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The delocalization of production to Poland

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This paper presents some aspects of the process of services, products and manufacturing transfer, with the associated production resources, from other locations and plants to Poland.

The study was carried out on the basis of an analysis of publications about delocalization as well as by means of desk research, where there were used the accessible primary and secondary data such as branch reports, statistical data available in reports, data bases, and information accessible on Polish and European websites. The article is also the result of the author's experience of participation in the relocation of a number of international companies, regarding various industries. Delocalization in Poland was presented both from the point of view of Conceptualizing delocalization (literature review, theoretical position) and Implementation of production.

The delocalization mainly takes advantage of labor forces. On the other hand, it may also concern innovative activities and develop high-tech for regions affected by economic restructuring. The social policies for the risk mitigation of the delocalization of production are also being developed and implemented. This work clarifying the conditions of delocalization in Poland and highlight the important roles played by innovation and institutions for achieving sustainability.

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JEL: F02, O33, Z18

1. Introduction

Since the European transition and trade liberalization (Chhachhi, 2014; Fagertun, 2017) in the early 90s, it has been observed an increase in economic ties, which manifests itself among other things, by the expansion of trade flows, production and growth of international companies. Dynamic and deep changes in the global economy (Vokina et al., 2016; Ulewicz and Blqaskova, 2018) are forcing businesses adaptation, which include moving production to countries with lower costs. Poland is the beneficiary of the opening of the economy and integration with the European Union, and absorbs the flow of foreign investment, which results in the development of the national economy, the creation of new jobs and an increase in exports. National Strategic Reference Framework between 2007-2013 was 67.3 billion EUR which made Poland the biggest beneficiary of the European Funds.

An important role in the delocalization (Dzikowska, 2014) depends on such factors as:

- the level of labor costs;

Example is the study of Almeida & Poole, 2017 presenting trade affects on labor market in a developing country, especially taking into account currency crisis in Brazil in 1999,

- the quality and qualifications of the labor force;

The paper (Piróg, 2015) presents the results of research on qualifications and employment on the example of a professional group of geographers.

- the availability of demand and supply markets;

Authors (Di Maio et al., 2017), present the KPI for industry and governance supply chain in terms of resource efficiency and circular economy.

- the principles of taxes;

Zabinski and Sosnowski (2013), showed taxation transformation and implementation in the countries of Central and Eastern Europe.

- infrastructure;

The authors (Masarova and Ivanova, 2016) showed the role of transport infrastructure in Poland and Slovakia on the European market.

- institutional dependence;

Festing and Sahakians (2013) present practices in the subsidiaries of a multinational corporation operating in Central and Eastern Europe.

Figure 1 shows that Poland offers some of the lowest labor costs in the EU. This graph contains data on Average hourly labor costs which are defined as total labor costs divided by the corresponding number of hours worked by the yearly average number of employees, expressed in full-time units.

Labor Costs cover Wages and Salaries and non-wage costs (Employers' social contributions plus taxes less subsidies).

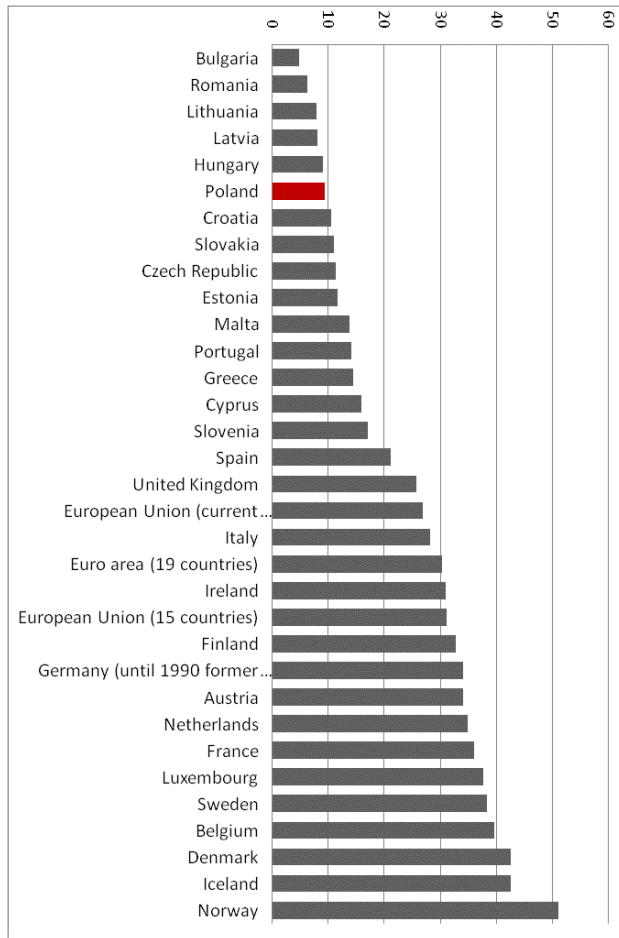


Fig. 1. Hourly Total Labor Costs in Euros, 2017, source: (Eurostat, Labour costs annual data - Nace Rev. 2, 2018)

