

## THE CONCEPT OF DEVELOPMENT OF WEST POMERANIA'S COASTAL AREAS BASED ON THE POLARIZATION-DIFFUSION MODEL

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### *Abstract*

The level of regional development in the EU has been largely diversified from the beginning. A compensatory variant of regional policy, aiming at a simple redistribution of revenue, was not bringing about the desired results. Therefore, policy makers increasingly pay attention to the significance of the concentration of economic processes in the development of geographical space. A natural location for developmental processes to accumulate are seaports. In regional policies of many countries, they are treated as growth poles. The hitherto actions of public authorities supporting the development of peripheral areas with the use of seaports have brought about varied results. Therefore, the aim of the article is to elaborate a concept of developing the coastal areas of West Pomerania, Poland, based on seaports. The adopted concept has to take into account the premises of polarized development theory and the specific local conditions. The subject matter of the article meets the criteria of the polarization-diffusion development. Most coastal municipalities belong to peripheral areas. Seaports, on the other hand, are centers of economic activity. Both primary and secondary sources of information have been used in the article. A comprehensive review of the theory of polarized development has been conducted, including the most recent scientific publications and studies. Research was conducted in the form of in-depth interviews with representatives of seaports. The conducted research demonstrated significant development potential of seaports which was not used to its fullest capacity. The main reason for this was the bad condition of the reloading and transportation infrastructure. The aforementioned barrier limited the seaports' scope of influence and the intensity of commercial contacts. Improving access to seaports will require significant investment outlays which exceed the budgets of local municipalities. Therefore, central authorities should become involved in the investment process. As far as production is concerned, it is essential to acquire key investors who produce goods with high added value on the basis of raw materials and semi-finished products supplied by local companies. The cooperation will stimulate the development of the existing and the emergence of new businesses. The role of municipal authorities should consist in professional activation of local communities. The proposed concept includes a wide cooperation between the public authorities at all levels, the key investors, and the local community.

**Keywords:** seaports, regional development, growth poles, transport infrastructure

## 1. INTRODUCTION

The distribution of developmental factors in space has never been even. For this reason, there are substantial differences in the levels of economic developments between regions. The increase in developmental discrepancies is a common if not natural as well as a current phenomenon (Korenik, 2009). While between the EU states we observe a convergence of development, in the case of regional and local systems the processes of divergence are dominant, which is not favorable and causes many issues that are social in nature (Adamczyk-Łojewska, 2011). Theories of regional development offer various solutions to overcome the developmental disproportions. The neoliberal concepts assume an automatic leveling of any development inequalities. Theories referring to the Keynes model concentrate on providing direct help to peripheral regions. In accordance with the polarization theory, it is the concentration of development processes and their subsequent diffusion that lead to an alleviation of development inequalities. On the other hand, the proponents of endogenous development see a chance for overcoming the negative development tendencies in the internal potential of the regions. The efficiency of the aforementioned concepts in the mitigation of development inequalities is diversified, since the development conditions of particular areas are different (Guercini & Tunisini, 2017; Gałązka, 2017).

The following article touches upon the issue of the development of peripheral areas in Poland's West Pomerania. The studied areas are characterized by a low level of development and an above-average unemployment rate. The economy is largely based on agricultural production and forestry. The area lacks in significant industrial centers and bigger cities (Sołtys, 2015). The quality of social capital is not the highest. In such conditions, it is difficult to expect an initiation of development of the studied areas based on their endogenous potential. The attempts at activating them within regional policies, largely based on the compensatory model, have not been bringing satisfactory results. The inflow of external investments is in turn insufficient to significantly improve their economic situation. However, the coastal areas are not entirely deprived of assets (Sołtys, 2013; Rynio, 2014). One of them are undoubtedly the seaports: local centers of economic activity (Neider, 2008, pp. 28-29; Bernacki, 2016, pp. 146-152). In the regional policies of numerous European countries, they are used to activate the peripheral areas.

Taking into consideration the socio-economic situation of the West Pomeranian municipalities and the fallibility of the previous actions undertaken to activate them, another attempt was made at designing a concept of the development of the studied regions. The concept is based on the premises of the polarization-diffusion theory, which treats seaports as growth poles. In reference to the purpose of this research, a hypothesis was formulated that an effective development of West Pomerania's municipalities could be achieved through concentrating the operations in seaports followed by the spreading of developmental impulses onto the neighboring areas.

Although numerous seaports of local character are situated in West Pomerania, two were selected for the purposes of the study, namely: Kołobrzeg and Darłowo<sup>1</sup>. Only these two have an infrastructure which possibilitates the realization of reloading operations – the most important function in the development diffusion process.

