



**Publisher**

<http://jssidoi.org/esc/home>



---

## THE ROLE OF UNIVERSITIES IN URBAN DEVELOPMENT ON THE EXAMPLE OF POLISH CITIES

**Agnieszka Stanowicka**

<sup>1,2</sup> *University of Warmia and Mazury in Olsztyn, ul. Oczapowskiego 2, 10-719 Olsztyn Poland*

*E-mail: [agnieszka.stanowicka@uwm.edu.pl](mailto:agnieszka.stanowicka@uwm.edu.pl)*

*Received 15 July 2021; accepted 10 September 2021; published 30 September 2021*

**Abstract.** Schools of higher education, including universities, can become important landmarks of cities and contribute to sustainable urban development. This study attempts to determine the ways in which universities benefit cities, evaluate the scope of cooperation between territorial governments and universities, identify the main obstacles to cooperation and the preferred objectives of collaborative projects. A survey conducted in Polish university towns revealed that the opportunities stemming from collaboration with universities are not fully harnessed by territorial governments. A survey conducted in Polish university towns revealed that the opportunities stemming from collaboration with universities are not fully harnessed by territorial governments. Cities should undertake active measures to work in concert with universities, promote cooperation between research units and businesses, participate in research projects and co-organize internships for students. Efforts should also be made to overcome the barriers to partnership between local authorities and universities, mainly the lack of cohesive state policies targeting urban development and limited funding.

**Keywords:** university; school of higher education; urban development; university town

**Reference** to this paper should be made as follows: Stanowicka, A. 2021. The role of universities in urban development on the example of Polish cities. *Entrepreneurship and Sustainability Issues*, 9(1), 680-691. [http://doi.org/10.9770/jesi.2021.9.1\(42\)](http://doi.org/10.9770/jesi.2021.9.1(42))

**JEL Classifications:** O12, O18, O32, R11, R58

### 1. Introduction

Schools of higher education promote the development of human capital, generate knowledge as the key production factor in the modern world, contribute to the emergence of knowledge-based economies, generate jobs, attract new residents, and build a positive image of university towns. Universities offer many other advantages for urban authorities and residents. This study attempted to determine which of these benefits play the most important role and whether they contribute to urban development. A target population of local government representatives was surveyed in Polish university towns. The purpose of the survey was to establish whether local governments harness the opportunities resulting from the presence of colleges and universities in their cities. Attempts were also made to evaluate the scope of cooperation between the local authorities and universities, and

to identify the main barriers and preferred directions for cooperation. The theoretical part of the paper reviews the literature, proposes a definition of a university town, and describes the extent to which schools of higher education contribute to urban development. The results of the study were discussed, and conclusions were formulated in the last chapter.

## **2. Theoretical background**

In the literature, development is defined as a process of structural changes in a society which is fueled by economic growth. There are four main dimensions of development: economic, political, social and cultural. These processes are not homogeneous, and they mutually interact. Development is understood as a social condition within a nation, in which the authentic needs of its population are satisfied by the rational and sustainable use of natural resources and systems. The utilization of natural resources is based on a technology which respects the cultural features of the population of a given country (Reyes 2001, p. 1; Chovancová & Tej, 2020, pp. 235-251). The main idea is to create divergence, where increasing economic growth should be combined with a reduction in the amount of natural resources consumed and a reduction in the amount of waste produced (Chovancova, Tej 2020, p. 239). Development is a positive phenomenon in all aspects and dimensions. It consists of much else besides economic growth and should be measured along other axes, such as poverty, unemployment, inequality, and the strength of education and rights of citizenship (Pike, 2016, p. 6; Cyrek, 2019, pp. 405-424). A major challenge for development is to reinforce the role of urban systems as drivers of economic growth (Duranton, 2015, p. 43). Development promotes specialization, infrastructure investments (telecommunications, transport), support for financial and consulting institutions, and services for business and education (Szajnowska-Wysocka, 2009, p. 77). It involves the creation and renewal of regional industrial paths. Path renewal denotes the emergence of new activities and new industries via regional branching. The existing knowledge and skills in a region are combined in new ways and may be linked to relevant, extra-regional knowledge to provide new knowledge for a region that promotes innovation and entrepreneurship. Path creation represents the growth of entirely new industries for a region (Isaksen, 2017, p. 356; Bal-Domańska et al., 2020, p. 785).

