Maritime sectors and labour market - Pomeranian Region

(Generation BALT working paper)

GDYNIA, JULY 2012

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1. General information

1.1. Location and transport links

Pomerania is located in the northern part of Poland at the Baltic Sea. It occupies an area of 18.310,34 sq km - the 8th (from 16) biggest voivodeship in Poland in terms of area.

The capital of the region, Gdansk, is located at (by road connections): 344 km from Warsaw, 364 km from Szczecin, 164 km from Kaliningrad (Russia), 490 km from Kaunas (Lietuva), 503 km from Berlin (Germany), 512 km from Brest (Belarus), 538 km from Riga (Latvia), 752 km from Prague (Czech Republic), 722 km from L'viv (Ukraine), 930 km from Bratislava (Slovakia).

Pomerania is situated at the crossroads of two pan-European transport corridors:

- The corridor IA (Helsinki – Tallin – Riga – Kaliningrad – Gdansk), which stems from Corridor I (Helsinki – Tallin – Riga – Kaunas – Warsaw),
- Corridor VI (Gdansk – Katowice – Žilina), which connects the Central Eastern Europe with the countries of the Mediterranean Sea.

Gdansk and Gdynia are located on:

- TEN-T core network as the seaports connected by freight rail to EU interior regions, Adriatic Sea regions, Belarus and Kaliningrad Region,
- TEN-T comprehensive network as the seaports connected by freight rail to Szczecin, Germany and Lithuania.

Link Gdynia - Karlskrona as a formal motorway of the sea (MoS) is the subject of an application to the UE. Bothnian Green Logistic Corridor through Gdynia is under consideration within European projects.

Pomerania borders on Russia to the east (very short border to Kaliningrad Oblast' on The Vistula Spit.

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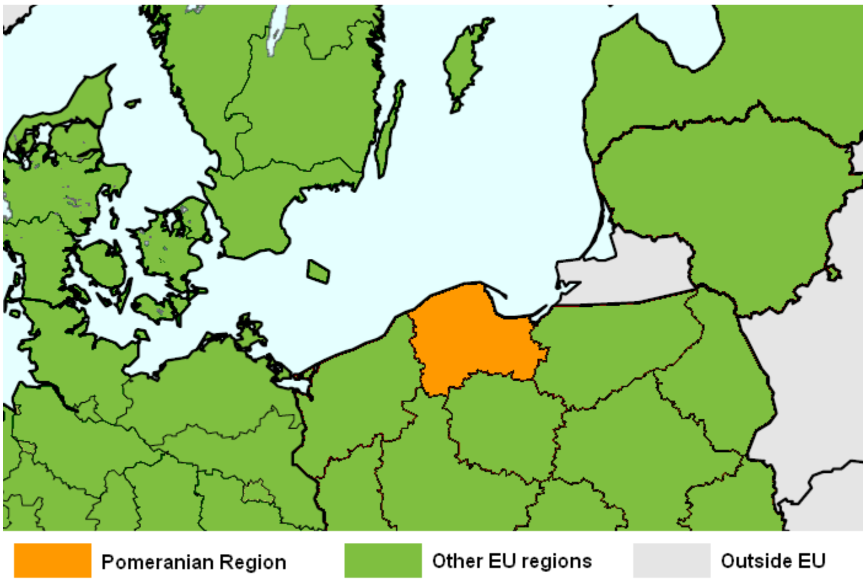
Figure 1. Location of Pomeranian Region



1.2. Population and employment

The total population of the region is 2.240.319 people – Pomeranian Voivodship is the 7th (from 16 regions) ranking position by population. 65,9% of the population (1.477.693) lives in 42 cities.

The economical centre of the region is metropolitan area of Tri-City (composed of 3 cities: Gdansk, Gdynia and Sopot) and neighbouring cities. Total population ob metropolitan (urban) area is 890,6 thousands of people (39,8% of the population of the region).

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Table 1.1. Main data of the economic activity as of end of 2011 [population aged 15 or more] data as the end of 2011

	BAEL (LPF)*		Reports**	
	Poland	Pomerania	Poland	Pomerania
Economically Active	17 951	935	15 861	860
Economic activity rate	56,3%	55,8%	x	x
Number of employed	16 201	849	13 880	754
Employment rate	50,8%	50,7%	x	x
Number of unemployed	1 750	86	1 983	107
Unemployment rate	9,7%	9,2%	12,5%	12,4%

* BAEL (LFP) – Badanie Aktywności Ekonomicznej Ludności (Labour Force Survey) – the representative survey conducted by the continuous observation method (GUS);
** Reports by labour offices (gathered and summarized by GUS)
Source: *Report on the socio-economic situation of Pomorskie Voivodship*, GUS, April 2012

The unemployment rate in Pomerania region in 2010 was at average unemployment rate for the entire country. The situation of unemployed situation varies according to national trends (compare Fig 2. and 3). Since the end of 2009 the values of unemployment is stable and rate oscillated around 12,5% (Fig. 3). Its higher (over 13% in winter) and lower values (under 12% during the summer seasons) resulted from seasonal jobs - also according to national trends.

Figure 4 shows the lowest unemployment rates in metropolitan areas of Gdańsk and Gdynia. The highest values are noted in peripheral regions in the western and eastern parts of the voivodeship. Distance (to the west) and low transport accessibility to metropolitan area results with growing unemployment. Potentially very attractive region for tourism is area of „Żuławska Loop" on the territories of subregions "nowodworski" (located also by Gdansk Gulf and Vistula Lagoon) and "malborski"[1]. That is the area of highest unemployment in the region.

From total number of unemployed in Pomeranian region (at the end of March 2012 [4]) 23,7% are young people (≤ 24). But only 1248 (1,2% of unemployed) are high schools graduates (≤ 27 years old).

[1] See remarks in point 3.4. of the study

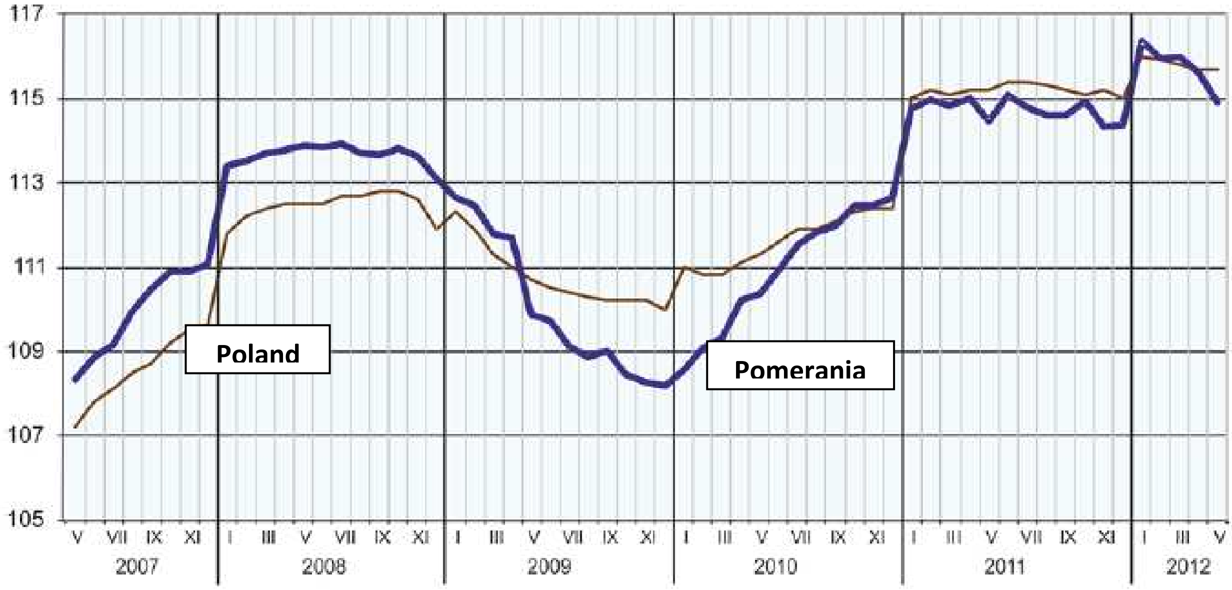

Figure 2. Dynamism of the average employment rate in business sector in Pomeranian Voivodeship and Poland (average monthly employment rate in 2005 = 100).
Source: *Komunikat o sytuacji społeczno-gospodarczej województwa pomorskiego*, Nr 5, GUS, May 2012

