 2008 the trend changed and the unemployment grew and now is at a stable level in all the V4 countries. Unemployment in the Czech Republic is much lower than in the other Visegrad countries. A stable level of 7% means that the labor market is on the side of the workers – which means it could be hard to find specialized workers for an offshore business there.

Poland and Hungary are maintaining their unemployment rate at a stable level of about 10%, which means that there are workers on the market and the situation is stable. Investors in those countries should have no problem with the workforce.

The unemployment rate in the Slovak Republic is at a high level of 14% and has a growing tendency.

On one hand, this means the labor market is ruled by companies looking for workers but on the other hand, the question arises about how many workers are employed in the informal economy, very common in the Slovak Republic. In this regard, the decision to invest due to the availability of labor

can be very complicated and requires more research.

#### **Cost factors influencing offshoring and outsourcing**

The main factor in outsourcing business activities to the V4 countries may be the average salary which we need to pay our workers.

In the table 7.2, the authors have shown the most important cost factors influencing outsourcing and offshoring decisions.

The highest salary from the selected countries can be found in Poland at almost 1400 USD per month. Slovakian and Czech workers earn an average of 1200 USD per month. In Hungary, we will pay our workers a salary at a level of 1100 USD and the costs will be the lowest.

An investor looking for the cheapest workforce should rather choose Hungary, because of the low net salary.

**Table 7.2.**

Comparison of: Average Salary, Corruption rate, Taxes in year 2013

Country Name	Average net salary	Corruption rate (higher=better)	Taxes (% of profit)
Poland	1380	58	41.6
Czech Republic	1268	49	48.1
Hungary	1123	55	49.7
Slovak Republic	1210	46	47.2

Sources: own elaboration based on (Organisation for Economic Co-operation and Development), (Transparency International, 2012), (The World Bank Database)

When a company is making a decision about outsourcing their activities to other countries and selling their products there, a very important factor is the tax rate in the target location.

As we can see from the chart above, which shows the total tax rate as a percentage of commercial profits, the country with the highest tax costs is Hungary, where a company will leave almost 50% of their profit.

The Slovak Republic and the Czech Republic are cheaper in tax terms and will take 47% and 48% of the company's total profit, respectively.

The best tax situation is in Poland where taxes are the lowest (about 42%).

Unfortunately, the post-communist countries are still affected by corruption. We need to take into consideration this factor too to estimate the real costs of outsourcing.

The chart above shows the corruption rate compiled by Transparency International in 2012. These data signifies how "clean of corruption" the country is. As we can see, the most corrupt countries are Slovakia and the Czech Republic, with scores between 40 and 50 signifying a medium level of corruption. The corruption levels in Hungary and Poland signify medium-low corruption. According to the research by Transparency International the least corrupt country is Poland.

### Infrastructure

Considering outsourcing or offshoring business activities to other countries, the transport infrastructure is very important. The figure 7.3 show the level and quality of infrastructure according to the World Economic Forum report.

The most per 1 km<sup>2</sup> and best quality roads can be found in Hungary.

**Table 7.3.**

Infrastructure density and quality in V4 countries in year 2012

Country/Factor	Roads per 1 km sq.	Railways per 1 km sq.	Quality of roads	Quality of railways
Poland	1.30	0.06	3.0	2.6
Czech Republic	1.66	0.12	3.7	4.6
Hungary	2.15	0.08	4.0	3.6
Slovak Republic	0.90	0.07	3.6	4.3

Source: own elaboration based on (The World Bank Database), (World Economic Forum, 2013)

In this country, an investor should use road instead of rail transport, which is not of the best quality. The Czech Republic has, after Hungary, the biggest amount of rail and road infrastructure. Perhaps per 1 km<sup>2</sup> it is not the most in the Visegrad countries but the infrastructure is of the best quality. Poland has a weaker infrastructure than the two countries already mentioned, and additionally it is of very low quality. The Slovak Republic has the worst infrastructure but it is very well maintained.

### Rankings analysis

According to the many sources authors have selected two most popular and influential rankings to show how international institution's perceive V4 countries in case of attractiveness for FDI projects location.

In the table 7.4, the authors used the most popular ranks for FDI in the countries.

**Table 7.4.**

Comparison of the rankings of the Visegrad countries from year 2013

<b>Rank name</b> <b>Country</b>	<b>Total Competitiveness Report by the World Economic Forum</b>	<b>Ease of Doing Business Rank by the World Bank</b>	<b>Starting a Business Rank by the World Bank</b>
Poland	42	45	116
Czech Republic	46	75	146
Hungary	63	54	59
Slovak Republic	78	49	108

*Sources:* own elaboration based on (World Economic Forum), (International Bank for Reconstruction and Development / The World Bank)

The table 7.4 shows the results of the World Bank report entitled "Doing Business" which seeks to measure business regulations for domestic firms through an objective lens. The project looks primarily at small and medium-size companies in the largest business city. Based on standardized case studies, it presents quantitative indicators on the regulations that apply to firms at different stages of their life cycle. (International Bank for Reconstruction and Development / The World Bank, 2013, p. 16)

According to this report, Poland, the Czech Republic and Slovenia are in the top 50 countries which are improving their environment for investors (International Bank for Reconstruction and Development / The World Bank, 2013, pp. 10-11). For example, only Poland in the past few years improved by enhancing the process of property transfer and promoting paying taxes electronically.