The sustainable development concept is the most popular theory of regional development which accentuates the role of environmental factors. The sustainability principles become more and more popular among the policy makers while setting not only the strategies of the whole co(Semenko, Halhash, Sieriebriak 2019, p. 318). There are three pillars of sustainability: economic viability, social equity, and environmental protection. Sustainable development has become the dominant concept in the study of interactions between the economy and the biophysical environment, as well as a generally accepted goal of environmental policy (Mulder, van den Bergh 2001, pp. 110-134; Semenenko et al., 2019, p. 317). The concept of conserving resources for future generations is one of the major features that distinguish a sustainable development policy from a traditional environmental policy, and it also seeks to internalize the externalities of environmental degradation. The overall goal of sustainable development (SD) is the long-term stability of the economy and environment. This can only be achieved through the integration and acknowledgement of economic, environmental and social concerns throughout the decision-making process (Emas 2015, p. 2). Sustainability (sustainable development) means positive changes in respect to the future of an association to guarantee its long-term survival (strengthening) (Reiljan 2014, p. 125). Ecological sustainability is most difficult to achieve in cities because urban development relies heavily on environmental resources not only in the urban core, but also in peripheral areas. Some authors regard the eco-development of cities as a philosophy of development (Urteaga 2011, p. 399) which should aim to limit urban expansion (through the construction of compact cities with multifunctional districts and residential estates), while maintaining a high quality of life. Worth-living integrated development satisfies the need for comprehensive dialectical harmony, symmetry and balance in the process of aligning development in economic, social, political and cultural dimensions. This development is in harmony with nature and traditions, but also with the progress of science and technology (Koroneos, Rokos 2012, p.146).

The determinants of sustainable development have to be identified to promote positive social, economic and environmental changes. Recently, it is being investigated more and more the endogenous potential and competitive advantages inherent in a given region of economic, infrastructural, social and environmental nature (Bal-Domańska, Sobczak, Stańczyk 2020, p. 786). And in addition to traditional production factors, the importance of qualitative factors, including knowledge, is increasingly often recognized in urban development. Knowledge is of the most important types of capital and a profitable resource that is based on various relations and/or social norms. This collective and indivisible resource is regarded as a public good (Boccella, 2016, p. 293). The educational system is responsible for the creation and expansion of knowledge resources and the development of social capital. Schools of higher education, including universities, play a special role in generating high-quality knowledge resources. Universities influence the development of not only cities, but entire regions. In a macroeconomic approach, schools of higher education further the development of entire nations. However, this study focuses on the role of colleges and universities in promoting the development of towns and cities in which they are located.

Universities have been a part of college towns for centuries, and they act as a core component of economic, social, and environmental development. Universities affect urban development in terms of employment, housing, mobility, leisure and consumer activities (Cannas da Silva, Heitor, 2014). The towns and cities that host schools of higher education are referred to as university or college towns. Most of these cities are multifunctional metropolises with a large population, and they also host other schools of higher education (Rewers, 2016, p. 152). The academic function is not predominant in large cities. However, in smaller towns with long-standing academic traditions, university buildings often play a dominant role in public space. The first articulated a concept of an urban university that focused on urban-oriented education, research, service strategies and community responsibilities was formulated more than three decades ago (Hill, 1981, p. 38). In 1994, Boyer (1994, p. 48) proposed a model for higher education that dealt with the concept of community involvement. His model involved undergraduates in social issues, extended classrooms into communities, balanced theory and practice, promoted an integrated view of knowledge, and expanded the nature of scholarly work. Boyer's concept has spurred research on the influence of community engagement on faculty work, learning and teaching, campus mission, and the quality of life in communities.

In addition to providing academic infrastructure, many universities organize cultural, sports and educational activities (universities of the third age, courses for adults, adolescents and children) for local community members. Academic infrastructure, often of high historical value, also contributes to the positive image of a town or city. The academic lifestyle influences the rhythm of life in the city. Schools of higher education are one of the largest employers in university towns. Students and faculty members contribute a unique academic or campus culture to the urban fabric, and they become members of the creative class (Florida, 2007). The academic culture combines work with play, it influences the organization of urban life and sets new social norms and behaviors (Rewers, 2016, p. 158). In American college towns, the interplay between academic work and alternative youthful activities became known as the student lifestyle (Chatterton, Hollands, 2003, p. ). Universities are regarded as urban institutions that engage with the people, institutions, and businesses of the city and share its challenges and celebrations (Perry, Wiewel, 2005, p.3). Universities shape not only professional, but also social attitudes. They create desirable moral attitudes, cultural habits, behaviors and value systems. Research and academic activities prepare young people for entrepreneurship, promote innovation and encourage new patents (Breschi et al., 2007, p. 101). As a result, universities contribute to the social and economic development of local communities.

Schools of higher education influence the economy by joining regional cooperation networks and commercializing the results of research and scientific inquiry. They also offer stable employment opportunities. Universities generate production factors, including human capital, knowledge and innovation, they are hotbeds of creativity and entrepreneurship, and they stimulate economic growth (Piotrowska-Piątek, 2014, p. 41). They attract new residents (students) who increase the demand for local goods and services. Higher consumer demand

stimulates investment demand, and it fuels the economic development of cities and entire regions. Universities shape and strengthen regional and sub-regional hubs (Rokita-Poskart 2015, p. 165). They act as important local landmarks which increase a city's competitive advantage and attract new inhabitants, not only students, but also scientists, investors and businesses. The transfer of knowledge, technology and innovation between academia and industry boosts the competitive edge of regions. Recent years have witnessed the emergence of the concept of universities' third mission which suggests that in addition to providing education and research, universities are also obliged to foster regional growth (Kauf, Stec, 2017, p. 94). Universities are regional science hubs and learning regions that act as repositories of knowledge and ideas, promote innovation and economic growth (Florida, 2001, pp. 255-277). Universities can identify technologies that are in special demand in a particular region or city. They may be especially adept in fulfilling this demand, in particular by promoting the development of industries that meet local needs and creating access to export markets. In this context, university research could be deliberately channeled (Hall, 1997, p. 309).

