

Economic resilience. The Case Study of Pomorskie Region

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Abstract This article aims to identify the resilience of the Pomorskie Region in Poland. The analysed region belongs to a group of European regions where the negative impact of the economic crisis has not been distinctively visible. In a unitary state like Poland the resilience of the region to the crisis results to a high degree from the external macroeconomic factors of the country. However some regional features play an important role in strengthening resilience. We analysed socio-economic structures in the context of their significance for the region's resilience. Walker's and Salt's (Resilience Thinking. Sustaining ecosystems and people in a changing world, 2006) resilience attributes were used as a template for the findings. Although it is difficult to determine the level of a region's resilience in a situation of ongoing and growing recession, some conclusions may be derived from the analysis. One of the most important factors of the Pomorskie Region's resilience is the diversity of economic and social structures. The community and its social capital is undoubtedly one of the strongest attributes of the regional resilience. The Pomorskie Region's richness in ecosystem services also strengthens its resilience significantly. Overlaps in governance are mainly connected with the development of institutional embeddedness. However the current lack of governance on the level of the most dynamically developing metropolitan areas is an impediment to more dynamic development. The post-totalitarian tradition of centralised gover-

nance continues to negatively influence the tight feedbacks attribute of resilience.

Keywords Economic resilience · Macroeconomic policy · Structural and functional determinants · Pomorskie Region

Ökonomische Resilienz. Fallstudie Pommern

Zusammenfassung Dieser Artikel widmet sich der Ermittlung der Resilienz der Region Pommern in Polen. Die betrachtete Region gehört einer Gruppe europäischer Regionen an, bei denen die negativen Auswirkungen der Wirtschaftskrise nicht klar sichtbar geworden sind. In einem Einheitsstaat wie Polen hängt die Resilienz der Region im hohen Maße von den makroökonomischen Faktoren des Landes ab. Dennoch spielen einige regionale Eigenschaften eine wichtige Rolle bei der Stärkung der Resilienz. Wir analysieren die sozioökonomischen Strukturen im Hinblick auf ihre Bedeutung für die Resilienz der Region. Die von Walker und Salt (2006) entwickelten Resilienz-Attribute dienten als Vorlage für die Ergebnisse. Bei einer anhaltenden und wachsenden Rezession ist es schwierig, den Stand der Resilienz einer Region festzustellen, dennoch lassen sich einige Schlussfolgerungen aus der Analyse herleiten. Einer der wichtigsten Faktoren der Resilienz der Region Pommern ist die Diversität der ökonomischen und sozialen Strukturen. Die Gemeinschaft und ihr Sozialkapital ist zweifellos eine der bedeutendsten Attribute der regionalen Resilienz. Die Vielfalt der Ökosystemdienstleistungen in Pommern verstärkt signifikant die Resilienz der Region. Überschneidungen von Zuständigkeiten ergeben sich hauptsächlich im Zusammenhang mit der Entwicklung institutioneller Einbettung. Dennoch stellt der aktuelle Mangel an Governance auf der

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Ebene der sich dynamisch entwickelnden Metropolregionen ein Hemmnis für eine weitere dynamische Entwicklung dar. Die post-totalitäre Tradition der zentralen Governance übt weiterhin einen negativen Einfluss auf das Resilienz-Attribut der engen Rückkopplung aus.

Schlüsselwörter Ökonomische Resilienz · Makroökonomische Faktoren · Strukturelle und funktionale Determinanten · Pommern

1 Introduction

In the context of the contemporary world beset by different types of crisis, ambitious and optimistic scenarios of sustainable development have been mitigated by the more moderate concept of resilience. The aims and expectations of sustainable development, referring to harmonious and prosperous growth that endures through coming generations, has failed with respect to all three pillars of sustainability: environment (climate change and instability), economy (global financial market crisis, energy market insecurity) and society (rise of global terrorism and social movements of contestation). Rather slowly developing global trends cause very rapid disastrous phenomena on the regional scale. Natural disasters like hurricanes, floods and earthquakes, economic bankruptcy of states, regions and cities, horrifying acts of terrorism, and social protests and riots are locally perceived instances of instability in the global sphere. This is the reverse side of glocalisation. Resilience is an approach which looks for helpful and inspiring solutions to prepare regions and localities to cope with the negative effects of glocalism.

The term resilience has a well-established meaning in engineering studies where it refers to the ability of a system to return to an equilibrium or steady state after an external shock or disturbance (see Holling 1986). Resilience in ecological terms has a broader and more complicated connotation. It describes the biological capacity to adapt and thrive under adverse environmental conditions (Christopherson/Michie/Tyler 2010: 3). Adger (2003) refers to the ability of a system to survive the shock, to bounce back if possible, or to adapt to another state of equilibrium which ensures the survival of the system. Ecological resilience has inspired the economic concept of resilience which has been adopted in planning and governance studies.

According to Briguglio/Cordina/Farrugia et al. (2009: 233), economic resilience “refers to the policy-induced ability of an economy to recover from or adjust to the negative impacts of adverse exogenous shocks and to benefit from positive shocks”. The authors use this term in their work in two senses: the ability to recover quickly from a shock and the ability to withstand the effect of a shock. They indicate that in order to measure the effect of shock absorption

or shock counteraction policies in the context of resilience one should examine macroeconomic stability, fiscal deficit, inflation and unemployment, external debt, microeconomic market efficiency, good governance and social development including education and health. The authors propose economic resilience as a counterpart to economic vulnerability. They define this term as “the exposure of an economy to exogenous shocks, arising out of economic openness” (Briguglio/Cordina/Farrugia et al. 2009: 229). Economic vulnerability depends on economic openness, export concentration and strategic imports.

