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The impact of Special Economic Zones on local labour markets in Poland

Abstract
Studies conducted so far suggest that SEZs are not treated by local authorities as the main mechanism of job creation in a given region. The objective of this paper is to highlight potential mechanisms through which SEZs impact labour markets in poviats (counties) in Poland. To this end we conducted a comparative analysis of changes that had taken place in the labour market over the period 2004-2016 in two groups of poviats with the highest unemployment rate reported in 2004: with and without SEZs. The study does not allow us to unambiguously conclude that SEZs contributed to the improvement of labour market situation in poviats with the highest unemployment rate in Poland. That can be attributed to the fact that SEZs in Poland are highly fragmented as well as to SEZs investors being able to select locations for their investment projects in relatively better developed regions.

Keywords
Local labour market • special economic zones • unemployment rate • economic growth • regional development

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Introduction

Governments seek to ensure a relatively coherent growth across their respective countries and strive to eliminate one of the major social problems countries suffer from, i.e., unemployment, which today is top of the agenda in political discourse. To individual countries and regions, labour and unemployment are crucial issues from an economic growth and quality of life point of view.

We need to draw attention to two diverse "strategic" approaches to the labour market. Vanhove (Vanhove 1999) defined them as: "work to the workers" and "workers to the work". Usually, the complexity of growth related processes – even within one single region – in real life often results in a "mix" or a combination of these two approaches additionally intertwined with labour market volatility. The measures adopted in these approaches differ as do both the object of interest and applied instruments. In the "work to the workers" approach, local and regional authorities focus on new companies willing to use the labour resources offered within a given territory. In this case, the advantage from the investors' point of view is the possibility to tap into a workforce that meets their needs (Dunning 1994). When we discuss the "workers to the work" approach, attention is paid to residents of a given territory who we want to prepare in the best possible way to stand up to the versatile challenges entailed in job seeking.

As a rule, central government creates a legal environment that is conducive to lowering unemployment by, inter alia, stimulating entrepreneurship and attracting new investors by, e.g., establishing a special economic zone (SEZ). It also delegates responsibility for the application of specific labour market measures to regional and local self-governments. As a result, there is close cooperation between a government agency and regional investor service centres, which remain constantly in touch with *gminas* (municipalities – NUTS 5) which offer investment plots (including *gminas* with special economic zones).

In parallel to that, self-governments in Polish voivodeships, which supervise regional investor service centres, carry out their own marketing activities to attract investors while *poviats*, which hold the most fundamental instruments to stimulate the labour market, conduct training courses for the unemployed, requalification courses for occupational groups and do their best to be involved in matching the educational profiles of schools with entrepreneurs' needs. Finally, *gminas*, which can offer investment plots, organise their resources at the grassroots level and become part of various cooperation networks to maximise the probability of attracting new companies (Łukomska 2018).

In Poland, SEZs are a vital element of the above described system and at the same time they are deeply rooted in close and important relations with the government and self-governments. The principal reason why they were established in the mid-1990s was to reduce unemployment in areas dense with deep industrial restructuring. From the onset, SEZs in Poland have been designed as an instrument used to support local and regional labour markets in areas particularly shackled with problems inflicted by economic transformation (Dziemianowicz et al. 2000; Peszat & Szlachta 2017). With regards to this, Polish SEZs are not very different from many other economic zones around the world (Park 1997; Yeung et al. 2013; Zeng 2015; Moberg 2015; Farole 2011; Leong 2013; Wang 2013).

The first SEZ in Poland was established in 1995 and since then their number has grown rapidly. The idea of SEZ in Poland

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was hotly debated by the Polish government and the European Commission because of the financial support offered to business investors in SEZ. At that time, the main problem consisted of adjusting the tax incentives offered to investors in SEZs to regional investment state aid rules (Ambroziak 2009, 2014).

Effects of special economic zones in Poland has been discussed on many occasions while attempts to assess: a) a relationship between SEZs and local authorities (Dziemianowicz 2016), b) the impact of zones on socio-economic growth included higher investment and job creation (Ernst & Young 2011; KPMG 2012) (Jensen 2018), c) overall regional development (Laskowski 2013, Ambroziak & Hartwell 2018), d) external trade (Nazarczuk & Umiński 2019) FDI inflow (Dziemianowicz et. al 2019), and e) aspects linked with the labour market (Kryńska 2000). Conclusions about the impact of SEZs on unemployment are unequivocal since these analyses relate to the outcomes of zone operations across all regions of the country at diverse levels of regional classification. In fact, we can confirm that back in 2016 there were 332,000 employed in SEZs (Ministry of Development 2017), yet we need to observe that these assessments do not take account of, inter alia, business relocation, production restrictions, the liquidation of production capacity, changes in business profile, specificity of the industry, and the so-called idle gear effect.