Operating environment of companies has changed significantly due to technical progress, especially the telecommunication development. In an era of electronic commerce, knowledge and information constitute an important factor of production, which is not subject to physical limitations.

Host country investments usually obtain access to know-how, modern machines and equipment, but also innovations. These benefits are subject to the rules of fiscal costs, because countries encouraging foreign investors are willing to grant far-reaching tax reliefs. These costs, however, should be seen not in terms of losses, but investments.

The multinational transforming process also creates innovation. Tsuji et al. (2016) in his study presents a hypothesis "External linkages promote internal innovation capability and accordingly enhance innovation" in reference to the Association of Southeast Asian Nations (ASEAN).

2. The definition of delocalisation

The issue of delocalization is moved in a number of debates on the integration of the European Union, but repeated-

ly points out the difficulties in the proper definition of terms that would not be too narrow or too wide.

Colombo, Franzoni and Veugelers (2015) uses the term of delocalization, understood as the replacement of domestic production to abroad. The author distinguishes two possible types of this phenomenon; i.e. foreign direct investment and international outsourcing.

The processes of relocation can take two forms. One of the forms will therefore be a foreign direct investment, which is characterized by behavior control by means of production and their property, where the transfer of the manufacturing process will be carried out within one company. The other form is the process of commissioning the production or its individual fragments to a separate company. In this case, there should be more talk about outsourcing, not delocalization.

Moving employment from one country to another means closing workplaces in one country and, at the same time, opening new jobs in another country while conducting the same business. Intended activity means that it is fully planned and implemented by the management company.

Transfer of all or a part of production or service from one country to another, having the features of delocalization in accordance with the definition adopted, may take one of the following forms:

- complete delocalization, when the company moves abroad with the entire production, dismissing the entire crew, and retaining ownership of the means of production, exporting all produced goods to a third party;
- captive offshoring (internal delocalization), when the international company closes the plant or a portion of one country reducing jobs and, at the same time, starts identical production of activities or services in the other country (in this case, Poland);
- reexport delocalization, if the company closes or reduces its economic activity in the home country, reducing jobs and, at the same time, in the same activity commissions production subsidiaries or other foreign companies within the group, in order to reexport them to the home country and further process there. Such a situation is a case of captive offshoring, but focused on re-export;
- delocalization through mergers and acquisitions, the company closes one of its factories in one country or limits its business, reducing jobs and, at the same time, opens a facility in the other country producing similar product or offering similar service, through joint ventures with partners in third markets, in the form of mergers and acquisitions. Takeover of other operating business entity, equipped with machines, equipment and technologies almost identical with those previously used in the native plant;
- restructuring delocalization; the company is restructuring its facilities as a result of which some of them are closed or work in them is limited, and new plants in other countries take over their job. It is a case of captive offshoring, with the difference that the process is forced by the poor economic situation of the company.

Delocalization definition does not cover, for example, off-shore outsourcing (Sethupathy, 2013), new markets and

customers, new products and services or diversification of economic activities. For those cases there is no significant loss of jobs in the home country or need to build a new production/service facility abroad.

3. Implementation of delocalization

Planning and implementation of the delocalization is preceded by a precise analysis. The challenge for seeking economic success is to facilitate the acquisition of knowledge and to converse that knowledge into benefits for its citizens by the most efficient means available.

Ramzi, Frein and Hadj-Alouane (2008), in a result of literature review, gathered the main points of decision for the delocalization problem, shown in Table 1.