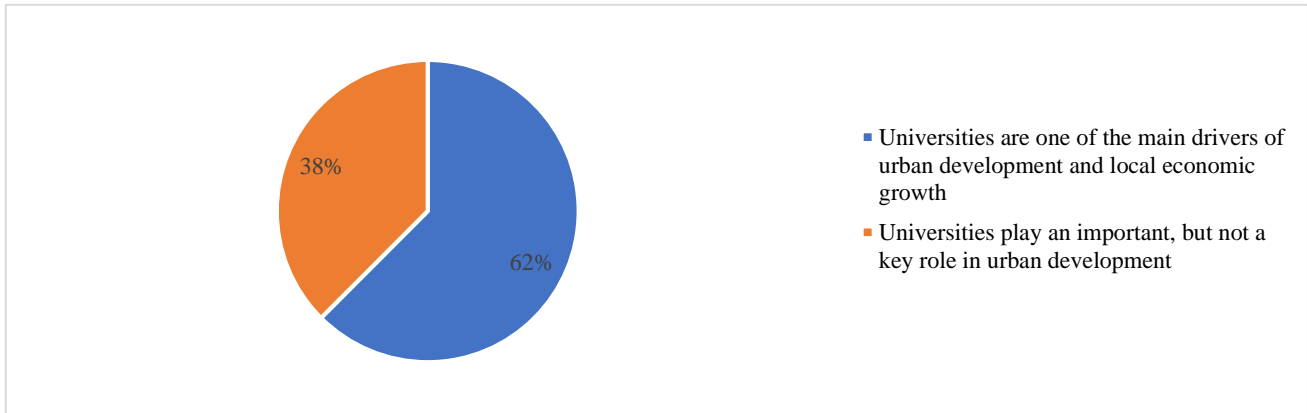
The role of universities in cities can be evaluated in four dimensions. A university is an economic entity, a producer of knowledge, an institution that fosters the growth of human capital, and a local actor (Boucher et al., 2003, pp. 887-897). The university-city complex model has been a major contributor to the social, cultural, and economic life of modern cities (Ngo, Trinh, 2016, p. 93). Quantitative analyses that explore the role of universities in the development of cities and regions focus on the student population in university towns, gross added value of the generated services, the number of universities in a city or region, and the number of academic teachers per student. However, the results of quantitative assessments should be supplemented with qualitative data.

### **3. Research Methodology**

In this study, a target population of local government representatives was surveyed to identify the ways in which schools of higher education generate benefits for the towns and cities in which they are located. The survey was conducted in Polish university towns. Poland has 43 public universities and two private universities in 20 cities which are referred to as university towns. The survey involved the representatives of local governments in 16 Polish university towns: Białystok, Bielsko-Biała, Gdańsk, Katowice, Kielce, Koszalin, Cracow, Lublin, Olsztyn, Opole, Poznań, Radom, Rzeszów, Szczecin, Warsaw and Zielona Góra. Filled out questionnaires were returned by 80% of the queried respondents. The aim of the survey was to collect information about collaborative efforts between territorial governments (city halls) and schools of higher education (universities), including the areas of cooperation, the encountered obstacles, and the preferred objectives of collaborative projects. The study was conducted in 2020.

### **4. Results**

In the first part of the questionnaire, city hall employees were asked to describe the role of universities in urban development (Fig. 1).



**Figure 1.** Role of universities in urban development

Source: own elaboration based on the results of the conducted survey

In most Polish university towns, schools of higher education play a very important role and significantly contribute to urban development. According to 62% of the respondents, universities are one of the key drivers of urban development and local economic growth, whereas 40% of the surveyed subjects were of the opinion that universities play an important, but not a key role in urban development. It should be noted that the second opinion was more frequently voiced in the largest Polish cities which have a vast development potential and where schools of higher education, including universities, are only one of the existing resources. The potential of smaller cities relies on fewer determinants of local identity, and universities are often the main source of a city’s competitive advantage.

In the next question, the respondents were asked to identify urban functions that are influenced by schools of higher education (Table 1).

