

Justyna Zygmunt

Enterprises' Development in Peripheral Regions : Patterns and Determinants

Problemy Zarządzania 15/1 (1), 226-236

2017

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

Enterprises' Development in Peripheral Regions: Patterns and Determinants

Submitted: 22.08.16 | Accepted: 10.10.16

Justyna Zygmunt*

The goal of the paper is to identify the essential determinants of enterprises' growth in a peripheral region, with regard to particular patterns of regional development. Literature studies have been conducted to recognise the patterns and determinants of the development in question. Characteristics of lagging regions have been provided in the first section, while another section contains a discussion on aspects related to enterprises' growth in non-core regions. The main finding is associated with a crucial value of innovation, knowledge spillovers, as well as social and human capital as fundamental for enterprises facing scarcity of regional endogenous resources. Thus, necessary actions should be taken for promoting enterprises' networking and internalisation. Entrepreneurial attitudes, notably of young generation, should be supported. The findings may be interesting for entrepreneurs and regional policymakers.

Keywords: peripheral region, enterprises, development, innovation.

Rozwój przedsiębiorstw w regionach peryferyjnych: wzorce i determinanty

Nadesłany: 22.08.16 | Zaakceptowany do druku: 10.10.16

Celem niniejszego artykułu jest zidentyfikowanie zasadniczych determinant rozwoju przedsiębiorstw w regionie peryferyjnym w odniesieniu do poszczególnych wzorców rozwoju regionalnego. Rozpoznanie wzorców oraz determinant rozwoju przeprowadzono na podstawie badań literaturowych. W pierwszej części artykułu przedstawiono charakterystykę regionów peryferyjnych, podczas gdy dyskusję nad aspektami związanymi z rozwojem przedsiębiorstw w tych regionach zawarto w części drugiej. Przeprowadzone badania prowadzą do konkluzji o fundamentalnym znaczeniu innowacji, transferu wiedzy, kapitału społecznego i ludzkiego w regionach, które nie dysponują wystarczającymi zasobami endogenicznymi. Dla rozwoju przedsiębiorstw zasadne wydaje się promowanie internalizacji i współpracy ukierunkowanej na wykorzystanie pojawiających się możliwości rynkowych. Istotne wydaje się również wspieranie postaw przedsiębiorczych, zwłaszcza wśród młodego pokolenia. Wyniki przeprowadzonych badań mogą stanowić przedmiot zainteresowania przedsiębiorców i decydentów regionalnych.

Słowa kluczowe: region peryferyjny, przedsiębiorstwa, rozwój, innowacje.

JEL: D83, R11, R58

* **Justyna Zygmunt** – Ph.D., Eng., Opole University of Technology, Department of Economics, Finance and Regional Research.

Correspondence address: Opole University of Technology, Department of Economics, Finance and Regional Research, ul. Luboszycka 7, 45-036 Opole; e-mail: j.zygmunt@po.opole.pl.



1. Introduction

Since last decades regional development has been an issue of significant interest of policymakers, local authorities, scholars. From numerous studies and discussions on the agents affecting regional development, the main conclusion emerges on considerable importance of enterprises as a key resource for the region's competitiveness increase (e.g.: Audretsch and Keilbach, 2008; Benneworth, 2004; Fritsch and Storey, 2014; Klasik and Kuźnik, 1998; McCann and Ortega-Argilés, 2016). However, the substance of enterprises for regional growth is disparately explained in regional development theories. For example, according to the neoclassical exogenous growth theory the sources of regional growth lie outside, which evinces itself primarily in attracting external investors, while in new endogenous growth theories, which are predominantly employed in nowadays studies, enterprises constitute an internal factor of growth and should be stimulated to increase the competitiveness of a region (Dawkins, 2003).

Some studies provide evidence that the relationship between enterprises and the region is contraflow, and the character of the region determines development of enterprises¹ (e.g. Bosma and Schutjens, 2011; Strużycki, 2011). As a consequence, disparities arise between regions in types and structures of businesses, entrepreneurial attitudes, knowledge spillovers, etc., having an influence on regions' division into leading and lagging. Limited adaptive capacities which are mostly associated with peripheral regions meaningfully reduce their development perspectives, causing social and economic exclusion. For that reasons, it seems important to better understand the patterns and determinants of enterprises' development in non-core regions.

