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PAPER

# Innovation and Development after Transition. The Case Study of Gorizia Region, Slovenia

**Cristian Gangaliuc***

**Abstract** Central and Eastern Europe's transition to a market economy was not homogeneous. It led to many developmental paths available for its regions. The study aims to see the results of this process and describe the contemporaneous innovation status and struggles. The analysis considered Gorizia (Slovenia) as an example of a non-capital region close to the European developmental average.

Based on data collected through an expert focus group organised with local stakeholders, the research revealed that Gorizia's innovation process relies on endogenous and exogenous forces. The region reconstituted the economy from big producers into multiple smaller companies. Their integration into the global production chains proved essential in the transition and further development. This allowed for overcoming the issue of limited local and national resources, market size, and demand.

Similarly, it has widened regional stakeholders' perspectives and contributed to local clusters' development. Thus, the Regional Innovation System is heavily oriented toward foreign collaboration, especially with Italian partners. Local institutions and organisations are responsible for implementing the most significant projects within the region. Their susceptibility to the needs of the private sector strengthens the entrepreneurial origins of the innovation process. Gorizia's innovation performance positively influences its competitive position. The value chain Flagships and original manufacturers show interest in local innovation. It is seen through the acquisition of Intellectual Property or parts of the companies to utilise in their production and innovation processes.

**Keywords:** Transition, Innovation, Regional Innovation System, Transnational Value Chains, Central and Eastern European Regions.

## 1. Introduction

There is a sizable developmental discrepancy between the members of the European Union (EU). The issue is primarily connected to the latest members joining the EU,

Cristian Gangaliuc*(✉)
*Faculty of Innovation Studies in Novo mesto, Novo mesto, Slovenia
E-mail: cristian.gangaliuc@fis.unm.si

namely the Central and Eastern European (CEE) states. Among the CEE countries[1] and regions, only Estonia and the Capital Region of Lithuania can be considered strong innovators (European Union, 2021). Another well-known aspect is their Socialist past. Although their transition can be considered finished (being a member of the EU requires a working market and democratic institutions), the remnants of the past regimes affect their modern performance. Be that a late start, lack of resources, suboptimal policy, or immature institutions, their lacking innovation and developmental status is prominent (Radosevic, 2000).

The transition process for CEE regions was dissimilar. Divergences in national privatisation, economic potential, competencies, and investment, coupled with regional (over- and under-) specialisation led to numerous outcomes. The elements of regional innovation and developmental paths were contextual to many factors. It caused multiple types of regions based on degrees of economic diversification (Radosevic, 2000), internal processes (Isaksen, 2001; Toddling & Trippl, 2005), and interactions within and outside the system (Asheim & Isaksen, 2002). Some regions considered integrating into global production chains as a suitable strategy for overcoming the established shortcomings (Gereffi, 2014; Ernst & Kim, 2001; Ernst, 2002). Becoming members of these frameworks instilled knowledge and technology transfer, triggering learning waves and boosting competence (Giuliani et al., 2005; Pietrobelli & Rebelloti, 2011). The strategy of letting value chains integrate into regional structures is not without its risk. The access to capital and investments made some regions vulnerable, allowing Multinational Corporations (MNCs) to take advantage (see "the Dark Side of Embeddedness, Coe and Hess, 2011; Yeung, 2015). The overreliance on Foreign Direct Investment (FDI) is associated with developmental obstacles in the long run, such as affecting wage inequalities (Herzer and Nunnenkamp, 2011). All the strategies mentioned above came with risks and benefits, making the transition almost unique for each region.

What did change three decades after the fall of the Socialist systems? Do regions cope with the same problems in the same manner? Do they face new struggles? Becoming a member of the EU did not solve all their issues. The paper aims to analyse the current situations in CEE regions. The goal is to see how the innovation systems are built, their integration into the global value chains, and how these influence the developmental paths. A descriptive analysis of a European region can highlight some of the issues and contextual opportunities faced by this group. Even one region can accentuate the new obstacles and underline the long-lasting marks caused by their transition.

