Creative Destruction and Regional Resilience: The Case of the Volvo Investment in the Košice Region

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Abstract. The paper focused on the concept of creative destruction and its significance for regional development in the context of the contemporary economy. Creative destruction represents a process of continuous transformation, in which old structures are replaced by new ones through innovation. Based on this, the paper analyses the current development impulse in the Košice region, specifically the construction of the Volvo car plant in the strategic park in Valaliky. This investment represents a significant opportunity for economic growth, employment, and innovation-driven regional development. At the same time, it also highlights potential risks associated with concentrating economic activity in a single dominant sector. Experience from Oulu in Finland shows that a sudden decline of a major industry can lead to serious regional problems. Therefore, the paper emphasises the importance of building ecosystem sustainability and resilience in the Košice region through three main pillars: knowledge creation, support for entrepreneurship, and the development of community spirit. Advancing these pillars can help the region effectively adapt to changes, minimise negative impacts, and ensure long-term sustainable development. The study's key benefit is its contribution to the ongoing debate, highlighting the importance of creative resilience as an integral part of the regional ecosystem.

Keywords: Creative Destruction · Regional Development · Sustainability · Regional Resilience · Creative Resilience · Regional Ecosystem · Košice Region

1 Introduction

Every region goes through certain stages of development. A region's development depends not only on its industries and investment drivers, but also on the quality of relationships among the stakeholders within that region. Therefore, it is necessary to focus not only on the region's economic orientation but also on cooperation within the regional ecosystem.

Creative destruction is one of the fundamental mechanisms of economic development, which also has a significant impact on regional development (Huang, Dong and

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Li, 2025; Gilbert, 2012; Feld, Schnellenbach and Baskaran, 2012). Creative destruction is usually described as an endogenous growth model in which growth is driven by vertical innovations involving creative destruction (Aghion and Howitt, 2023; Aghion and Howitt, 1992). It is a process through which outdated production methods, technologies and entire industries are gradually replaced by innovations, thereby creating opportunities for new economic activities to evolve (Hospers, 2005). Creative destruction is a counterpart to creative creation, and both phenomena and their development can be predicted with a certain degree of probability (Irandoust, 2024).

Over the past decade, creativity has emerged, alongside innovation, as a key strategic characteristic of growth-oriented regional economies. Moreover, its importance will grow even more significantly in the coming decades, as creativity is becoming an indispensable prerequisite for finding solutions to complex and multidimensional global challenges, such as climate change and population ageing, making it a central theme not only for researchers but also for policymakers (Andrew and Spoehr, 2011; Florida, 2002). This trend is also reflected in the concept of the creative economy, which is based on the integration of knowledge, technology, and creativity with the aim of generating new markets and job opportunities, thereby marking a shift away from the traditional model of economic growth toward innovation-driven development (Sung, 2015).

A region's economic focus can and often does hit its development limits or face development risks, and it is therefore necessary to also consider regional resilience. Regional resilience is most frequently understood as the readiness of the region and its stakeholders to respond to and recover from potential shocks or unexpected events that disrupt the normal state of balance. In light of recurring industrial cycles and technological progress, building what is known as the creative resilience of regions is becoming increasingly important (Uctu, Tuluce and Aykac, 2024). Creative resilience of regions is based on the ability to be prepared and effectively absorb external shocks, adapt to new conditions, and at the same time actively create new development trajectories (Capello and Dellisanti, 2023). The current phase of development, also referred to as the Fourth Logistics Revolution, is fundamentally transforming the economic and social structure of regions and leading to the emergence of a so-called creative society, dominated by innovative urban regions with strong global connections and interdependencies (Andersson and Andersson, 2015).