Table 1. Delocalization characteristics in the model-based literature. Adapted from (Ramzi et al., 2008)

Decisions	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Facility location	x	x		x	x	x	x	x	x	x	x	x
Technology selection				x				x				x
Capacity relocation											x	
Supplier selection		x	x		x	x			x	x		
Intermediate products		x		x			x			x		x
Inventory management				x						x	x	x
Transfer pricing			x				x					
Transportation cost allocation		x					x					
Overheads allocation costs			x									
Facility closing cost											x	x
Supplier fixed cost		x	x						x	x		
Labor cost												
Technology fixed cost				x								x
Capacity cost								x			x	x
Inventory cost				x			x			x	x	x
Inventory in transit cost				x								
constraints												
Technological Constraints												
Suppliers capacities		x	x		x	x	x			x	x	
Local content rules			x	x								
other aspects												
Income tax	x	x	x	x	x		x				x	x
Exchange rate	x	x	x		x		x				x	x
Lead times				x								
Multi-period supply chain			x	x	x						x	x
BOM constraints		x		x			x			x	x	x

Harms et al. (2012) in his study presents analysis of the offshoring decision of firms whose production process is characterized by a particular sequence of steps. The authors propose and explore the model of parameters which influences the firms' offshoring choices.

Delocalization is a complicated international project and it is advisable to be carried out in accordance with the guidelines of project management rules, mentioned by Macek (2010) in his study.

The project team is generally composed of employees from the same departments in the delivering and receiving plant and it is supported by central functions.

The level of project maturity in individual enterprises varies significantly. At the same time the project awareness of the project teams is different, as shown in work presented by Marek-Kolodziej et al. (2014) and Aaltonen et al. (2008).

According to Macek (2017), Fig. 2 shows an example of the production delocalization scheme, in the project life cycle. During the Economic Analyses the top management of the company preselects locations, investigates a number of financial analyzes and studies final products and markets, but also initially aspects such as impact on these products, process or method to be transferred. Delocalization planning primarily takes into account layouts, construction and finishing of buildings and services, machines transfer, material flow, human resources and many other factors. Phase of Transfer to Series manufacture includes the production of reference sample, audit in the delivering plan, Customer approval for series production, if necessary. All phases of delocalization have to be planned in detail because of the project's complexity. Very important is the plan of training and awareness of the crew, due to barriers such as - language, culture, aversion to share knowledge, misgiving to the loss of jobs, etc. Obviously, all phases of the project should have a risk analysis carried out.

The activities for the project should be executed through Project Management tools, e.g. from the checklists. They represent a minimum requirement for a delocalization project and contain the most important transfer items.

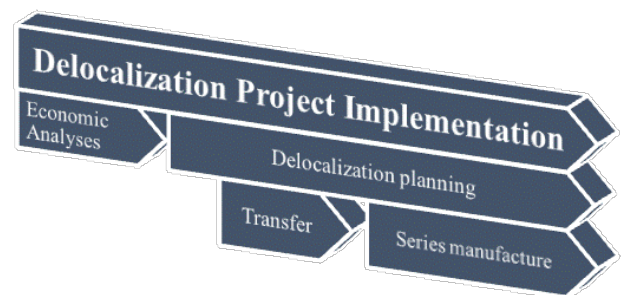


Fig. 2. Production delocalization in the project life cycle (Macek, 2017)

4. Consequences

4.1. Social

As shown in many studies, such as Baptista (2014), Welfens (2013), Coe (2013) in fact, the phenomenon of delocalization is a marginal share of changes in the structures of total employment for the transferring country. It is believed that the decline in employment associated with the relocation is not more than a few percent. Deming, D.J. (2015) presents that productivity-fueled expansion helps offset the direct loss of domestic jobs. A common solution is to transfer employees to other divisions from closed ones or offer other forms of assistance in finding a job. Changes in employment structure lead to increased competitiveness, especially among workers with lower qualifications, increasing the attractiveness of highly qualified specialists. In this light, there is a need for continuous training of employees and continuous improvement of their skills, and to promote business innovation and development of new technologies.

Ultimately, the processes of relocation are of benefit to both countries, of which activity is sometimes transmitted (because labor resources are shifted to the more advanced sectors of the economy, which results in better jobs) and the countries to which this activity is transferred, because new work positions are created there.

Often workers transmitting location, do not want to collaborate, share knowledge, because their foreign colleagues are receiving their jobs. Here is a large role for the management in terms of real awareness of the objectives and explaining the situation.

Much stronger influence on changes in the structure of employment, and especially for its decline are other factors such as deterioration of the overall economic situation, the decline in orders, shrinking markets, restructuring of companies, etc (Lavrinovicha et al., 2015).

4.2. Economic

Relocation of production is also gaining markets in the country to which production or services are transferred. Globalization is in the expansion of trade flows, production and creation of transnational corporations.

There are many ways to measure processes of delocalization. The measurement of this phenomenon can be carried out both at the macro level as well as for individual business projects. It is based mainly on statistics of foreign trade and the flow of foreign direct investment in the production and service sectors.