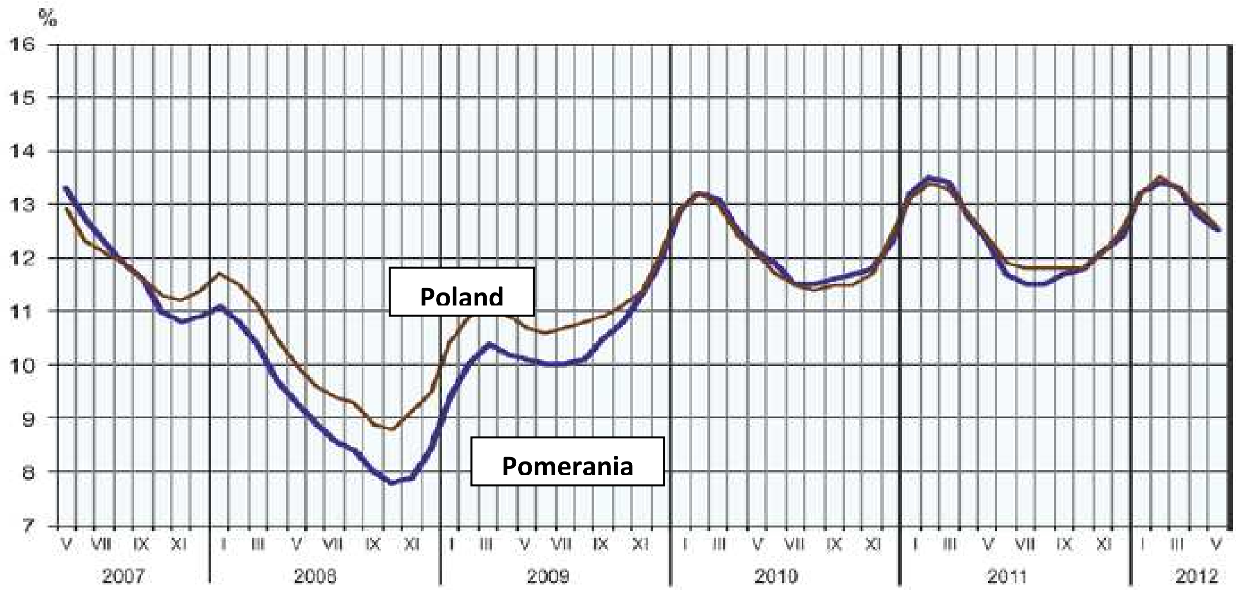

Figure 3. Unemployment rate in Pomeranian Voivodeship and Poland (as reported at the end of months).
Source: *Komunikat o sytuacji społeczno-gospodarczej województwa pomorskiego*, Nr 5, GUS, May 2012

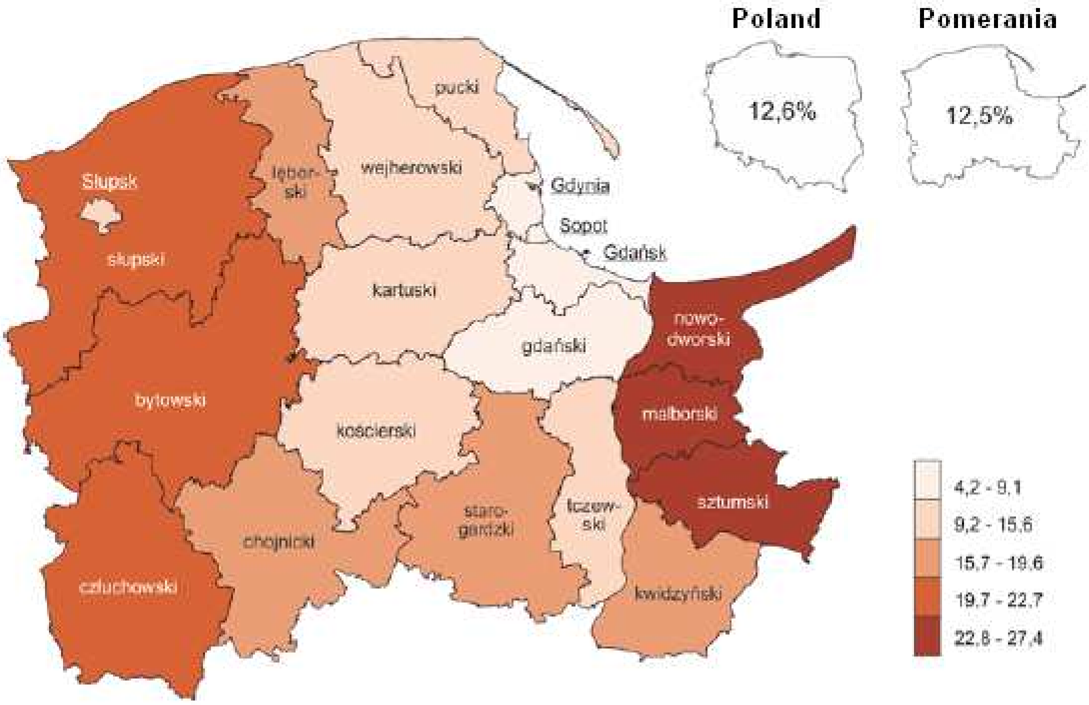

Figure 4. Unemployment rate by regions of Pomeranian Voivodeship as of end of February 2012. Source: *Komunikat o sytuacji społeczno-gospodarczej województwa pomorskiego*, Nr 5, GUS, May 2012

From total number of employed in the region (aprox. 754 thous.), 288 thousands were employed in business sector (approximately 38%). In relation to this, human resources in maritime sectors are 14%, and c.a. 5,2% of total employment in the region. General information on employment in business is presented in Table 1.3. below. Particular data on employment in maritime sectors is presented in chapter 4 of this study.

Table 1.2. Employment in Pomeranian region

Maritime sectors (end od. Dec. 2011)	39 342
total employment in relation to business sector	13,6%

Table 1.3. Employment in Pomeranian region (end of Dec. 2011)

Manufacturing	114 047
in which:	
manufacture of food	18 331
manufacture of metal products	12 906
manufacture of products of wood, cork, straw and wicker, paper and paper products	11 116
manufacture of computer, electronic and optical products	10 045
manufacture of machinery, electrical equipment	7 776
other manufacturing	53 873
Mining and quarrying	856
Electricity, gas, steam and air conditioning supply	11 140
Water supply, sewerage, watse management and remendiation activities	6 193
Construction	32 355
Trade & repair of motor vehicles	53 202
Transportation and storage	20 111
Accomodation and catering	6 967
Information and communication	7 565
Real estate activities	7 501
Administrative and support services	12 326
TOTAL	288 097

Source: *Biuletyn Statystyczny województwa pomorskiego - I kwartał 2012*, GUS 2012

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1.3. Economy in the region

Pomeranian Voivodeship is more over average in terms of the size and power with economy relating to the country about relatively of stable position towards other regions. The region gets [24]:

- 5 place in the country in terms of the GDP per capita
- 3 place in the relation of the export into the GDP
- 2 place in terms of the participation in the export of products of high technologies.

Additionally a high economic activity of residents is characteristic for this region. A sign of this situation is 4 position in the country in terms of the amount SMEs to the thousand of persons, formation of clusters and high, capital expenditure per one industrial enterprise conducting the innovative activity (3rd place in Poland).

The highest concentration of the business activity is in the Tri-city metropolitan area (Gdańsk, Gdynia, Sopot and neighbouring districts). There are 1.25 M inhabitants in 2012 year.

Economy of the region, both in terms of the employment, as well as the added value, is oriented for services (65%), however the industry delivers the 32% to the value added. The lowest significance has a agriculture (3%), although the food industry traditionally belongs to important sectors in the economy of the region.

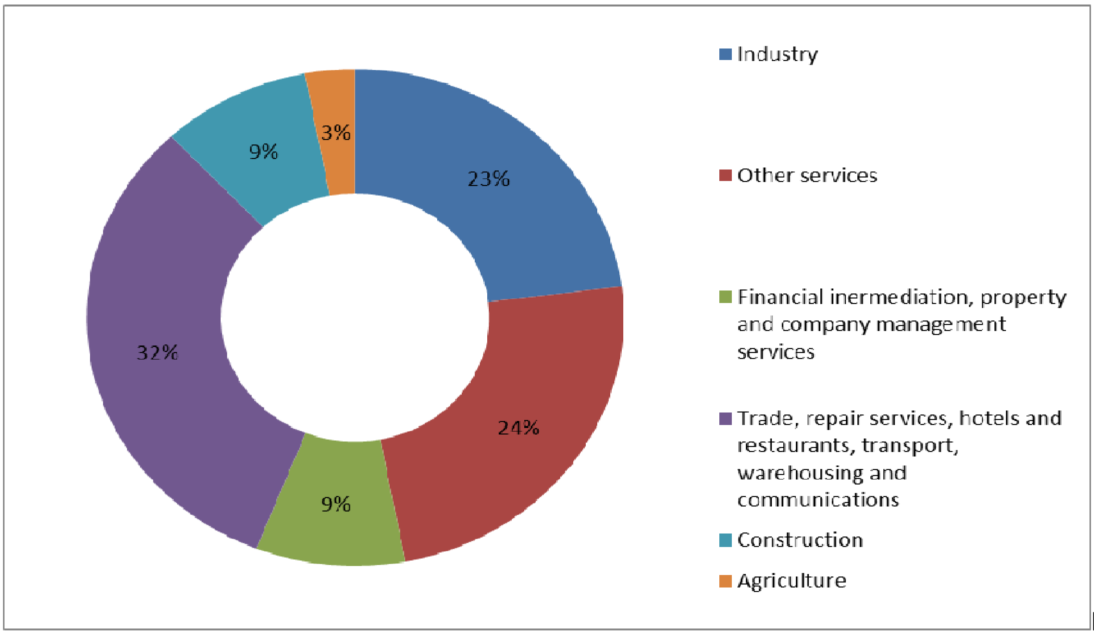

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Figure 5 Gross added value by section in the Polish Classification of Business Activities (PKD 2007), Pomeranian region in 2009 year.

