

The impact of seaport development on the social environment: a case study of a port city with low unemployment and dominating tourism function

Michał Pluciński

University of Szczecin
e-mail: michal.plucinski@wzieu.pl

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Abstract

The issue of the impact of seaports on their direct vicinity has been repeatedly addressed in the academic literature. The developed merits of their impact is mainly related to employment in the port/port cluster, the seaport's share of the municipality's labour market, and the added value produced by the port/port cluster or the volume and structure of uncompensated flows into the municipality's budget on account of the port's operations. This article is aimed at providing an answer to the question of how to evaluate the impact of a new investment project in a seaport on its direct vicinity in a situation of low unemployment in the port's municipality and the dominating tourism function in its economy. The research methodology was based on a single case study of the city of Świnoujście and the seaport in Świnoujście; the dominating economic function of this municipality is tourism. Moreover, it is the location of one of the four seaports with primary significance for the national economy. The development plans for the Szczecin & Świnoujście Seaports Authority include the construction of a deepwater container hub terminal. The investment will have an impact on the local social environment. The results of the conducted research studies are presented in the article both in a traditional approach enumerating the benefits of such an investment project for the local environment, as well as proposing a new approach to the evaluation of its benefits (*inter alia*, providing employment opportunities for people who so far have been forced to look for jobs outside the municipality and the long-term unemployed, preventing young and educated people from moving out of the municipality, attracting new inhabitants, improving the employment-to-population ratio, and stopping the city's population ageing).

Introduction

The impact of seaports on their direct vicinity has often been the subject of research studies. The existing academic literature identifies various aspects of the seaports' impact. In addition, their merits have been put forward so as to assess their significance for port cities. The impact may also be viewed from the point of view of new investment projects being implemented in seaports. However, a certain research gap may be identified in the academic literature in relation to the impact of seaports on port cities in a situation of low unemployment and domination of the tourism function in the port

municipality's economy. The main purpose of this article is to provide an answer to the question of how to assess the impact of a new investment project in a seaport on its local environment.

The study focuses on Świnoujście, a port city located in the West Pomeranian voivodeship, Poland. Świnoujście is located on 44 islands, including three major ones: Uznam (Usedom), Wolin, and Karsibór. In terms of the national administrative classification, it is a city county. The economy of the Świnoujście municipality is dominated by tourism, which is due to the city's location on the sea coast as well as its official status as a spa resort. Moreover, it is the location of one of the four seaports

of primary significance for the national economy. The specific feature of the Świnoujście municipality is the domination of the tourism function in its economy, rather than the port function that played a major city-forming role in the second half of the 20th century. This article focuses in particular on the possible social impact of a planned investment project; namely a deepwater container terminal in Świnoujście (DCTS).

The outcome of the research study is a concept that allows for a broader view of the impact of the new investment in the seaport on the direct vicinity of the seaport (port city), which goes beyond the expected direct employment benefits.

Literature review

The issues that are related to the impact of seaports on their direct vicinity have been presented in various aspects, such as the influence of the seaports or investment projects implemented in seaports on port municipalities (Stevens, Treyz & Kindahl, 1981; Davis, 1983; Suykens, 1989; Ferrari, Percoco & Tedeschi, 2010; Shan, Yu & Lee, 2014; Song & van Geenhuizen, 2014); the benefits enjoyed by the seaport's stakeholders and the place of representatives of the local environment in the classification of port stakeholders (Benacchio et al., 2001; Notteboom & Winkelman, 2002), attracting new inhabitants through port agglomerations due to the large number of business entities operating on port premises and in its direct vicinity (Musso, Benacchio & Ferrari, 2000; Bottasso et al., 2013) as well as port cluster functioning or business activity clusters (Haezendock, 2001; De Langen, 2006). There have also been research studies related to the identification of potential conflicts between a city and a port, and the grounds for cooperation between a city and a port (Hoyle, 1989; Amato, 1999; Wiegman & Louw, 2011; Daamen & Vries, 2013; Parola & Maugeri, 2013). In the academic literature as well as in business practice, the merits have been established to measure the social impact of seaports on their local environment, which are mainly related to employment at the port/port cluster and its share in the municipality's labour market, and the added value produced by the port/port cluster.