In this context, the concept of the "creative class" also plays an important role, because according to this concept, regional growth is driven by a specific group of people who prefer an open, tolerant, and diverse environment, and successful regions combine talent, technology, and tolerance (Florida, 2002). Building awareness among such a group of people within the region can be seen as a responsibility of the private and public sectors (Pittz and Pittz, 2024; De Bernard et al., 2022). Furthermore, experience from Romania shows that the creative class can help absorb economic shocks and thus improve the region's economic resilience (Pavelea et al., 2023). When significant foreign investments are made, it is therefore essential not only to utilise their development potential but also to simultaneously build a diversified and resilient regional economy in the above-mentioned contexts.

The Košice Region currently serves as an example of a region facing such a transformative challenge due to the arrival of Volvo at the strategic park in Valaliky. This

investment has the potential to become a significant driver of economic growth, employment, and technological progress, particularly in the context of the development of the automotive industry and related sectors with suppliers. At the same time, however, experience from other post-industrial regions suggests that an overreliance on a single dominant sector can lead to increased vulnerability in the event of its decline (Andersson and Andersson, 2015). Therefore, this investment must also be viewed through the perspective of creative resilience, and we must support the development of knowledge, entrepreneurship, and innovation across multiple sectors to ensure the region's long-term sustainable and balanced development.

2 Theoretical Framework

2.1 Creative Destruction in Regional Development

According to Schumpeter, the economy is constantly changing and evolving, thus old firms and technologies disappear and are replaced by new ones. This process, which he called creative destruction, involves the continuous replacement of the old with the new. Innovation, a combination of new ideas, products, or production methods, plays a fundamental role in this transformation. In this regard, innovation is not random; rather, it builds on existing positive and mutual elements of the economy and is the result of the deliberate efforts of entrepreneurs and other stakeholders who transform and disrupt established structures. Schumpeter describes this mechanism as wave-like movements of innovative activity, which are essential for economic transformation and the introduction of new solutions (Hospers, 2005). Innovation is the main driving force behind economic transformation. Innovation manifests itself in five ways: (1) through new production processes, (2) new products, (3) new materials or resources, (4) expansion into new markets, and (5) the creation of new organisational forms (Schumpeter & Swedberg, 2021; Schumpeter, 1934).

Concepts such as creativity and innovation are now an integral part of regional economic development, as addressing complex challenges, such as climate change or an ageing population, requires creative approaches (Andrew and Spoehr, 2011). Creative and innovative people who prefer a diverse, tolerant environment that is open to new ideas are also important, usually included in these innovations as the creative class. The success of regions is determined by a combination of three factors: (1) a tolerant environment, (2) access to talent, and (3) technological advancement (Florida, 2002).

The emergence and development of the creative economy represent a new model of economic growth, in which businesses foster creativity, support the fusion of knowledge, and facilitate the use of modern technologies with the aim of creating new markets and jobs. Such an economy enables regions to remain competitive in a global environment and supports long-term growth, particularly in the context of both developed and developing countries (Sung, 2015). Post-industrial development is leading to the emergence of a creative society, in which creative and innovative urban regions with global connections are gaining an advantage. These regions or areas are hubs of new technologies, talent, and capital, while less adaptable regions are undergoing a process of creative destruction as traditional industries give way to innovations. The result is growing inequality between regions, as economic development is concentrated in a relatively small number of highly

rated creative regions (Andersson and Andersson, 2015). The competitiveness of cities is influenced by the phenomenon of the "local trap," in which global actors can override local interests. Urban areas are thus a site of intense interactions between the local and global environments.

Globalization brings new investments and business opportunities, but it can also lead to wage stagnation, rising inequality, and uncertainty. Effective development therefore requires a combination of local resource utilization and a global perspective, with participatory decision-making mechanisms ensuring benefits for the entire community (Zientara, 2009). Regional and urban areas, exposed to interactions between the local and global environments, must navigate the tension between preserving local autonomy and utilising the opportunities of globalisation. The phenomenon of the "local trap" highlights that an excessive focus on global pressures can weaken decision-making at the local level and limit the interests of residents. While globalisation can lead to wage stagnation, deepening regional inequalities, and increased uncertainty, it also offers investment and business opportunities that can support the development of local economies. Innovation is the key driver of regional competitiveness and development. Based on existing empirical evidence, various classifications define types of innovation, but within the scope of this study, we can categorise innovations as:

- imitative innovations, which improve existing products and target new segments of the market;
- sustainable (incremental) innovations, which bring technologically less demanding improvements and maintain performance in existing markets;
- and disruptive innovations, which radically change products, processes, or services, target new markets, and generate a process of creative destruction.