Source: http://www.investinpomerania.pl/en/the-regions-economy/the-productivity-of-the-economy.html

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Relation between sectors are presented in Table 1.4. below to illustrate differences in potential of kinds of activity.

Table 1.4. Total revenues of business entities in Pomeranian region (2011)

Manufacturing	69 651
Electricity, gas, steam and air conditioning supply	15 182
Water supply, sewerage, watse management and remendiation activities	972
Construction	5 674
Trade & repair of motor vehicles	35 606
Transportation and storage	3 817
Accomodation and catering	218
Information and communication	2 695
Real estate activities	1 770
Other activities	3 130
TOTAL	**138 713**

Source: *Biuletyn Statystyczny województwa pomorskiego - I kwartał 2012*, GUS 2012

The seaside localization creates a lot of chances associated with economic using resources of the sea, as well as the cooperation in the Baltic Sea Region as part of economic, administrative, cultural or infrastructural connections.

All important enterprises operating in the voivodeship we can divide in two fundamental sections:

– traditional industries where we are reckoned enterprises operating in sectors: maritime, oil refining industry, construction sector, wood / timber sector and furniture manufacturing, food industry and tourism,
– industries of the largest potential in attracting foreign direct investments, which includes, according to PriceWatersCoopers analysis, following sectors: logistics, BPO/SSC (Process Business Offshoring / Shared Service Centre), ICT (Information and Communication Technologies), energy sector, light chemical industry and automotive.

Logistics

In recent years, an intense development of logistics sector in Pomerania was observed. It is both a result of an increased activity of ports and advantageous location of the region. Pomerania is placed at the crossroads of two Pan-European transport corridors. Ports in Gdansk and Gdynia serve

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all types of cargo. Pomeranian ports emerge as regional leaders in container handling among the ports of the Baltic Sea. In the last year they trans-shipped 1,3 mln TEU, which gave them the second position in the Baltic Sea region.

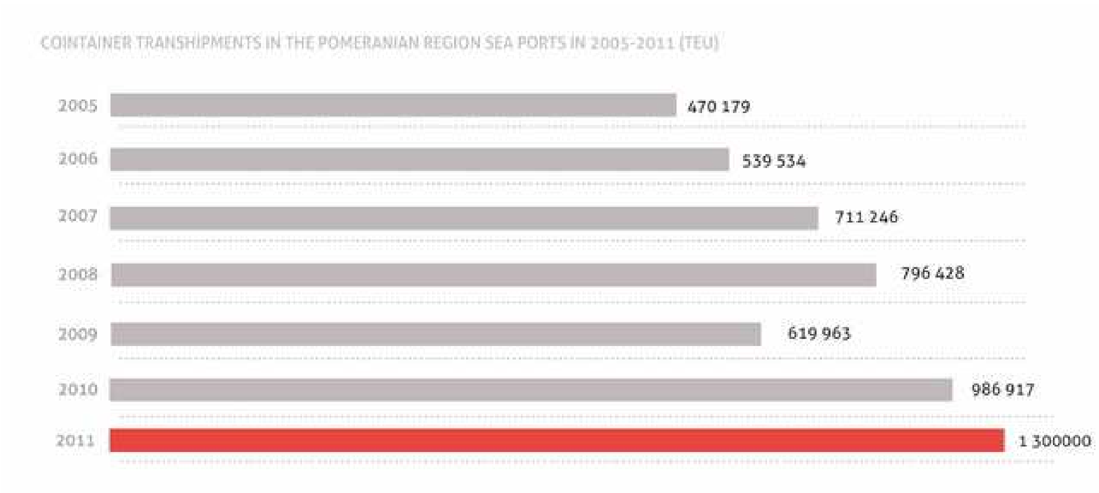

Figure 6 Cointainer transhipments in the Pomeranian Region Sea Ports in 2005-2011 (TEU), Source: http://www.investinpomerania.pl/en/article/18638_Logistics.htm

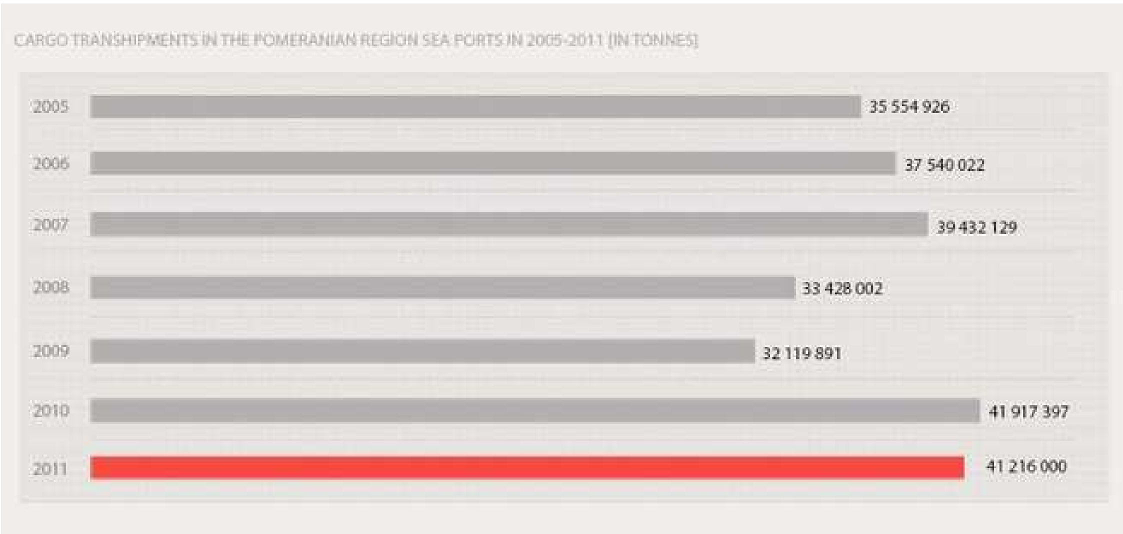

Figure 7 Cargo transhipments in Pomeranian Region sea ports in 2005-2011
Source: http://www.investinpomerania.pl/en/article/18638_Logistics.htm

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Cargo handling in Pomeranian region in 2011 accounted for logistic sector, which accounted for 7,08% of total number of enterprises in the region.3,6% of employed people worked in logistics. The gross average monthly income in the sector accounted for PLN 3281,75 in 2011. Factors due to investing into Logistic sector in Pomerania is supposed to be very effective:

- perfect seaside location at the Baltic Sea and at the crossroads of pan-European transport corridors;
- well developed port infrastructure including a deep water container terminal that can serve the biggest types of vessels (15500 TEU);
- large supply of storage facilities and logistics centres;
- low employment costs.

Business Process Off-shoring (BPO) / Shared Services Centre (SSC)

Tri-City metropolitan area is a major BPO / SSC centre in Pomerania. On the regional market, there are over 30 business services centres that employ approximately 12.000 people (1,72% of employed). IT Services and financial processes are the core-business of companies in the BPO / SSC. Compared to other parts of Poland, the R&D centre, which employs about 1800, plays an important role. 1/3 of the service centres are American. Another investors have come from Nordic, France and Ireland. The biggest companies located in Tri-city are: Thomson, Reuters, Arla Foods, Sony Pictures, Geoban, OIE Support, Transcom, First Data, Kainos, Systems, Acxicom, BPH / GE, Hempel, PPG, Energa CUW, Lufthansa, Intel, IBM, Nordea.

The availability of modern office space is another important factor determining the development of the BPO / SSC sector within the region. According to Jones Lang LaSalle's report published in 2011, the Tri-City area disposes of 327.000 m^2 of available office space. At the moment, there are two additional large office projects under construction, which will increase available office space by additional 200.000 m^2. The rental price remains at a very favourable rate for investors, balancing between 12-14 Euro / per m2 / per month.

Factors due to investing into BPO / SSC sector in Pomerania is supposed to be very effective:

- convenient location,
- low employment costs,
- multilingual and educated work force,
- tenant-friendly office space market.