**Table 1.** The influence of universities on urban functions

The influence of universities on urban functions	N	%
Universities supply a highly skilled workforce and improve the quality of human capital	16	100
Universities create a positive image of a city / university town (prestige)	11	68.75
Universities generate innovative concepts	11	68.75
Universities contribute to an increase in the local population	10	62.5
Universities contribute to the emergence of a unique urban culture	10	62.5
Universities contribute to the emergence of the creative class	10	62.5
Universities promote the development of culture and entertainment in the city	10	62.5
Universities increase the demand for local goods and services (stimulate economic growth)	9	56.25
Universities foster tolerance and respect (for residents of other regions, countries, for other cultures, religions and races)	8	50

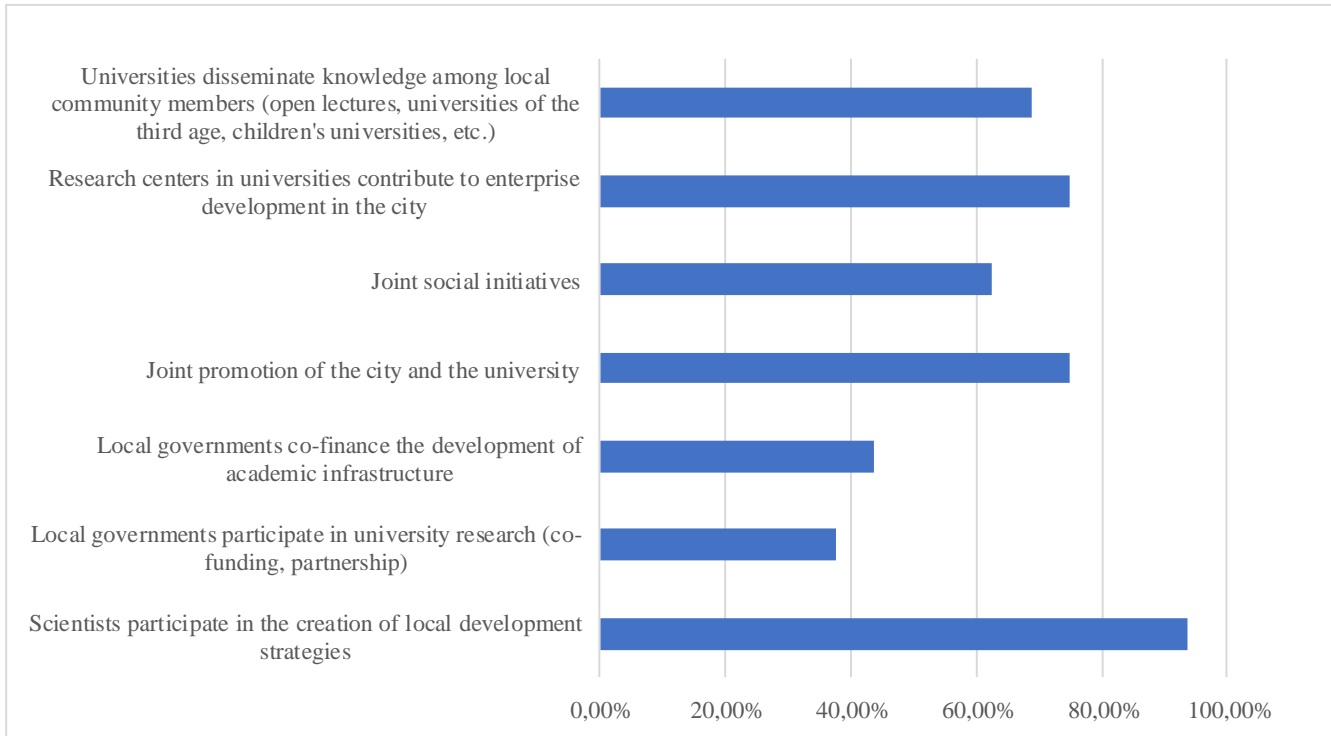
Universities create numerous jobs on the local market	7	43.75
Universities stimulate entrepreneurship - research findings are implemented in practice	7	43.75
Universities encourage international cooperation	7	43.75
An increase in the local population contributes to the growth of the local real estate market	7	43.75
As a result, universities increase the quality of life in cities	6	37.5
Other	3	18.75

*Source:* own elaboration based on the results of the conducted survey

The respondents in all studied cities were of the opinion that universities supply a highly skilled workforce and improve the quality of human capital. This factor is a significant determinant of a city's economic development. A high number of 11 respondents argued that schools of higher education help build the image of a university town. The academic identity and the image of a university town are intangible assets that indirectly influence local economic growth and attract students, new residents, investors (capital) and tourists (such as the Jagiellonian University in Cracow and other universities with historical heritage). These factors enhance a city's prestige and image in the long term. Eleven respondents emphasized the importance of research conducted by universities and pointed out that universities generate innovations (new technologies and novel products) and contribute to technological progress that drives local economic growth. In ten surveyed cities, the respondents were of the opinion that universities contribute to an increase in the local population, the emergence of the creative class, the creation and popularization of a unique urban culture, and the promotion of culture and entertainment. These effects are interlinked. The creative class is composed of designers, artists, scientists and engineers. Universities are generally regarded as the "cradle of social elites" because they provide a supportive environment for the emergence of skilled professionals and experts. Members of this creative class contribute to economic growth as well as a unique urban culture which is based on the academic culture and intellectual attitudes. Universities promote desirable moral attitudes, cultural habits, behaviors and value systems in various social groups, not only students and scientists, because the accumulated intellectual capital affects all social strata in the city.