The success of innovation activities is closely linked to the proximity of regional actors and institutions, which fosters interaction, the formation of strong clusters, and agglomeration effects that contribute to regional growth. The goal is to support sustainable productivity growth: process innovations reduce costs, while product innovations enable higher prices and create a competitive advantage through novelty or differentiation. In this way, regions are able to respond to global pressures, support local entrepreneurship, and simultaneously create an environment for economic development based on creative and innovative solutions (Talmaciu, 2012).

Schumpeter viewed the entrepreneur as an agent of creative destruction who transforms industries and enhances their competitiveness. In contemporary models, a firm encompasses both types of expertise, so that its workforce includes both inventors and innovators, which makes it possible to link the creation of new discoveries with their market application. Regional entrepreneurship affects the productivity of established firms, particularly in the service sector; while it may initially have a short-term negative effect, this is followed by a positive impact on firm performance (Andersson, Braunerhjelm and Thulin, 2012). The entry and exit of firms are also shaped by firm characteristics, industrial linkages, and regional institutional conditions, while decentralisation, globalisation, and privatisation lead to spatial and temporal disparities (Zhou, He and Zhu, 2017).

Local creative destruction occurs when the departure of existing firms frees up resources and creates space for new businesses, thereby supporting regional industrial

renewal. The process is predominantly local and depends on local knowledge and social networks, with new technologies often building on existing know-how. Inertia can prevent older firms from adapting, so their departure allows for the recycling of resources, the acquisition of experience, and the promotion of innovation. Regional policies should sensitively support these processes, focus resources on specific sectors, preserve diversity, and avoid excessive protection of failing firms. The exit of young firms often does not lead to renewal, whereas the exit of mature, underperforming firms fosters regional economic growth and innovation through the entry of new players (Pe'er and Vertinskij, 2008). Successful regional economies combine close cooperation among businesses, a skilled workforce, flexible work structures, a robust infrastructure that supports innovation, an innovative culture, and active regional governments (Bosma, Stam and Schutjens, 2011). Equally important for the sustainability of regional economies is the implementation of circular economy principles, which requires changes in management approaches, investments in technologies and infrastructure, as well as close cooperation between businesses, governments, and communities, with public support playing a key role (Dielini et al., 2024).

Regional characteristics that influence creative destruction depend heavily on the firms operating in the region, as these firms and their industries determine the region's technical capacity. A high concentration of firms in the same industry creates cluster regions that host a large number of established players and support the industry's operations, but new technologies often emerge outside these clusters. The more concentrated an industry is, the more significant it is for the local economy and the more difficult it is to implement changes that would radically transform existing competencies and capabilities, because the accumulated regional knowledge of the dominant paradigm obstructs the adaptation of other actors within the system (Gilbert 2012). According to the theory of creative destruction, economic cycles are driven by waves of innovation, with market disruption causing significant economic impacts on major business groups (Neufeld, 2021).

Technological waves are gradually transforming the economy and society, as well as regional and local economic systems. The first industrial revolution boosted production rates with steam engines and sparked urbanisation. The second wave, driven by electricity, improved industrial productivity, transportation, and communication networks, with railroads and steel playing a key role. The third wave introduced construction lines and the automotive industry; the fourth wave brought computers and internet-driven digitisation and automation. The fifth wave, supported by the internet and artificial intelligence, is transforming global trade and innovation, while the emerging sixth wave, focused on sustainability, is promoting renewable energy, eco-friendly practices, and the circular economy. The penetration of creative destruction and artificial intelligence during the sixth wave is creating new sectors, transforming existing ones, and influencing economic policies that promote growth through innovation (Uctu, Tuluce and Aykac, 2024). In the context of the latest technological wave focused on sustainability and the circular economy, theoretical approaches that link economic growth with environmental aspects are coming to the forefront, including industrial ecology. Industrial ecology is one of the modern theoretical approaches to urban and regional development that responds to the need to link economic growth with environmental sustainability. This theory highlights