Information and Communications Technology (ICT)

ICT sector is currently a dynamically developing industry in Pomerania. In 2009, an ICT cluster was formed, with a following specializations: electronics industry, IT services and

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telecommunication services. ICT sector is one of the priority sectors in Pomerania. It is characterized by significant development potential. In 2010 in the Pomeranian region there were 3655 registered companies operating in the ICT sector, which accounted for 1,43% of total number of enterprises in the region. 1,19% of employed people worked in ICT sector.

The biggest companies operating in the sectors: Intel, SII, Lufthansa Systems, Siemens, IBM, Kainos, Finesos, Compuware, Synopsys, Flextronics, Vector, Radmor, Telekom-Telmor, DGT, Platan, Enamor and Sprint.

Factors due to investing into ICT sector in Pomerania is supposed to be very effective:

- well developed ICT market,
- competitive employment costs,
- academic staff,
- the best cluster in Poland operating in ICT sector;
- modern office space.

Energy sector

Pomerania is one of the largest electricity recipients in the country. It imports 70% of power energy to the region. A generation capacity of energy in the region are small, although the region has at disposal the large potential. Such a situation results in a high demand for generation units, especially low-emission ones, which comply with European Union standards. In this situation energy sector, particularly wind energy, has a high potential for development. Pomerania disposes of a wide variety of non-renewable energy resources including crude oil, natural gas, and newly discovered shale gas resources.

At the sea and in the seaside a wind in a windiness zone achieves above 4 m/sec., so Pomernian Voivodeship is one of most favourable place in Poland for farms of wind energy . In the same time, according to TPH Horwath data the return on investments in wind farms in such places is about 12%. Simultaneously Poland due to its membership in the European Union is obliged for producing the 15% of the energy from renewable energy sources (OZE) to 2020. It means that investors in OZE have both a guaranteed demand for the generated energy and a high return on investment.

In 2010 in the Pomeranian region there were 471 registered companies operating in the energy sector, which accounted for 0,18% of total number of enterprises in the region.1,72% of employed people worked in energetic. The gross average monthly income in the sector accounted for PLN 5212.43 The most important companies operating in Pomerania are: ED Group, GEPEC Ltd, Energa Group. The installed capacity of wind energy is 141.496 MW.

Factors due to investing into energy sector in Pomerania is supposed to be very effective:

- seaside location that creates big offshore potential in wind energy;
- significant potential for technology development and manufacturing of equipment for the RES supply of highly educated staff;

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- low employment costs.

Light chemical industry

The potential of the sector is assessed on universities' potential in biology, chemistry and bio-technology. PwC emphasise growth potential especially in the area of clinical trials and suggests that the main advantage of the region is the access to a large, Poland-wide pool of patients, which enables trial participants to be recruited effectively.

One big company was pointed out: Polpharma as the sector's leader in terms of size of operations. At the same time Polpharma is the largest manufacturer of medicines in Eastern Europe. The potential of cosmetics producers should be noted.

Key factors due to investing into light chemical sector in Pomerania is supposed to be very effective:

- universities with strong experience in biology, chemistry and chemical technologies,
- co-operation with ScanBalt BioRegion (international organisation associating enterprises conducting activity for the development of science and industry from the Baltic Sea area),
- number of companies operating in this sector on the early-stage of development some of them with significant marketshare in Poland.

Automotive

The automotive industry plays a significant role in the Polish economy. The Pomeranian ports are gaining importance as a crucial link in the car supply chain - sea ports in Gdansk and Gdynia offer connections with leading automotive clusters in Germany, Italy, France, the United Kingdom, Belgium, Finland and Denmark. According to PwC Polska data, more than 171 car manufacturing plants operate within the range of the Pomeranian ports.

Eaton Truck Components and Eaton Automotive are suggested to be most significant research and manufacturing center. Other automotive companies in the region are Delphi, Gardner, NordGlass (suppliers of car components), Scania and Kapena (producers of buses).

Factors due to investing into automotive sector in Pomerania is supposed to be very effective:

- connections with automotive clusters in Europe,
- good location influencing cost competitiveness in logistic chains,
- competitive employment costs,
- availability of investment areas for manufacturing and R&D facilities.

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2. Methodological issues

The review takes under consideration:

- statistical data according to the Polish *Statistical Yearbook of Maritime Economy* by GUS (Główny Urząd Statystyczny - Central Statistical Office in Poland),
- classifications and data according to DG MARE and Polish government documents,
- classification of maritime sectors taken into account in Generation BALT Questionnaire Analysis,
- quantitative data and qualitative dispersed among various sources (studies, articles, books and own knowledge of authors of this study).

2.1. Public statistical data (Poland)

GUS (Central Statistical Office in Poland) presents collected data according to the Polish Classification of Activities (PKD) 2007. PKD was compiled out of the *Statistical Classification of Economic Activities in the European Community NACE Rev. 2* (valid from 1 January 2008, implemented with the Regulation of the Council of Ministers of 24 December 2007, *Journal of Laws* No. 251 item 1885), in order to alter the Polish Classification of Activities PKD 2004; see remarks in *Maritime and Inland Waterborne Economy. Sectors: Classifications, Value Added, Structures* (Generation BALT working paper), Polish Chamber of Maritime Commerce, Gdynia 2011.

Within *Statistical Yearbook of Maritime Economy 2011* the grouping of data was carried out according to kinds of activities has been done using the basic kind of an entity's activity according to PKD (Polish Classification of Activities). In some cases a more detailed divisions were used in order to gain an improved picture of the activities occurring in the maritime sector. The data are arranged using the following:

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Table 2.1. Sectors of entities' economic activity and their PKD equivalents (2011)

Sector name	Entities activity	Full name of PKD 2007 group, class and subclass
Cargo handling and storage in seaports	cargo handling and storage service enterprises, which the basic activity is cargo handling in seaports	*Cargo handling (52.24); Cargo storage and warehousing (52.10).*
Activity of maritime transport agencies	Customs agencies, marine agencies, ship–broking agencies, maritime consulting, maritime expertises, expertises on stowage and cargo arrangement onboard, cargo inspection, sea forwarding and others.	*Activity of other transport agencies (52.29)*
Sea and coastal water transport		*Sea and coastal passenger water transport (50.10); Sea and coastal freight water transport (50.20).*
Sea fishing		*Sea fishing (03.11)*
Processing and preserving of fish and fishing products		*Processing and preserving of fish and fish products (10.20); Manufacture of food products (10.85).*
Retail and wholesale of fish, crustaceans and molluscs –	entities involved mainly in sale of fish.	*Wholesale of the other food including fish, crustaceans and molluscs (46.38); Non-specialized wholesale of food, beverages and tobacco (46.39); Retail sale in non–specialized stores with of food, beverages and tobacco predominating (47.11); Retail sale of fish, crustaceans and molluscs (47.23).*
Research and development works and maritime education	scientific and research units, working mainly for the needs of maritime economy as well as schools educating mainly for the needs of maritime economy (and groups of schools).	*Research and development in the field of natural and technical science (73.1); Research and development in the field of social science and works humanistic (73.20); Business and management consultancy activities (74.14); Vocational secondary education (80.22); University education (80.30); Other education forms not elsewhere classified (80.42);*
Maritime offices		*Regulation of and contribution to more efficient operation of business (84.13).*

Source: *Statistical Yearbook of Maritime Economy*, GUS, Warsaw – Szczecin, 2011

Other sectors definitions included in public statistics were presented, following GUS, by Authors of Geration BALT regional report for West Pomerania Voivodhip:

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Table 2.2. Sectors of entities' economic activity and their PKD equivalents

Sector name	Entities activity	Full name of PKD group, class and subclass
Other activities supporting maritime transport	navigation, pilotage, live saving, dredging and underwater works, port and sea services, towage, mooring and others	*Other activities supporting water transport (63.22)*
Seaports authorities		*Other activities supporting water transport (63.22);* *Real estate management and sale (70.11);* *Property renting on own account (70.20);* *Real estate management on a fee or contract basic (70.32);* *Business and management consultancy activities (74.14)*
Production and repairs of ships and boats	building and repairs of floating units in terms allowing to float on an open sea	*Production and repairs of ships (35.11);* *Production and repair of pleasure and sport boats (35.12)*
Marine Boards		*Management and participation in increasing efficiency activities (75.13)*
Others kinds of activity	extraction of crude oil from sea, construction of water engineering structures for maritime economy, architectural and engineering activities for maritime economy, renting of water transport means, consultancy, technical research and analysis, enrolment of employees and other kinds of activity for the benefit of maritime economy.	Various PKD classes

Source: *The labour market of the maritime economy sector in West Pomeranian Voivodeship – a diagnosis*, University of Szczecin, 2012

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2.2. Polish Government Classification

Development Strategy of the Polish Maritime Economy 2007-2015 indicates some general goals for some sectors of maritime activities.