The literature on the subject which presents the economic links between the seaports and their facilities is quite extensive. However, there are no comprehensive studies on West Pomerania. "The scientific body of work on the issue of polarized growth is equally rich although also in this regard national studies are based on a few study cases (Szczech-Pietkiewicz, 2017). Nonetheless, the previous attempts at utilizing seaports in the process of activating the peripheral regions in the EU have brought about varied results. Considering the above, the article tries to indicate the proper path of development for the studied areas of West Pomerania.

Both primary and secondary sources of information have been used in the article. Literature on the subject and numerous publications and scientific studies have been consulted. Research was conducted in the form of in-depth interviews with representatives of seaports.

## **2. THEORIES OF REGIONAL AND LOCAL DEVELOPMENT IN THE ECONOMIC TRENDS**

The hitherto developed theories of regional development refer to four main economic trends: the neoliberal development, the Keynes model, the unsustainable development, and the endogenous development (Stackelberg & Hahne, 1998; Amin, 1999; Malizia & Feser, 1999, pp. 108–109; Begg et al., 2008, p. 585; Greta, 2014).

The neoliberal theories refer to sustainable development. They assume an automatic leveling of developmental inequalities. The necessary condition is an efficiently working free market. How are the developmental discrepancies eliminated? It is the result of the flow of capital and workforce between the more developed and the less developed centers. With time, investment rates and levels of wages are evened, which leads to convergence of development. It should be noted that neoliberal concepts make the development of less developed regions dependent on external factors, i.e. the diffusion of development from better developed regions. They underestimate the possibility of self-development of peripheral regions based on their endogenous potential.

The crisis of the 1920s and 1930s revised the views on the possibilities of restoring balance on the basis of the free market mechanism. According to Keynes, reality was far more complexed than the idealized assumptions on which the neoliberal concepts had been founded. Keynes and the proponents of state intervention theory were convinced that the mechanism of free market cannot lead to

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<sup>1</sup> In West Pomerania, two large commercial seaports are also located: Świnoujście and Szczecin. However, the areas located within the range of their influence are characterized by a much better economic situation. Moreover, the aforementioned ports are to a large degree centers of economic activity. Therefore, they already function as growth poles.

a full convergence of development. Therefore, problematic areas needed help from the state far beyond the activities permitted by the neo-liberal concepts. What makes the Keynes model similar to the neoliberal theories is the conviction about the balanced course of development processes. With time, the development disproportions disappear, but not as a result of free market; quite the opposite, the cause is public intervention. Both thoughts also involve the conviction about the top-down control of economic processes – the case of the Keynes model – the external factor stimulating the development of peripheral areas is the intervention of public authorities.

The postwar reality would not confirm the assumption about a sustainable course of economic processes, should they be based on free market or public intervention. The development disproportions not only did not diminish; very often their growth could be observed. Hence, beginning in the 1950s, various theories of polarizations began to gain in popularity; they assumed concentration and accumulation of development processes in already developed areas, that is, in growth centers. In order to eliminate the developmental differences, the authors of polarization theories postulated an enforcement of the existing or creation of new growth centers. In both cases, an improvement in the situation of peripheral areas resulted from the spreading of positive development impulses from the developed areas.

As in the Keynes model, polarization theories question the efficiency of the free market mechanisms in the decrease of development disproportions. At the same time, they refer to public intervention when it comes to leveling the differences. However, unlike the Keynes model, polarization theories assume that concentration of economic activity is a natural and desired phenomenon. Forcibly striving at sustainable development – through helping the peripheral areas – is ineffective from the economic point of view and synonymous with inhibiting prosperity. It is the initial polarization and then diffusion of development impulses which lead to diminishing of development disproportions. There is one more key difference between the presented theories of regional development. The neoliberal concepts and those based on the Keynes model do allow a possibility of a total leveling of development. In accordance with the premises of the polarization theory, on the other hand, a full convergence is a state impossible to attain. It is only possible to diminish the disproportions as a result of the development of centers. The common denominator for all three theories is the conviction about the top-down nature of economic processes. It is owing to the dominant centers and public interventions that the development of the peripheries is possible. There is, however, no faith in the possibility of self-development of peripheral areas based on their endogenous potential.

The hitherto discussed concepts of regional development have not been able to explain the intensive development of regions previously considered regressive which took place in the 1980s without a significant share of external factors. This is due to the fact that those theories underappreciated the significance of endogenous resources, that is, bottom-up forces capable of stopping the mechanism of a vicious circle of underdevelopment. The concepts of endogenous development emphasize the mobilization of the internal development potential. They do not reject the intervention of public authorities, but they treat it as supporting the bottom-up actions.

The theories of regional development presented above have been placed in various – usually opposing – economic trends. Nowadays, we can also find eclectic theories, combining selected elements from various concepts of regional development. Moreover, the domination of one concept does not entail the rejection of others. Thus, in regional policy old theories often return, albeit in modified forms and adjusted to the new economic reality.