The debate on challenges faced by enterprises in peripheral regions is still incomplete. A growing number of studies focus on selected aspects of challenges in question, yet a comprehensive view on these issues is needed. To fill the above research gap, in the paper the following research question is explored: What resources and actions related to enterprises in peripheral regions are essential for their development? Desk research of literature, especially in the field of entrepreneurship, regional growth, and geography economics has been employed as a research method in this paper.

The goal of the paper is to identify the essential determinants of enterprises' growth in a peripheral region, with regard to particular patterns of regional development. Therefore, this paper contributes to the growing body of literature on businesses located in peripheral regions by providing a framework for better identification and understanding of the patterns and determinants of enterprises' growth in lagging regions.

The reminder of the paper is structured as follows. The first section provides a discussion of the essence of peripheral regions, especially in terms of their properties and growth possibilities. The second section

presents the patterns for enterprises' development in lagging regions, with an identification of related determinants. The conclusion includes general summary, recommendations, research limitations and suggestions for future research.

2. The Substance of Peripheral Regions

The understanding of "peripheral region" has changed over time. Originally such regions were considered solely in terms of territorial distance. Nowadays an economic approach prevails, according to which non-core regions are those in which the level of economic development is low. In this line of thought, basing on the literature studies, Arbuthnott, Eriksson, Thorgren and Wincent claim that such regions are "remote areas located far from large dynamic markets and characterized by strong tradition and underdevelopment [...], where the local businesses environment is often dominated by long-standing traditional industries or in some instances branch plants" (2011, p. 624).

Some scholars argue that peripheral region may be also defined by its social dimension, regarded as civilisational backwardness (Korenik, 2012), as well as its cultural, political, and administrative attributes (Proniewski, 2014).

Irrespectively of an approach towards defining "peripheral region", a conclusion emerges on an ambiguity associated with this concept. To put it more clearly, since most regions are not internally homogeneous, in the case of large (economic, social, cultural, etc.) diversities which may occur within a peripheral region, some parts of this region might be more lagged than the other. Such a phenomenon is reflected mostly in enterprises' concentration around large urban centres in peripheral regions, with a marginalisation of the other areas within a region. Thus, a metropolitan area predominantly takes advantage of the periphery since resources usually flow there from an underdeveloped area within a lagging region (Felzensztein, Gimmon and Aqueveque, 2012; Heffner, 2012; Korenik, 2012). Similarly, Felzensztein et al. claim that the understanding of "peripheral regions" may differ depending on the economy considered. In this respect they argue that "peripheral areas within emerging and developing economies are usually economically weaker than in the developed world" (2012, p. 818).

The recognition of lagging regions is made mainly by identifying the distance among regions. Different benchmarks may be employed here². In most studies an economic criterion dominates following the European Union cohesion policy guidelines in which that distance is measured by Gross Domestic Product (GDP), with regions with GDP less than 75% of the EU-27 average considered as peripheral³.

The status of region is associated mostly with its endogenous resources. As suggested by Heffner (2012), the grounds for periphery may result from economic and spatial aspects (poor availability of communication and trans-

port, economic and socio-political insignificance of a region), as well as non-spatial agents (e.g. low levels of human and social capital). In the course of a review of literature, the following characteristics of non-core regions may be enumerated:

- low level of R&D and innovative activities (Copus, 2000; Grillitsch and Nilsson, 2015; Proniewski, 2014; Tödting and Tripl, 2005),
- low rate of entrepreneurship (Copus, 2000; Korenik, 2012),
- dependence on primary industries (Copus, 2000; Korenik, 2012; Mischczuk, 2012; Proniewski, 2014; Tödting and Tripl, 2005),
- low population and remoteness from markets (Korenik, 2012; Mischczuk, 2013; Stephens, Partridge, and Faggian, 2012),
- weak network and cluster dimension (Mayer, 2013; Proniewski, 2014; Tödting and Tripl, 2005),
- low quality of human and social capital (Korenik, 2012; Mischczuk, 2012; Proniewski, 2014; Stephens et al., 2012; Proniewski, 2014; Tödting and Tripl, 2005),
- low quality of infrastructure (Copus, 2000).