Hence, the paper aims to discuss potential mechanisms through which SEZs impact labour markets in *poviats* (NUTS 4) in Poland. To this end we have carried out a comparative analysis of changes in the labour market between 2004 and 2016 in two groups of territorial units in Poland comprising nineteen *poviats* (10% of each group) with the highest unemployment rate reported in 2004 for each, which either have or do not have a SEZ within their territories.

We decided to take *poviats* as a spatial scale for the study, taking into consideration the following assumptions:

- in Poland *poviats* have been equipped with the most relevant instruments that stimulate local labour markets and self-government authorities at that level are legally obliged to deal with the labour market;
- when SEZs were established in Poland they were expected to assist certain areas in reversing the negative effects of economic transformation, such as, which was most often the case, the decline of local plants and the dramatic increase in unemployment. Manufacturing plants usually exert an impact upon an area bigger than just one small *gmina.* This is why a group of *gminas*, which make up a *poviat,* is best placed for such analysis.

In the first part of the paper, due to the specificity of SEZs, we present the conditions for acquiring an authorisation, the legal and economic effects of its withdrawal or phasing out and explore the area covered by the study: the specific nature of SEZs in Poland and the consequences. Furthermore, we discuss the outcomes of the analysis of the static and dynamic changes of the unemployment rate in *poviats* with and without SEZs, which at the start of the study period, i.e., in 2004, reported the highest unemployment rate. Finally, we propose conclusions and economic policy recommendations designed to support the regional labour market.

Methodological assumptions

A specific trait of SEZs based in Poland is their fragmentation and the fact that they are scattered across the country. Initially based in one or, possibly, some *poviats* in a given voivodeship, over time the zones turned into dispersed multi-area structures. That was the outcome of the political interventions of regional and local self-governments as well as the requirements of concrete investors who expected additional benefits. In response to that, the central government was ready to establish a sub-zone of one of the already existing fourteen SEZs in a location selected by the entrepreneur. This resulted in a highly fragmented structure of SEZs (in 2016 14 SEZs consisted of 179 sub-zones located in cities and 287 *gminas*). As their main goal was to reduce rising unemployment in the least developed regions, we decided to analyse changes in the labour market of 10% of *poviats* which had the highest unemployment rate in 2004. We wanted to ascertain the potential impact of SEZs on unemployment rather than the general effect of their operations, as well as identify mechanisms through which SEZs impact labour markets in regions where they had originally been set up. Following this logic, the study covered 19 *poviats* without SEZs and 19 *poviats* with SEZs in 2004. We need to stress that it is not a complete counterfactual analysis as the only, and, from the viewpoint of our study, key common indicator was the highest unemployment rate reported in 2004. This was at the beginning of the period covered by the study when Poland joined the EU.

To this end we have some reservations concerning the economic situation and historical past which had an impact on the outcomes of our research. Firstly, the high unemployment rate in Poland in 2004 resulted from the economic slowdown observed in the EU at the turn of 1999 and 2000. Although at that time Poland was not a EU member state, its strong economic ties with several EU member states, including Germany, produced a tangible economic downturn which translated into a spike in unemployment. Moreover, Poland continued to carry out painful restructuring of mostly state-owned enterprises in order to complete them before EU accession (to avoid subsidising these processes outside of the EU schemes and rules) (Kałużyńska et. al 2014).

Secondly, the group of *poviats* included in the study (with the highest unemployment rate in 2004) is spatially concentrated. The biggest cluster of such *poviats* was located in northern Poland, i.e. in three voivodeships dominated by State Agricultural Farms before 1989. The economic transformation was the period when these farms underwent a planned and systemic liquidation; subsequently in some *poviats* within this region unemployment reached 50% in the 1990s. Similar reasons can be given with regards to three *poviats* in the Lubuskie voivodeship (western Poland). Poviats in south-west and central Poland, in turn, are areas in which the high unemployment rate was caused by the collapse of industry and restructuring difficulties, post 1989 (Halamska 2007).