In Poland, following its economic transformation, the growth-related benefits that have been enjoyed by the direct vicinity of seaports (Szwankowska & Szwankowski, 1997; Pluciński, 2013; Matczak, 2016; Nowaczyk, 2016) were studied along with the issues connected with the seaport-port city relations,

such as: port cities being the direct hinterland of seaports (Szwankowska & Szwankowski, 1997), organisational interconnections between port cities and ports (Waldziński, 1999), seaports within the areas of port cities (Szwankowska, Szwankowski & Tubielewicz, 1994; Krośnicka, 2005) as well as revitalisation of old port structures (Kochanowski, 1998).

Methodology

The research study applied the single case study method, one of the qualitative research methods (Yin, 2017). The conclusions obtained by applying the single-case study method may be generalised and projected onto other cases that are characterised by similar variables and conditions (Grzegorzczuk, 2015).

In view of the principles of applying the method in research studies, the following research questions were formulated:

1. How does the existing domination of the tourism function in the municipal economy affect its social environment?
2. To what extent will the port city's social environment be affected by the construction of a modern container terminal in the situation of low unemployment and domination of the tourism function in the local economy?

This study focuses on the social impact of a new investment project i.e. a deepwater container terminal in Świnoujście (DCTS) on the local environment (the city of Świnoujście). The planned terminal is to serve the cargo category that has experienced the most rapid increase in its share in seaborne trade – containerised general cargo. It is expected to be a hub terminal that is able to handle transoceanic container ships. Implementation of the investment project would dramatically improve the position of the port of Świnoujście on the port services market in the area of containerised cargo handling.

In order to apply the single case study method, a number of techniques and tools for data gathering and analysis were used. The analysed materials included, *inter alia*, the available statistical data provided by the Central Statistical Office as well as the internal materials provided by the Szczecin and Świnoujście Seaports Authority, selected port operators and the city of Świnoujście.

Thus the source information that was gathered and analysed made it possible to obtain an answer to the research questions and formulate generalisations that may be used by other researchers.

The case study of Świnoujście

The co-existence of the tourism function and the traditional port functions in Świnoujście

Even though Świnoujście is a port city, tourism is the leading business sector in its economy, with substantial potential for future development. The tourism function has been predominantly developed in the part of the city that is located on the island of Uznam. The factors that are decisive for the development of the tourism function of Świnoujście include its natural conditions (its geographical location, in the vicinity of the German border, various natural resources, the wide and sandy beach, diverse water bodies that enable different forms of water tourism to be practiced, and its official spa status), its cultural heritage in the form of historic military facilities, the expanding range of services for tourists and the relatively well developed tourism infrastructure. The number of tourists coming to Świnoujście has been steadily growing; over the last decade, the number of overnight stays in the area of Świnoujście has doubled, reaching 2.1 million in 2018, which made Świnoujście the seventh most popular resort in Poland. Foreign tourists, predominantly from Germany, account for a significant share of that business. The decisive factor for the attractiveness of Świnoujście among foreign tourists is that Poland offers lower prices compared to other EU countries. Another factor contributing to the increased attractiveness for tourists is also the upgraded standard of hotels and catering services. The prevailing forms of tourism in Świnoujście are connected with leisure, spa treatments and active tourism (sailing, cycling). The highest occupancy rates in the hotels and other facilities that offer accommodation to tourists are observed from July to September. Even though there has been a trend in recent years showing a longer and longer tourist season, the insufficient development of all-season tourism and tourism-related infrastructure still affects the seasonality of the services offered by the city (Report, 2013).

The traditional port functions in Świnoujście are carried out mainly in the part of the city that is located on the island of Wolin. The port in Świnoujście is a seaport of primary significance for the national economy (Journal of Laws, 1996). The port is able to serve vessels with a draught of up to 13.5 m and a length of up to 270 m. The main areas of business of the Świnoujście port include:

- the area for handling bulk cargo such as coal, iron ore, or grain;

- the sea ferry terminal, which is the most advanced on the Polish sea coast;
- the LNG terminal.