Depending on their drivers of growth, regions may differ significantly. Insufficient endogenous resources constitute a background for a region's lagging, since peripheral regions generally do not have an adequate amount of such resources for development. Consequently, relatedness which mostly emerges between respective endogenous resources, in such a case, may be regarded as a great disadvantage by leading to strengthening the negative processes in non-core regions.

According to new endogenous growth theories, it is believed that the growth is determined by the region's capability to accumulate capital (financial, human, social), development of innovative and R&D activities, high level of entrepreneurship. However, idiosyncratic features of peripheral regions may generate problems with region growth theories' applicability to explain the processes which occur in such regions. In this regard, Stephens et al. (2013) speculate whether a peripheral region is ever able to produce growth. With references to enterprises' value in non-core regions' development, Benneworth maintains that this is an issue "with which new regional paradigms do not extensively deal" (2004, p. 440).

A literature review of theoretical considerations as well as empirical studies provide evidence that, despite endogenous weaknesses of peripheral regions, an effort should be made to orient them to a growth path. The main reason for such actions is an inhibition and reversal of adverse changes in the age structure of the population and the poor quality of life (Malkowski and Malkowska, 2011). However, it seems pivotal to ensure that such actions are smart and sustainable. It means that an activation of sustainable development processes in lagging regions requires a "critical mass" of resources (Grosse, 2007; Tödting and Tripl, 2005). As argued earlier, endogenous resources are quite scarce, hence lagging regions often

face a problem of attracting requisite resources from outside. By strengthening regional clusters, linking them with external clusters, inviting innovative enterprises, a peripheral region may improve its competitiveness (Tödtling and Trippl, 2005). A regional economy may be also enhanced by improving enterprises' innovation capabilities, with "absorption capacities" empowerment (Tödtling and Trippl, 2005, p. 1214) and knowledge suppliers availability as the essentials. Since the principal driver of a region's growth is represented by enterprises, their development essentially determines a region's competitiveness, with innovation, knowledge spillovers, and entrepreneurial activities.

3. Development of Enterprises in Peripheral Regions – Essential Actions and Resources

Based on the new endogenous growth theories, two principal patterns for peripheral regions may be suggested: (i) a usage of existing endogenous resources in a new way (ii), creation of new endogenous resources. The paths in question inseparably apply to the paths of enterprises' development in these regions, establishing a basis for defining determinants of their growth.

The first pattern is related to the novel ways of using existing regional resources. This approach concentrates on the internal basis for a region's growth and focuses on boosting inner actions aimed for development on the ground of available resources (Grosse, 2007). Empirical studies in this scope provide an argument that launching new industry concepts within limited regional sources may lead to social tensions and antagonism, aggravating the existing situation in a region (Arbuthnott et al., 2011; Benneworth, 2004). Thus, a need is apparent here for building social capital among the region's actors, especially within the industry. Another way of following the path of having a different approach to existing regional resources may relate to focusing on these resources which have not been used so far. In this respect, Felzensztein et al. propose, on the ground of studies on Chilean lagged regions, to concentrate on "the natural resource-based industries or (...) the underdeveloped but growing tourist infrastructure" (2012, p. 829). Examining a group of enterprises from the North East of England, Benneworth found out that social networking, as well as a collaboration between enterprises and universities may help to build new regional assets, and to "increase the productivity and competitiveness of local firms" (Benneworth, 2004, p. 442).