that industrial systems should function in a way similar to natural ecosystems. It promotes a comprehensive (systemic) approach focused on the efficient management of material flows throughout their entire cycle – from raw material extraction, through production and use, to end-of-life processing. It is based on three principles: technological innovation, interdisciplinary collaboration, and a systems approach (Sumra et al., 2024). In this context, digitalisation plays a key enabling role. It has a non-linear impact on the circular economy, while it may initially slow down the transition, at higher levels, it significantly supports it. Digital technologies help reduce costs, improve resource efficiency, and enable the development of circular business models, while also strengthening cooperation among stakeholders and the active role of consumers (Nham and Ha, 2022).

Regional economic resilience, with creative resilience as a specific approach to regional resilience, where creative factories strengthen a region's ability to respond. The concept of regional economic resilience has become a well-developed concept over the past decade (Sutton et al., 2023). However, resilience is gradually taking on new dimensions in light of dynamic societal developments and the economic cycle, dimensions that are primarily oriented toward collective capability (D'Ambrosio and Migheli, 2025), non-economic regional development drivers (Sutton et al., 2025) and also innovation and creativity (Garcia et al., 2025; Viana et al., 2023; Boschma and Pinto, 2015).

There are two main approaches to the concept of regional economic resilience. The first approach views it as a region's ability to withstand a shock and quickly return to its original state. The second, adaptive approach emphasises the region's ability to change and adapt, noting that following a shock, there may not be a return to the original state, but rather the creation of a new economic structure (Bristow and Healy, 2014). System resilience cannot be understood merely as the ability to return to its original state after a shock, but rather as the ability to change and adapt. As opposed to stability, which emphasises immutability, resilience points to dynamics, variability, and the possibility of transition between different states. Systems thus need not have just one equilibrium, but rather multiple possible states between which they can shift. This is why being resilient means changing and adapting rather than everything just going back to how it was before (Reggiani, De Graaff and Nijkamp 2002).

The case of the Oulu region in Finland shows that creative destruction can cause serious problems for regional development, particularly when dominant and long-established industries collapse. This case also highlights the distinction between regional resilience, which generally focuses on a region's ability to recover from a shock, and creative resilience, a specific concept that takes into account creativity, innovation, and community capacities for adaptation. Oulu's experience served as the basis for creating a framework for creative resilience, which consists of three pillars: knowledge creation, entrepreneurial initiatives, and a strong community spirit (Simonen, Herala and Svento, 2020). This framework shows that, to successfully manage shocks, recovery alone is not enough; it is necessary to actively create the conditions for the region's transformation and further development.

3 Methodology

The study aims to systematise theories of regional development, creative destruction and regional resilience, and to verify their applicability by examining specific examples of investment impulses at various stages of investment cycles. These impulses will be contextualised within the specific conditions of the Košice region ecosystem, which is currently facing change as a result of the Volvo investment and the start of production scheduled for early 2027. More specifically, the study will examine the impact of the investment on regional development, creative destruction and regional resilience in its early stage in the selected regional ecosystem, reflecting trends identified by existing empirical evidence.

The object of study is the Košice region, which was chosen through an intentional selection process based on its suitability for a case study. The key selection criterium was the implementation of a major foreign direct investment in the Košice region. Volvo's investment of 1.2 billion € is aimed at producing 250,000 vehicles per year, which is one of the largest investments in the automotive sector in Slovakia and also the most significant project in eastern Slovakia, creating a total of 3,300 jobs and providing a boost to the wider region (Ministry of Economy of the Slovak Republic, 2024).