Thirdly, the first SEZs were established in 1995 (the process continued until 1997), hence in 2004 many SEZ sub zones had been in operation for almost a decade, which should not be disregarded if we are looking at their previous significant impact on the labour market. Consistently, the *poviats* with SEZs that we analysed had a diverse back track history regarding their emergence, divergent experiences (including knowledge and skills available at the local level) in attracting investors, with different scope and power of their potential impact on economic growth and the labour market (Jarczewski 2012).

Fourthly, in 2004 some *poviats* without SEZs established zones at later stages which might have had a significant impact upon the end result, so we cannot compare them directly to *poviats* without SEZs or to *poviats* in which SEZs operated throughout the entire period covered by the study (Ministerstwo Gospodarki i Pracy 2005; Ministerstwo Rozwoju 2017).

Fifthly, SEZs in Poland exhibit a highly differentiated growth pattern. When a SEZ was established in a given region, entrepreneurs could apply for a permit to operate within a particular zone, which could later be withdrawn or suspended. One of the requirements to be met was the creation of new or retaining the existing number of jobs (which was one of the

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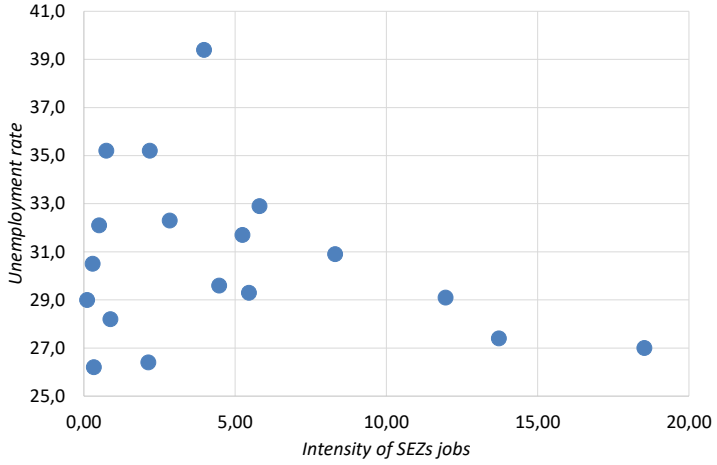

Figure 1. Intensity of SEZ jobs and the unemployment rate in poviats with the highest unemployment rate in 2004
Source: authors' compilation based on data from the Ministry of Entrepreneurship and Technology (MET) and Statistics Poland

conditions of admissibility of EU regional investment state aid in SEZs, Ambroziak 2018). Our study treats all jobs in SEZs as new ones (retained jobs are also "new" as they would not be retained without the investment in SEZ). However, such an approach allows one to capture the rapid increase in the intensity of a SEZ's impact on a given labour market (share of jobs in SEZ in total employment) when one entrepreneur "enters" a SEZ (or de facto when an existing plant, which would go bankrupt without a new investor, is included into a sub-zone), while the nominal overall employment and the population of unemployed have not changed radically in a *poviat* (Dziemianowicz et. al 2000).

Also when a permit is withdrawn, data on employment in the SEZ changes (jobs offered by the company whose permit has been withdrawn are taken out of the SEZ performance statistics), which is not always negative for the labour market in a *poviat*. Often companies, after having been excluded from the SEZ when they become ineligible for the State aid offered under tax incentives schemes, stay put in a given region. Then, the number of jobs in the SEZ decreases rapidly (together with SEZ intensity in the labour market), while the overall number of jobs in a given *poviat* remains unchanged.

Discussion of Results

In 2004, the unemployment rate in Poland ranged from 6.2% (in Warsaw) to 42.7%, giving an average of 19.0%. The average for *poviats* with SEZs and representing the highest unemployment rate included in our study was 31.2%, while the average for *poviats* without SEZs was 38.6%. Noteworthy, in the group of *poviats* with SEZs, only two *poviats* reported an unemployment rate that overlapped with unemployment intervals registered in *poviats* without SEZs. Thus, at the beginning of the period that we examined in our study, *poviats* with SEZs reported unemployment that was relatively lower than in *poviats* without SEZs. On the one hand, it might testify to the fact that zones had actively improved their labour market situation but, on the other hand, as a rule zones were designed specifically for *poviats* suffering from the biggest hardships in the labour market, so the improvement merely complies with the initial founding idea for SEZs in Poland.