An appropriate level and structure of human capital seems to be a meaningful determinant for generating business growth. It should be said that a significant obstacle for enterprises from peripheral regions is movement of highly educated workforce to places with better developmental opportunities. On the basis of some German, Greek, Polish, Portuguese, and UK peripheral regions, North and Smallbone (2006) emphasise that it seems

crucial to encourage young, entrepreneurial people to stay in a region. This observation is also supported by Skubiak (2013), as well as Zimnoch (2013), who on the ground of Polish lagging region claims that migration of these people outside a peripheral region significantly weakens the amount of regional human capital. Moreover, based on the example of the UK government policies in 1997–2010, Huggins and Williams state that “general development of a culture of regional entrepreneurship, particularly among young people” (2011, p. 919) may be a significant driver of growth. The amount of human capital together with social capital may determine the level of trust, straightforwardness, honesty, credibility in business relations. These attributes significantly affect enterprises' development since the characteristics of an entrepreneur are usually crucial in entering business relations, collaborations, asking for finance. As was observed on the basis of the UK business angel groups, the characteristics in question are pivotal in the processes of investment opportunities' valuation by business angels (Mason et al., 2016).

Social capital for enterprises' and region's growth is requisite for the second pattern of development. With regard to this pattern, one of the determinants of enterprises' growth may be entering outside markets. Because in most cases enterprises from lagging regions have limited access to these markets, launching internalisation processes may constitute a ground for development. In this respect, of particular importance seems to be building an appropriate level of social capital. Developing flexible business practices may be a way of pursuing such activities. Following this thought, Young argues that such an approach opens enterprises for taking advantages from “happy accidents of connectivity” (Young, 2010, p. 851) with external markets. Moreover, creating an effective network of contacts seems important, as providing access to new business partners and clients, and allowing knowledge spillovers, etc. This observation is supported, *inter alia* by Dubois, who on the basis of two Swedish non-core regions emphasises that “even peripheral small firms do have the ability to engage in multiple webs of distant relations” (Dubois, 2016, p. 10).

As innovation is regarded as a fundamental determinant of enterprises' development, it seems essential, within the second pattern of development, to concentrate on it as a crucial growth base. Requisite conditions of innovativeness are related mainly to access to external knowledge and local knowledge spillovers. The conditions in question also concern, *inter alia*, access to finance, high skilled labour, support services. According to Varis and Littunen (2012), an innovation environment is established by the following kinds of infrastructure: production, knowledge, institutional, physical, labour, soft (related to the quality of life), innovation support, financial, network, as well as location and industry of a firm. However, innovative activities of lagging regions' enterprises are usually limited by their scarce sources/infrastructure and restrained access to knowledge (both local and

external). A remedy for this may be internalisation and collaboration, especially with outside actors. On the ground of 2 261 Swedish enterprises, Grillitsch and Nilsson demonstrated that peripheral regions' enterprises engage more in non-local collaboration than enterprises from core regions, as an alignment for "lacking opportunities of local knowledge spillovers" (Grillitsch and Nilsson, 2015, p. 316). However, the sources of knowledge may be also found in a region, even if a lagging region is considered. On a sample of German enterprises, Mitze, Alecke, Reinkowski and Untiedt (2015) observed that engaging in R&D cooperation with research and university institutions, as well as with other enterprises, may help to overcome the limited sources of knowledge in a peripheral region. Scarce innovative activity may be also enhanced by strengthening regional clusters and by linking a peripheral region's enterprises with external clusters (Tödting and Trippel, 2005).

The above considerations lead to the conclusion that public authorities' engagement in actions of initiating and supporting development processes in peripheral regions seems fundamental. According to Grosse, the recommendations for necessary actions are as follows (2007): (i) decentralisation of regional policy, (ii) appropriate usage of external resources, (iii) creation of internal capacity for development, (iv) establishing a long-term government policy for lagging regions. It seems also significant to endorse universities and research agencies, enhance transport and communications infrastructure (Grosse, 2007), encourage integration processes in the area of border (Korenik, 2012; Mischczuk, 2013; Malkowski and Malkowska, 2011), create and support cooperation between the knowledge sector and the economy (Heffner, 2012). With reference to human and social capital empowerment, North and Smallbone (2006) pay attention to the value of engaging entrepreneurship animators as playing a significant role in supporting young people in operating in lagging regions.