It is a common understanding that the development of each region is contextual (see Radosevic, 2000; Todtling and Trippl, 2005). For this purpose, the research considers the Slovenian region of Gorizia. The particularities in Gorizia are not representative of the whole sample of the CEE counties. However, Gorizia is an example of a moderately developed, post-transition region. Following the EU reports, Slovenia's innovation performance scores closest to the EU average for 2021 (European Union, 2021). Within

[1] Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia, Slovakia

the national context, Gorizia has a median R&D expense and GDP per capita (see Table 1. SiStat2). Being an average performer, it is easy to assume that this county is still facing obstacles but is competent in overcoming some of the transition issues.

The paper is divided into four parts, except the introduction. The following section portrays the modern theories of regional development and innovation, accounting for local and global influence. Further, the article continues with the description of methodological design, and how it fits the established theoretical and research framework. The data analysis and empirical description of the region are presented next, ending with the conclusions.

## 2. Regional Innovation from a theoretical standpoint

The paper considers two primary sources for regional development – endogenous and exogenous. Ergo, to create an innovative environment and motivate companies to modernize, the regions mobilize resources, opportunities, and pressures that come from within the region and from integrating into the global economy.

To account for internal processes, the study follows the Regional Innovation System (RIS) approach (Cooke, 1992; 2001; Asheim & Isaksen, 1997). RIS considers the importance of learning and knowledge, as well as the processes associated with its creation, utilisation, diffusion, and absorption (e.g., Fritsch & Slavtcev, 2008). The learning process can represent multiple variations, incorporating different aspects of cooperation. It is exemplified in such models as learning by doing, interacting and using (Asheim & Coenen, 2006; Asheim & Isaksen, 1997). The mechanism implies stakeholders' voluntary interactions, joint ventures and collaboration (Cooke, 1992; 2001; Asheim et al., 2011). Therefore, the regional network becomes the locus of innovation, interdependent with the processes in the innovation system (IS) (see Stuck et al., 2014). The network encompasses various types of actors, from public, private and academic fields (see Todtling & Trippl, 2005; 2018; Asheim & Coenen, 2005; Zukauskaite, 2018), performing different functions. As such, RIS theory considers two subsystems – Knowledge Utilisation and Creation (Asheim & Coenen, 2005), also addressed as Production and Supportive Subsystems (Coenen et al., 2004). The first is represented by the private agents, who are interested in the application of knowledge to gain a competitive edge. The second is mostly the public sector, charged with various functions to support production and innovation. Nevertheless, the roles are not exclusive, and each party can contribute to both processes.

Depending on the interplay of the two subsystems, RIS can be divided into Entrepreneurial (ERIS) and Institutional (IRIS) innovation systems (Cooke, 2004). ERIS is specific for regions with new, flexible, and booming industries, where entrepreneurial activities are still high, filling new demands and relying heavily on venture capital (Cooke, 2004; Asheim et al., 2005). The support subsystem is

[2] Statistical Office of Republic of Slovenia: https://pxweb.stat.si/SiStat/en (accessed 28.05.2022).

concentrated on providing entrepreneurial support, such as hubs and incubators (Zukauskaite, 2018), and has limited intervention in research and development (R&D) and cooperation (Asheim & Coenen, 2006). Au contraire, IRIS has a great institutional initiative in shaping and promoting systemic innovation and a more extensive control through production, innovation, taxation, and education policies (Zukauskaite, 2018). The interactions between public and private sectors are heavy, especially in governmentally sponsored R&D and with educational institutions (Asheim et al., 2005; Cooke, 2004). This makes institutions and organisations a vital part of the innovation process, both directly and indirectly. The distinction between the two models is sometimes hard to observe. Many regions host older and newer industries with separate sectoral policies and IS.