This descriptive case study of the Košice Region goes beyond a simple description of the existing reality, and there are several reasons for this approach. Firstly, the study examines Volvo's investment in the Košice Region and its impact on regional development, creative destruction, and the resilience of the regional ecosystem within a specific context. This context can only be described, not influenced or modified, during the time period covered by our research. Another reason for this approach is that the study provides a comprehensive explanation of the situation in the selected Košice region, linking it to theories of regional development, creative destruction, regional ecosystem sustainability, and regional resilience. At the same time, this approach enables us, in the initial phases of our Volvo investment case study, to reflect on current empirical study trends in other regions, identify the basis for future research questions, and subsequently focus on evaluating and confirming these questions. However, this ambition will only be possible based on data collected once the impacts of the expected development begin to take effect. In this regard, it will be possible to confirm or deny the trends identified in other regions and in the studies mentioned in the theoretical section in 2027 and later.

The Košice Region is one of the eight regions of the Slovak Republic classified as NUTS 3 units. The Košice Region is located in the east of the Slovak Republic and borders Ukraine and Hungary. As part of Eastern Slovakia (NUTS 2), the Košice Region, given its location on the eastern border of the European Union, receives direct support from the Government of the Slovak Republic in attracting foreign investment. In response to this fact, the Košice Region has long been supported through the government's structural policy, specifically in the form of support for the development of industrial parks. In total, there are 78 industrial parks in Slovakia, and 9 parks are currently functioning in the Košice Region; thus, the Valaliky Industrial Park, together with Volvo's investment, represents another such concentration of economic activity (MH Invest, 2025). Košice Region has a total population of nearly 800,000, with the regional capital city, Košice, having a population of approximately 230,000. This is a region that has seen significant

investment over the past twenty years in the form of new companies in the IT and automotive sectors. Currently, the arrival of a new investor is providing fresh momentum for the region's development, with expectations of increased employment and production. In this case study, we aim to answer the following research questions:

- RQ1: What impact will the opening of the Volvo factory have on the economy and development of the Košice Region?
- RQ2: What opportunities and risks does the Volvo factory present for the regional development of Košice?
- RQ3: How can the launch of production at the Volvo factory in Valaliky support the regional development of the Košice Region through knowledge transfer, business support, and the development of a sense of community?
- RQ4: How will the Volvo factory influence the cooperation within the regional ecosystem and regional resilience?

The theoretical part of this study was conducted using an analytical-synthetic method and a systematic literature review, with data primarily sourced from the Web of Science and SCOPUS databases. The theoretical findings will then be applied to the conditions of the Košice Region in the analysis of the automotive industry. The empirical part is based on the analysis of statistical and secondary data from different sources, such as the Statistical Office of the Slovak Republic, Finstat, Slovak Investment and Trade Development Agency, ministries, and the official website of the Valaliky Industrial Park. Finally, the findings will be systematized and summarised in order to formulate conclusions regarding the development, structure, and perspectives of industry in the Košice Region.

4 Case Study: Opportunities and Risks of the Volvo in Eastern Slovakia

The relevance of this study is in the connection between the theory of creative destruction and the real development of the Košice Region. The region serves as an example of transformation driven by investment and allows an analysis of the impact of a new investor's arrival on its future development. The Košice Region comprises eight districts: Košice I through IV, Košice-okolie, Michalovce, Spišská Nová Ves, Trebišov, Rožňava, Gelnica, and Sobrance. The Košice region is one of Slovakia's most important industrial regions, with the following sectors and major companies:

- Metallurgy: U. S. Steel Košice (Košice II) – production of steel and steel products, Kovohuty Krompachy – refined copper production.
- Mechanical engineering: VSS Košice (Engineering Works Košice) – production of special vehicles and machinery; Embraco Slovakia (Spišská Nová Ves) – compressors for refrigeration and air-conditioning systems; Prako-Príruby (Prakovce) – metal components and engineering production.
- Automotive industry: Marelli (formerly Magneti Marelli).
- Electrical engineering industry: BSH Drives and Pumps (Michalovce), SEZ Krompachy (Slovak Electrical Works) – electrical equipment and switchgear; Panasonic (formerly Matsushita Audio Video Slovakia, Krompachy) – consumer electronics manufacturing.