An important issue related to patterns and determinants of enterprises' development in peripheral regions is a diversity both in the sense of enterprises and regions. Enterprises differ in their capability and willingness to engage in development processes. Also regions, including lagging ones, are distinct, mostly with non-identical structures of endogenous resources. It implies a necessity for a tailor-made regional approach towards the development path. Diversity in this aspect is regarded, *inter alia*, by Świadek and Szopik-Depczyńska (2012), who on the basis of observations on some Polish regions came to the conclusion about the necessity for national innovation policy adjustment to different regions and their character. Such actions evince themselves in the place-based approach of regional innovation strategies and the approach focusing on smart specialisation.

4. Conclusions

This paper finds evidence that enterprises from peripheral regions do have the scope for their development. The development in question may be accomplished by employing novel ways of using existing regional resources or by creating new endogenous resources.

Following the first pattern may entail an increase in competition for scarce resources between regional actors. A policy aimed at ensuring the necessary amount of social capital seems pivotal then, allowing for trust raise and, subsequently, collaboration increase. Support may be also required in terms of human capital, particularly in creating the conditions which encourage skilled employees to work in non-core region's enterprises.

With respect to the second pattern for peripheral regions, combining internal with external sources of knowledge seems to be most favourable in setting innovation as a key factor for obtaining competitive advantage for enterprises from a lagging region. From a policy perspective, it may imply a need for a distinct focus of regional policies on initiation and strengthening enterprises' networking and R&D collaboration with various actors. It may also determine a necessity for setting a framework for robust monitoring, with a needful amendments mechanism, to ensure the efficiency of these activities.

Since enterprises, as well as regions are unique and base on different sources it is tough to provide universal patterns and drivers of enterprises' growth in lagging regions. However, it should be emphasised that the determinants for enterprises' development remain persistent: social and human capital, innovation and knowledge spillovers. On the grounds that collaboration seems to serve as an important factor for non-core regions' enterprises, a significant involvement of national and regional public authorities is required to promote internalisation, provide appropriate support (e.g. in networking, accessing the finance), encourage entrepreneurial attitudes, especially among young people.

This findings are interesting because they emphasise actions which, if adopted, may support enterprises from lagging regions in their development. The understanding of agents having an impact on enterprises in a peripheral region is of relevance for regional development. For that reason, the findings may attract attention of enterprises' managers and owners as well as policymakers since they provide an insight into essential elements which are important to be considered during regional policy making and its execution.

However, a limitation of this paper is that it does not provide an empirical insight into development processes of Polish enterprises with regard to lacking opportunities of regional resources. This may set a starting point for further discussion of development patterns and determinants. It would be interesting to investigate the extent to which they adjust to Polish enterprises

from peripheral regions. Further research should also control for enterprises' diversity in terms of phase of development, size, type (industrial, social, family businesses, etc.), attitudes of managers and owners. The subject to future research work should be also an analysis of the individuals' motivation for running business in peripheral regions.

Endnotes

- ¹ In this paper "enterprises' development" has a broad meaning and ranges from setting up a new business to expanding existing business activity.
- ² A comprehensive enumeration of peripheral regions' classifications has been made, inter alia, by Miszczyk (2013).
- ³ Eurostat. *GDP at Regional Level*. Retrieved from: http://ec.europa.eu/eurostat/statistics-explained/index.php/GDP_at_regional_level#Measuring_economic_development (17.08.2016).