Thus the use of the resilience concept has been extended from narrowly defined economic systems to socio-ecological systems (Folke/Carpenter/Walker et al. 2010). The complicated nature of these systems inspired an even broader interpretation of the meaning of resilience. The proposed reading of evolutionary resilience (Davoudi 2013: 302) refers to the change or evolution of a system as a permanent condition, not necessarily linked to external disturbances (Scheffer 2009). From the evolutionary perspective resilience is perceived as the ability of complex socio-ecological systems to change, adapt and transform in response to stresses and strains (Davoudi 2013: 302). The evolutionary resilience concept is well in tune with the post-modern paradigm. Change and mobility, attributes of this approach, are immanent features of today’s world. The networks of relations and interdependencies, the spaces of flow and the growing levels of complexity require interpretative models open and flexible enough to encompass the huge variety of possible development trajectories. For instance, despite having once had a high explanatory potential, path dependency development theory is today more and more limited in its predictable power due to its linear cause and effect construction. As Davoudi (2013: 303) interprets it, evolutionary resilience refers to cycles of change consisting of four phases identified by Holling and Gunderson (2002): growth or exploitation, conservation, release or creative destruction, and reorganisation. The cyclic transition from one phase to the other offers the system a very promising opportunity to turn a crisis phase into a new opportunity phase. Teigao dos Santos and Rosário Partidário (2011: 1522) say “crises may also become opportunities for change, renewal and transformation, helping to rebuild the system’s resilience, particularly when a system becomes too inflexible, resistant to change and bound to undergo serious disturbances. On such occasions, only perceived or real crises have the power to trigger new solutions and responses, which may shape new paths and trajectories”.

The evolutionary concept of resilience which refers to complex socio-ecological systems has been adopted in the policymaking and planning sphere (Teigao dos Santos/Rosário Partidário 2011; Davoudi 2013). According to the authors, resilience can be described as “the capacity of a system (e.g. a region, an economic activity, a city, a household)

to absorb disturbance and reorganise without collapsing or considerably changing their identity” (Teigao dos Santos/Rosário Partidário 2011: 1519). Resilient systems are more adaptable to change, are more able to learn and are less vulnerable to disturbance and external shocks. Resilience also refers to the ability to cope with, adapt to and shape change without losing options for future development (see Folke/Carpenter/Elmqvist et al. 2002).

Such features as the flexibility, fluidity, connectivity or variability of evolutionary resilience make it concurrent with interpretative planning. Interpretation of a region as an interconnected socio-spatial system woven into the multilevel, dynamic external network of relations has a lot in common with the interpretative planning approach (Davoudi/Strange 2009). Evolutionary resilience like interpretative planning stresses the unpredictable nature of changes, the possibility of thoroughly new ideas of development appearing, and the unique place-based combination of external and internal conditions that require planning recognition and utilisation. This type of resilience interpretation offers the best conceptualisation for regional policy and planning. The regional resilience discussion incorporates the spatial dimension of the processes more directly (Fingleton/Garretsen/Martin 2012). Ideas of adjustment and adaptation supporting the evolutionary concept of resilience are particularly useful in a regional approach (Christopherson/Michie/Tyler 2010). The value of the evolutionary and interpretative approaches only increases in a time of crisis. This may explain why the concept of resilience has spread so quickly and so widely within the social studies domain, being deployed by researchers, policymakers and planners.

The use of the resilience framework for regional development studies and policy situates spatial structures at the centre of interest. Walker and Salt (2006: 145 ff.) propose one of the most appealing set of resilience attributes. The attributes are defined in a general way but are operational enough to make it possible to extract their spatial implications. Diversity, modularity, tight feedbacks, innovation, overlap in governance, ecosystem services, social capital and variability constitute the comprehensive list of attributes.

In this paper we discuss the Pomorskie Region (województwo pomorskie), which is a NUTS 2 level administrative unit, as an attempt to grasp the key factors playing a decisive role in the economic resilience of the region. In Poland the debate over regional resilience is in an initial phase. The main reason for this is the limited influence that the 2008 economic crisis had on the state economy. However, in the last two years the recession has started to affect regional growth. The ability of regions to adapt to the new, less profitable economic conditions has gradually appeared as a subject of analysis.

The appropriateness of applying the interpretative concept of evolutionary resilience to the response of the

regional system to short-term shocks may be questioned. To what extent is it permissible to interpret a region's ability to recover from short-term, usually market-induced economic disturbances as reflecting the resilience of the whole socio-economic regional system? According to the recent results of econometric studies (Doran/Fingleton 2013), exogenous economic impulse-type shocks have permanent effects on productivity and thus on the whole regional system. This means that the system actually never returns to the pre-shock position and that every shock imposes a hysteretic effect on the system. In the light of these findings, short-term resilience may indeed be interpreted as a discrete phase of long-term evolutionary resilience.

The analysis of the external context and internal regional features sets the background for the analysis of the structural and functional aspects of the Pomorskie Region's resilience. The identification of a region's resilience characteristics is the aim of the article. The paper begins by setting out the macroeconomic constraints of regional development in Poland. The analysis of the state-level context of regional development policy is especially important in a post-communist country. The heritage of a centrally planned command economy still influences state-region relations. The process of devolution, although commonly declared, is limited. The main socio-economic characteristics of the region as well as the uniqueness of the place illustrate the endogenous development potential of the region.

Separating the influence and the significance of internal regional features from external factors in the region's resilience is very difficult, if not impossible. In an open world dominated by flows, networks and dynamic changes, the level of interdependence and entanglement of links and relations is extremely high. Poland is a unitary state with a post-communist legacy of central management, which makes economic, social and political links between state and region even more interwoven. This renders clearly distinguishing between exo- and endogenous factors responsible for the development of the socio-economic regional system extremely difficult. Nonetheless, although the resilience of the region to the crisis results to a high degree from the external macroeconomic constraints, the analysis indicated some specific regional features which apparently strengthen the region's resilience.