Table 2.3. Goals for maritime sectors due to Development Strategy of the Polish Maritime Economy 2007-2015

No	Sector	Goals
1	**Maritime transport**	– improve in transportation capability of polish and mixed (polish-foreign ownership) marine fleet, registration of the ships under the polish flag and improving their competitiveness ability; – adjustment of the maritime law; – growth in the cargo tonnage delivered to polish seaports from the inland ports (state and foreign) via riverine transport corridors connected with the transportation systems of neighbouring countries;
2	**Seaports**	– creation of the law regulation supporting the effectiveness of activities of the Polish seaports; – investment on seaports' infrastructure and improvement in availability of the seaports from sea and land; – increase in effectiveness and competitiveness of the seaports services;
3	**Waterborne and coastal transport**	– revitalization of the riverine transportation corridors; – rebuilding of the Polish water transportation fleet; – increase in share of inland water transport in the inland traffic up to the average share in EU; – promotion of the inland water traffic and its heritage;
4	**Shipbuilding and shiprepairing**	– supporting of the shipbuilding and shiprepairing industry under condition of strong competition; – creation of the organizational structure of the Polish shipyards in order to support the building of modern ships and boats; – setting off the production of ships of a great added value, innovative and ecologically safe;
5	**Exploitation of marine natural resources**	– increase in oil and gas exploitation from the domestic and foreign marine resources; – setting off the exploitation of polimetallic resources in the Pacific region; – analysis of the profitability of the sand and aggregate from the marine resources; – sustaining of the polish position in the amber production; – application of the rational usage of ground water (fresh and mineral) in the seaside; – growth in share of the green (renewable) energy in total energy production in the seaside;
6	**Fishing and processing industry**	– providing of the sustained exploitation of the fish and other biotic marine resources;

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		– creation of the model of fishery management including the financial and law mechanisms supporting the restructuration process; – improve in competitiveness of fishing and fish processing industry; – supporting fair dialogue between fishermen's environment and society; – rebuilding of the fishery administration and active cooperation with the EU; – development of the deep sea fishery;
7	**Research and development**	– improve of the technology in terms of ship safety and innovation; – improve of the environmental protection techniques; – improve of the antiterrorist systems; – supporting the growth of knowledge on the maritime resources in the Baltic Sea and the Pacific Interoceanmetal property; – modernisation of the inland water roads and their connection with the outer transportation network; – supporting the research on the strategy of the maritime economy;
8	**Education and human resources**	– development of the educational systems in order to provide human resources of a maritime specialisation;
9	**Maritime and inland administration**	– adjustment of the polish administrative structure to the UE and IMO standards; – adjustment of the polish law on the inland water transportation to the UE regulations;
10	**Maritime heritage and social awareness in maritime aspects**	– sustaining the maritime heritage; – increase in social awareness in the maritime aspects;
11	**Marine and inland tourism**	– growth of share in the worldwide touristic transportation; – growth of share in ferry, coastal and yacht tourism in the Baltic Sea; – liquidation of the results of long term neglecting of the inland water passenger transportation, yachting and canoeing; – supporting the activity of the entities producing yachts and yacht equipment;

Source: Based on *The labour market of the maritime economy sector in West Pomeranian Voivodeship – a diagnosis*, University of Szczecin, 2012;

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2.3. DG MARE Classification

Directorate-General for Maritime Affairs and Fisheries works on new concept of classification and data collecting for maritime activities. DG MARE suggests “Maritime sectors should be understood as industrial or service-related activities that either directly or indirectly produce economic or non-economic value from use of the sea or sea resources” [5] (unfortunately, research conducted by DG MARE was not finished at the moment that Generation BALT started. One of stages of this work is classification (maritime economic activities) as “the list to be updated (…) in order to include new and future uses” [15]. The list is presented below:

Table 2.4. DG MARE list of maritime sectors (2010)

No.	Sector	Subsector	Definition
1	**Shipping**		Merchant shipping & ship management; Short-sea shipping; Chartering-out, Cruise & ferry services; Ocean towage
2	**Shipbuildinging**	Seagoing vessels	Merchant ships; Fishing boats; Ocean-going tugs, workboats, supply ships etc.; Floating sections
		Repair & Conversion	Repair & Conversion of seagoing vessels
		Naval ships	Newbuilding & repair of naval sjips
		Inland vessels	Inland barges; inland & harbour tugs Inland workboats, supply ships etc.; Repair; Floating sections; Dry docks
		Scrapping	All shipscrapping (and recycling)
3	**Offshore supply**		Seismic research; Construction, installation and conversion of platforms, storage vessels & equipment; Drilling; Offshore-related transport, engineering, communication, consultancy & other support
4	**Inland shopping**		Inland shipping & ship management; Chartering-out; Inland cruises & ferries; Harbour & rover towage; Freighting (Note: no inland terminals)
5	**Maritime Works**	Cables & Pipelines	Nautical cable & pipeline works for offshore, telecommunications etc.
		Dredging and other works	Dredging; River works Consruction of dykes. Harbours & canals; Support vessels; Sand transport
6	**Seaports & related services**		Cargo-handling; Shipping related storage, agency, maritime logistics & expedition; Port authorities; Pilotage
7	**Fishing**		Maritime fishing; Professional inland fishing; Shellfish production
8	**Recreation**	Recreational vessels	Yacht construction; Sporting, sailing & rowing boats; Canoes; Infantable boats; Repaqir; Floating sections
		Recreational services	Yacht chartering & renting; Marinas; Inland yacht-basins; Supporting services concerning the construction of & trade in recreational vessels; Yachting-related training & trade
9	**Maritime services**	R&D & Education	Research & development; Consultancy; Nautical training and education
		Classification &	Classification societes; Sampling; Laboratories

		Inspection	
		Support services	Bunkering; Ship supply; Rescue; Diving; Maritime insurance, financing, brokerage, law & medical services; Crewing; Maritime associations; Maritime governement services
10	**Marine equipment**		Manufacturing of & wholesale trade in maritime equipment

Sources:

Maritime and Inland Waterborne Economy. Sectors: Classifications, Value Added, Structures (Generation BALT working paper), Polish Chamber of Maritime Commerce, Gdynia 2011;

Study on the drivers for sustainable growth from the oceans, seas, coastal regions and maritime sectors, Technical Annex, DG MARE, Open call for tenders, No MARE/2010/01

2.4. Generation BALT Questionnaire

The list of sectors taken under consideration was created as the result of brainstorming and focus workgroup; it was preceded by presentations and publications of *"Generation BALT: Facing The Future"* conference in Gdynia, September 2011 and presentation of the study *Maritime and Inland Waterborne Economy. Sectors: Classifications, Value Added, Structures* (Generation BALT working paper, Polish Chamber of Maritime Commerce, Gdynia 2011). The result was the list of sectors as follows: Watercraft industry, Marine equipment, Maritime works, Offshore supply, Offshore wind energy, Exploration and exploitation of sea bed, Hydro engineering, Coastal protection and construction, Fisheries and aquaculture, Seaports & Logistics, Maritime services, Recreational boating, Coastal tourism, Maritime areas management and administration, Adjustment of law concerning maritime areas, Innovative maritime industries, Security and crisis management of the above. During the questionnaire analysis some of these sectors were grouped because of data statistical correlation.

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3. Pomeranian Maritime Economy

Methodology of the study is based on integration (grouping) sectors according to classifications taken under consideration in points 2.1.-2.4. Availability of statistical data was taken into account. Sectors that will be presented are:

1. **Seaports and logistics**, including port authorities, cargo handling & storage and activity of maritime transport agencies.
2. **Shipbuilding and shiprepair industry** presented in statistical data as 'Construction and repair of ships and boats' or 'shipbuilding' in DG MARE concept or 'watercraft industry' within Generation BALT questionnaire. The sector contains 'Construction, installation and conversion of platforms' (drilling rigs) and 'storage vessels & equipment' classified by DG MARE as a part of 'offshore supply'.
3. **Fishery and seafood processing and distribution.** Aquaculture will not be analysed (activities in sea aquaculture are in initial phase of research).
4. **Tourism**, including recreational boating, coastal tourism, with some remarks on yacht construction.
5. **Other business sectors:** Exploration and exploitation of sea bed, maritime works, hydroengineering and coastal protection will be presented together because of the structure of dominant companies operating in these sectors.
6. **Maritime administration** as a sector of public services connected to coastal protection and seaports management.
7. **Maritime education and R&D**. Only some statistical data will be presented. The topic is analysed in Generation BALT reports: *Pomeranian Voivodeship – Poland: Higher Education Offer* (Gdańsk University of Technology, June 2012) and *Recommendations on higher education. Draft report as a part of final report of Foresight study* (Gdańsk University of Technology, June 2012).

According to initial assumptions of Generation BALT **shipping** and **navy** are sectors, which **will not** be analysed.

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3.1. Seaports and logistics

In Pomeranian region there are two major ports in Gdansk and Gdynia, and 4 minor ports and number of harbours on the Baltic shore, Gdansk Gulf and the Vistula Lagoon (exploited mainly for boating and fishery).