Considering *poviats* with SEZs only, we cannot unequivocally prove that there is a relationship between the intensity with which zones impact the labour market (measured with the share of jobs in the SEZ in total employment in a given *poviat*). Among the investigated group of *poviats,* we found some for which this relationship adopted values at extreme ends of the scale: for the intensity of SEZ jobs of 0.6% (a relationship between the number of jobs created in a SEZs and the total number of jobs created in a given *poviat*), the unemployment rate in 2004 was 40.6%; in another case for the intensity of 4.0%, the unemployment rate was 39.4% or for the relationship of 27.0% to 18.5%, respectively. It means that statistical analysis of the labour market is not enough to capture potential relationships between the existence of a SEZ (and its jobs) and the unemployment rate (Fig. 1).

A dynamic analysis of changes in the above-mentioned relationships, along with a comparison of *poviats* with and without SEZs, help better tackle the issue at hand. Yet, we need to observe that within the period covered by the study, 2004-2016, 8 out of 19 *poviats* from the group without SEZs in 2004, actually established such zones; this may potentially distort unambiguous conclusions. When examining changes in the unemployment rate, we realise there is a certain dependence between *poviats* from the two groups: in *poviats* without SEZs or with zones established after the base year of 2004, unemployment was decreasing in a similar way while the reduction of unemployment in *poviats* with SEZs followed a more differentiated pattern: from very deep to very shallow levels (Fig. 2).

Taking into account three groups of *poviats*: a) with SEZs in the years 2004-2016, b) without SEZs throughout the entire period covered by the study, c) and those, in which SEZs were established over the same period of time, we noticed that groups b and c reported higher reductions in unemployment measured in percentage points in 2016 compared to 2004 than *poviats* from group a.

To eliminate the problem of nominal higher reduction of the unemployment rate (calculated in percentage points) for higher base unemployment rates reported in 2004, we decided to apply the share of unemployment rate of 2016 to the rate of 2004 (Table 1). As a result we may conclude that *poviats* with the highest unemployment in 2004, which had never hosted any SEZ or in which SEZs were established after 2004 (i.e., with a relatively low share of SEZ jobs in total employment) reported a higher relative reduction of unemployment than *poviats* with SEZs. Apparently, there are some mechanisms which allow us to explain the impact of SEZs on the local labour market. Changes in the activity rate throughout all *poviats* – with and without SEZs – lead us to the assumption that migration after accession to the EU, as well as adjustments within the period of membership in the EU did not impact our conclusions.

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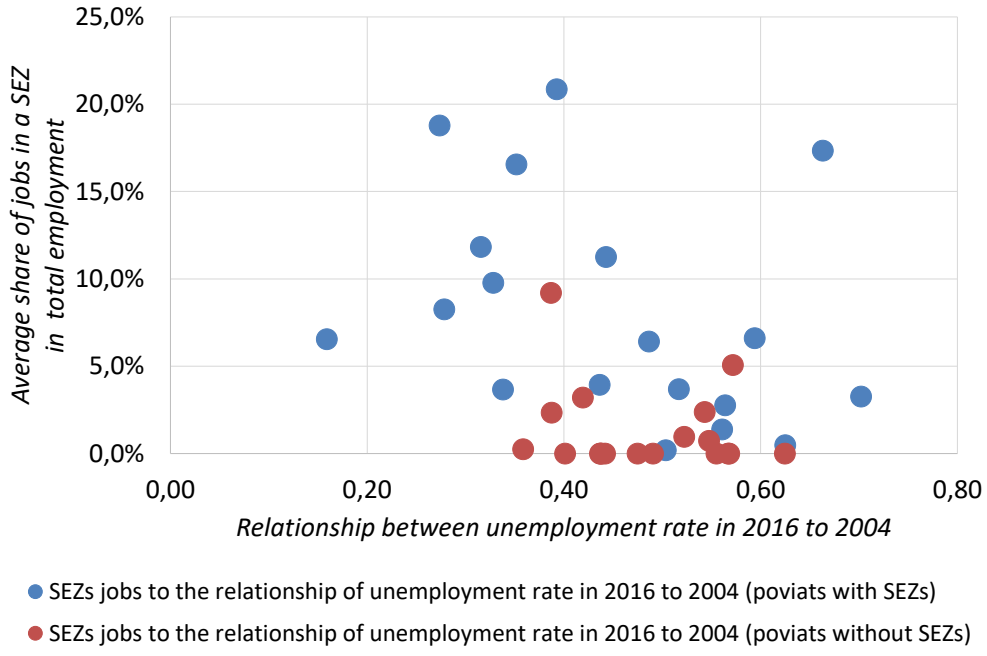