2 Macroeconomic Constraints of Regional Development in Poland

The crisis triggered by the 'dot-com bubble' in the years 2000–2002 caused a larger decrease in the gross domestic product (GDP) growth rate of the relatively weak Polish economy than in other EU countries. The current crisis (first wave) has had a smaller impact on the Polish economy

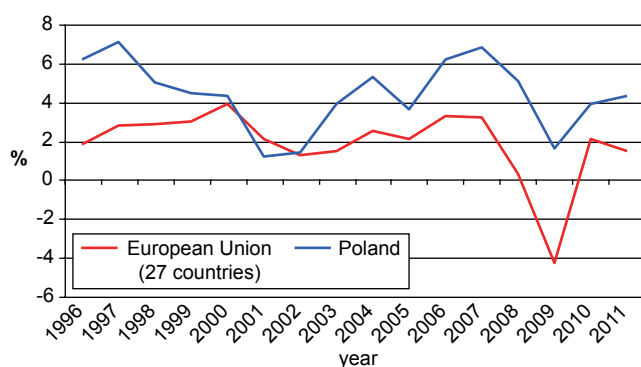


Fig. 1 GDP growth in Poland and in the European Union 1996–2012. (Source: author's illustration on the basis of Eurostat (2012))

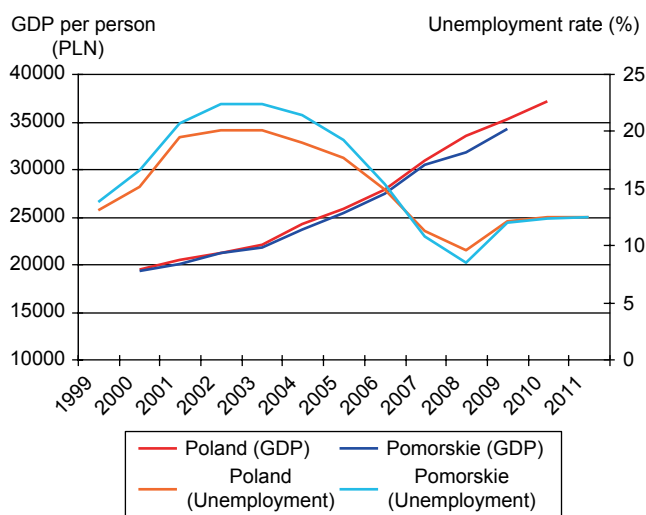


Fig. 2 GDP per capita and the unemployment rate in Poland and in the Pomorskie Region 1999–2011; 1 EUR = approx. 4 PLN. (Source: author's illustration on the basis of the Central Statistical Office data (2012); 1 EUR = approximately 4 PLN)

(Fig. 1). GDP per capita was constantly increasing at the beginning of the 21st century, on average by approximately 2.3%. During the period 2004–2008 an annual growth in GDP of 4–7% could be seen. Between 2009 and 2011, GDP growth rate decreased again but caused a lower increase of the unemployment rate in the given period than at the beginning of the 21st century. At the same time, GDP per capita has constantly increased (Fig. 2). This may indicate that the economy nowadays is more resilient than during the global downturn caused by the dot-com bubble.

The term ‘economic resilience’ is not often mentioned during economic debates in the media, local seminars or national scientific conferences. The role of GDP as a synthetic indicator of the economic condition of the country continues to be more often discussed. Debates are dominated by issues of GDP, unemployment, labour market, investments and EU funds. The problem of economic resil-

ience has been pointed out indirectly, like, for example, in the Prime Minister's statement that Poland is the only country where GDP did not decrease during the first wave of the crisis. As a result, Poland has been called a ‘green island’ in the media.

Poland and also the Pomorskie Region have a diversified economic structure. There are several internal structural factors which have been significant in terms of maintaining a positive GDP rate during the crisis in Europe. The factors are: the significant contribution of industrial production to GDP (also to gross added value), which constitutes over a quarter of entire GDP (Central Intelligence Agency 2013); diversified export destinations (two-thirds of goods are exported to EU countries, but one-third to other countries); and a large internal market (Marshal's Office of the Pomorskie Voivodeship 2008: 65 f.). A healthy banking system is also of great importance for the local economy, including the relatively low number of foreign currency loans. A very high level of consumption in the whole country and in the region also contributed positively to GDP growth. One of the most important external factors is the amount of EU funds invested in Poland. It is assessed that the EU funds are directly connected to GDP growth by approximately 0.6–1.3%.¹ Because of the global financial crisis the Polish currency has weakened, so Polish companies have become more competitive, selling goods at lower prices.

The Polish currency has a floating exchange rate and its fluctuations are influenced by relations with other currencies, especially the Euro. Polish economists claim that in times characterised by a healthy economic situation, when lots of foreign capital was flowing into Poland, the Polish currency strengthened (Kęblowski/Welfe 2010). Polish companies exporting goods to foreign markets therefore had to increase their productivity and implement a number of restructuring processes. On the other hand, at the time of the financial crisis in Europe the weakening Polish currency had a stimulating impact on Polish exports and for a short time Poland experienced an overbalance in its domestic trade. It can thus be assumed that the Polish economy was able to absorb an external economic shock. The floating rate of the Zloty (PLN) exchange makes it possible for the Polish economy to adjust to the external macroeconomic conditions.

The relatively good situation for Polish exports is not the only positive outcome of the floating exchange rate of the Zloty. Despite the weakening Polish currency, the crisis has not caused a high increase in the value of Euro loans

¹ Based on interviews with representatives of Regionalna Izba Gospodarcza Pomorza (Pomeranian Regional Chamber of Commerce), Agencja Rozwoju Pomorza (Development Agency of the Pomorskie Region) and Ministerstwo Gospodarki (Ministry of the Economy). The interviews were conducted in November and December 2012 within the framework of the project ‘Economic Crisis: Resilience of Regions’ (ESPON 2013 Programme).

because there are not many companies or households that have such loans (when compared to Hungary or the Baltic States). What is more, demand for credit in Zloty has increased, an important factor strengthening the economy. Introducing the Vienna Initiative was also of great importance.² Its aims are to improve coordination and information exchange between banks and to prevent a large-scale and uncoordinated withdrawal of cross-border bank groups from Central Europe. Undoubtedly, the anticyclical fiscal policy of Poland is also an important factor which has mitigated the negative consequences of the financial crisis. In times of the economic boom, the Polish budgetary deficit decreased from more than 6% of GDP to less than 2%. During the period of economic slowdown which Poland experienced in 2011 the budgetary deficit increased again and reached almost 8% of GDP. However, in 2012 it decreased to approximately 4%. Another important financial (monetary) factor which stabilised the economy in 2008/2009 was the lowering of the deposit rate from 4.5 to 2%.