### **3. THEORETICAL FOUNDATIONS OF THE POLARIZED DEVELOPMENT THEORY**

Polarization theories constitute an inhomogeneous group of concepts referring to unsustainable development. Their primary and secondary character is often pointed out. The primary theories provided foundations for later theories, called secondary. They indicated the direction of research for authors developing and enriching the scientific body of work on the matter (Grosse, 2002; Grzeszczak, 2007).

The pioneers of the polarized development concept are: François Perroux (growth poles theory), Gunnar Myrdal (circular cumulative causation theory), and Albert Hirschman (geographic centers of growth). Among the authors who contributed the most to the further development of the polarization theory, the following need to be mentioned: J. Paelinck, L. E. Davin, J. C. Perrin, J. R. Boudeville, P. Pottier, T. Kaldor, J. R. Lasuèn, and J. Friedmann. Contemporary authors who make references to polarized development are: C. DeBressona, P. Veltz, M. Castells, E. Soi, J. G. Lambooy, M.E. Porter, M. Castells (Hermansen, 1974; Stackelberg & Hahne, 1998; Grzeszczak, 1999; Porter, 2000; Storper & Venables, 2004; Fujita & Krugman 2004).

Due to the publisher's limits, it is impossible to present or even summarize the theories of all these authors. Therefore, the paper will focus only on selected elements of those theories which refer to local development and can be adapted to the specific developmental conditions of the municipalities in West Pomerania, Poland.

The main premise of the polarization theory is the belief in the accumulation of economic processes in already developed areas and their impact on the surrounding areas. Where exactly do the developmental processes accumulate and why? For a majority of authors, these places – often referred to as growth poles - F. Perroux - or growth centers - G. Myrdal, A. Hirschman - are usually urban agglomerations<sup>2</sup>. They are attractive for business operations due to the accessibility of qualified workforce, a capacious market, a developed technical and social infrastructure, and the presence of capital and scientific and research institutions - G. Myrdal, A. Hirschman, J. R. Lasuèn, J. Friedman, P. Veltz. On the other hand, some authors – especially those who focus on sector polarization – did not specify the places in which developmental processes concentrate. For F. Perroux, who as the first one pointed to the phenomenon of polarization, developmental processes happen in an abstract space. They do not have to be cities, but places where key industry sectors are located, such as industrial districts, enterprise clusters, and economic zones. The relocation of industry outside

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<sup>2</sup> In the further part of the article, the terms growth poles and growth centers are used interchangeably.

of traditional agglomerations, which began in the 1980s, confirmed Perroux's thesis on the possibility to concentrate development processes in any given space.

The second element of polarized space are the peripheries, which usually include agricultural areas - G. Myrdal, L. E. Davin. They are either deprived of growth factors or the quantity thereof is insufficient to initiate the process of self-development. Some authors, e.g. J. R. Boudeville, distinguish additional links of polarization – smaller towns – locating them between the dominant city and the rural areas. J. Friedman mentions creating subsidiary centers and their significance in diminishing the dependency on the growth centers.

However, not all cities or places with concentrated industry can be considered growth poles. A question thus arises as to what growth poles are and how they influence the development of geographical space. The answer should be sought in the works of authors such as F. Perroux, A. Hirschman, J.-R. Boudeville, J. R. Lasuèn, and J. Friedmann.

A growth pole is a motor unit constituted by a large industrial enterprise – referred to as dominant or key – a group of enterprises, or an entire branch of industry. A motor unit has to be formed by innovative enterprises, characterized by numerous connections with suppliers and recipients, and having a dominant position on the markets. Those, however, had to be markets with a high growth dynamic. Therefore, large enterprises became the focus of polarization theory. They were the main source of innovative potential, which according to many authors was the key factor for development.

A feature of motor units were numerous economic connections between the key enterprises, suppliers, and recipients. A key enterprise with a significant share in the supplier market engaged many cooperators in its activity. If those were local businesses, the development spread on the surrounding areas. The dominant position among the recipients guaranteed demand on many markets. This meant that the goods were exported outside the borders of the region and the state. Export of goods was understandable, given the negligible purchasing power of peripheral areas. Still, with time, as the economic situation improved, part of the production could be destined for the local market. The export character of growth poles was pointed out by T. Kaldor and J. R. Lasuèn, while both referred to the economic base theory.