The interplay of RIS subsystems with the regional and extra-regional environment is not homogeneous. Regions that rely on the local forces (cluster power, universities, etc.) are called Grassroots RIS (Cooke, 1992) or Territorially Embedded IS (Asheim & Coenen, 2005). Regional interactions, usually among small and medium enterprises (SMEs), prevail over weaker external connections (Stuck et al., 2014; Asheim & Isaksen, 1997; Asheim & Coenen, 2005). The name suggests that the innovation activity is embedded in regional structures, with regulations and learning contextual and adapted to the local particularities (Asheim & Isaksen, 1997; Asheim and Coenen, 2005). The (Regionally) Networked RIS is similar in the way of keeping the primary cooperation regionally but has significantly more input and influence from outside (Stuck et al., 2014; Cooke, 1992). The network is heterogenic, and public bodies actively support knowledge creation and transfer (Stuck et al., 2014; Zukauskaite, 2018). As it draws from internal and external processes, it is also addressed as the "ideal" RIS (Asheim & Coenen, 2006, 2005; Zukauskaite, 2018). The systems that are controlled and influenced by national and global IS are called Dirigiste RIS (Asheim & Coenen, 2005). Their innovation process is guided, financed, or monitored by extra-regional stakeholders, such as national institutions or Multinational Corporations (MNCs) (Cooke, 1992; Stuck et al., 2014). The MNCs dictate sectoral innovation processes, funding R&D and other projects (Zukauskaite, 2018). The support subsystem is the intermediary between the region's integrated and independent production chains (Stuck et al., 2014). This creates better opportunities to find innovation partners abroad (Asheim & Coenen, 2005).

The typology presented by Todtling and Trippl (2005) is of particular interest for CEE and transitioning regions. It considers the limitations faced by local systems. The model focuses on three deficiencies: institutional thinness, defragmented networks, and old/rigid industries. Institutional thinness is typical for peripheric regions, where the network is sparse, and the production and support systems are underdeveloped, therefore showing low innovation potential (Zukauskaite, 2018). In contrast, defragmented systems are present in metropolitan areas. These regions have well-

developed elements of IS, including competent production and support subsystems, but lack connectivity between them. It makes an incomplete RIS without optimal use of its possibilities (Todtling & Trippl, 2005). Old Industrial regions display a "locked-in" problem. Despite having experienced sectoral IS, they lack external sources of knowledge and thus face competitive disadvantages by not integrating modern managerial and technological changes (Todtling & Trippl, 2005; Zukauskaite, 2018).

The globalisation of economic activities offered new perspectives for development. With the extension of MNCs and value chains, many regions started adopting new strategies (Gereffi et al., 2005). Therefore, Global Production Network (GPN) and Global Innovation Network (GIN) theories can help identify exogenous growth factors.

A GPN is a transnational (see Dicken, 2005) production structure based on hierarchical modular production that includes many localised suppliers managed by an MNC (Flagship) (see Henderson et al., 2002; Ernst and Kim, 2001). Production and innovation competencies significantly impact on the role and influence of a supplier in the GPN and its developmental paths (Pietrobelli & Rabellotti, 2010; Yeung & Coe, 2015; Rainnie et al., 2011; etc.).The theory uses the term embeddedness to describe the interactions between regions and GPNs (see Coe et al., 2004; Dicken, 2005; Yeung & Coe, 2015). It reflects the degree of co-dependence and symbiotic co-development, also known as "strategic coupling." Value chains operate with the intent to utilise regional assets for production and enhancement of value, offering FDI and innovation opportunities for regions (value capture) (Henderson et a., 2002). The benefits are established during cooperation and set by each party's "bargaining" potential. When a region possesses critical assets sought by the MNCs, the possibility for value capture increases. Strategic coupling is a dynamic process. Therefore, the benefits and development of the relationships vary with time (Coe et al., 2004; Yeung & Coe, 2015, etc.). On the one hand, when the bargaining balance is tripped towards GPN, a region risks losing the ability to capture value, becoming dependent on the GPN framework (Yeunng, 2015). Conversely, when the local RIS grows in potential and the region can develop a flexible and scale economy, the bargaining potential ensures positive embeddedness and development. Thus, the presence of GPNs in a region acts as a source of income and FDI and increases the economic and innovation pressure. If a region is capable of satisfying them, it can experience value chain "upgrading" (see Gereffi, 2014; Ernst, 2002; Pietrobelli & Rabellotti, 2010; Giuliani et al., 2005), increasing its relevance in the production hierarchy and securing developmental assets.