Figure 2. Changes in unemployment rate in poviats with SEZs and without SEZs in the years 2004-2016
Source: authors' compilation based on data from the Ministry of Entrepreneurship and Technology (MET) and Statistics Poland

Table 1. Changes in the unemployment rate in selected poviats over the period 2004-2016

	Changes in the unemployment rate (in p.p.: 2016-2004)			Changes in the unemployment rate (share: 2016/2004)			Changes in the rate of population of working age (in p.p.: 2016/2004)		
	Min	Max	Average	Min	Max	Average	Min	Max	Average
Total	-25.40	-9.80	-18.41	0.16	0.70	0.47	-10.30	6.70	-0.40
Poviats with SEZs, 2004-2016	-23.30	-9.80	-16.89	0.16	0.70	0.45	-3.50	2.60	-0.60
Poviats with SEZs established in the period 2004-2016	-25.40	-16.60	-20.76	0.36	0.57	0.46	-2.60	2.80	0.30
Poviats without SEZs, 2004-2016	-22.90	-15.20	-19.52	0.40	0.62	0.49	-0.80	2.40	0.20

Source: authors' compilation based on data from the Ministry of Entrepreneurship and Technology (MET) and Statistics Poland

Firstly, very rarely did SEZs in the least developed regions, i.e., regions with the highest unemployment rate, established further sub-zones since there was too little interest on the side of (especially foreign) investors. Consequently, some *poviats* with SEZs included in the study had already attracted investors many years ago and that then contributed to the reduction of unemployment. However, due to the low level of investment attractiveness, no new companies were established, which subsequently blocked labour market growth (see Domański 2001). This means that a single investment in a given region could have contributed to the reduction of unemployment in one go, with no creation of new jobs in the years to come.

Secondly, if *poviats* exhibited the highest level of unemployment, employees' skills and expectations did not necessarily match employers' needs. This was confirmed by multiple requests submitted by zone investors to amend the permit to operate in a SEZ motivated by difficulties in finding adequate employees (salaries are also an issue: foreign investors seeking cheap labour were unwilling to increase the cost of employment, Jasiniak & Keller, 2016). This results in the displacement of the local labour force by workers from neighbouring regions, which does little to improve a local labour market.

Thirdly, one of the consequences of the expansion of SEZs with private plots and existing companies was that they could only retain existing jobs in a region (what was one of admissibility conditions of regional state aid in SEZs), instead of creating additional new jobs. It did not result in an increase in employment, however it protected against rising unemployment (see Jarosz

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2000). It is worth noting that without further in-depth case studies, it is extremely difficult to matter-of-factly decide that SEZs have helped in retaining all the jobs in a given company.

Fourthly, after 2004 we can witness spatial production concentration in SEZs with new investors recruiting skilled employees from companies that had established themselves earlier in the region. This resulted in a brain drain from one company to the new investors in a given region, which did not impact the overall situation of a labour market in a given *poviat* (Dziemianowicz 1997). We could observe only a shift of labour force from one company to another within one *poviat*

Fifthly, entrepreneurs in *poviats* with SEZs, who operated outside of SEZs, were discriminated against by those who established themselves in SEZs (SEZ companies were awarded income tax breaks). Under such unfair circumstances, SEZ development has been responsible for the relocation of existing jobs at the local (sometimes regional) level (Smętkowski 2000).

Conclusions

In the conducted study, we cannot conclude that following EU accession SEZs in Poland clearly improved the situation in the labour market in *poviats* reporting the highest unemployment. Firstly, investors in zones often operated in locations they had selected themselves, meaning they identified locations and subsequent governments issued decisions to establish a SEZ in a particular site and cover it with the SEZ income tax incentive scheme. We need to stress that in most cases these locations neighboured their competitors and subsequently took advantage of the economies of agglomeration. The mechanism should increase the demand for highly skilled labour force and continued to reduce the unemployment rate. However, this was not true for the least developed regions with the highest unemployment rate as new investors avoided them. They focused on the best developed regions of the country with the best transport infrastructure, which facilitated cooperation with the suppliers of components and the sales of goods they produced outside of Poland. Secondly, considering the above, *poviats* with zones and with the highest unemployment rate attracted domestic investors to relocate their businesses, including jobs, without changing their previous business partners (hence there was limited cooperation with local companies). Taking into account that ultimately *poviats* without SEZs systematically and generally reduced unemployment compared to *poviats* with SEZs, we may conclude that state aid triggered investment, but the specificity of the industry in question and a mismatch between the skills of the local labour force and the needs of the investing entrepreneur hindered a more substantial positive impact on the labour market.