An example of a different monetary policy can be observed in the Baltic States, where a fixed exchange rate has caused a 10–20% decrease in the GDP growth rate. However, in times of prosperity the fixed exchange rate will be more beneficial as it will be easier to prepare an investment plan. Assessments suggest that the Polish economy is not as well prepared for the second wave of the crisis as it was for the first one. Nowadays, the Zloty is stronger than in the past, large infrastructural projects co-financed by the EU are coming to an end, and the level of the internal consumption rate is decreasing.

However, the positive fact is that the crisis in Poland is asymmetric (an asymmetric shock) in comparison to the EU countries. Before the current crisis, until 2007, the Polish economy grew very fast at a time when the GDP growth rate of the EU was decreasing. The same situation was seen again in 2011. This business cycle divergence can be very helpful in mitigating the negative consequences of the current crisis.

The flexible labour market also favours the process of absorbing the effects of the economic crisis by the Polish economy. Poland is characterised by the largest number of casual and fixed-term contracts of all EU members. The permanent employment labour market is not flexible. Employers face procedural and financial difficulties if they want to dismiss an employee who has a permanent post. This strong polarisation of the labour market is very disadvantageous for both employers and employees. The social costs of the so-called rubbish contracts are very high and they are not

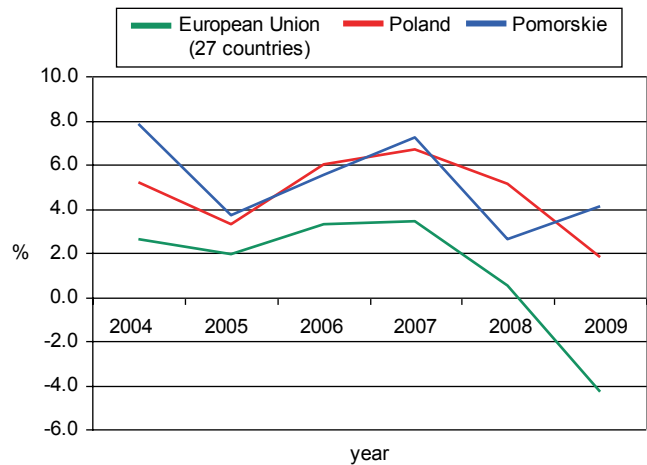


Fig. 3 GVA in the European Union, Poland and the Pomorskie Region 2004–2009. (Source: author's illustration on the basis of Eurostat (2012))

economically beneficial in the long term. The temporary, one-task contracts are very popular among young people entering the labour market.

The last GDP drop in Poland was noticed in 1991. It is believed that the economic reforms introduced by Leszek Balcerowicz in 1990 led to the long-term economic growth in Poland. These reforms included privatisation and fiscal consolidation in order to reduce inflation. It seems that the gradually introduced reforms, including for example the privately funded pension system (introduced in 1999) and privatisation of government-owned companies, had a great impact on the level of competitiveness of the Polish economy and its resilience to external economic shocks. Introducing another reform of the pension system to extend the retirement age (from 2013) suggests that Polish society is ready to accept and face some necessary changes.

The economy of the Pomorskie Region can be assessed as relatively flexible compared to the economy of other Polish regions, as there are not many big factories employing staff on permanent contracts in the region. The dominance of small and medium companies with much more flexible employment relationships makes it possible for quick adjustments to new macroeconomic conditions to be made. The labour market in Poland is generally less flexible so the Polish economy reacts much more slowly. Gross value added (GVA) increase in the period of economic growth was faster in Pomorskie than in the country as a whole (see Fig. 3).

3 The Main Features of the Pomorskie Region

The Pomorskie Region is located in the north of Poland by the Baltic Sea. It has a population of 2.2 million people. The largest cities of the region are Gdansk (0.45 million) and Gdynia (0.25 million). Gdansk, Gdynia and Sopot

² The Vienna Initiative is an informal forum of public and private financial institutions from Western and Central Europe, which aims to provide capital support and financial liquidity by Western banking groups for their affiliated companies in the countries of Central, Eastern and South-Eastern Europe.

(40,000 people) are called 'TriCity'. The population of the metropolitan area of Gdansk is 1.3 million. The area of the Pomorskie Region is 18,000 km² and its population density is 122 people per km². About 67% of the population live in cities. The last two mentioned factors are almost the same as the average for Poland (Central Statistical Office 2012).

One of the important conditions of the region's development is its population potential; this is especially true of the working age population which is active and best prepared for change. The Pomorskie Region has a relatively young age structure and a low demographic dependency rate compared to the whole country. People of 0–14 years comprise 17% of the whole population. In the last few years the percentage of people of 15–64 years has grown to 71%. People of 65 and older comprise 12% of the population, which compared to EU countries is not a high percentage (OECD 2012). The population growth rate in the region is approximately 3.5‰, which is high in comparison to other regions of Central Europe. The region is one of four Polish regions with a positive migration rate (Szmytkowska/Masik/Czepczyński 2010: 124; Eurostat 2012).

The Pomorskie Region is inhabited by the Cassubian ethno-cultural community. This community is characterised by high birth rates. Besides traditional family values, a characteristic feature of this ethnic group is a high level of entrepreneurship and a high level of bonding social capital. Cassubians are characterised by political aspirations as well. Many of them have become politicians at the national level.