Unfortunately, the Visegrad countries are still unfriendly for investors that are just getting started. According to the Starting a Business Rank, only Hungary has simple procedures, whereas the rest of the countries are in the low-mid ranking.

According to the report by the World Economic Forum, Poland and the Czech Republic are still improving and have a very good position. Hungary and the Slovak Republic are in the middle of the ranking.

### Recent structural decisions in the V4 influencing conditions for FDI

World Bank makes every year the report which contains besides macro-economic data collected from all countries over the world the lists of recent government decisions which have impact to world trade, economic environment, business initiative etc.

From this report for purpose of analyses authors selected the most important in their opinion and put into table 7.5.

According to the World Bank's business report from 2013, the V4 countries made very good progress to encourage foreign investors.

The table 7.5 shows the positive and negative steps in the last few years.

**Table 7.5.**

Recent government decisions influencing investors from years 2012-2013

Country	Positives	Negatives
Poland	<p><b>Registering property</b> The Polish government introduced a new caseload management system for land and mortgage registry by digitalizing all the court archives. This step makes it much easier and faster to obtain information about a property which an investor would like to buy.</p> <p><b>Tax policy</b> By promoting projects like the e-department program, which encourages citizens to pay taxes via the internet without visiting the tax office, Poland reduces the time wasted to calculate companies' tax duties.</p> <p><b>Enforcing time of contracts</b> In view of having lots of problems with waiting for civil courts to make decisions, Poland amended the civil procedure and sent more judges to commercial courts to speed up the process.</p> <p><b>Resolving insolvency</b> Because of problems with a high bankruptcy ratio of companies and problems with this connected to their creditors, Poland strengthened its insolvency process by updating guidelines on information and now requires more documents to be included in the bankruptcy petition. Most importantly, the situation is better due to granting secured creditors the right to take over claims encumbered with financial pledges in the case of liquidation.</p>	
Czech Republic	<p><b>Registering property</b> In recent years, the Czech Republic improved property registering by making it easier. Now they allow the cadastral office online access to the commercial registry databases – this step eliminated the need to obtain a certificate from the registry before registering in the cadaster.</p> <p><b>Paying taxes</b> As in Poland, the Czech Republic introduced a similar system of paying taxes on-line. It had the same effect of reducing time spent in tax offices.</p> <p><b>International trade</b> In the past few years, what is important for investors is that the Czech Republic introduced a new electronic system which improved border traffic.</p>	

Country	Positives	Negatives
Hungary	<p><b>Taxes</b> Hungary made a good step in encouraging foreign investors to invest in their countries by abolishing the community tax payable by the owner of a building or land parcel. The money from this tax was paid to local government. The maximum rate of the local community tax was about 80 USD per year for each building/land parcel. (Government, Hungarian, 1992)</p> <p><b>Trade</b> As in the Czech Republic, Hungary introduced a new electronic system which improved border traffic.</p>	<p><b>Starting a business</b> Hungary took a very bad decision in the past few years from the point of view of investors by increasing registration fees for limited companies (which are mostly chosen by offshoring businesses) and also added a new tax registration at the time of incorporation.</p> <p><b>Health insurance</b> Hungary recently increased health insurance contributions paid by the employer. This is another step against investors following increasing the business registration fee.</p>
Slovakia	<p><b>Setting up a business</b> The Slovak Republic introduced applications at the one-stop shop for trading licenses, income tax registration and health insurance. This step reduced the time spent to set up a new business or manage it.</p> <p><b>Taxes</b> Following in the footsteps of Poland and the Czech Republic, the Slovak Republic also introduced electronic ways to pay taxes, which made it less time-consuming and much easier than before.</p> <p><b>Enforcing contracts</b> The Slovak Republic has changed their civil code to make enforcing contracts easier and faster. They have adopted new procedures to limit obstructive tactics by the parties involved. They have also improved the insolvency process, as in Poland. The new code has redefined the roles and powers of creditors and trustees. The code now strengthens more the creditors' rights. Another novelty are the redefined rules for conversion to the procedure of bankruptcy.</p> <p><b>Employing workers procedure</b> Fix-termed contacts can now have a longer duration. By changing the redundancy policy, this process is less costly. In the event of an investment collapse, this step can minimize costs a bit, in turn minimizing the risk ratio.</p>	

Source: own elaboration adapted from: (International Bank for Reconstruction and Development / The World Bank)

#### 7.4. Conclusions and Suggestions for Future Research

As a summary, the authors collated and grouped country by country the advantages and disadvantages of all the analyzed Visegrad countries, according to direct investment in the countries.