One of the economic benefits for the company making the relocation is the ability of international shifting of semi-finished and finished products within the global network, which allows such transfer pricing and profit levels, to effectively minimize the overall tax liabilities. This phenomenon, in addition to already indicated in this study, the risk of loss of jobs in the exporting country, the threat to the stability of the economy of the host country.

The Nobel Prize winner P. Samuelson (2004), in his article demonstrated the theoretical possibility of deterioration in developed countries as a result of technological progress in

developing countries. Technology transfer could undermine the advantage of a developed country and lead to the reduction of exchange.

Formulated in the literature models showing the theoretical possibility of a deterioration of the situation in the country due to transfer part of its production abroad, are not confirmed in practice.

Major data regarding labour market in Poland presented in Yearbook of Labour Statistics (2017) contains data presenting the supply and demand sides of the labour market, wages and salaries and working conditions. Figure 3 shows periodic changes in the average monthly wages and salaries which will allow to diagnose the labor market.

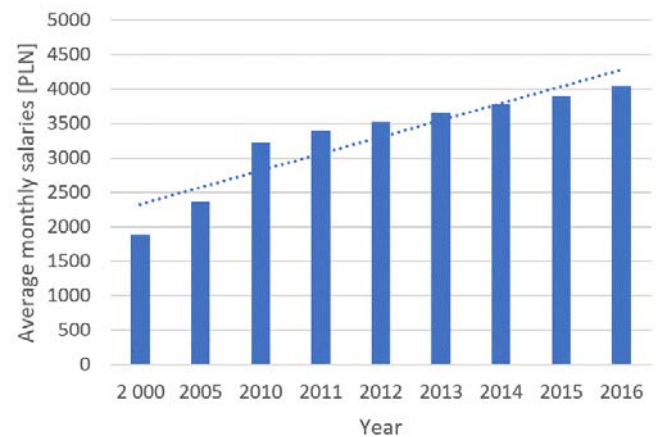


Fig. 3. Average monthly salaries in Poland, source: (Yearbook of Labour Statistics. Branch Yearbooks. Central Statistical Office. 2017)

An increase in wages in Poland has caused more pressure on the use of professional employees, and not just cheap labor. Research and Development activity growth trends as well as innovation activities of enterprises are shown in the example of personnel (employed) in R&D in recent years (Figure 4). This situation is far from Keynesianism (Keynes, 1936), for which workers are ready to take up a job in exchange for a salary in force on the market or lower, and yet they are unable to find it.

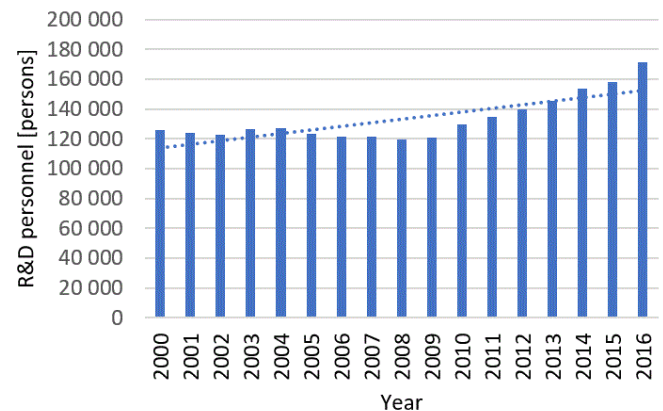


Fig. 4. R&D personnel in Poland, source: (Yearbook of Labour Statistics. Branch Yearbooks. Central Statistical Office. 2017)

4.3. Politics

Politicians or national and European organizations are trying to minimize the negative impact of delocalization.

The Council Regulation (EC) No. 1083/2006 (2006), says that the Commission should have all necessary information to determine whether a contribution financial funds does not result in a substantial loss of jobs in existing locations within the European Union, in order to ensure that Community funding does not contribute to the transfer of jobs. In the same document the authors stress that the enlargement of the internal market in the European Union related to the integration into the structures of the new Member States, excluding the establishment of any restrictions on the relocation of companies from Western Europe to Central and Eastern Europe. An important issue is, however, to help finance from the European Union received only start a new business, and not the individual making the delocalization.