The increase in the urban population results mainly from the inflow of young people. This factor stimulates local economic growth by minimizing the adverse effects of social decline and population aging. It increases the supply of labor and boosts consumer demand. Half of the respondents stated that universities contribute to the supply of skilled labor, increase the quality of human capital, and promote tolerance and respect for the residents of other cities and countries, for other religions, races and cultures. International student exchange programs in university towns promote acceptance of diversity in local communities. Respondents in nearly half of the analyzed cities argued that universities create new jobs, stimulate entrepreneurship and international cooperation, and contribute to the development of the real estate market. Six respondents were of the opinion that by stimulating economic growth, universities ultimately improve the quality of urban life. The respondents in two of the analyzed cities also noted that universities increase the number of libraries in the city and that the cooperation between universities and secondary schools delivers tangible benefits for young people. School students in university towns have ample opportunities to learn about the courses and programs offered by local universities; therefore, they are able to make more informed choices about their future. The surveyed subjects claimed that universities directly attract investors and that international cooperation between academic centers increases the number of flights to various destinations around the world. Universities organize cultural events addressing students from different countries. Schools of higher education should be regarded as major economic units in the city because they promote investments by financing the construction and modernization of buildings that enhance the urban landscape.

In the following part of the questionnaire, the respondents were asked to evaluate the cooperation between the local authorities and universities. The responses indicate that all Polish university towns work in concert with local governments to a greater or lesser extent. The responses provided in this part of the questionnaire are presented in Figure 2.

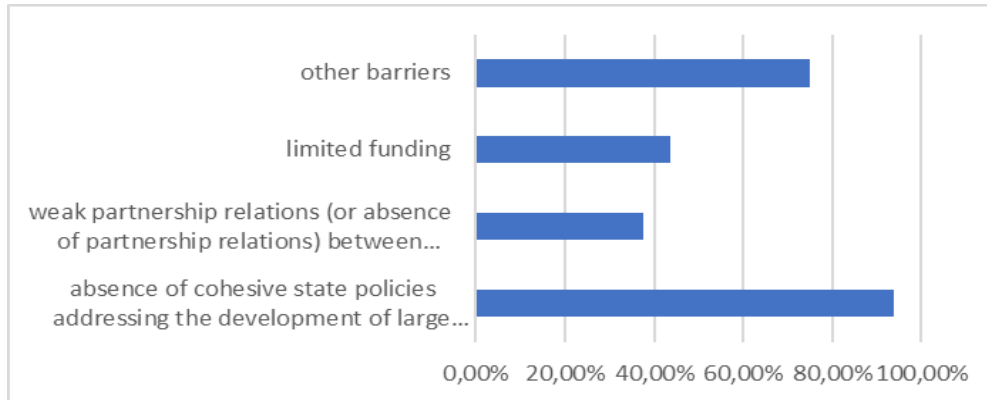


**Figure 2.** Areas of cooperation between universities and local governments

*Source:* own elaboration based on the results of the conducted survey

In nearly all university towns, scientists participate in the creation of local development strategies. Members of the academic community conduct strategic analyses of local development, develop growth forecasts, and rely on expert knowledge to determine strategic goals, plan local budgets and develop local promotional campaigns. In the survey, 75% of the respondents noted that universities and territorial governments conduct joint promotional campaigns. The local authorities recognize the fact that students are new members of the local community who can potentially contribute to a city's development and economic growth. The same proportion of the surveyed subjects acknowledged that research centers in universities promote enterprise development. Universities are also a valuable source of knowledge that delivers tangible benefits for urban dwellers, not only students. According to more than 68% of the respondents, universities disseminate knowledge by organizing open lectures, universities of the third age, children's universities, open science days and science nights. More than 60% of the respondents indicated that city halls and universities stage joint social initiatives. In 43.75% of the surveyed cities, the local authorities co-finance the development of academic infrastructure, and provide universities with access to municipal land at no charge or at a discount. According to 37.5% of the surveyed subjects, the local authorities participate in or co-finance research projects undertaken in joint effort with universities.

The barriers to cooperation between territorial governments and universities were identified in the following part of the questionnaire (Fig. 3).