Poland – advantages if investment:

1. The biggest economy and market in the Visegrad countries.
2. The most stable economy, not only in the V4 countries but in the whole EU.
3. Stable unemployment rate.
4. The lowest corruption rate of all the Visegrad Countries.
5. The lowest taxes in the V4 countries.
6. Very good rankings position: position number 42 in the Total Competitiveness Report by the World Economic Forum (the best of all the V4 countries), 45<sup>th</sup> position in the Ease of Doing Business Rank by the World Bank.
7. Good government decisions, which helps to manage business.
8. In regard to transport, Poland has access to the sea as the only one from the V4 countries.

Poland – disadvantages of investment:

1. Still one of the lowest levels of GDP per capita, according to EU standards.
2. The highest salaries of all the Visegrad countries.
3. The worst quality of roads and rails of all the V4 countries.
4. The worst concentration and quality of roads and railway tracks in the V4 countries.

Czech Republic – advantages if investment:

1. High GDP per capita which is also growing very fast.
2. Stable growth of FDI inflows, signifying high trust of investors.
3. Very well developed and maintained rail transport system.
4. Very good score in the Total Competitiveness Report by the World Economic Forum (46).
5. In recent years, the Czech Republic made three good improvements, shown in this paper. This means government support for FDI.

Czech Republic – disadvantages if investment:

1. The Czech economy, like all the Visegrad economies besides Poland, is very sensitive to crisis shocks.
2. Low unemployment rate can cause trouble for the investor when looking for a labor force.
3. One of the highest corruption rates in the V4 countries.
4. According the World Bank, setting up a company in the Czech Republic is still very complicated (score 146, the worst of all the V4 countries).

Hungary – advantages if investment:

1. Hungary, in recent years, noted the best FDI growth of all the V4 countries – this means it is very attractive for foreign investors.
2. Hungary has a stable unemployment rate at a level of 10%.
3. Hungary has the lowest average salary of all the V4 countries, which means the lowest costs for investors with regard to the labor force.
4. The Hungarian corruption rate in comparison to the other V4 countries is also low, not much higher than in Poland.
5. Hungary has the best average score from the ranks used in this paper of all the V4 countries.
6. Hungary has the best road infrastructure of all the V4 countries.

Hungary – disadvantages if investment:

1. The Hungarian economy is the most sensitive to crisis shocks, and has the lowest ratio of regaining speed.
2. Hungary has a very low GDP per capita ratio; according to GDP, the growth is also the lowest of all the V4 countries.
3. Hungary has the biggest taxes of all the V4 countries.
4. The Hungarian government, by introducing new policies (increased health insurance and registration fees), made setting up and maintaining offshore and outsourcing investments more expensive.

Slovak Republic – advantages if investment:

1. One of the highest GDPs in the V4 countries (similar to Poland).
2. GDP per capita is at one of the highest levels of the analyzed V4 countries, with a growth ratio after joining the EU at a good level of 54%.
3. The average salary in Slovakia is one of the lowest of all the analyzed countries.
4. Some of the best quality roads and rails of all the V4 countries.

Slovak Republic – disadvantages if investment:

1. The Slovak economy is the most sensitive to crisis shocks.
2. Slovakia has a big problem with unemployment (the biggest of all the Visegrad countries), but for foreign investors this situation may be advantage.
3. The Slovak Republic has the biggest problem with corruption of all the Visegrad countries. Taking into consideration the size of this country, it is a big problem.
4. The Slovak Republic has the smallest network of roads and railways.

Taking into account the factors mentioned above, it is difficult to clearly determine which of the countries analyzed are the best for foreign direct investment.

Depending on the industry you want to offshore, different factors may be crucial for the investor.

In view of this, the authors do not undertake a clear assessment that only one of the V4 countries would be the best for direct investment. An investor, prior to offshoring or outsourcing, should consider the key factors determining the success of his business and, based on the conclusions from this article which analyzes each country, should choose the country which will create the most suitable conditions for him.

Although all the V4 countries provide quite varied conditions for direct investment, all of them have the same advantages of low wages, rapid GDP growth and relatively low taxes.

The V4 countries also have common problems, such as corruption and excessive bureaucracy.

However, because of the common advantages and attractive geographical location, they make worthwhile business locations.

The authors of this publication are aware that the V4 countries are developing in a very dynamic way, therefore, this topic requires further analysis.

Subject to further analysis unrecognized in this article should include a substantial impact on the conditions of the EU funds for direct investment.

The recently adopted budget by the European Commission for the period 2014-2020 the V4 countries which are majority Beneficiaries. From this found for example Poland will get a amount of nearly 107 billion euros (Skolimowski, 2013) which will surly have positive impact on the economy.

Future studies should also include other important factors that may assist investors in making decisions about the location of your business in the V4 countries. The authors pro-

pose using widely accepted rating agencies scores and impact of currency changes. Future analysis like in this article should include updated data of economic environment and law system changes in analyzed countries.

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