One of the instruments to attract foreign investors to Poland are Special Economic Zones (Dorozyński, et al., 2016; Tynel, 2013) with the main benefit for SEZ investors as an exemption from income tax. They were established based on the Special Economic Zones Act adopted in 1994. Since then SEZs in Poland have resulted in investments of a total value over EUR 20 billion and over 186 thousand new jobs. Figure 5 shows Map of Regional Aid Intensities in Poland, 2014-2020. Other exemplary forms of support to investors in Poland are Cash grants (support from EU funds), Cash grants under Multi-Annual Support Programmes (MASP), support from the domestic budget, and Real Estate Tax exemption. Economic Zones operated on only 0.08% of Poland. On June 30, 2018, the act on supporting new investments, extending tax incentives to almost 100% of investment areas in Poland came into force.

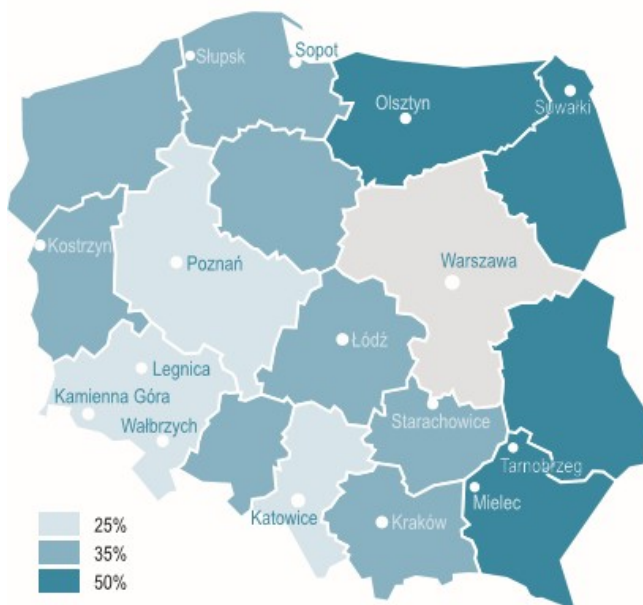


Fig. 5. Map of Regional Aid Intensities in Poland, 2014-2020, source (Tynel, 2013).

A different example of political support for the development of the domestic industry can be the purchase of strategic systems for the Polish army, the air defense system, submarines often accompanied offset supervised by the Ministry of Defence. Offset aims at investing in the production and service of Polish industry, which is to be a supplier and a party to the contract, even with the use of components from abroad.

5. Conclusion

Moving production to another country is a natural reaction of enterprises to changes in management conditions. Globally, this phenomenon is associated with a more efficient allocation of resources, which from an economic point of view is positive. The flow of factors of production across borders may entail reductions of some jobs and changes in the structure of employment.

Theories of microeconomics clearly show that companies implementing delocalization have higher profitability and productivity. On the other hand, from a macroeconomic perspective, the process of relocation is a natural consequence of integration and globalization, and serves equalizing levels of development of individual economies.

The choice of appropriate indicators and measures of delocalization raises many difficulties. The authors of scientific studies often lean toward statistical methods, which, however, require in-depth analysis, and the results may often not reflect reality. Using statistical methods for the delocalization, can be measured with reference to foreign direct investment and foreign trade, however, it is difficult to determine which of them are actually the phenomenon, even if they try to extract those that characterizes employment restructuring associated with the delocalization. Another proposed method is to conduct surveys among entrepreneurs (many of this type of research shows that relocation is a process that will be intensified).

Poland, a country mainly taking the capital, and offering work, uses possibilities of attracting foreign production, which has a positive impact on the labor market. In Poland should be more selective control of the inflow of investments to direct them toward the projects with high technology and towards research and development (Wiener, 2007). However, the competition from other countries and regions is strong, so Poland must convince, and then persuade others why Poland and widely Europe still deserves a special mention to corporations from around the world. The delocalization has to be connected with sustainable development for effect high levels of social aspects and innovation.

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生产到波兰的非本地化

關鍵詞

生产非本地化, 搬迁, 全球化, 波兰经济

摘要

本文介绍了服务, 产品和制造转移过程的一些方面, 以及相关的生产资源, 从其他地方和工厂到波兰。

该研究是在对非本地化的出版物以及案头研究的分析的基础上进行的, 其中使用了可访问的主要和次要数据, 例如分支报告, 报告中提供的统计数据, 数据库和信息。可在波兰和欧洲网站上访问。这篇文章也是作者参与一些国际公司重新参与各种行业的经验的结果。从概念化非本地化(文献综述, 理论立场)和生产实施的角度提出了波兰的非本地化。

离域主要利用劳动力。另一方面, 它也可能涉及创新活动, 并为受经济结构调整影响的地区发展高科技。减少生产非本地化风险的社会政策也正在制定和实施。这项工作阐明了波兰的非本地化条件, 并强调了创新和机构在实现可持续性方面所发挥的重要作用。