The people living in the region are socially and politically active, as confirmed by the region recording the second highest voter turnout in Poland during the parliamentary election in 2011. The relatively young community of the region is the most liberal of all communities in Poland. In 2011 a liberal party 'Platforma Obywatelska' (Civic Platform) won the election with 51% of all votes, the highest percentage in Poland (The National Electoral Commission 2011). The liberal community of the region, where 'Solidarity' (Solidarność) was born in the 1980s, is more willing to choose liberal leaders. It is worth mentioning that many important personalities of the so-called Solidarność generation are connected with Gdańsk, e.g. the former Presidents of Poland Lech Wałęsa, Aleksander Kwaśniewski and Lech Kaczyński, as well as the current Prime Minister of Poland, Donald Tusk.

The Pomorskie Region is the strongest educational centre in Northern Poland. There are 28 headquarters of higher education units situated in the region and 13 branches of higher education schools located outside the region. The region's higher education potential is created predominantly by state universities:

- University of Gdańsk (approximately 29,000 students)
- Gdańsk University of Technology (approximately 20,000 students)
- Medical University of Gdańsk (approximately 6,000 students)
- and many others, e.g. Gdynia Maritime University and the Naval Academy (two of the three universities in Poland with a maritime education profile)

There is a relatively large group of students in technical faculties (more than 25% of all students). An important field of study is biotechnology, which has been established by the University of Gdańsk and the Medical University of Gdańsk. The Gdańsk Medical University is very popular among foreign students, especially those who come from the Scandinavian countries. Many unique fields of study, like oceanography, attract young people to the Pomorskie Region.

The Gdańsk agglomeration is one of the leading centres in Poland in the field of secondary education. Over the years a number of secondary schools have held first position in various rankings of quality of schooling. The schools attract the best students from the whole country. However, analyses of the educational careers of students reveal that the region's higher education system is unable to attract the most talented, who rather prefer the strongest higher education centres in Poland, i.e. Warsaw or Cracow, or decide to study abroad.³

The employment structure in the region is diversified. The largest regional clusters, which have been estimated on the basis of the employment rate, are located in the agglomeration of Gdańsk (The Gdańsk Institute for Market Economics 2008: 13): construction (12%), education (7%), health care (6%), food (6%), logistics (5%), finance (5%), tourism (4%); developed not only in the agglomeration of Gdańsk), wood and furniture (4%; in the western part of the region), maritime (3%) and media (3%). Although there are lots of people employed in the construction industry, this industry did not experience collapse during the first wave of the crisis mainly because there are many large infrastructural projects still being implemented. These projects are co-financed by the EU. Unmet housing needs continue to make up the most important part of these infrastructural projects. However, since the second part of 2012 the level of investment in the construction industry has been decreasing. It is worth adding that the construction sector in the Pomorskie Region is strongly influenced by local demand, especially in the rural areas and along the seacoast.

Economic composition is also rather diversified. Taking the index of sold production into consideration, there are eight key clusters which generate over 50% of total production: construction (12%), food (8.5%), maritime (7%), hi-tech (6.5%; developing not only in the largest cities), logistics (6%), chemical (4.5%), tools and engineering (4%), and wood and furniture (2.5%). In the period 1999–2006 (before the last wave of the crisis) the highest growth in the

³ Dispersed data provided by heads of secondary schools.

sold production index was observed in the hi-tech (mostly electronics) and health care clusters (sevenfold growth). Two-fold growth was observed in the automotive, metal, chemical, energy, tourism, and tools and engineering clusters (The Gdańsk Institute for Market Economics 2008: 13).

Goods with the largest export value are produced in a few clusters: maritime (shipping), chemical (including petrochemical cluster), hi-tech (television and electronic components), metal, wood and furniture (including paper cluster) and food (including fishing cluster) (The Gdańsk Institute for Market Economics 2008: 3). The production of specialised vessels and steel constructions in the ports of Gdynia and Gdańsk makes the region special and unique. Lotos is a very important company in the region. It produces almost one-third of the petrol sold on the Polish market. This company has the second largest income in Poland.⁴

According to the OECD classification the Pomorskie Region exports mainly products of the so-called medium-low technologies, but in comparison to other Polish regions the region is one of the leading areas in terms of the role of the export of hi-tech products. Pomorskie goods are mainly exported to EU countries (60%), but they are also exported to countries that are not EU members (over 30%, which is the largest percentage in Poland). A high level of export diversity is very beneficial as the region exports goods to the developed countries of Western and Northern Europe, i.e. Germany, Sweden, Denmark, Netherlands and Norway (Marshal's Office of the Pomorskie Voivodeship 2008: 65).

The transport and logistics sector is an important sector for the region's economy. The logistics cluster generates more than 6% of the whole sold production of the region, and has great development potential. The value-added stevedoring of Gdańsk and Gdynia ports is increasing rapidly. Both are situated on the route of the Trans-European Transport Corridor No. 6 which connects Scandinavia and South-eastern Europe. The Port of Gdańsk has been developed in recent years so now the largest vessels can enter it. It has become a hub for other ports of the Baltic Sea. The Deep-water Container Terminal at Gdańsk can compete with the terminals in Hamburg, Rotterdam and others.

4 Structural and Functional Aspects of Resilience of the Pomorskie Region

4.1 The Role of Economic Characteristics

The analysis of the convergence of GDP structure is a useful tool when assessing the region's resilience. Generally, the higher the contribution of industrial production to GDP, the more stable the economy is. The economy of the Pomorskie

Region is diversified. The most important industries for the region, that is the chemical (including petrochemical), pharmacy, paper and food industries, were relatively resilient to the last European economic crisis. Important branches of the local economy are also health and educational services. Demand for these services does not depend on the phase of economic cycle. It should be emphasised here that industries and services which do not depend on the business cycle phases make the economy more stable. Services and goods that satisfy basic, existential needs belong to this group, including food and petrochemical industries, pharmacy, and the finance sector in the form of the most basic banking and insurance services. These activities are the main sectors of Pomorskie's economy. The local tourism industry is still developing and is dominated by domestic tourists. Apart from all the important industries and branches listed above, there are also several important industries that are more sensitive to the external macroeconomic situation, e.g. the shipbuilding industry, electronic industry, financial industry, furniture industry and fishing industry.