Given time and sufficient involvement, a rooted GPN allows for technological, knowledge, and skill transfer (Ernst 2002; 2009). The volume and quality of the shared assets (tangible and intangible) are proportional to the dynamics of cooperation (Ernst, 2002; Ernst and Kim, 2002, Yeung, 2015). Various governance models and interaction patterns allow the RIS distinct paths to knowledge and learning (Pietrobelli and Rabellotti, 2010). Nevertheless, the mere transfer is not enough to

achieve innovativeness. Local suppliers must be competent and able to assimilate the technology and knowledge available from these interactions (Ernst & Kim, 2002; Pietrobelli & Rabellotti, 2010). The two processes are correlated. Spillovers penetrate the region gradually, affecting production, innovations, and absorptive skills (Ernst & Kim, 2002), enhancing the RIS (Pietrobelli & Rabellotti, 2010). A possible effect is to trigger regional specialisation (Coe et al., 2004; Rainnie et al., 2011, Ernst & Kim, 2001), which gives a region more assets and negotiation power.

GIN can be perceived as a component of the GPN. Within a production hierarchy, locations that excel at value enhancement are becoming part of the value chain's innovation network (Ernst, 2009). Flagships capitalise on specialised regional IS to increase their skills, besides production and distribution benefits (Parrilli et al., 2013). According to GIN, regions with high R&D output, innovation competence, and experience are called Global Centres of Excellence (Ernst, 2009). Their developed status implies high costs for the innovation process, which is their main drawback (Ernst, 2009; Sachwald, 2008). Advanced Locations also display high innovation potential. These benefited from technology and knowledge transfer during the first wave of economic globalisation, and by now, developed their pools of skills and expertise. Catching Up locations represent the second wave, which allowed them to integrate GPN knowledge at higher rates (due to lessons learned prior, Ernst, 2009). These regions now face the need to invest in hard innovation skills and infrastructure to sustain competitive advantages. Finally, New Frontiers are the last to integrate into value chains. It counts the most competent CEE regions that transitioned to the market economy after the socialist past and now can contribute to innovation. These regions perform incremental and routine innovation tasks, offering value through motivated and cheap experts and R&D personnel. They can also absorb sophisticated knowledge and complex technology, building up soft innovation skills and offering a decent developmental path (Ernst, 2009)

Both endogenous and exogenous factors amplify the abilities of regions to create, absorb and implement innovations. In each case, innovation is presented as an interactive and contextual phenomenon, dependent on the local structure, institutions, and values (see Asheim et al., 2011), as well as on the dynamics and positioning within production networks (see Ernst, 2002; Gereffi et a., 2005; Pietrobelli & Rebelliti, 2011).

## 3. Methodology

The descriptive analysis will concentrate on the parameters and particularities of the regional innovation system and the relations with foreign partners described in the last part. It will also focus on the elements of local network, institutional and organizational support, the impact of local mindset, and the integration of Transnational Value Chains (TVC). The research considers the term TVC, following Dicken's (2005) argument. These relationships penetrate various institutional and cognitive layers, which are

better understood through the term Trans-National. Therefore, the term TVC will represent an integrated supply chain, while GPN is used to address the existing theory.

The study uses primary, qualitative data, collected in the Jean Monnet Centre of Excellence "Technology and Innovations in Regional Development for Europe 2020 (TIR2020)"3 framework. The data collection methodology is influenced by the Social Fields Theory (see Roncevic et al., 2022; Besednjak Valič, 2022; Cepoi, 2022) and the triple helix model. The social fields were used to develop the questionnaire, consisting of 20 questions on the regional innovation process (general assessment, R&D involvement, information circulation, and Open Innovation practices); network parameters (structure, cooperation with locals and outsiders, and trust); institutional framework (impact of institutions, innovation policy, and ability to attract and retain people); regional cognitive frame (attitudes on learning, competition, entrepreneurship, and globalisation); and transnational relationships (embeddedness of TVC, technology and information transfer, aggregated role in production chains, and economic dependence). The group interviews were done with regional experts from the academic, public, and private sectors representing the helix. For example, the focus group in Gorizia was performed in 2021 and included a member of the Regional Developmental Agency, a representative of a company providing innovation services, and a researcher in Organisational Development. The interviews are supported by additional statistical data available on national and European levels. Combining qualitative and quantitative data increases the results' validity and allows the interpretation of regional interactions systemically.