- Chemical industry and mineral processing: Chemko Strážske – production of chemical products; ŽELBA (Spišská Nová Ves) – mineral processing and metal ores treatment.
- Food and consumer goods industry: Frucona Košice – food production; Ryba Košice – fish processing; Zempmilk (Michalovce) – dairy production; MPC (Spišská Nová Ves) – bakery and confectionery products; Nový domov Holding – furniture manufacturing. (Statistical Office of the Slovak Republic, 2026; Vavrinčík, 2004).

The most important industries in the region are metallurgy, chemicals, and electrical engineering. Metallurgy is the most significant (60% of production, 50% of exports), with U.S. Steel Košice operating there. The chemical industry is represented by Chemko Strážske, and the electrical engineering sector is dominated by foreign companies, such as BSH Drives and Pumps Michalovce (Slovak Investment and Trade Development Agency, 2026a). Investment aid in Slovakia is aimed at supporting industry and job creation, with a particular focus on less developed regions. The Košice Region is one such area and is therefore eligible for a higher aid intensity, which increases its attractiveness to investors (Slovak Investment and Trade Development Agency 2026b).

The automotive industry is the most important sector of the Slovak economy and a major source of investment, employment, and innovation, accounting for approximately 10.4% of GDP and 46.5% of industrial output, and employing around 255,000 people. Slovakia ranks among the world leaders in per capita automobile production, with an output of approximately one million vehicles per year and the presence of several global manufacturers. The importance of the automotive industry is gradually expanding into the Košice Region, where the supplier sector and investment are growing (Slovak Investment and Trade Development Agency, 2025).

The Regional Innovation Strategy of the Košice Region 2021–2030 indicates that the automotive industry is one of the most important sectors of industrial production in the region and is closely linked to metallurgy, mechanical engineering, and electrical engineering, primarily functioning as a subcontractor. In terms of regional distribution, it is concentrated primarily in the districts of Košice and Michalovce, with the majority of revenue coming from Košice. At the same time, the strategy highlights the sector's declining trend, as both the number of companies and employees has been declining in recent years. Given the automotive industry's national significance, its development in the Košice Region takes on particular importance. According to the Regional Innovation Strategy of the Košice Region 2021–2030, this sector has so far been characterised primarily by a focus on subcontracting without the presence of final automobile production; therefore, its further development takes on new significance in connection with the planned launch of automobile production after 2027 (Košice Self-Governing Region, 2021).

The Valaliky Industrial Park, with the Volvo Car Košice project, represents a major strategic investment in eastern Slovakia focused on the production of electric vehicles. The factory is expected to reach a capacity of up to 500,000 cars per year in two phases and will become one of the largest electric vehicle manufacturing centres in Europe. The production process encompasses the entire automotive supply chain, from melting and stamping parts, through body manufacturing and painting, to the assembly of batteries

and electric motors, and the final assembly of vehicles. Connections with external suppliers and logistics networks play a significant role, reflecting the global nature of the automotive industry. Through this project, Slovakia is moving toward modern electromobility, leveraging its strong tradition in the automotive industry, skilled workforce, and strategic location in Europe. For the Košice Region, the project holds significant development potential, particularly in the form of the creation of approximately 4,000 to 5,000 jobs and additional indirect employment opportunities in services, logistics, and subcontracting firms. The investment will also support infrastructure development and may attract additional investors, thereby contributing to the region's transformation from a traditional metallurgical and engineering hub into a modern industrial hub focused on new technologies. On the other hand, the project also entails certain risks, particularly environmental and infrastructure-related ones. Increased pressure on air quality, water resources, and the transportation network is expected, with the impact on air quality assessed as slightly negative. The project may also create pressure on the housing market, drive up real estate prices, and place increased demands on public infrastructure. In the long term, it also poses a risk of the region's dependence on a single dominant investor and on the development of the global electric vehicle market. The Valaliky Industrial Park project with the Volvo plant is a combination of private investment and state support, and has been officially designated a significant investment by the Government of the Slovak Republic. The state plays an important role, particularly in building infrastructure and supporting the development of the entire strategic park (Ministry of the Environment of the Slovak Republic, 2024) (Table 1).