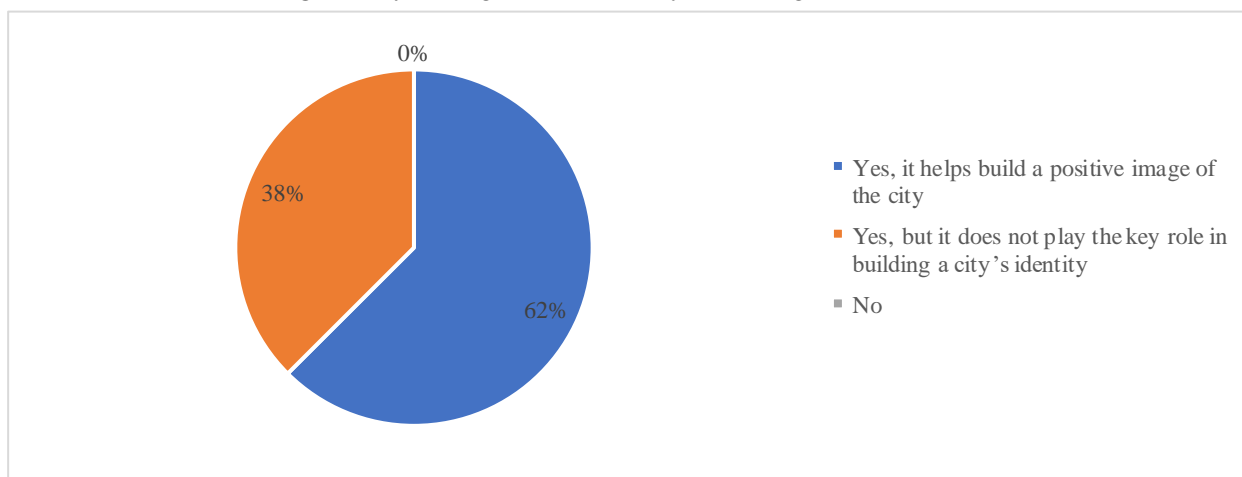


**Figure 3.** Barriers to cooperation between territorial governments and universities.

*Source:* own elaboration based on the results of the conducted survey

According to 15 out of the 16 surveyed subjects, the absence of cohesive state policies addressing the development of large cities was the main barrier to effective collaboration between academic communities and the local authorities. Other obstacles included limited funding (more than 43% of the answers) and weak partnership relations (more than 37%) between territorial governments and universities. Some respondents also indicated that not all partnership initiatives can be initiated because local governments have limited powers under the municipal governance act. Not all universities readily respond to future employers' requests regarding specialist training for graduates. Complex formal procedures in both city halls and universities also inhibit effective cooperation. According to some respondents, universities do not provide the local authorities with support in identifying local problems, planning urban development, or proposing solutions to the most pressing local issues. In isolated cases, the respondents claimed that universities show very little or no interest in local affairs. The establishment of partnership relations between territorial governments and universities is also impeded by excessive red tape and lack of information about each party's specific operating environment.

In the following part of the questionnaires, the respondents were asked to indicate whether the local authorities have an interest in creating the city's image as a university town (Fig. 4).



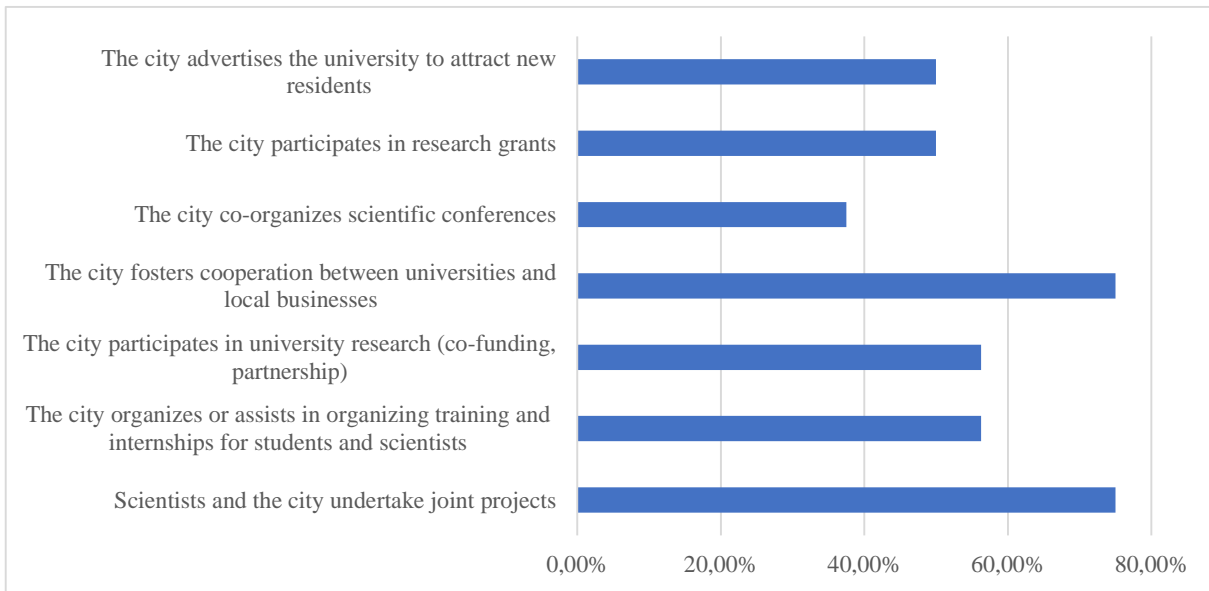
**Figure 4.** Do you have an interest in creating the city's image as a university town?