Port of Gdańsk is an eldest of Polish ports, the biggest on Baltic in XIII-XVIII centuries. Port of Gdynia became the biggest Baltic port before the second world war. From seventies of XXth century until 2011 Gdynia was the only container port in Poland.

Authorities of Port of Gdańsk and Port of Gdynia are state-owned companies (with some shares to municipalities of the cities of Gdańsk and Gdynia.) classified in Polish statistical data system as enterprises running activities as follows: (52.22) Other activities supporting water transport, (68) Real estate management and sale, property renting on own account, real estate management on a fee or contract basic, (70.2) Business and management consultancy activities. Seaports authorities support cargo handling and storage and provide infrastructure for intermodal transport.

Measure of activity supported by port authorities is number of vessels arriving at ports:

Table 3.1. Ships arrivals at ports

	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010
Poland (total)	9 237	10 402	14 541	35 238	17 133	17 326	21 477	22 269	20 094	19 710
Gdańsk	2 171	1 991	2 077	2 572	2 641	2 947	4 014	3 990	3 361	3 299
Gdynia	1 784	2 157	2 351	2 943	3 427	3 619	4 265	4 238	4 046	4 175
Poland [%]	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Gdańsk	23,5%	19,1%	14,3%	7,3%	15,4%	17,0%	18,7%	17,9%	16,7%	16,7%
Gdynia	19,3%	20,7%	16,2%	8,4%	20,0%	20,9%	19,9%	19,0%	20,1%	21,2%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2011

There's a number of terminals and companies operating in Gdańsk and Gdynia seaports.

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Table 3.2. Companies (selected) operating in seaport of Gdańsk and Gdynia

Port of	Company	Activity
Gdynia	BCT - Bałtycki Terminal Kontenerowy Sp. z.o.o.	containers
	Gdynia Container Terminal S.A.	containers
	Bałtycki Terminal Zbożowy Sp. z o.o.	grain
	MTMG - Morski Terminal Masowy Gdynia Sp. z o.o.	bulk cargo
	BTDG - Bałtycki Terminal Drobnicowy Gdynia Sp. z o.o.	Ro-Ro transhipments; conventional general cargo; duty free warehouse
	Bałtycka Baza Masowa Sp. z o.o.	bulk cargo; oil terminal
	Westway - Westway Terminal Poland Ltd.	bulk liquid storage and logistics
	Petrolinvest S.A.	liquid gas (LPG)
	Stena Line	ferry terminal
Gdańsk	DCT Gdańsk S.A.	containers
	Gdański Terminal Kontenerowy S.A.	containers
	Polska Żegluga Bałtycka S.A.	ferry terminal
	Naftoport Sp. z o.o.	crude oil and crude oil derivatives
	Gaspol SA	liquid gas (LPG)
	Linde Gaz Polska Sp. z o.o.	gas
	Port Północny S.A.	coal; bulk cargo
	GZNF Fosfory Sp. z o.o.	dry bulk
	Siarkopol S.A.	dry bulk
	Port Gdański Eksploatacja S.A.	general cargo, steel products and structures
	Inter Balt Sp. z o.o.	coal
	Gdanskie Mlyny Sp. z o.o.	grain
	Malteurop Poland Ltd	grain
	Süd Chemie Polska Sp. z o.o.	general cargo

Sources: websites of Port of Gdańsk Authority: www.portgdansk.pl and Port of Gdynia Authority www.port.gdynia.pl

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Table 3.3. Cargo traffic total [in thous. tonnes]

	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010
Poland (total)	50 131	47 039	49 320	47 871	54 769	53 131	52 434	48 833	45 079	59 507
Gdańsk	18 119	18 613	18 608	16 712	22 478	22 034	19 944	17 072	18 758	26 421
Gdynia	10 685	9 987	7 739	8 397	11 038	12 218	14 849	12 860	11 361	12 346
Poland [%]	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Gdańsk	36,1%	39,6%	37,7%	34,9%	41,0%	41,5%	38,0%	35,0%	41,6%	44,4%
Gdynia	21,3%	21,2%	15,7%	17,5%	20,2%	23,0%	28,3%	26,3%	25,2%	20,7%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2011

Container transport, developing all over the world, is a fast growing subsector in Pomeranian region. A container handling leader in Poland became (in 2010) DCT Gdańsk (DCT – deepwater container terminal), aspiring to be Baltic sea-hub. DCT agreed with Maersk to provide services supporting transport Asia – Europe. Former leader, BCT Gdynia is expected to be included to Loop 3 of G6 Alliance consisted of APL, Hyundai Merchant Marine, MOL, Hapag-Lloyd, Nippon Yusen Kaisha i OOCL (now Loop 3 starts in Shanghai and ends in Göteborg, Sweden). G6 skipped an idea to include the port of Gdansk and the decision of including Gdynia is dependent on technical issues connected to capacities and infrastructure of the waterways. At the same time DCT prepares investments to increase handling capacities. Some other investment are planned, too, in other subsectors of sea-port & logistics sector and are connected to competitiveness of Pomeranian ports (rail and road accessibility, logistic centers, other infrastructure).

Total amount of investments in ports and maritime logistics is planned to reach up to 1 billion EURO in next 5 years.

3.2. Shipbuilding and shiprepair industry

Pomeranian industry participates in European collapse of shipbuilding industry. Results are better than in West Pomerania because of structure of the sector. Although there were some irregularities in Pomeranian region (growth in 2008) - the trend is obvious as we think about completed vessels (see tables 3.4.-3.5.).

Table 3.4. Completed sea-going vessels in Poland (GT 100 and more)

	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010
number of ships	41	35	33	34	28	24	30	20	25	24
DWT*	343	134	603	722	756	627	374	338	.	.
GT**	263	140	534	616	740	693	531	494	279	39

* DWT – deadweight in thous. tonnes
**GT – Gross tonnage in thons. tonnes
Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2011

Table 3.5. Shipbuilding In Pomeranian region

	2005	2006	2007	2008	2009	2010
Poland						
number of ships	28	24	30	20	25	24
GT	740	693	531	494	279	39
CGT**	552	495	397	330	242	90
Pomeranian region						
number of ships	18	17	18	16	19	22
GT	464	470	305	400	190	38
CGT	338	321	226	260	170	87
Share of Pomerania in total						
number of ships	64%	71%	60%	80%	76%	92%
GT	63%	68%	57%	81%	68%	97%
CGT	61%	65%	57%	79%	70%	97%

*GT – Gross tonnage in thous. tones
** CGT - Compensated Gross Tonnage

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Table 3.6. Companies (selected) operating in watercraft industry

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Subsector	Company	Comments
Shiprepair	Remontowa S.A. (Gdańsk)	Private (privatised) company (Ltd.); the strongest company in Polish watercraft industry; leading company of Remontowa Group
	Nauta S.A. (Gdynia)	State-owned
Shipbuilding	Stocznia Gdańsk S.A. (Gdańsk)	Private (Ukrainian) entity established after bankruptcy of Stocznia Gdańska S.A.
	Remontowa Shipbuiding S.A. (Gdańsk)	The division of Remontowa Group
	Wisła Sp. z o.o. (Gdańsk)	Hulls for sea-going ships; privatised
	Crist S.A. (Gdańsk, Gdynia)	PSV/AHTS and jack-up vessels; private
	Stocznia Marynarki Wojennej S.A. (Gdynia)	State-owned navy shipyard; bankruptcy declared In 2011
Offshore	SG Towers Sp. z o.o.	New division of Stocznia Gdańsk S.A. specializes in wind energy towers
	Remontowa S.A. (Gdańsk)	Drilling rigs repairs
	Crist S.A. (Gdańsk, Gdynia)	Drilling rigs; one of divisions of the company is located on infrastructure of bankrupted Gdynia Shipyard S.A.
	Energomontaż Północ Gdynia S.A.	Components for drilling rigs and other offshore structures; company is located on infrastructure of bankrupted Gdynia Shipyard S.A.; activity developed after privatization
Yacht construction	Damen Shipyards Gdynia S.A. (Gdynia)	Division of Damen Group (Netherlands)
	Sunreef Yachts (Gdańsk)	Private company producing, brokering and chartering yachts
	Stocznia Jachtowa im. Conrada S.A. / Conrad S.A. / Marine Project Ltd. (Gdańsk)	Privatised
	Galeon Yachts (Straszyn)	Private company

Source: UBA

Pomeranian shipbuilding companies are under restructuring process undertaken by private owners. One of leading ideas of restructuring process is to develop activities in offshore sectors by building structures or components for drilling rigs, wind energy farms and other units (e.g. tidal power plants). Within this activity statistical class "Sea-going light-vessels, fire-floats, floating cranes not specified elsewhere" reached (2010, the country as a whole) revenue 274 mln zł (about 70 mln EURO).