Table 1. Technological waves in the Košice Region

Technological waves	1st wave	2nd wave	3rd wave	4th wave	5th wave	6th wave
Focus	Heavy industry (steam)	Engineering and Electrical Engineering	Information Technology	Automation and globalization	Digitalization and Startups	Green Economy and AI
Innovation waves	Hydropower Textiles Iron	Steam Rails Steel	Electricity Chemicals Internal combustion engines	Petrochemical industry Electronics Aviation	Digital Network Software New Media	Digitalization (AI, IoT, AV, robots, and drones) Clean technologies
Time period	60 years	55 years	50 years	40 years	30 years	25 years
Major companies	East Slovak Steelworks (U. S. Steel Košice)	ZTS Košice	ESET	Siemens	Deutsche Telekom IT Solutions Slovakia (Košice)	Volvo
	Košice brickyard (does not exist)		Asseco Central Europe		Ness Digital Engineering (Košice)	

Source: modified by authors based on (Finstat, 2026; Uctu, Tuluce and Aykac, 2024)

The region's transformation from a traditional centre of metallurgy and engineering into a modern industrial hub focused on electromobility and innovative technologies is creating new drivers of development, but at the same time increasing its vulnerability to external factors. For this reason, the main opportunities and risks associated with this development can be identified in aspects included in Fig. 1.

	Opportunities		Risks
+	Creation of new jobs (number of university graduates and high school students)	-	The region's high dependence on strategic foreign investors
+	Development of electromobility and new technologies	-	The automotive industry's impact on economic cycles as demand for vehicles, which is closely tied to the economic situation in global markets.
+	Multiplier effect of investments, specifically through the arrival of subcontractors and logistics companies	-	Environmental impact
+	Improvement of infrastructure, specifically through the construction of an industrial park	-	Shortage of skilled labor
+	Integration into global value chains, specifically through automotive exports	-	Regional disparities

Source: authors

Fig. 1. Opportunities and risks associated with development in Košice Region

The entry of a strategic investor aims to strengthen the regional resilience of the Košice Region, particularly through job creation, an influx of investment, and integration into global value chains. At the same time, however, risks associated with dependence on a single sector and external factors persist, highlighting the limitations of regional resilience itself. Therefore, the need to develop creative resilience comes to the fore, enabling the region's transformation toward a more diversified, innovative, and long-term sustainable economy.

5 Discussion

Creative resilience represents an extension of the concept of regional resilience, as it emphasises not only a region's ability to recover from shocks, but also its capacity to generate new development trajectories through innovation and entrepreneurship. The Volvo factory in Valaliky is owned by a global entity, its infrastructure is used by city residents and regulated by public administration institutions, thereby creating public-private partnerships.

As a result, urban infrastructure becomes "locally unbranched but globally interconnected," offering benefits to all parties, with predictable returns for investors and infrastructure use for residents. This case shows that local and global scales are not necessarily at odds with one another and can lead to "win-win" outcomes (Zientara, 2009). In connection with the three pillars of creative resilience (Simonen, Herala and

Svento, 2020), when Volvo begins production, it is necessary to provide support, mainly knowledge creation, support for entrepreneurship and development of community spirit.

Knowledge creation is important because technology transfer, training, and collaboration with local educational institutions bring new knowledge and skills. Among the educational institutions is the Technical University of Košice, which mainly offers study programs focused on mechanical engineering, electrical engineering, mechatronics, automotive manufacturing, and industrial engineering. Pavol Jozef Šafárik University in Košice also plays a significant role, particularly in the fields of natural sciences and IT. At the secondary education level, there are secondary schools focusing on technical fields such as mechatronics, electrical engineering, mechanical engineering, and automotive repair, which are gradually being integrated with practical training through dual education programs.