## 4. Gorizia – Analysing the Innovation System

Gorizia4 is the north-western Nuts3 Region of Slovenia, part of Western Slovenia (Nuts 2 level), at the border with Italy and Austria. It is an average region, given economic and innovation performance (see Table 1). The region is engaged in manufacturing, followed by trade, transportation, and accommodation activities (associated with recreational and tourism industries), and public services (see Table 2). It is heavily interlinked with the neighbouring Italian city of Gorizia, sharing economic, cultural, and social aspects. The respondents acknowledged that "the Slovenians work in Italy, or vice versa, a lot of traffic," indicating daily migration of workers.

In the last decades, Gorizia underwent several essential transformations. The transition from a socialist economy marked a change in the business model. The region switched from a few large producers to an SME-baes economy: "nowadays, we have a lot of small, very good companies […] this was the biggest change in our economy in

[3] Jean Monnet Center of Excellence, Technology and Innovations in Regional Development for Europe 2020 (TIR2020), Co-funded by the Erasmus+ programme of the European Union, Key Action: Cooperation for innovation and the exchange of good practices, Action Type: Knowledge Alliances for higher education, Project Reference: 587540-EPP-1-2017-1-SI-EPPJMO-CoE. More information available at https://www.tir2020.net/

[4] Goriška, in Slovenian

last 50 years," and "while this changes in '80s or '90s, when people... big companies were collapsing and smaller were raising." The second important change is related to the socio-economic identity of the region. During the 1990' the region was profiting from the recreational industry. As the respondents recall, in the "'90s, imagine the croupier in HIT [the biggest casino] […] had 4 to 5 times higher salaries than engineers […] This was a phenomenon […] It's not anymore, people don't say – I really want to work at HIT." Reliance on Italian quests only encouraged such low value-added activities, allowing the region to gain significant income.

In the post-transition period, the region operated on market values and properly embraced the entrepreneurial model. By 2020, the region had almost 12 thousand companies, with decreasing numbers of annual liquidated companies (e.g., 934 in 2016 and 672 in 2019. SiStat) and a three-year survival rate of over 60% in 2019 (calculated based on SiStat data). It is also seen in the attitudinal plane, with the population being pragmatically-tolerant of failure: "if you explain well, it's normal that no one is happy that it happened […] I think they understand," which represents a significant improvement over the transitional period. Additionally, some existing companies are open to providing mentoring. Nevertheless, certain aspects remained. As the respondent from the private sector mentioned: "I'm a mentor of many start-ups in the region, so I see a huge innovation potential in Slovenia. And very low, low potential of selling," which highlights a yet underdeveloped "salesman" mentality. This is also seen in the learning and training exercises organised for entrepreneurs and workers.

**Table 1.** Descriptive Statistic

| Descriptive data (2020) | Population | GDP[5] | GDP per capita | R&D Expenses (1000 EUR) | R&D (% of regional GDP) | R&D (% of Slo. GDP) | R&D personnel[6] |
|---|---|---|---|---|---|---|---|
| SLOVENIA | 2100126 | 46918 | 22312 | 1007493 | 2,15 | 100,0 | 15805 |
| Pomurska | 114397 | 1769 | 15448 | 10002 | 0,57 | 1,0 | 166 |
| Podravska | 32651 | 5945 | 18185 | 53344 | 0,90 | 5,3 | 1010 |
| Koroška | 70835 | 1259 | 17756 | 6689 | 0,53 | 0,7 | 111 |
| Savinjska | 258345 | 5144 | 19886 | 8078 | 1,57 | 8,0 | 1167 |
| Zasavska | 57148 | 697 | 12174 | 16051 | 2,30 | 1,6 | 204 |
| Posavska | 75983 | 1489 | 19565 | 7499 | 0,50 | 0,7 | 175 |
| Jugovzhodna Slovenija | 145859 | 3270 | 22388 | 143485 | 4,39 | 14,2 | 1494 |