References

- Arbuthnott, A., Eriksson, J., Thorgren, S., and Wincent, J. (2011). Reduced Opportunities for Regional Renewal: The Role of Rigid Threat Responses Among a Region's Established Firms. *Entrepreneurship & Regional Development*, 23(7–8), 603–635, <http://dx.soi.org/10.1080/08985621003792996>.
- Audretsch, D.B. and Keilbach, M. (2008). Entrepreneurship, growth and restructuring. In: A. Basu, M. Casson, N. Wadeson, and B. Yeung (eds), *The Oxford Handbook of Entrepreneurship* (pp. 281–310). New York: Oxford University Press, <http://dx.soi.org/10.1093/oxfordhb/9780199546992.003.0011>.
- Benneworth, P. (2004). In What Sense 'Regional Development?': Entrepreneurship, Underdevelopment and Strong Tradition in the Periphery. *Entrepreneurship & Regional Development*, 16(November), 439–458, <http://dx.soi.org/10.1080/0898562042000249786>.
- Bosma, N. and Schutjens, V. (2011). Understanding Regional Variation in Entrepreneurial Activity and Entrepreneurial Attitude in Europe. *The Annals of Regional Studies*, 47, 711–742, <http://dx.soi.org/10.1007/s00168-010-0375-7>.
- Copus, A.K. (2000). *Peripherality Concepts and Indicators for Evaluation*. *Evaluation for Quality Conference Edinburgh*, 1–23. Retrieved from: ec.europa.eu/regional_policy/.../pdf/copu_en.pdf (12.08.2016).
- Dawkins, C.J. (2003). Regional Development Theory. Conceptual Foundations, Classic Works and Recent Developments. *Journal of Planning Literature*, 18(2), 131–172, <http://dx.soi.org/10.1177/0885412203254706>.
- Dubois, A. (2016). Transnationalising Entrepreneurship in a Peripheral Region – The Translocal Embeddedness Paradigm. *Journal of Rural Studies*, 46, 1–11, <http://dx.doi.org/10.1016/j.jrurstud.2016.05.003>.
- Grillitsch, M. and Nilsson, M. (2015). Innovation in Peripheral Regions: Do Collaborations Compensate for a Lack of Local Knowledge Spillovers? *The Annals of Regional Science*, 54, 229–321, <http://dx.soi.org/10.1007/s00168-014-0655-8>.
- Grosse, T.G. (2007). Wybrane koncepcje teoretyczne i doświadczenia praktyczne dotyczące rozwoju regionów peryferyjnych. *Studia Regionalne i Lokalne*, 1(27), 27–49.
- Felzensztein, Ch., Gimmon, E., and Aqueveque, C. (2012). Entrepreneurship at the Periphery: Exploring Framework Conditions in Core and Peripheral Locations. *Entrepreneurship, Theory & Practice*, 37(4), 815–835, <http://dx.soi.org/10.1111/j.1540-6520.2012.00515.x>.