As a strongest company we described Remontowa S.A., originally specialized in ship repairs, but for years vertically and horizontally diversified. Business model of the company ensures its' financial

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stability. In 2011 Remontowa staff was 3 669 people and revenue 1 495 mln zł (c.a. 365 mln EURO). Remontowa is ranked as 180th biggest company in Poland (5th position in Pomeranian region). Crist S.A., supposed to be the second biggest company in watercraft industry gained 649 935 mln zł of revenue (160 mln EURO).

Although the sector is dominated by relatively big companies, there's a significant number of entities conducting their activities separately or being the suppliers of big firms:

Table 3.7. Entities in watercraft industry

	2005	2006	2007	2008	2009	2010
Poland	4 090	4 618	5 426	5 368	5 044	4 815
Pomeranian region	3 184	3 544	4 023	3 976	3 707	3 434
Share in total [%]	78%	77%	74%	74%	73%	71%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

It should be mentioned that there's well developed yachts and recreational boats construction subsector. In 2010 there were 535 sea-going yachts produced in Poland, as well as 340 sea-going motor boats for pleasure or sports. Total revenues of this activities reached in 2010 amount of 171 mln zł (about 40 mln EURO). We do not know specific data for Pomeranian region, but most of leading companies of this subsector are located in this region.

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3.3. Fishery and seafood processing and distribution

Analysing fisheries industry we take into account data on fishing fleet, catches and business activities. Factors influencing the sectors connected to fisheries result from EU policies on fishing fleet withdrawals. The result are: decreasing tonnage and number of vessels.

As we consider fishing fleet and withdrawals, data was presented in Table 3.8.

Table 3.8. Tendencies in fishing fleet in Poland

	2005	2006	2007	2008	2009	2010
Gross tonnage*	19,8	17,6	17,2	15,7	12,9	11,8
Cutter fleet	249	220	212	197	161	146
Fleet withdrawn**	270	84	24	33	46	18
- cutters withdrawn	148	27	8	15	36	13

* GT in thousands
** withdrawn from service with the public aid
Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

EU Common Fisheries Policy determines catches quotas on the Baltic Sea. In 2010 64,5% of fisheries in Poland are the fish and shellfish catches on the Baltic sea and bays (in 2007: 80,8%, in 2005: 91,2%). From 2007 there was only a minor growth of catches on Baltic, but Polish fishery companies expanded to Pacific are, so we noted total growth from less than 140 to more than 175 thousands tones between 2007 and 2010.

Table 3.9. Entities in fisheries sectors

	2005	2006	2007	2008	2009	2010
Sea fishing						
Poland	1 078	1 178	1 151	1 175	1 181	1 192
Pomeranian region	487	528	514	522	548	576
Share in total [%]	45%	45%	45%	44%	46%	48%
Fish and fishing products processing and preserving						
Poland	657	700	667	626	569	597
Pomeranian region	160	197	171	163	167	180
Share in total [%]	24%	28%	26%	26%	29%	30%
Retail and wholesale of fish, crustaceans and molluscs						

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Poland	2 042	2 509	2 389	2 226	2 170	2 249
Pomeranian region	307	379	361	339	340	352
Share in total [%]	15%	15%	15%	15%	16%	16%

Source: *Statistical Yearbook of Maritime Economy 2009, 2011,* GUS, Szczecin-Warszawa 2009, 2011

Data delivered by GUS shows that within this period we note growth of Pomeranian Voivodship share in total Polish sea fishing sector from 60,0% (2007) to 73,8 (2010).

3.4. Tourism

Pomeranian regions is attractive for tourism. Maritime tourism contains 3S recreation (sea, sand, sun), onshore events, but also wide range of on-water recreation forms and places. Four dominant geographical areas of recreational boating should be taken under consideration:

- Baltic Sea yachting, boating and recreational fishery,
- the Gdańsk Gulf yachting and boating, including regular passenger transport (in summer) between Hel Peninsula and Gdynia / Sopot / Gdańsk,
- the Vistula Lagoon, e.g. yachting across border to Russian Federation,
- „Żuławska Loop", that contains inland waterways in Vistula river delta,
- inland waterways system of the city of Gdańsk.

Following harbours and marinas are exploited for torism:

- six minor ports and harbours on the Baltic shore (Ustka, Łeba, Władysławowo, Hel, Jastarnia, Puck),
- yacht marinas in Gdańsk, Gdynia, Sopot, Łeba, Puck and other locations,
- two minor ports on the Vistula Lagoon – in Kąty Rybackie and Krynica Morska; we should mention, that on the Lagoon there's a "tripoint" border between Pomeranian Voivodship, Warmia & Mazury Voivodship (Poland) and Kaliningrad Oblast' (Russia); harbours and marinas are located also in these regions,
- inland marinas and kayak rentals in river delta of Vistula, connected by waterways to Gdansk Gulf and Vistula Lagoon; in neighbourhoods of marinas there are very attractive tourist destinations, e.g. Malbork Teutonic Castle,
- and stations for passenger transport in Gdansk.

Construction or renovation of tourism infrastructure is co-financed from EU funds for regional development.

Unfortunately, statistical data available does not deliver useful information covering marine tourism.

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3.5. Other business sectors

Table 3.9. presents number of entities classified by public statistics as "Other activities supporting sea transport", containing: *navigation, pilotage, live-saving, dredging and underwater works, port and sea services, towage, mooring and others*. Data presented in Table 3.10. is described by public statistics as "Others kinds of activity", which means: *extraction of crude oil from sea, construction of water engineering structures for maritime economy, architectural and engineering activities for maritime economy, renting of water transport means, consultancy, technical research and analysis, enrolment of employees and other kinds of activity for the benefit of maritime economy*. We see stable or even growing number of the companies conducting these activities, but data does not allow us to formulate conclusion concerning individual subsectors:

Table 3.9. Entities in other activities supporting sea transport

	2005	2006	2007	2008	2009	2010
Poland	234	261	232	237	225	256
Pomeranian region	92	94	80	85	94	116
Share in total [%]	39%	36%	34%	36%	42%	45%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Table 3.10. Entities in other activities

	2005	2006	2007	2008	2009	2010
Poland	363	430	443	582	730	633
Pomeranian region	253	310	306	384	494	426
Share in total [%]	70%	72%	69%	66%	68%	67%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

There are at least three unique companies we can count to the group described above:

Petrobaltic (currently: LOTOS Petrobaltic) was the company established as an exploration entity by Polish Peoples' Republic, German Democratic Republic and Soviet Union. It was acquired by Poland. Then, as a state owned company, it started exploitation of oil and gas resources from Baltic Sea bed. Now the company is a part of LOTOS Group (oil refining and distribution sector). Petrobaltic operates nine naval units at the disposal of the company group. The fleet consists of drilling rigs, tugs, ship for surveillance and rescue, a research vessel and a tanker. Transport of oil is ensured by own tanker, transport of gas – by the pipeline supplying it to the companys' onshore heat and power plant. The

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company develops operation on North Sea and (onshore) in Lithuania. Employment in the company group is about 700 people.

Przedsiębiorstwo Robót Czerpalnych i Podwodnych (PRCIP; company of dredging and underwater works) is dominant Polish dredging and reclamation works company, operating in Pomeranian as well as West Pomeranian and Klaipeda regions. The company offers also services as sub-sea pipeline laying, river crossing construction for the gas and petrol industry, building of large-diameter sewage collectors and hydrotechnological works connected to prevention and dealing with effects of flooding. The company is engaged in reconstruction of the Polish sea coast and construction of new beaches. PRCiP operates the fleet and equipment consisting of suction dredger, suction cutter dredgers, bucket dredgers, grab dredger, self propelled splitbarge, tug boats, barger unloaders and survey boats. Employment in the company is about 400 people.

SwePol Link AB / SwePol Link Poland. The specific maritime area is underwater works and exploitation of underwater power cables. SwePol Link is a company established by Swedish and Polish energy companies in 1997 to install and then (from 2000) to exploit HVDC (High Voltage Direct Current) energy link between Sweden (Stärnö, near Karlshamn) and Poland (Bruskowo Wielkie near Słupsk in Pomeranian region). The company gathered know-how and is probably the only entity in Poland experienced in this area of activity, prospectively useful when wind energy farms will be constructed.