[5] Mio EUR (exchange rate 2007)

[6] Fulltime equivalent

| Descriptive data (2020) | Population | GDP[5] | GDP per capita | R&D Expenses (1000 EUR) | R&D (% of regional GDP) | R&D (% of Slo. GDP) | R&D personnel[6] |
|---|---|---|---|---|---|---|---|
| Osrednjeslovenska | 554823 | 17870 | 32168 | 558903 | 3,13 | 55,5 | 9228 |
| Gorenjska | 207842 | 3932 | 18893 | 46072 | 1,17 | 4,6 | 774 |
| Primorsko-notranjska | 53092 | 817 | 15372 | 6892 | 0,84 | 0,7 | 171 |
| Goriška | 118421 | 2318 | 19551 | 5869 | 2,53 | 5,8 | 969 |
| Obalno-kraška | 116871 | 2408 | 20576 | 19086 | 0,79 | 1,9 | 337 |

Source: SiStat. All data for 2020

**Table 2.** Economic Activity by Sectors

| Sectors | Value Added[7] | Activity structure (%) | Employment |
|---|---|---|---|
| Total activities | 2051 | 100,0 | 55050 |
| Agriculture, forestry and fishing | 79 | 3,8 | 5353 |
| Manufacturing, mining and quarrying and other industry | 664 | 32,4 | 15092 |
| ...of which: Manufacturing | 570 | 27,8 | 13741 |
| Construction | 152 | 7,4 | 4281 |
| Trade, accommodation, transport | 329 | 16,0 | 10255 |
| Information and communication | 43 | 2,1 | 1015 |
| Financial and insurance activities | 35 | 1,7 | 605 |
| Real estate activities | 171 | 8,3 | 172 |
| Professional, technical and other business activities | 147 | 7,1 | 4895 |
| Public administration and defence, education, health | 337 | 16,4 | 9723 |
| Other activities | 93 | 4,5 | 3659 |

Source: SiStat. All data for 2020

The RIS framework is relatively developed. The region follows the latest EU innovation trends, to a progressive, green economy. Regional institutions are funding more

[7] Mio EUR (exchange rate 2007)

significant projects to transition to safe energy: “like Sun […] the water energy. And maybe in the field of energy we have a lot of opportunities, a lot of projects,” to “reduce also the traffic and we have very big projects how to reduce the CO2 in whole region, not only traffic but in all fields, industry, companies.” The information circulation is rather advanced. Formal channels link to local, national and European institutions and present multiple opportunities for the community. The support subsystem provides all the necessary information, which can be abundant for local SMEs. Their possibilities are not always up to the offered prospects: “a lot of information available, but people are not either ready to deal with the resources.” It creates an atmosphere of resilience, where companies can choose and engage whenever ready and into projects essential for them.

The prevalence of SMEs means that regional companies have insufficient resources to perform internal R&D. Still, linear innovation is present and shows decent results (see Table 1). To overcome this issue, local agents engage in Open Innovation and co-creation activities with public and private partners, both local and foreign: “this is very important that R&D doesn’t have the border.” Usually, Intellectual Property Rights (IPR) issues create complications as the companies fight the possibility to secure their competitive advantage. It resonates with the lacking salesman mentality and slows the innovation process: “most of the innovation are locked in a drawer […] they don’t want partners in this, but they don’t have money to go outside.” Companies prefer using internal potential but are willing to spend resources if it helps them innovate.