Important factors that determine economic strength and the resilience of the local economy are the export propensity index and the export product concentration index. The development strategy of the Pomorskie Region declares its economic relations to be open as the export propensity index is very high (the third highest in Poland) and a large amount of hi-tech goods are exported (the second largest amount in Poland). Moreover, the export product concentration index is also relatively high. The Pomorskie Region is therefore believed to be very sensitive to external shocks (Marshal's Office of the Pomorskie Voivodeship 2012: 10). In fact this thesis is not entirely accurate, as the hi-tech goods are exported to countries with stable economies (e.g. Germany, Norway, Sweden). Even more importantly, the openness is only relatively high in comparison to other Polish regions, but when we compare it to the EU countries it becomes clear that it is quite low. The export concentration index is high, but spatial concentration of export is not high.

The small and medium companies sector is very important for the local economy, especially the micro companies. These very small enterprises react much faster to changes in macroeconomic conditions than large companies. A high percentage of people working in small and micro companies can strengthen a region's economy unless the companies are subcontractors. When a small company is a subcontractor it is dependent on the larger company, the bankruptcy of which can lead to the bankruptcy of the subcontractors. Poland is considered a country with high levels of entrepreneurship and in the Pomorskie Region many new companies are registered and a relatively small number of companies have closed down (Statistical Office in Gdańsk 2013: 21). Establishing new firms is partly a response to the necessity to start a business (due to the lack of a full-time job), but

⁴ <http://www.lotos.pl> (15.10.2013).

the firms strengthen labour market flexibility, which is especially important in times of economic downturn.

When the issue of resilience is debated in public, it is stressed that it includes two major components—competitiveness and innovativeness of companies. There are not many innovative companies in the region, so the resilience of this region is mainly due to competitiveness. This competitiveness is based on the ability to supply client demands at relatively low prices. Thanks to low labour costs the companies in the region can sell their products on the external markets. Business process outsourcing companies are an example of foreign companies that have moved to Gdańsk and Gdynia. Regional employees are qualified enough to work in this industry.

4.2 Population Characteristics

The role of the demographic structure of the Pomorskie Region is moderately important. The society of the region is quite young but is ageing fairly rapidly. The number of people of working age is currently decreasing, which may have a negative impact on the economy of the region. However, the regional economy is not able to provide workplaces for all people of working age. In terms of employment, only 64% of people in the region aged 20–64 have a paid job (Statistical Office in Gdańsk 2013: 37).

Qualifications and educational background seem important to the region's resilience. In the region there are not enough people with university degrees in technology. There is a lack of specialists in the maritime industry, energy and other highly skilled branches. By providing services to foreign companies such employees in turn generate jobs that do not require high qualifications. They thereby contribute to the growth of employment and thus to the stabilisation of the regional economy. On the other hand, there are too many people with humanities degrees, and they have difficulties finding jobs.

The region has a positive net migration rate. The region's immigration attractiveness includes its relatively large labour market, Gdańsk's attraction as an urban centre, and the favourable natural environment. All of these factors have led to growth in the region's population. In the years 2000–2007, immigration from the other voivodeships (regions) rose from 6,900 people per year to 8,800 per year, a 29% increase (Central Statistical Office 2012), which indicates that Pomorskie has proven to be more attractive than many other regions of Poland.

4.3 Place Characteristics

The metropolitan area of Gdańsk has a population of 1.3 million people and accounts for over half of all citizens of the region (2.2 million). The large concentration of busi-

ness entities in the region is beneficial for cooperating companies. The agglomeration is situated on the southern edge of the Gdańsk Bay (of the Baltic Sea) and international trade takes place in the ports of Gdynia and Gdańsk. Located far away from the important industrial regions of Poland and off the main transportation corridors, Pomorskie is considered a peripheral region. There is a large airport in Gdańsk (the third largest airport in the country), but it is not an important transport hub. However, the ports in Gdynia and Gdańsk provide services to a growing number of vessels sailing in the Baltic Sea. The development potential that is created by the whole Baltic Sea Region is not efficiently used by the Pomorskie Region.

The land-use structure in the Pomorskie Region points to a very high level of regional rural attractiveness. The share of forest area in the land-use structure of the region (37%) is higher than the Polish (30%) and the European averages (34%) (OECD 2012). Public access to green amenities is high throughout the whole territory of the region. The very high accessibility to green spaces in the main metropolitan cities of the region is especially worth noting.

Improvement of living environments can stimulate regional economic development. Applying green solutions (understood as innovative technologies to tackle climate change and new industries to drive long-term economic growth) positively influences the standard of living and draws foreign capital from those interested in high-technology sector investments.

The Pomorskie Region is ranked as the region with the best living conditions in Poland (see Kalinowski 2006). The green attractiveness of the region plays a key role in its success within the rankings of the regions. As a consequence, it positively influences the residential attractiveness of the region.

4.4 Community

The role of the community in preserving the stabilised local economy can only be measured in the long term. The entrepreneurial spirit and occupational mobility of people living in Pomorskie are of great importance for the resilience of the region. Liberalism, self-reliance and a lack of demanding attitude are also factors that strengthen the competitiveness of the local economy.

The analysis of the entrepreneurship index (Polish Agency for Enterprise Development 2011) shows that the region is the second best in Poland. The importance of companies that employ nine people or less (micro companies) is higher than the EU average. There are more such companies in Poland than in other EU countries and they generate more gross added value.