Thus, it means that regional policy instruments designed to guide investors' location decisions should take into account endogenous factors in areas covered with intervention measures. This remains particularly true of the skills of a given region's labour force, requalification opportunities, and meeting entrepreneurs' needs. These measures should not be universal to all regions but instead tailored to industries represented by interested investors. It is also fundamental to identify intervention areas at the central government level. Leaving this to investors means they will invest in the most developed regions where state aid (e.g., SEZ) ceases to be indispensable and incentives, in principle, do not work.

Apparently, to investigate the impact of the presence of SEZs on the labour market in *poviats* in Poland, we need a further, more in-depth analysis of individual cases of investment projects with regard to location decisions, industries represented by investors, and the matching of the labour market and employees skills to the expectations of their potential employers.

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References

Ambroziak, AA & Hartwell, ChA 2018, 'The impact of investments in special economic zones on regional development: the case of Poland', *Regional Studies*, vol. 52, np. 10, pp. 1322-1331.

Ambroziak, AA 2009, *Krajowa pomoc regionalna w specjalnych strefach ekonomicznych w Polsce* [*Regional state aid in special economic zones in Poland*], Warsaw School of Economics Press, Warsaw.

Ambroziak, AA 2014, 'The legal framework for regional state aid in the European Union in 2014–2020 and its impact on the attractiveness of Poland's Regions to investors' in *New Cohesion Policy of the European Union in Poland. How It Will Influence the Investment Attractiveness of Regions in 2014-2020*, ed. AA Ambroziak, Springer, Cham Heidelberg New York Dordrecht London, pp. 63-76.

Domański, B 2001, *Kapitał zagraniczny w przemyśle Polski* [*Foreign capital in polish industry*], Instytut Geografii i Gospodarki Przestrzennej Uniwersytetu Jagiellońskiego, Kraków.

Dunning, JH 1994, 'Re-evaluating the benefits of foreign direct investment', *Transnational Corporations*, vol. 3, no. 1, pp. 23-51.

Dziemianowicz, W, Łukomska, J & Ambroziak, AA 2019, 'Location factors in foreign direct investment at the local level: the case of Poland', *Regional Studies*, vol. 53, no. 8, pp. 1183-1192.

Dziemianowicz, W 1997, *Kapitał zagraniczny a rozwój regionalny i lokalny w Polsce* [*Foreign capital and regional and local development in Poland*], EUROREG, University of Warsaw, Warsaw.

Dziemianowicz, W 2016, 'Łańcuch wartości w świetle wyników ankiet' ['Value chain in the light of survey results'] in *Łańcuch wartości gminy*, eds W Dziemianowicz & J Szlachta, vol. CLXIX, Studia KPZK, Warszawa, pp. 56-77.

Dziemianowicz, W, Hausner, J & Szlachta, J 2000, *Restrukturyzacja ośrodków monokulturowych na przykładzie Mielca* [*Restructuring of monocultural centres. The case of Mielec*], Instytut Badań nad Gospodarką Rynkową, Warszawa.

Ernst & Young 2011, *Special Economic Zones after 2020*, Warsaw, Ernst & Young.

Farole, T 2011, *Special economic zones in Africa: Comparing performance and learning from global experiences*, World Bank.

Halamska, M 2007, 'Regionalne zróżnicowanie rozwoju wsi', ['Regional disparities in development of rural areas'] in *Polska regionalna i lokalna w świetle badań EUROREG-u*, ed. G Gorzelak, Wydawnictwo Naukowe SCHOLAR, Warszawa, pp. 76-96.

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Jarczewski, W 2012, *Pozyskiwanie inwestorów do gmin*, [*Attracting investors to municipalities*], Wolters Kluwer Polska Sp. z o.o., Warszawa.