*Source:* own elaboration based on the results of the conducted survey



Ten out of the 16 respondents declared that the local authorities have an interest in creating the city’s image as a university town. Academic centers are perceived as intangible assets that contribute to urban development in the previously discussed categories. Six respondents claimed that city halls recognize the significance of universities, but academic centers do not play a key role in creating the city’s identity.

In the last question, the respondents were asked to indicate the type of measures that could be undertaken to boost the city’s image as a university town (Fig. 5).



**Figure 5.** Measures that could be implemented to boost the city’s image as a university town.

*Source:* own elaboration based on the results of the conducted survey

According to 75% of the respondents, above all, city halls should strive to build stronger relationships with universities. Territorial governments should also foster cooperation between academic communities, industry and local businesses, and this role could be equally important. By participating in business management, commercializing research findings and registering new patents, universities can contribute to technological progress, enhance the performance of local businesses and, consequently, contribute to local economic growth. Such measures would build a positive image of the city as a university town in the long term, and they would enable local authorities to fully harness the potential of academic centers to stimulate regional growth. City halls should participate in research projects conducted by universities, encourage projects that meet market needs, and facilitate the commercialization of research findings. Territorial governments should provide training and internships for students or encourage local businesses to offer such opportunities to ensure that graduates are skilled professionals who can find employment on the local job market and contribute to local development. These measures would increase the quality and competitiveness of the human capital produced by schools of higher education. Training and internships would provide students and graduates with practical job experience, thus boosting their appeal for potential employers. Nearly one-half of the respondents were of the opinion that cities could benefit from applying for research grants in collaboration with universities. A similar proportion of the surveyed subjects argued that territorial governments should promote university programs and courses to attract new students to the city. Joint promotional campaigns could reach a larger audience and deliver more satisfactory results. Students could also participate in promotional efforts by organizing educational events addressing important social issues. According to six respondents, universities and city halls could strengthen their ties by co-organizing events such as scientific conferences, by participating in trade fairs, or inviting famous

scientists to open lectures. Several respondents remarked that academic communities should organize educational and promotional events and stage debates concerning pressing social problems in the city. Universities should develop programs that align with workforce needs and current occupational trends. To eliminate barriers to effective cooperation, schools of higher education and the local authorities could also develop science and technology parks. Effective communication, exchange of information and establishment of shared goals are key to successful partnerships between universities and territorial governments.

## 5. Conclusions

Sustainable urban development involves the search for sources of competitive advantage that would enable cities to implement desirable social, economic and environmental changes. Schools of higher education generate knowledge and play a very important role in a knowledge-based economy. In a creative economy, cities rely on social capital, in particular members of the creative class who are university graduates, to build their competitive advantage. For this reason, schools of higher education significantly contribute to the social and economic development of university towns. The majority of the surveyed representatives of local governments in university towns were of the opinion that universities increase the quality of human capital and supply a highly skilled workforce. Most territorial governments recognize that universities are the key landmarks of local identity, and they actively strive to build a positive image of their cities as university towns. Universities are appreciated for conducting research, for their contribution to building the creative class, promoting culture and entertainment, and co-creating the urban culture. As a result, university towns attract new students, residents, businesses, investors and tourists who stimulate economic growth and local development. Universities promote tolerance and respect, stimulate entrepreneurship, create jobs, contribute to the growth of the real estate market, and improve the quality of urban life. All Polish university towns cooperate with schools of higher education to a greater or lesser extent. Universities co-create local development strategies, participate in local promotional campaigns, and organize various events, such as open lectures, to disseminate knowledge not only among students, but also local community members. The main barriers to closer cooperation between territorial governments and universities are the lack of cohesive state policies addressing the development of large cities in Poland, as well as limited funding. Local governments should build strong and lasting relationships with schools of higher education by fostering cooperation between scientists and local businesses, participating in research projects and organizing internships for students. By harnessing the opportunities for cooperation that exist between urban and academic authorities, territorial governments can actively contribute the social and economic development of cities in the long term.

## References

- Bal-Domańska, B., Sobczak, E., & Stańczyk, E. (2020). A multivariate approach to the identification of initial smart specialisations of Polish voivodeships. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(4), 785–810. <https://doi.org/10.24136/eq.2020.034>
- Boccella, N., & Salerno, I. (2016). *Creative Economy, Cultural Industries and Local Development*. *Procedia Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2016.05.370>
- Boucher, G., Conway, C., & Meer, E.V.D. (2003). Tiers of Engagement by Universities in their Regions Development. *Regional Studies*, 37(9).
- Boyer, E. L. (1994). Creating the New American College. *Chronicle of Higher Education*, 3(9), A48.
- Breschi S., Lissoni F., & Montobbio F. (2007). The scientific productivity of academic investors. New evidence from Italian data. *Economics of Innovation and New Technology*, 16(2).