The community of the Pomorskie Region is one of the most active communities in Poland, as demonstrated by the

relatively high number of non-profit organisations in the region. The data provided by the Central Statistical Office (2012) and by non-governmental organisations indicate that in 2008 there were 3,600 active organisations in Pomorskie, rising to 7,700 in 2011. This shows a growth from 16.4–34.2 non-governmental organisations per 10,000 inhabitants (compared to 18.6–32.1 in Poland as a whole).

The social capital of the region possesses very positive characteristics. To fully evaluate the social capital of the region, it is essential to distinguish between bonding and bridging social capitals. The basic difference between the two is the nature of interpersonal relationships within them. Bonding capital is exclusive and aimed at building inner identities and the homogeneity of a group. Nevertheless, a high level of trust within such groups, which may stimulate enterprises, is an advantage of this type of capital. Bridging human capital is inclusive and encourages building networks of contacts between people of different social statuses and backgrounds. This type of social capital fosters openness in social connections, which increases the economic growth rate by allowing the development of new economic or human capital resources (see Putnam 2000).

In terms of the different forms of social capital, the Pomorskie Region is divided into two distinct areas: the Gdańsk metropolitan area and the rest of the region (see Działek 2011). The urban agglomeration has a low level of bonding capital and a high level of bridging capital. The rest of the region has a high level of bonding capital and a medium level of bridging capital. Therefore, in these terms, the region's potential should be seen as positive. The metropolitan area possesses positive, pro-development social capital, while the region is not completely dominated by conservative bonding capital. Bridging social capital is a sort of 'social' derivative of human capital resources. Thus its high level in the metropolitan area and medium level in the region indicate a high potential for innovativeness and entrepreneurship that may serve as a solid base for building a knowledge-based and information society.

4.5 The Role of Regional Policy

Polish regions have very limited fiscal autonomy. The local authorities do not participate in the process of tax policy-making. They can only lower the level of local real estate tax but this privilege is rarely used in the large cities; even in times of economic slowdown the level of this tax remains the highest possible. Regional and local authorities are striving to have a share of the indirect taxes—VAT and excise tax. These taxes are less sensitive to business fluctuations than the income tax in which they currently share. Greater financial independency of the regions would give the local and regional authorities a chance to react more quickly to foreseen external crises. During crises to date no additional

steps have been taken by the national government to transfer some of its competences to the regional and/or local authorities in order to help them.

The regional authorities do not have strong tools that can quickly help to overcome downturns in the economy. The annual budget of the Pomorskie Regional Authority (with a population of 2.2 million) is two-and-a-half times lower than the annual budget of the city of Gdańsk (450,000 citizens). The implementation of the Development Strategy of the Pomorskie Voivodeship, which was in force until 2012, was co-funded by the regional authorities (5.5%), counties and municipalities (31%) and strategic companies (14%). However, the local authorities decided on what 23.5% of these funds be spent (Marshal's Office of the Pomorskie Voivodeship 2012: 6). Approximately 75% of the funds spent on implementation of the strategy were obtained from independent sources, a fact considered as a great success of the regional policy.

Generally, entrepreneurs⁵ regard the public sector as very important and helpful to the development of companies in the long term. They claim that there are lots of infrastructural projects covered by public funds, including the infrastructure built in the Pomorskie Region in preparation for the UEFA European Football Championship 2012, which was very beneficial for both large and small private companies. There are also many investment areas indicated in the local plan of spatial development. These areas are technically prepared for entrepreneurial investment so their presence stimulates economic development. Investment of public funds in the energy industry (including so-called green energy), creation of science and technology parks, business incubators and development of the sea harbours are activities which also stimulate the development of the regional economy. Entrepreneurs can count on the help of local guarantee funds, and also emphasise the importance of the business-related institutions established by the public sector. At a time when banks are reluctant to extend credit, public guarantee funds become of great importance.

The Pomorskie Region is one of six in Poland (out of sixteen) that uses the JEREMIE initiative, i.e. support for small and medium-sized businesses through guarantees financed from EU funds. The support of local businesses by the public sector through inexpensive and long-term capital (patient capital) is particularly important in times of crisis, when banks rigorously evaluate investment risks. In addition to financial support, regional institutions in Pomorskie provide free business consulting in the fields of taxation, labour law, investment and working-capital credits and others. As part

⁵ Based on interviews with business owners and representatives of Regionalna Izba Gospodarcza Pomorza (Pomeranian Regional Chamber of Commerce). Interviews were conducted in March and April 2013 within the framework of the project "Economic Crisis: Resilience of Regions" (ESPON 2013 Programme).

of strengthening the innovative capacity and embedding of firms in the region there are current and planned initiatives intended to commercialise research. A cluster policy has also recently been established to strengthen the potential of local companies. Three growing clusters were selected for public sector support: construction, information and communication, and eco-energy.

5 Conclusions

It is difficult to determine whether a region is resilient or not in a situation of ongoing and growing recession. As with every process of a social nature, full recognition and diagnosis is only possible *ex post facto*. However, analysis of the external context and internal characteristics of Pomorskie's regional development allows us to make some evaluations. The most helpful matrix for doing this is the set of resilience attributes proposed by Walker and Salt (2006), cited in the introduction.

There is an intuitive and research-verified conviction that diversity of economic and social structures increases the resilience of a region. This may be compared to the role of biodiversity in the ecological system from which the interpretation of resilience is derived. The more differentiated and rich a region is in various forms of economic activity, human and social capital and environmental resources, then the greater the chances of its survival in times of recession. The apparent redundancy of different forms of spatial structures and functional activities in a region creates a safety buffer against crisis. The Pomorskie Region poses a diversified economic structure with a significant share of industrial production activity in the GDP structure of the region. By providing primary services and particular products the regional economy is stabilised in times of recession. The well-developed sector of small and medium-sized enterprises adds to the safety of the regional economy. However, the lack of regional rootedness of many foreign companies, especially from the electronic sector, is a potential threat to economic stability.