In terms of transshipment volumes, the port of Świnoujście is the third biggest in Poland (following Gdańsk and Gdynia). In the years 2016–2017, the transshipment volumes amounted to 12.6–14.7 million tonnes, the predominant part of which was general cargo carried by ferries. The only container terminal that operates in the port of Świnoujście is located in the bulk cargo handling area, at the Hutników & Górników wharf (the total length of the wharf is 660 m). It is able to handle post-panamax 4500 TEU container vessels (OT Port Świnoujście, 2019). Nevertheless, the port of Świnoujście's share in the containerised cargo transshipment in all Polish seaports is negligible. Over the past few years it amounted to ca. 0.2%, which corresponds to an annual turnover at the level of 4–5 k TEU (GUS, 2018). The port of Świnoujście is not equipped with a container hub terminal. However, „Strategia rozwoju portów morskich w Szczecinie i Świnoujściu do 2027 roku” (ZMPSiS, 2014) and „Program rozwoju polskich portów morskich do 2020 roku, z perspektywą do 2030 roku” (MGMiŻŚ, 2018) have proposed the construction of such a terminal in Świnoujście. According to the developed concept, a deepwater container terminal in Świnoujście is to be located in the outer port, east of the existing LNG terminal. The initial transshipment capacity of the terminal is planned to be 750 k TEU, and the target capacity is to be 1500 k TEU.

The social environment in Świnoujście

The social impact assessment related to the new investment project in the seaport should be preceded by an analysis of selected information on the social environment of the city of Świnoujście (Table 1).

The major conclusions from the analysis of the population data, presented in Table 1 and detailed in the databases of the Central Statistical Office (GUS, 2018), may be summarised as follows:

1. A population of over 41 k puts the city in fifth out of the eight population ranges applied in Poland (range: 20,000–49,999). Over the years 2002–2016, the population of Świnoujście dropped by 1%. Świnoujście showed a natural decrease of 157 inhabitants, whereas the average for the whole country is close to the level required for generational renewal.
2. Although the share of the working age population of Świnoujście is close to the average for Poland,

Table 1. Selected data regarding the social environment of Świnoujście (December 2016) (study based on data published by the Central Statistical Office for December 2016)

Selected categories of the social sphere		Świnoujście	Poland
Population		41,032	38,433
Rate of natural increase (per 1,000 population)		-3.6	-0.2
Inhabitants' age	working age population (%)	61.7	61.7
	young population (%)	14.2	17.9
	elderly population (%)	24.1	20.2
Average population age [years]		44.2	41.2
Employment-to-population ratio (per 1,000 population)		198	240
Unemployment rate %		5.6	8.3
Average monthly gross pay [PLN]		4,307	4,291

the share of the young population is lower than the national average by 21%, whereas the share of the elderly population is higher than the average for Poland by more than 16%. The population of Świnoujście is aging faster than the average rate in Poland (by 7.2%), and even the average rate in the West Pomeranian voivodeship (by 6.5%). The forecasts show that by 2050 the population of Świnoujście will fall from the present 41 thousand to 34 thousand.

- As for the working population in Świnoujście, over the past decade there have been changes in the total numbers of working people and the shares of both sexes in the working population as a whole. Over that period, the total number of working people in Świnoujście fell by 38% (from 13.1 k to 8.1 k), and it was particularly severe in the case of men (the share of men in the total workforce fell from 60.3% at the end of 2006 to 44.7% at the end of 2016). Over that decade, the number of working men fell by as much as 53.9%. Over the same period, the share of women in the total workforce of Świnoujście rose to 55.3%, whereas the number of working women over the decade fell by a mere 13.3%. What is interesting is that, in the same period, the population of Świnoujście rose almost negligibly from 40.8 thousand to 41.1 thousand). However, the share of men in the overall population of Świnoujście hardly changed (from 48.5% to 48.2%).
- At the end of 2016, the unemployment rate in Świnoujście was at the level of 5.6%. The unemployment rate in Świnoujście is much lower than either that for the whole West Pomeranian voivodeship (11%) or Poland (8.3%). Due to the domination of the tourism function in