The cooperational links described above constitute a technical effect of polarization. J. Paelinck extended the scope of polarization by income, psychological, and geographical effect. The income generated by the growth pole, as a result of a multiplier reaction, influences the development of the entire local economy. This especially concerns the consumer demand, and the development of the services sector. Psychological polarization facilitates the implementation of innovative solutions through engaging local enterprises into cooperation with the motor unit. J. Paelinck emphasized the significance of public authorities in the shaping of creative attitudes, which was to be obtained by building technological parks and business incubators. Lastly, the geographical effect of polarization consisted in creating growth poles in peripheral areas, which would additionally stimulate the development of spatial units. According to J. Paelinck, all types of polarization interpenetrate, which proves the incredible complexity of development processes taking place in polarized space.

Enterprises which form motor units had to concentrate on the most promising markets, that is those characterized by high growth dynamics. This would guarantee a demand for the produced goods. Key enterprises had to still take into account the changes taking place on the markets. Otherwise they might undergo the process of aging and as a result lose their impact on the surroundings.

Growth poles can have a negative or positive impact on the surrounding areas - F. Perroux, G. Myrdal, A. Hirschman et al. Negative impact can be observed in the initial stage of development of a growth pole, when the effects of polarization outweigh the effects of diffusion. Concentration of activity is still so small that it does not cause negative effects of agglomeration<sup>3</sup>, but at the same time it is big enough to cause e.g. draining of qualified staff and other valuable resources from less developed areas. As a consequence, spatial discrepancies grow. In the later period, the development might spread onto the peripheral areas. This could be the result of cooperation of complementary industries, investments realized in the peripheral areas, concealed unemployment being absorbed by the center, and the growing demand for goods and services produced in less developed areas.

Especially F. Perroux was convinced of the positive impact of growth poles on the economic environment. In growth poles, he saw a particular chance to improve the situation of areas whose development was delayed. He treated growth poles not as opposition of progress, but rather as an extraordinary phenomenon. He assumed the possibility of development of problem areas not only as a result of increasing the potential of the already existing growth poles, but also creating entirely new ones.

The geographical coverage and the pace of spreading of positive development stimuli are dependent not only on the accumulation of development processes in growth poles, but also on the capability of peripheral areas to absorb them. In this context, J. C. Perrin points to the response capacity of local environment, while J. R. Lasuèn – to the course of diffusion processes and the adaptation of development. In both cases, the process of developmental dissolution is supported and facilitated by communication and transportation infrastructure and the migrating potential, i.e. the tendency of the residents of peripheries to penetrate into the cities and the other way around. On the other hand, the process of adaptation is dependent on the readiness and capacity to "absorb" the development by the peripheral areas, which in turn depends on their level of urbanization.

The reactive ability of local environment is connected with the quality of social capital, understood as the capacity of residents to take risks, "innate" entrepreneurship, ability to cooperate. The above mentioned features are conditioned by socio-cultural factors, which are described by, among others: G. Myrdal, A. Hirschman, J. Friedmann, M.E. Porter. In the case of a high-quality social capital, growth poles merely stimulate the "dormant" entrepreneurship of the local community. Areas with a low-quality social capital require help from the public authorities in order to stimulate entrepreneurship.

In the discussion of factors facilitating the transmission of development impulses onto peripheral areas, the concept of P. Pottier cannot be left unmentioned. The author – similarly to J. R. Lasuèn and J. C. Perrin – emphasized the significance of communication routes in the spread of progress onto peripheral areas. He thought that

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<sup>3</sup> Overpopulation, environment pollution, immobile character, or production factors.

economic development usually spread along the main communication routes connecting the most important industrial centers. P. Pottier called this a development axis. Areas outside the scope of its influence would not benefit from development, and so a classic polarization of development was taking place.

Authors of polarization theories analyzed the course of economic processes both in highly developed - F. Perroux, J.-R. Boudeville, J. R. Lasuèn, J. Friedmann et al. - and undeveloped countries - A. Hirschman, G. Myrdal. Observations concerning the latter group of countries, which are struggling with a permanent lack of resources for development, are especially important. In such a difficult situation, initiation of development is possible only through concentration of investment outlays in the most prospective sectors of the economy. A development stimulated in this way is not limited to the supported branches of economy, but works holistically. It can encompass areas that are not initially connected with the supported sectors.

Among more recent theories referring to polarized development, the cluster theory of M. E. Porter is worth mentioning. Unlike traditional polarization theories, the author ascribes more significance to the endogenous developmental factors. Thus a polarized area is composed of smaller entities, usually local, without the necessity to engage the dominant businesses in the activity. Unlike in the growth pole theory, M. E. Porter warns against creating entirely new clusters due to high costs and the uncertainty of long-term effects. He emphasized the importance of innovation in the development process, the source of which he seeks in cooperation of enterprises forming clusters with scientific and research units. In the cluster theory, innovations are thus of external nature, which is understandable due to the lack of a dominant enterprise. Moreover, the public apparatus bears much more responsibility for the development of industrial clusters. In cluster theory, many tasks of public administration, such as supporting the export, or marketing, replace the key enterprise.