Jarosz, M (ed.) 2000, 'Dziesięć lat prywatyzacji bezpośredniej' ['10 years of direct privatisation'], Instytut Nauk Politycznych PAN, Warszawa.

Jasiniak, M & Keller, J 2016, 'Znaczenie specjalnych stref ekonomicznych w rozwoju polskich regionów – na przykładzie województwa łódzkiego' ['The importance of SEZs in the development of Polish regions – the case of Łódź Voivodeship'], *Acta Universitatis Lodziensis. Folia Oeconomica*, vol. 4(323), pp. 21-36.

Jensen, C 2018, 'The employment impact of Poland's special economic zones policy', *Regional Studies*, vol. 52, no. 7, pp. 877-889.

Kałużyńska, M, Karbownik, P, Burkiewicz, W, Janiak, K & Jatczak, M (ed.), 'Poland's 10 years in the European Union', Ministry of Foreign Affairs, Warsaw.

KPMG 2012, *Special economic zones, edition 2012*, KPMG, Warsaw.

Kryńska, E 2000, 'Specjalne strefy ekonomiczne w Polsce - teraźniejszość i przyszłość' [Special economic zones in Poland - present and future] in *Polskie specjalne strefy ekonomiczne*, ed. E Kryńska, Wydawnictwo Naukowe Scholar, Warszawa, pp. 170-186.

Laskowski, P 2013, 'Specjalne strefy ekonomiczne jako czynnik rozwoju regionalnego na przykładzie wałbrzyskiej specjalnej strefy ekonomicznej "INVEST-PARK"' [Special economic zones as a factor of regional development based on Wałbrzych special economic zone „INVEST-PARK"), *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, vol. 307, pp. 317-329.

Leong, CK 2013, 'Special economic zones and growth in China and India: an empirical investigation', *International Economics and Economic Policy*, vol. 10, no. 4, pp. 549-567.

Łukomska, J 2018, 'Factors explaining the changes in the rankings of Polish cities' economic position (1992-2013), Miscellanea Geographica, Vol. 22, No. 1, pp. 48-55.

Ministerstwo Gospodarki i Pracy 2005, *Informacja o realizacji ustawy o specjalnych strefach ekonomicznych* [*Information on the implementation of the act on special economic zones*], As of 31 December 2004, Warsaw.

Ministerstwo Rozwoju 2017, *Informacja o realizacji ustawy o specjalnych strefach ekonomicznych [Information on the implementation of the act on special economic zones*], As of 31 December 2016, Warsaw.

Ministry of Technology and Innovation, *SEZs Entrepreneurs Data*, Warsaw.

Moberg, L 2015, 'The political economy of special economic zones', *Journal of Institutional Economics*, vol. 11, no. 1, pp. 167-190.

Nazarczuk, JM & Umiński, S 2019, *Foreign trade in special economic zones in Poland*, Wydawnictwo Uniwersytetu Warmińsko-Mazurskiego w Olsztynie, Olsztyn.

Pak, Ch 1997, *The special economic zones of China and their impact on its economic development*, Praeger Publishers, Jung-Dong Park, Westport.

Peszat, K & Szlachta, J 2017, 'Changing the development path of a region – a case study of the Lower Silesian Voivodeship', Miscellanea Geographica, Vol. 21, No. 2, pp. 84-88.

Smętkowski, M 2000, 'Suwalska specjalna strefa ekonomiczna' ['Special economic zones in Suwalki'] in *Polskie specjalne strefy ekonomiczne*, ed. E Kryńska, Wydawnictwo Naukowe Scholar, Warszawa, pp. 86-123.

Statistical Office Poland, *Local Data Bank*, Warsaw. Available from: <https://bdl.stat.gov.pl/BDL/start>. [1 July 2019].

Vanhove, N 1999, *Regional policy: A European approach*, Ashgate Publishing Ltd., Aldershot.

Wang, J 2013, 'The economic impact of special economic zones: Evidence from Chinese municipalities', *Journal of Development Economics*, vol. 101, no. 1, pp. 133-147.

Yeung, Y, Lee, J & Kee, G 2013, 'China's special economic zones at 30', *Eurasian Geography and Economics*, vol. 50, no. 2, pp. 222-240.

Zeng, DZ 2015, 'Global experience with special economic zones. Focus on China and Africa', *Policy Research Working Paper*, vol. 7240, World Bank Group.