Support for entrepreneurship is provided through the development of supply chains, investment opportunities, and a favourable business environment that attracts foreign direct investment and supports local entrepreneurship.

Several companies linked to the automotive industry are already operating in the region, particularly in the Kechnec Industrial Park, which is home to companies such as Getrag Ford Transmissions Slovakia (gearbox manufacturing), Magneti Marelli (automotive components), and Molex (electronic components for the automotive industry). These companies form the foundation for the development of subcontractor networks, and Volvo's presence may further expand this ecosystem to include new businesses in the fields of parts manufacturing, battery systems, logistics, and services.

Community spirit is fostered through job creation, social networks, and the plant's participatory activities in the region, which strengthen social capital and a sense of community belonging. The investment helps reduce the outflow of young people from the region and encourages the return of skilled workers.

This framework reflects the need for local authorities and businesses to act both locally and globally. Locally because of critical assets such as social capital, human resources, and infrastructure, and globally, because globalization offers new investment and business opportunities that boost the attractiveness of the region. Experience from Romania shows that low trust and weak social capital can slow down the development of innovation clusters (Talmaciu, 2012). This is why it is important in the Košice Region to implement mechanisms of participatory democracy and careful decision-making. These mechanisms will ensure that development projects, such as the Volvo project, serve the interests of the entire community.

In summary, although it might initially seem that regional development will be driven primarily by the automotive industry, based on the available empirical evidence mentioned, it should be predicted that sustainability will not depend solely on the Volvo car plant itself. Based on the trends identified in the theoretical part of the study, it is currently possible to assume that, in the case of the Košice region under examination, overall innovation potential will be supported and that mutual relationships and regional resilience within the ecosystem will be strengthened.

In this sense, Volvo investment serves as an important example and confirmation of models of regional collaboration, where a regional ecosystem operating on a triple-helix

or quadruple-helix model supports the growth of the entire regional ecosystem (Mitaľ, Ručinská and Ručinský, 2025).

Finally, it should be noted that Volvo's investment is only just beginning to be realised with the start of production in early 2027. This study describes the current phase of the investment's implementation. Within a few years, this descriptive comprehensive overview can be strengthened with additional quantitative and qualitative economic and social data.

Based on these findings, it can be concluded that the further development of the region should focus on strengthening creative resilience, which enables the transition from passive adaptation to active transformation of the economy, particularly in the context of the transition from traditional industrial sectors to digitalisation, artificial intelligence and green economy within the current fifth and sixth technological waves.

6 Conclusion

At the regional level, creative destruction manifests itself as a process in which long-established firms and industries give way to new technologies, products, and business models, leading to economic shocks and pressure to adapt(Neufeld, 2021; Hospers, 2005; Schumpeter, 1934). Contrary to traditional regional resilience, which focuses on returning to the original state, creative resilience is a specific approach that emphasises a region's ability to transform itself and create new economic structures in response to change (Bristow and Healy, 2014; Reggiani, De Graaff and Nijkamp, 2002). The case of the Oulu region in Finland shows that effectively managing these shocks requires three pillars of creative resilience: knowledge creation, entrepreneurial initiatives, and a strong community spirit (Simonen, Herala and Svento, 2020).

The key benefit of the study is therefore its contribution to the ongoing debate, highlighting the importance of creative resilience. Regional resilience and creative resilience represent distinct yet complementary approaches to regional development. While regional resilience focuses on the ability to adapt and recover after a shock, creative resilience emphasises active transformation through innovation and entrepreneurship. In the context of current technological developments and ongoing technological waves, as well as within the conditions of the Košice Region, it therefore appears essential not only to maintain regional resilience but also to systematically develop the principles of creative resilience as a prerequisite for the region's long-term and sustainable development.

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