Świnoujście's economy, the unemployment rate fluctuates on a seasonal basis within the range of 2.4 per cent (it fluctuates between 5.3% in July or September to 7.7% in February). This is connected with the seasonality of some of the jobs in Świnoujście. However, it should be noted that not all non-working people register themselves as unemployed. A significant number of men registered as residents of Świnoujście cannot find an attractive job in that municipality, so they take jobs outside Świnoujście, often abroad.

- The average monthly gross pay in Świnoujście in 2016 amounted to PLN 4,307, which corresponded to 100.40% of the average monthly gross pay in Poland. In that year, the average pay in Świnoujście was markedly higher than the average for the West Pomeranian voivodeship (PLN 3,946).

The impact of the new investment project on the social environment of Świnoujście

As it has already been shown in the literature review, in a traditional approach, from the point of view of a port city, the functioning of the seaport and its development are mainly connected through the creation of new jobs, both in the areas that are directly connected with the port's function and management, and the complementary sectors. The recent studies on the impact of seaports on their vicinity (Mataczak, 2016) have shown that each job in a seaport results in two jobs in the port sector and subsequently four jobs in the direct environment.

Transposing the deliberations to the situation in Świnoujście and the impact of the planned DCTS on the direct environment, it should be assumed that people working in the port sector will mainly come from the city of Świnoujście. However, employment opportunities will also be offered to people from outside the city (such as, *inter alia*, people working in the educational and research spheres), so employment should be viewed as a benefit for the West Pomeranian voivodeship as a whole. The outcomes for the labour market, connected with the implementation of the contemplated investment project, may be summarised as follows (Employment size estimated on the basis of the experience of DCT Gdańsk) (ZMPSiŚ, 2017):

- Employment directly at the container terminal – ca. 1000 employees, of which ca. 760 employees are directly involved in the provision of services and ca. 240 office workers.
- Employment in the port sector, generated by each job at the container terminal – ca. 2000 people.

3. Employment in the state administration in connection with the sea and land trade of cargo at the container terminal – ca. 75 people.

Additionally, in the direct (regional) environment, ca. 4,000 people will be employed in connection with the functioning of the deepwater container terminal.

In view of the results presented above for the analysis of the social environment in Świnoujście, the author suggests a broader approach to the impact of the DCTS on its local environment (Figure 1).

The impact may be related to the following issues:

1. At the current employment level in Świnoujście, i.e. 8.1 k people (December 2016), the new investment will significantly increase the job supply on the local labour market (more non-seasonal jobs).
2. The new jobs would be offered to both qualified workers and people with tertiary education and would offer a much better chance for the male part of the population in Świnoujście to find a permanent job, compared to the current situation where the local labour market is dominated by the tourism sector.
3. In view of the increasingly difficult conditions for the functioning of the bulk cargo transshipment area in the port of Świnoujście, the deepwater container terminal should also be viewed in terms of

permanent jobs for the stevedores who have been working in the bulk cargo transshipment sector. The terminal as such may contribute to changes that are beneficial to the tourism sector in terms of reducing the possibility of air pollution in the course of bulk load transshipment operations (an increase in the ratio of containerised bulk cargo transshipped in the seaport).