#### **4. SEAPORTS AS CENTERS OF CONCENTRATION OF ECONOMIC PROCESSES AND STIMULATORS OF DEVELOPMENT OF THE EU PERIPHERAL AREAS**

Seaports are often used in the EU's regional policies (Hozer, 2000, p. 14; Wasilewska, 2003; Grzelakowski & Matczak, 2012, pp. 91-95). Where does their popularity come from? In many cases, they are the only or one of few assets available in less developed regions. For obvious reasons then, they are taken into consideration as objects on which the development of peripheral areas can be based. Due to the specificity of port operation, in which many businesses are involved, as well as the existence of a broad system of connections with the region, the port sector has strong multiplier effects. At the same time, the influence of seaports, depending on their size, goes far into space (Suykens, 1989; Pluciński, 2013, pp. 200-204). Seaports, even in case when investments are lacking, are usually equipped with a basic infrastructure which allows the reloading of goods. They are communicated with the mainland via a web of road infrastructure, and sometimes also railroad tracks inland waterways. The access from the sea is possible owing to hydro-technical infrastructure, such as breakwaters, canals, and docks. Therefore, having a seaport does not require the

peripheral regions to create growth poles from scratch, risking enormous expenses – an issue pointed out by M. E. Porter. It is enough to expand the existing infrastructure and improve the condition of transportation connections, and then acquire key investors. A large part of commercial exchange is done by sea; in some cases, this is the only route via which goods can be transported, which puts seaports in a privileged position.

In the development of peripheral regions, polarization theories are often employed. Among the most recognized ones is F. Perroux's theory emphasizing the special role of seaports in the creation of growth poles. A question should be asked here: why is the development of peripheral regions so often based on polarization theories and is their popularity not declining?

Polarization theories reached the height of their popularity in the 1970s. In the following years, the interest in using them for the purposes of regional policies was significantly decreasing. The weakening interest in the concepts of polarized development was caused by many factors, among which there are certain failures occurring at the stage of their implementation and utilization in regional policy. Many authors highlighted nonetheless that the main reason behind those failures was the departure from the basic premises of the theories and not their ineffectiveness in stimulating regional development (Wasilewska, 1988; Grzeszczak, 2007).

A renewed interest in the concepts of polarized development was observed in the 1990s, as a consequence of the growing disproportions in development between regions. Contemporarily, we can distinguish three main research trends relating to the use of polarization theory in regional development (Simmie, 2005; Grzeszczak, 2007). The authors who represent the first trend reach directly for the old, tested concepts. In the second trend, the researchers elaborate on previous studies in order to explain new economic phenomena. The third trend uses polarization theories to create new concepts or conceptual fusions. The polarization theory still proves popular, although its premises must to a larger extent account for the current economic processes (Report, 2009; Fésüs & Roller, 2011).

## 5. THE SEAPORT OF THE WESTERN COAST OF POLAND AS GROWTH POLES

In the studied seaports, the activity is run by several port operators. The reloading potential is still not fully explored for many reasons (tab. 1.).

**Table 1.** Characteristics of the reloading operations of the ports in Kołobrzeg and Darłowo

Ports	Reloading potential (thousands of tonnes)	Size of reloading (thousands of tonnes) 2009-2017 (min.-max)	The main type of reloading	The scope of operators' activities	The possibility of processing goods
Kołobrzeg	700	96.9-240.0	bulk goods	reloading	n/a
Darłowo	1,500	23.8-107.4	bulk goods	reloading	n/a

Source: Own study on the basis of data obtained from port managements in Kołobrzeg and Darłowo

Firstly, there is the unfavorable condition of the transportation, hydro-technical, port, and land infrastructure (tab. 2.). The parameters of the hydro-technical infrastructure determine the size of commercial vessels calling at ports, an issue especially visible in the Darłowo seaport. The decapitalized port infrastructure – the outdated harbor – decides about the unit weight and the reloading speed. The bad technical condition of the railway infrastructure precludes railway transport from servicing the seaports. As far as land infrastructure is concerned, it has recently been significantly expanded, but the investment concentrated on local roads and – to a limited extent – regional roads (Łapko & Hącia, 2017).