A desirable modularity is represented by the existence of different types of industrial clusters within the region. Their strong interconnectivity helps them to keep functioning in a situation when much looser external links are broken. The location of strong industrial clusters (construction, wood and furniture) not only within the metropolitan area but also in the more peripheral parts of the region increases the modularity of the regional spatial structure. The regional policy of strengthening the economy and intensifying the development of the region's peripheral area is significant for the resilience of Pomorskie. Among the OECD countries, Poland has one of the highest, and growing, intraregional disparities, which mainly consists of increasing inequali-

ties between urban areas and the predominantly rural and town areas (see OECD 2008). Large developmental disparities between a metropolis and other territorial units in a region aggravate intraregional disharmony. Pomorskie has the fourth largest intra-regional disparity in GDP per capita in Poland, which clearly creates a threat to the resilience of the region. A key role in tackling this problem is played by the active regional policy that aims to create infrastructural, communicational, institutional, and social channels of transmission of growth, as well as subregional growth poles.

Innovation is one of the weakest points of the Pomorskie Region's resilience. Despite being an important national centre of secondary and higher education, the region's production is still of a medium-low technological level. There is considerable human resources capital in the region which is still not fully used by the industrial activity. Poorly developed links between science and production are a general weakness of the post-communist economy. In the Pomorskie Region the potential of human and social capital seems to create exceptional opportunities for development. The community of the Pomorskie Region is one of the most active communities in Poland, as demonstrated by the high number of non-profit organisations in the region. People living in the region are socially and politically active—as seen in the second highest voter turnout in Poland during the parliamentary election in 2011. The relatively young community of the region is also the most liberal of all Polish communities (according to voters' preferences). The inhabitants of the region demonstrate high entrepreneurship and occupational mobility: analysis of the entrepreneurship index shows that the region is the second best in Poland and, furthermore, many new companies are registered here every year while relatively few close down.

The post-totalitarian tradition of centralised governance negatively influences the tight feedbacks attribute of resilience. Reluctant devolution and the limited financial independence of regions significantly weaken the effectiveness of regional policy. On the other hand, bottom-up civil society activities are also not welcome on the regional and local political stages. Local authorities are not able to recognise and utilise the potential arising from grass-root initiatives. Representative non-direct democracy is treated as the essence of local democracy and governance. The power of social production (see Stoker 1995) is still an unrecognised potential of resilience.

Overlaps in governance are mainly connected with the development of institutional embeddedness. However, the growing number of institutions in the region does not necessarily mean an increase in the flexibility of their functioning. On the contrary, they too often represent the strong, fossilised sectoral structures that constitute a deeply rooted legacy from the previous political system. The need to replace sectoral organisation with territorial-, task-, and problem-

oriented collaboration has been much stressed but is so far not reflected in the practice of institutional organisation and functioning. The domination of sectoral over regional structures decisively impacts on the profitable redundancy of overlap in governance. It creates a fuzzy institutional environment where responsibilities and decision-making processes are blurred. Sector-thinking and sector-acting obstruct the harmonisation of socio-economic structures and the overcoming of disparities in the development of regions and localities. New public administration institutions have been created to increase the efficiency of governance; they are, however, mainly designated to serve particular branch or sector-oriented tasks. The numerous governmental agencies reaping the specialisation of branch ministries were created as early as 1990, while in contrast urgently needed legislation on the creation of metropolitan areas has not yet been established. The lack of governance on the level of the most dynamically developing metropolitan areas further confirms the inferiority of territorial structures. In the Pomorskie Region the situation is especially difficult due to the specific metropolitan structures where the two big port cities of Gdańsk and Gdynia dominate, with competition between the two cities overriding cooperation. The lack of joint management slows down the metropolitan area development.

The Pomorskie Region's richness in ecosystem services strengthens its resilience significantly. Attractive perspectives for economic growth are opened up by the very attractive natural environment, good living conditions and location of the region within the area of the Baltic Sea Region's development strategies. The development of competitive services in Pomorskie may extend its recreational, green, blue and white economic activities to the whole Baltic Sea Region. However, this demands the active presence of the Pomorskie authority in the Baltic Sea Region's organisations, institutions and initiatives.

The social capital is undoubtedly one of the strongest attributes of the regional resilience. The main challenge for regional policy is to better use existing social and human capital, rather than the necessity to build and strengthen it.

A necessity for cross-sectoral coordination and governance structures arises from variability, identified as the abundance and unpredictability of possible paths of development as well as openness for new, unexpected development challenges and opportunities. This requires a shift in the way of doing policy, planning and management of natural resources (Teigao dos Santos/Rosário Partidário 2011: 1525). System thinking, planning and acting, which in the case of regional resilience means territorial thinking, should replace the in-boxes of sectoral thinking. However, this means changing the structure of power on each level of the multi-governance system—a challenge not only to post-communist governmental systems.

The discussion of the attributes of the Pomorskie Region's resilience brings to the fore the factors which are beneficial or disadvantageous for its resilience. The analysis does not provide an unequivocal answer as to the extent to which the resilience of the region is the result of the resilience of the whole Polish economy and the extent to which it is the result of endogenous growth and regional policy. It is especially difficult to separate the trajectories of changes in a situation where both systems, state and regional, have thus far proved themselves relatively resilient. As the Pomorskie Region continues to belong to the seven economically strongest regions in the country it is correct to say that the economic structure of the region is resilient. The demographic and social characteristics only strengthen this conclusion. The vital role of human and social capital as well as demographic resources in regional development processes and entrepreneurship is well described in the literature (e.g. Christopherson/Michie/Tyler 2010: 6 f.; Mukherji/Silberman 2013). In terms of social and demographic capital the Pomorskie Region is positioned at the very top of the 16 Polish regions. The human resource potential of the region is still not fully utilised and provides opportunities for future development.

This paper contributes to the limited literature on Polish regional resilience. The ongoing processes of dynamic change in Polish social, economic and political spheres set new patterns of parameters, structures and relations. They provide a new perspective for analysis with comparative studies based on longer time series becoming possible. Thus the continuation of regional resilience studies is of great value for regional development policy.

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