- Fritsch, M. and Storey, D.J. (2014). Entrepreneurship in a Regional Context: Historical Roots, Recent Developments and Future Challenge. *Regional Studies*, 48(6), 939–954, <http://dx.doi.org/10.1080/00343404.2014.892574>.
- Heffner, K. (2012). Ewolucja zróżnicowania poziomu rozwoju regionów w Polsce a potrzeba polityki spójności. In: A. Harańczyk (ed.), *Perspektywy rozwoju regionalnego Polski w okresie programowania po 2013 r.* (pp. 57–74), Warszawa: KPZK PAN.
- Huggins, R. and Williams, N. (2011). Entrepreneurship and Regional Competitiveness: The Role and Progression of Policy. *Entrepreneurship & Regional Development*, 23(9–10), 907–932, <http://dx.doi.org/10.1080/08985626.2011.577818>.
- Klasik, A. and Kuźnik, F. (1998). Planowanie strategiczne rozwoju lokalnego i regionalnego. In: S. Dolata (ed.), *Funkcjonowanie samorządu terytorialnego: doświadczenia i perspektywy* (pp. 395–404). Opole: Wydawnictwo Uniwersytetu Opolskiego.
- Korenik, S. (2012). Kształtowanie się zjawisk społeczno-ekonomicznych na obszarach przygranicznych Dolnego Śląska – nowe semiperyferie. In: S. Korenik and A. Mempel-Snieżyk (eds), *Wybrane problemy współpracy polsko-czeskiej. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, (253), 32–47.
- Malkowski, A. and Malkowska, A. (2011). Konkurencyjność obszarów peryferyjnych na przykładzie pogranicza polsko-niemieckiego. *Journal of Agribusiness and Rural Development*, 2(20), 55–63.
- Mason, C., Botelho, T., and Zygmunt, J. (2016). Why Business Angels Reject Investment Opportunities: Is It Personal? *International Small Business Journal*, <http://dx.doi.org/10.1177/0266242616646622>.
- Mayer, H. (2013). Firm Building and Entrepreneurship in Second-tier High-tech Regions. *European Planning Studies*, 21(9), 1392–1417, <http://dx.doi.org/10.1080/09654313.2012.755833>.
- McCain, P. and Ortega-Argilés, R. (2016). Smart Specialisation, Entrepreneurship and SMEs: Issues and Challenges for a Results-oriented EU Regional Policy. *Small Business Economy*, 46(4), 537–552, <http://dx.doi.org/10.1007/s11187-016-9707-z>.
- Miszczuk, A. (2013). *Uwarunkowania peryferyjności regionu przygranicznego*. Lublin: Norbertinum.
- Mitze, T., Alecke, B., Reinkowski, J., and Untiedt, G. (2015). Linking Collaborative R&D Strategies with the Research and Innovation Performance of SMEs in Peripheral Regions: Do Spatial and Organizational Choices Make a Difference? *The Annals of Regional Science*, 55(2), 555–596, <http://dx.doi.org/10.1007/s00168-015-0719-4>.
- North, D. and Smallbone, D. (2006). Developing Entrepreneurship and Enterprise in Europe's Peripheral Rural Areas: Some Issues Facing Policy-makers. *European Planning Studies*, 14(1), 41–60, <http://dx.doi.org/10.1080=09654310500339125>.
- Proniewski, M. (2014). Polityka rozwoju regionów peryferyjnych. *Optimum: Studia Ekonomiczne*, 6(72), 79–90, <http://dx.doi.org/10.15290/ose.2014.06.72.06>.
- Skubiak, B. (2013). Stymulowanie rozwoju w regionie problemowym. *Folia Pomeranae Universitatis Technologiae Stetinensis. Oeconomica*, 299(70), 191–200.
- Stephens, H.M., Partridge, M.D., and Faggian, A. (2013). Innovation, Entrepreneurship and Economic Growth in Lagging Regions. *Journal of Regional Science*, 53(5), 778–812, <http://dx.doi.org/10.1111/jors.12019>.
- Strużycki, M. (2011). Konkurencja jako mechanizm sprawczy rozwoju regionalnego. In: M. Strużycki (ed.), *Przedsiębiorstwo. Region. Rozwój* (pp. 80–110). Warszawa: Difin.
- Świadek, A. and Szopik-Depczyńska, K. (2012). Wpływ wielkości przedsiębiorstw na aktywność innowacyjną przedsiębiorstw w regionach peryferyjnych w Polsce. In: J. Buko (ed.), *Otoczenie instytucjonalne jako stymulator procesów B+R i innowacji w gospodarce*. (pp. 253–268). Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
- Tödtling, F. and Trippel, M. (2005). One Size Fits All? Towards a Differentiated Regional Innovation Policy Approach. *Research Policy*, 34, 1203–1219, <http://dx.doi.org/10.1016/j.respol.2005.01.018>.

- Varis, M. and Littunen, H. (2012). SMEs and Their Peripheral Innovation Environment: Reflections from a Finnish Case. *European Planning Studies*, 20(4), 547–582, <http://dx.doi.org/10.1080/09654313.2012.665034>.
- Young, N. (2010). Globalization from the Edge: A Framework for Understanding How Small and Medium-sized Firms in the Periphery 'Go Global'. *Environment and Planning A*, 42(4), 838–855, <http://dx.soi.org/10.1068/a42315>.
- Zimnoch, K. (2013). Wymywanie zasobów ludzkich barierą rozwoju regionów peryferyjnych (na przykładzie województwa podlaskiego). *Economics and Management*, 3, 206–220, <http://dx.soi.org/10.12846/j.em.2013.03.15>.