- Chatterton, P., & Hollands R. (2003). *Urban Nightscapes. Youth Cultures, Pleasure Spaces and Corporate Power*. Routledge: London-New York.
- Chovancová, J., & Tej, J. (2020). Decoupling economic growth from greenhouse gas emissions: the case of the energy sector in V4 countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(2), 235–251. <https://doi.org/10.24136/eq.2020.011>
- Cyrek, M. (2019). Government social spending in the EU countries: efficiency in poverty and income inequality reduction. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 14(3), 405–424. <https://doi.org/10.24136/eq.2019.019>
- Duranton, G. (2015). Growing through Cities in Developing Countries. *The World Bank Research Observer*, 30(1). <https://doi.org/10.1093/wbro/lku006>
- Emas, R. (2015). *The Concept of Sustainable Development: Definition and Defining Principles*. Florida International University Press.
- Florida, R. (2001). Toward to the learning regions. *Futures*, 27(5).
- Florida, R. (2007). *The Flight of the creative class*. Collins: New York.
- Hall, P. (1997). The university and the city. *GeoJournal* 41(4), 301–309.
- Hill, S.R., Jr. (1981). Urban universities: Twentieth century phenomena. *Phi Kappa Phi Journal National Forum*, 61(3), 38-39.
- Isaksen, A., & Jakobsen, S. (2017). New path development between innovation systems and individual actors. *European Planning Studies*, 3. <https://doi.org/10.1080/09654313.2016.1268570>
- Kauf, S., & Stec, P. (2017). *Szkolnictwo wyższe jako czynnik zrównoważonego rozwoju regionów* (Higher education as a determinant of sustainable regional development). Zeszyty Naukowe Politechniki Śląskiej. Seria: Organizacja i Zarządzanie, 106 (in Polish).
- Koroneos, C.J., & Rokos, D. (2012). Sustainable and Integrated Development-A Critical Analysis. *Sustainability*, 4. <https://doi.org/10.3390/su4010141>
- Cannas da Silva, L., & Valsassina Heitor, T. (2014). *Campus as a city, city as a campus: University Precincts in urban context*. Proceedings of the 7th knowledge cities world summit.
- Mulder, P., van den Bergh, J. (2001). *Evolutionary Economic Theories of Sustainable Development*. Growth and Change, 32.
- Ngo, L., & Trinh, T. (2016). *A University-City Complex, a Model for Sustainable Development: a Case Study in Vietnam*. Procedia Engineering, 142, pp. 92-99. <https://doi.org/10.1016/j.proeng.2016.02.018>
- Perry, D., & Wiewel, W. (2005). *From campus to city: The university as developer*. In D. C. Perry & W. Wiewel (Eds.), *The university as urban developer: Case studies and analysis*, 3-22.
- Pike, A., Rodríguez-Pose, A., & Tomaney, J. (2016). Shifting horizons in local and regional development. *Regional Studies*, 46-57. <https://doi.org/10.1080/00343404.2016.1158802>
- Piotrowska-Piątek, A. (2014). *Szkoły wyższe jako czynnik rozwoju regionalnego* (Schools of higher education as a determinant of regional development). *Rozwój regionalny i polityka regionalna*, 28. <https://doi.org/10.14746/rpr.2014.28.04> (in Polish)
- Reiljan, J. (2014). Regional Development Sustainability Analysis Concept. *Discussions on Estonian Economic Policy: EU Member States After the Economic Crisis*, 1. <https://dx.doi.org/10.2139/ssrn.2493019>
- Rewers, E. (2016). University cities: imagined? *Przegląd Kulturoznawczy (Cultural Studies Review)* (28). <https://doi.org/10.4467/20843860PK.16.012.5364>
- Reyes, G.E. (2001). Four main theories of development: modernization, dependency, world-system, and globalization. *Nómadas. Revista Crítica de Ciencias Sociales y Jurídicas*, 4.
- Rokita-Poskart, D. (2015). *Miejsce funkcji akademickiej w strategiach rozwoju lokalnego wybranych miast pozametropolitarnych w Polsce* (The role of the academic function in the local development strategies of selected non-metropolitan cities in Poland), *Studia Miejskie*, 19 (in Polish).

Szajnowska-Wysocka, A. (2009). Theories of regional and local development – abridged review. *Bulletin of Geography Socio-Economic Series*, 12.

Semenenko, I., Halhash, R., & Sieriebriak, K. (2019). Sustainable development of regions in Ukraine: before and after the beginning of the conflict. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 14(2), 317-339. <https://doi.org/10.24136/eq.2019.015>

Urteaga, E. (2011). The alternative theories of sustainable development. *Boletín de la Asociación de Geógrafos Españoles*, 52.

**Agnieszka STANOWICKA** is the adjunct in the Department of Economic Theory at the University of Warmia and Mazury in Olsztyn. Research interests: regional and urban development

**ORCID ID:** [orcid.org/0000-0002-0004-8288](https://orcid.org/0000-0002-0004-8288)

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr69728810

---

Copyright © 2021 by author(s) and VsI Entrepreneurship and Sustainability Center

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