4. An extended job offer is also an opportunity to provide employment to long-term unemployed people. Additionally, more diverse job offers may also improve the employment-to-population ratio, which in Świnoujście (as at December 2016) was 17.5% lower than the national average.
5. A positive impact of the new investment in the seaport should be analysed in the context of halting, or at least slowing down, the process of the population decrease in Świnoujście. This pertains to both preventing young people from moving out of the municipality, and attracting new inhabitants who are of working age or younger. Another positive effect would be halting or at least slowing down the ageing of Świnoujście's population.
6. In addition to the beneficial effect on the migration ratio, good work prospects for young people will positively affect the natural population increase ratio in Świnoujście, which is of utmost

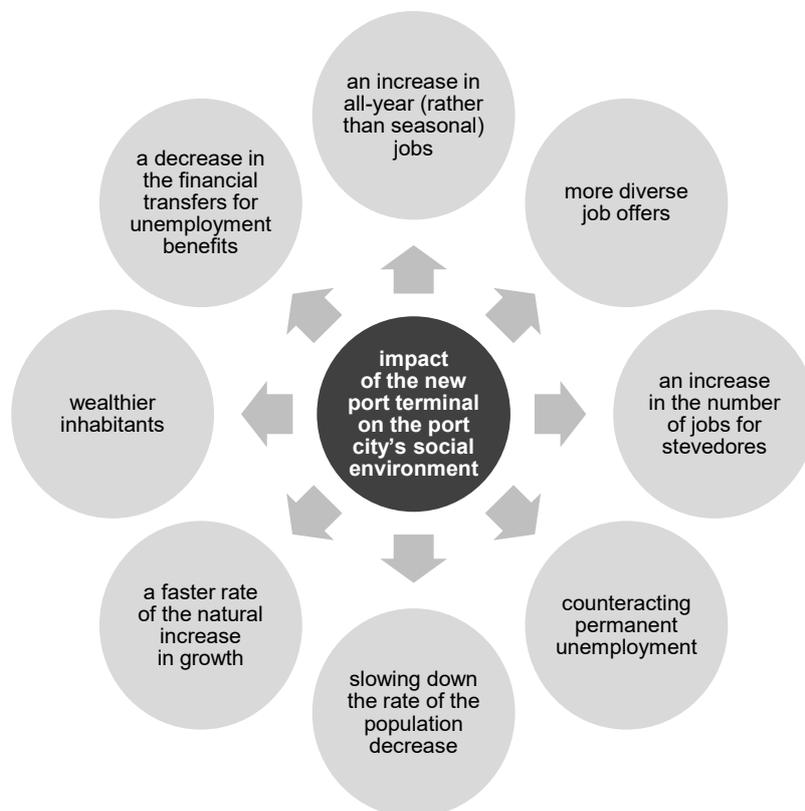


Figure 1. The proposed broader approach to the impact of a new investment project in the seaport on the local environment in the situation of a low unemployment level and domination of the tourism function in the port municipality's economy

importance in the context of the observed ageing process of the population in the city, and the forecasts for continuing population decrease.

7. Due to the fact that the port sector is the most dynamically developing sphere of the maritime economy in Poland, it can be assumed that the wages and salaries of people employed at the DCTS will have a positive effect on the financial standing of their families, as well as the firms cooperating with the terminal, and also on the demand for goods in the city.
8. Occupational inclusion of people who have so far been permanently unemployed should lead to a decrease in financial transfers for unemployment benefits. New employees will also contribute to increasing the proceeds of the city that will be obtained from personal income tax.

Conclusions

This research study has made it possible for a broader approach to be taken to the social impact assessment related to the new investment project in the seaport in Świnoujście. As a result, it was possible to contribute to the research findings in that regard. The application of the single case study method made it possible to focus on the specific example of a port city characterised by low unemployment and its dominating tourist function in the local economy. As a result of the social impact assessment related to constructing the deepwater container terminal in Świnoujście, the following factors were enumerated:

- an increase in job offers other than seasonal work;
- a more diverse job supply on the local labour market;
- the possibility of transferring the stevedores now operating in the bulk cargo transshipment area;
- the successful occupational inclusion of permanently unemployed people;
- the improved attractiveness of the local labour market for young people to counteract the population decrease and attract new inhabitants;
- the increased rate of the natural population increase;
- wealthier inhabitants as a result of increased earnings;
- a reduced need to pay unemployment benefits (the funds may be used for other needs of the municipality).

The proposed concept of the social impact assessment is not exhaustive. The author hopes that, as a result of ensuing academic discussions, the list will be added to by other researchers.

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