**Table 2.** Transportation infrastructure of the Kołobrzeg and Darłowo ports in 2017

Ports	Infrastructure			
	Hydrotechnical	Port	Inland	
	Size of serviced vessels – max (m)	Harbors – technical condition	Car roads (capacity)	Railway connections
Kołobrzeg	length – 100.0 draft – 4.7	– bad	local-good provincial-limited state-n/a	n/a
Darłowo	length – 75.0 draft – 4.7	– bad	local-good provincial-limited state-n/a	n/a

Source: Own study on the basis of data obtained from port managements in Kołobrzeg and Darłowo

The turnover of goods included mostly bulk cargoes with a low unit value (tab. 1.) Main load groups consisted in agricultural products and wood; these would be exported via sea to Scandinavia and Germany. Due to the low scale of reloading, the number of suppliers was limited. The activity of port operators was limited to reloading and storing goods. Enterprises did not carry out industrial activities aimed at increasing the unit value of goods (Hernik, 2014).

With the existing limitations, it is difficult to consider seaports as growth poles which might potentially activate peripheral areas. A question arises as to what kind of actions should be undertaken to increase the power and scope of the ports' influence. The authors mentioned in this article, especially P. Pottier but also J. R. Lasuèn and J. C. Perrin pointed to the role of transportation infrastructure in spreading development impulses. For seaports, the infrastructure is especially significant due to their land and sea character. Land infrastructure increases the mobility of the workforce and facilitates the transportation of cargo. From the research conducted in West Pomerania it can be concluded that an express way would increase the accepted distance to workplace to 30 km, which would cover the area of several coastal municipalities (Sołtys, 2013). The author's own research shows that many businesses chose not to offer port services due to the lack of a railway connection or the time-consuming shipment of cargo via highways. Land infrastructure also extends the locations for businesses outside the port premises and increases economic activity in peripheral areas. Already P. Pottier indicated the importance of communication routes in the concentration of development, defining the phenomenon of polarization of

development along the course of transportation infrastructure as a form of axial polarization.

In the context of a tendency to increase the size of commercial units, the significance of hydro-technical infrastructure also increases. The width of port entrances, the depth of port tracks and of the swinging areas prevent bigger vessels from calling at seaports, which in turn impacts the size of reloading and the scope of connections between a port and its economic base.

Finally, the last element of transportation infrastructure – the wharfs – were mostly in bad technical condition, which limited the possibility of reloading goods with a larger unit weight. It should be noted that all three links of transportation infrastructure remain in a complementary relation which means that shortcomings in one of them automatically prevent the usage of the remaining links.

How then the ports' transportation accessibility can be improved? The main obstacle for the development of transportation infrastructure are financial limitations. The multitude of tasks in central administration causes a dispersion of resources and in many cases investment passivity. Local ports are not development priorities for the state. The port administration as well as the investors do not want to engage in the investment process due to its capital-intensive character. For the same reasons, local governments are not capable of realizing all road investments. At the same time, in Poland the dominant model of regional policy is the compensatory model, limited in many cases to a simple redistribution of funds. It does not bring about the intended results, a proof of which are the growing disproportions in development between the regions. The attitude of central authorities and the underestimation of seaports in the development of peripheral areas should be assessed negatively. Already A. Hirschman claimed that in the case of budget limitations funds should not be dispersed but concentrated on the most prospective actions. An investment process initiated in this way is capable of stimulating other sectors of economy without substantial help of public authorities. This thesis can be confirmed by numerous European examples of using seaports as growth poles. Positive effects were achieved by concentrating funds on a limited number of objects. However, investment activities in those cases had to be comprehensive and include all the investment needs of a supported seaport. Otherwise, should the funds be insufficiently concentrated, the development was limited to the seaport, which usually meant only an increase in development discrepancies. In this context, the construction of express way going through the natural premises of the studied seaports should be assessed positively. Additionally, the quality of local roads to the ports in Darłowo in Kołobrzeg should also be improved.

F. Perroux emphasized that a growth pole can be constituted by enterprises which are dominant, largely innovative, characterized by numerous connections with suppliers and consumers, and concentrated on prospective markets. Reloading of bulk goods is most certainly not a largely innovative industrial activity. It generates a negligible unit value and does not require many cooperational connections. A much better solution would be the export of processed goods, that is groupage goods with a much higher added value. The complexity of the production process in that case would require cooperation between many connected enterprises.