3.6. Maritime R&D, education and administration

The sector of **maritime R&D and education** is defined in the system of public statistics as follows: *Research and development activity and maritime education, scientific and research units, working mainly for the needs of maritime economy as well as schools educating mainly for the needs of maritime economy (and groups of schools),* where *scientific and research units, working mainly for the needs of maritime economy* are:

in Polish	in English
Morski Instytut Rybacki w Gdyni	Sea Fisheries Institute in Gdynia
Ośrodek Badawczo -Rozwojowy Centrum Techniki Morskiej w Gdyni	Research and Development Centre of Maritime Technology in Gdańsk
Centrum Techniki Okrętowej w Gdańsku	Centre of Naval Engineering in Gdynia
Polska Akademia Nauk Instytut Oceanologii w Sopocie	Polish Academy of Sciences Institute of Oceanology in Sopot
Instytut Morski w Gdańsku	Maritime Institute in Gdańsk
Polska Akademia Nauk Instytut Budownictwa Wodnego w Gdańsku	Polish Academy of Sciences Institute of Water Construction in Gdańsk

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Table 3.11. Figures on maritime education and R&D sector

	2005	2006	2007	2008	2009	2010
number of entities*	42	57	74	68	66	90
- Pomeranian region	33	44	58	54	49	60
	79%	77%	78%	79%	74%	67%
- employing over 50 persons**	9	9	9	8	8	10
revenues from total activity**	99,1	96,1	108,6	81,5	84,4	140,3
fixed assets – gross value**	455,4	486,5	510,3	510,3	524,5	586,0
fixed assets – depreciation**	65,3	64,2	64,9	65,4	66,5	66,0
Investment outlays (current prices)**	16,9	42,1	29,2	31,7	23,8	40,5
financial result (gross)**	3,6	7,6	8,2	6,2	8,8	21,4

* seaside regions only
**seaside regions total

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Maritime administration. Maritime offices are the entities of public administration operating within the structures of Ministry of Transport, Construction and Maritime Economy. Activity of maritime offices in Poland contain areas of:

- monitoring the safety of navigation and life at sea, maintaining aids to navigation on the maritime routes,
- construction, modernization and maintenance of the infrastructure providing access to ports and harbors,
- marine environment protection and inspection,
- the protection of the coastal areas,
- construction and maintenance of coastal structures (defenses), sand dunes and forests.

Maritime offices have strong influence on all activities along the shore line and activities conducted on the sea and on the sea bed. MOs' decisions have an impact on demand on maritime works, offshore construction, coastal protection projects, hydro engineering projects, ports and harbours management and development, coastal tourism, underwater and "on sea surface" tourism, including recreational fishing and wrecks exploration. The practice shows that maritime offices, because of high-skilled professionals employed, in some areas play the role similar to R&D units or excellence centers.

There are three maritime offices in Poland, two of them are located in Pomeranian Voividship (in Słupsk and Gdynia). Two offices control all the seashore in Pomeranian region. Maritime Office in Słupsk controls Port of Ustka (in Pomeranian Voivodship) and 5 smaller harbours in central part of Polish seashore (located in administrative territory of West Pomerania Voivodship). Maritime Office in Gdynia is an authority of the infrastructure of fishery and tourist harbours on the Vistula Spit / Lagoon, Gdańsk Gulf and Hel Peninsula, and Baltic Sea. Maritime Office in Gdynia manages the process to prepare design and construction of future canal connecting Baltic Sea and Port of Elbląg on Vistula Lagoon.

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4. Employment in Maritime Sectors - Tables and Figures

Notice: All data presented as „Total" contains information on seaside regions: Pomeranian, West Pomeranian and Warmińsko-Mazurskie Voivodships (region). Public statistical data does not cover maritime activities conducted by entities located in other parts of Poland.

4.1. Seaports and logistics

Sector of seaports and logistics seems to improve its productivity.

As we see growth in total employment (2010:2005 - 35%), then employment in Pomeranian region grown by 11% in subsector of transport agencies and decrease 18% in cargo handling and storage. The decrease of employment shows no relation to the scale of transshipments – so we look for explanation in technological changes (port terminals equipment), changes in cargo structure (increasing share in containers) and, finally, better labour productivity. Along with the future investments the sector decrease of employment can restrain.

Table 4.1. Employment in seaport & logistics

	2005	2006	2007	2008	2009	2010
			Seaports authorities			
Total	1 099	1 084	1 059	998	926	910
Pomerania	#	#	#	636	596	599
Share	#	#	#	64%	64%	66%
			Cargo handling and storage in seaports			
Total	5 543	5 401	5 182	4 831	8 337	7 487
Pomerania	3 265	3 161	3 063	2 813	2 705	2 664
Share	59%	59%	59%	58%	32%	36%
			Activity of other transport agencies			
Total	3 181	3 289	4 532	4 364	4 242	4 351
Pomerania	1 933	2 052	2 181	2 168	2 242	2 163
Share	61%	62%	48%	50%	53%	50%

Source: *Statistical Yearbook of Maritime Economy 2011*, GUS, Szczecin-Warszawa 2009, 2011

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4.2. Shipbuilding and shiprepair industry

Along with the collapse of shipbuilding industry, we notice decrease in employment level within the sector. 2010:2009 relation suggest business stabilization of employment in this sector, according to restructuring processes aiming diversification from traditional shipbuilding to offshore structures and construction.

Table 4.2. Employment in watercraft industry

	2005	2006	2007	2008	2009	2010
Total	33 178	33 877	35 104	33 496	23 402	28 342
Pomerania	21 613	21 848	23 089	22 621	16 537	16 675
Share	65%	64%	66%	68%	71%	59%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

4.3. Fishery and seafood processing and distribution

Table 4.3. Employment in sea fishing

	2005	2006	2007	2008	2009	2010
Total	3 322	3 409	3 198	2 991	3 004	3 071
Pomerania	1 861	1 860	1 690	1 505	1 606	1 654
Share	56%	55%	53%	50%	53%	54%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Table 4.4. Employment in fish and fishing products processing and preserving

	2005	2006	2007	2008	2009	2010
Total	14 538	16 438	17 237	17 595	18 180	18 844
Pomerania	5 792	6 304	6 094	6 034	6 067	5 861
Share	40%	38%	35%	34%	33%	31%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

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Table 4.5. Employment in retail and wholesale of fish, crustaceans and molluscs

	2005	2006	2007	2008	2009	2010
Total	4 643	5 719	5 623	5 537	5 878	6 092
Pomerania	722	891	920	881	979	1 011
Share	16%	16%	16%	16%	17%	17%

Source: *Statistical Yearbook of Maritime Economy 2011*, GUS, Szczecin-Warszawa 2009, 2011

Table 4.6. Summarized employment in fishing industry*

	2005	2006	2007	2008	2009	2010
Total	22 503	25 566	26 058	26 123	27 062	28 007
Pomerania	8 375	9 055	8 704	8 420	8 652	8 526
Share	37%	35%	33%	32%	32%	30%

*summarized figures from table 4.3-4.5.

4.4. Tourism

Unfortunately, public statistic do not offer precise data on maritime tourism. Available data enables us to highlight general relations of employment in all tourism. We must take under consideration, that three voivodships analysed differ in their potentials and characteristics of tourist attractiveness. In Pomeranian voivodship are located two very attractive and internationally recognized 'non-water related' destinations: city of Gdańsk and Castle of Malbork. Then, Warmińsko-Mazurskie Voivodship is proud of its lakes. Information collected does not let us to explore trends and shares of tourism in employment in a whole maritime activity. So data on tourism published in this study is used only for illustration and approximation of background of a general phenomenon.

Table 4.7. Employment in tourism

	2005	2006	2007	2008	2009	2010

Total*	220 967	230 375	241 764	278 253	258 704	.
Seaside regions**	41 208	42 482	44 642	52 491	46 134	.
Pomerania	17 515	17 215	18 023	21 577	19 992	.
Share***	43%	41%	40%	41%	43%	.

* Poland – all Voivodhips (16)
** three seaside Voivodship: Pomerania, West Pomerania and Warmińsko-Mazurskie Voivodhip
*** relation Pomerania / three seaside voivodships
Source: *Instytut Turystyki, www.intur.com.pl*

4.5. Other business sectors

Table 4.8.-4.9. present levels of employment classified by public statistics as "Other activities supporting sea transport" and "Others kinds of activity" as described in points 2.1. and 3.5 of the study above.

Table 4.8. Employment in other activities supporting sea transport

	2005	2006	2007	2008	2009	2010
Total	2 127	2 264	2 000	1 981	1 990	2 205
Pomerania	1 291	1 417	1 205	1 165	1 196	1 341
Share	61%	63%	60%	59%	60%	61%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Table 4.9. Employment in other activities

	2005	2006	2007	2008	2009	2010
Total	2 649	3 305	3 699	5 251	5 797	4 317
Pomerania	1 616	1 851	2 004	2 713	3 024	2 651
Share	61%	56%	54%	52%	52%	61%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

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4.6. Maritime R&D, education and administration

Table 4.10. Employment in R&D activity and maritime education

	2005	2006	2007	2008	2009	2010
Total	2 957	2 929	2 972	2 641	2 762	3 334
Pomerania	2 276	2 252	2 310	1 967	2 043	2 388
Share	77%	77%	78%	74%	74%	72%

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

Data on employment in individual maritime offices is not published. In Poland there are 3 maritime offices, and the staff in employed proportionally along with seashore. We can think that c.a. half of employed work in Pomeranian region. The level of employment is stable.

Table 4.11. Employment in maritime offices

	2005	2006	2007	2008	2009	2010
Total	1 700	1 704	1 611	1 613	1 617	1 614

Source: *Statistical Yearbook of Maritime Economy 2011,* GUS, Szczecin-Warszawa 2009, 2011

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