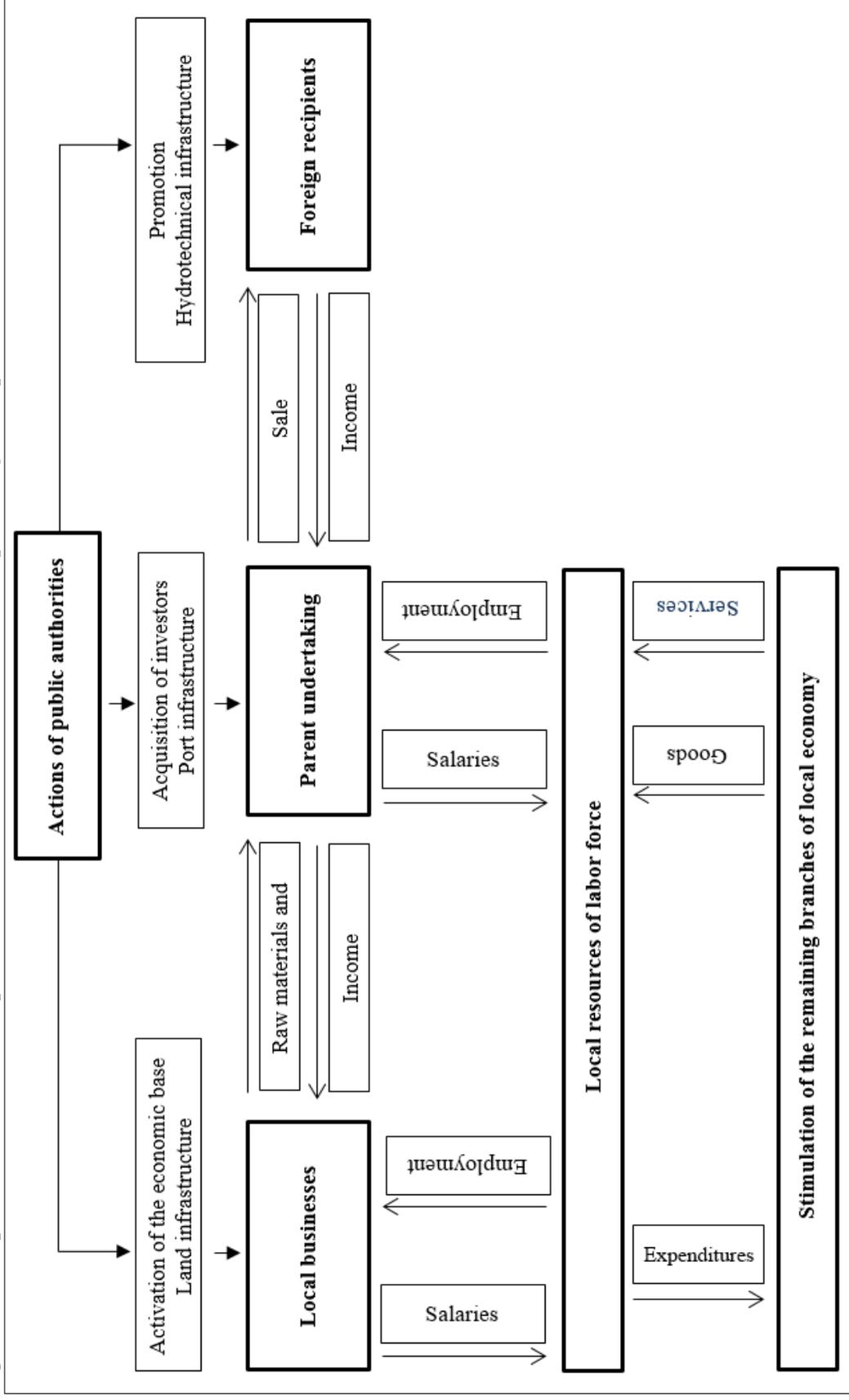
The activity of the dominant enterprise should take into account the economic character of the base. It should thus be an industry which uses agricultural products and wood, as the basic component in furniture industry, in their production process. The food products market and the furniture market in Poland have been showing a large growth, both on the national and foreign market. In both cases, the source of raw material supplies for the dominant enterprise should be the seaport base. In this way, the endogenous resources of the region would be explored. As far as cooperational connections are concerned, the best solution would be to engage local businesses in the activity. In this way, more money would be introduced into the local economy and through the multiplier effect it would stimulate other branches of the economy. J. Paelinck paid special attention to the significance of the income effect. He also mentioned the psychological effect of polarization. It is important due to the fact that the quality of social capital in the studied municipalities of West Pomerania is not the highest. Thus, local authorities should support local entrepreneurship. This could be realized through trainings, providing help in establishing businesses, recruiting employees, and applying for EU funds. The above mentioned activities might be addressed to the most entrepreneurial group of people residing in local cities. These could become sub-local growth poles – the geographical effect in the concept of J. Paelinck. M. E. Porter pointed to the role of public authorities in the activation of local entrepreneurship, considering such interaction to be a key factor in development.

In polarization theory, especially in the thought of F. Perroux, large enterprises are in the center of attention not only due to their innovative character but also because of their dominant position on the consumer market. Such an arrangement guarantees demand for the goods produced. However, the acquisition of a dominant enterprise is not an easy task and requires a significant involvement of public authorities. The 2015 creation of a special economic zone in the area of the Darłowo seaport, with numerous facilitations for new business, was a step in the right direction. However, the mere creation of the zone might not be sufficient. Therefore, the attitude of local authorities becomes very important: aiming at promoting the seaports as attractive locations for investments, initiating contacts with potential investors, and creating other conveniences and incentives for the investment capital, such as tax reliefs or utilities.

Public authorities, especially those on the local level, by using their contacts with the municipalities in the countries of the Baltic Sea region, could promote the goods produced by the parent undertaking and thus support the demand for raw materials and semi-finished products of local origin.

The pattern of connections presented in Fig. 1 is a synthetic summary of activities proposed by the author; the activities increase the range of impact of seaports on the development of West Pomeranian municipalities. As it has been emphasized, public authorities act as the initiator of development on all levels. They are obligated to create technical conditions for business operations, as well as for activating the local community, acquiring investors, and promotion.

**Figure 1.** The pattern of local development based on the West Pomeranian seaports as growth poles



Source: Own study on the basis of subject literature and own research

Another characteristic element of the presented concept are numerous links between the actors of local development. Local subjects are the source of raw materials and semi-finished products for the parent undertaking. With time, they may enter into deeper cooperation by supplying products of higher individual value. The goods produced by the parent undertaking are exported to foreign markets with a higher purchasing power. The funds obtained from the sale of products feed the budget of the enterprises involved in the production of goods and constitute salaries for the local labor force. Those salaries, in turn, supply the local economy with money and stimulate the development of the said economy.

## **6. CONCLUSIONS**

Numerous theories of regional and local development can be assigned to four groups – economic trends: the neoliberal development, the Keynes model, the unsustainable development, and the endogenous development. None of these theories have lost in validity and remain to be used in regional policy. Nonetheless, the deepening differences in spatial development result in a growing interest in the concepts of polarized development. While describing the contemporary economic phenomena, the researchers reach for the classic premises of polarization theory in their original form or in modified form, adjusted to the changing economic reality.

The main premise of polarization theory is the conviction about the accumulation of economic processes in already developed areas and their impact on the surrounding areas. These places, labeled as growth centers or growth poles, are usually urban agglomerations, but they can be any locations in abstract space. Bridging the development disproportions requires strengthening of the already existing growth poles as well as creating new ones. An appropriately high accumulation of developmental processes with time leads to the spreading of development onto the surrounding areas.

Growth poles are formed by motor units composed of large enterprises representing modern sectors of the economy. Through their numerous connections, they influence their suppliers and consumers. The initially sectorally limited scope of influence of growth poles expands with time onto complementary branches of the economy. The spreading of developmental impulses depends not only on the growth pole but also on the reactive ability of the local environment and the equipment of space in transportation infrastructure. Newer theories referring to unsustainable development to a larger extent account for endogenous factors in the creation of polarized spaces.

Seaports are often used in regional policies in many EU states due to their numerous connections with the economic base. Transportation accessibility and being equipped with the necessary infrastructure for running a business are among the important assets of the seaports. In the case of some countries, maritime transport is the only possibility of commercial exchange.

In this article, an attempt was made at designing a concept of development of West Pomeranian peripheral areas with the use of the seaports in Kołobrzeg and

Darłowo. The concept is based on the premises of the polarization-diffusion theory which takes into account the endogenous resources of the region.

The developmental potential of the studied ports was not fully explored, which limited the possibilities of their impact on the economic base. Making the seaports into growth poles in the first place requires improving the condition of the infrastructure. The investment process needs to be comprehensive and include both the reloading and the transportation infrastructure. Due to financial limitations of port authorities and the capital-intensive nature of investments, the expansion of infrastructure requires the support of central authorities. In accordance with the premises of polarization theory, a growth pole needs to be constituted by a key enterprise with a dominant position on the market of suppliers and consumers. Acquisition of a key partner requires creating favorable conditions which would encourage the capital to invest. Activities of central authorities at all levels might prove helpful in this respect: promoting the seaports, creating special economic zones, local facilitation in running a business.

Such a solution guarantees cooperational connections of local business with the key enterprise, and as a consequence a greater supply of the local economy in money which through the multiplier effect would stimulate other sectors of the local economy. The prospectiveness of markets based on agricultural products and wood industry would guarantee demand for the produced goods.

The suggested concept of the development of West Pomeranian municipalities can be applied in reference to other coastal areas which use seaports as growth poles. It requires, however, a cooperation between the public authorities, the business sector, and the local community. It is also necessary to incur capital expenditures for the development of the infrastructure.

It is difficult to refer to the hypothesis presented in the following article, as its full verification will require an implementation of the concept and a further assessment of its results. However, considering numerous European experiences with using seaports as growth poles, the inefficiency of the previous attempts at activating the studied areas, and the general tendency to concentrate development, it should be stated that the proposed concept of the development of West Pomeranian municipalities is a noteworthy alternative.

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