Local interactions show a heterogeneous pattern. The public-private collaboration is present in the innovation process. Still, the connections are interest-based, and clusters are formed when there is funding and opportunities for the companies: “networks are working when they have the money.” Similarly, the application of projects discourages non-participation, which is a mechanism to overcome the typical mentality to “work separately, and that is a very, very big problem.” The easy disengagement and creation of new links indicate a flexible and rather horizontal network, constantly (re-)shaping its structure. The scarce resource pool and the small market does not allow companies to grow appropriately. If the focus goes only on internal relationships, the situation can become tense as the competition is high. Therefore, the companies prefer to integrate into global supply chains: “you have to be innovative. And it is an opportunity for growth in our small country, small region, means you have to go outside,” and “the companies, who are innovative, they made a success, because innovation means export, export means success.” The necessity to produce and innovate in this framework motivates regional interactions that would otherwise be very limited: “they have to make the clusters. Because, if they do not do this it will be maybe the problem in the international market.” Clustering is a market model that allows companies to perform in flexible and uncertain environments. This is a suitable design for smaller manufacturing players and other industries subjected to continuous production variability (Maskell and Lorenzen, 2004).

Consequently, this strategy is to be expected in Gorizia. The ability to interconnect and produce for TVCs allows local stakeholders to grow and pressures them to remain competitive. Clusters accelerate sharing of knowledge and commodities while maintaining external links. This gives the necessary flexibility and adaptability to face global competition for regional SMEs.

As mentioned, the network reaches over the borders and connects with Italian and other companies. Usually, more significant projects can engage international cooperation, while smaller ones are done within regionally-established groups: "When the projects are big […] we are too small and, in that case, maybe they cooperate also with neighbouring Italy." The private sector finds more value in foreign markets and escapes the scarce-resource dilemma. These interactions are an important source of information and innovation that enriches regional skill, knowledge and competence pools. As respondents noted: "they do not have a lot of stuff, so they use external experts." The focus on external economic transactions also facilitates the development of local interactions. It reduces the competitive tension and thus allows building new layers of general trust: "I do not think we are happy with competition, because we are limited here […] when we started to work abroad, […] then we are best friends with everybody." The same argument can be used to explain positive globalisation attitudes. Population sees it as means for development and personal opportunities. Nevertheless, some parts of the network are not eager to engage globally. The national cooperation is primarily institutional. Local administrations constantly communicate with the central government for information and project funding.

The support subsystem is also very active in the innovation process. Probably the main impact is that institutions and support organisations are the leaders of the region's biggest and most significant projects. They are redistributing national and European resources and are available for cooperation. This trend is exemplified through their implication for the green economy and energy transition. As the private sector primarily interacts externally, the support subsystem's role is to create an adequate environment for development. It is done partially through the Innovation Policy, which does not represent a vital factor in the region. It does not exist as a unitary document, except for specific innovative initiatives described in other developmental strategies. Still, the region has working entrepreneurial and innovation support, mainly represented as funding streams: "funds for innovations, for the small and medium enterprises" and "region has vouchers for innovations really exploiting basic regional opportunities." It is done on a selective basis, usually investing in the best applicants/applications. The same is true for external projects that require heterogeneous cooperation. Their implementation helps motivate stakeholders to engage and collaborate. The national policy also presents additional opportunities. However, it is criticised for its application: "problem of strategies in Slovenia is that they are very good on the paper, but in reality […] I think that many times these policies are […] not so concrete."

Besides being available for cooperation and as sources of information, local organisations (e.g., chambers of commerce, agencies, etc.) perform networking, educational, and support services for the companies. For example, local universities can be contracted to perform research for the private sector: "quite some money into research which also FUDS was providing, in gambling, the social aspect of gambling." Therefore, the existing support structure is tailored to the feedback and needs of the business. The concept was summarised very well in: "is getting an identity, is getting this strong support." Consequently, the region accumulated a critical mass of support organisations, including "developmental agency, we have incubator […] Technology Park […] Chambers of Commerce and Chamber of Craft," etc. Therefore, inter-institutional cooperation is also well presented. The existing structures are contributing to developing new, necessary institutions. For example, the administrative unit played an essential role in establishing a regional Higher Educational Institution (HEI). Still, the region encounters some political blockages. Divergences between stakeholders can be a problem in pursuing specific projects: "it is not so easy to make a very, very good cooperation between stakeholders and the region. Well, in the politics, or I do not know who, do not want this, for example."

The growing economic and innovative performance, as well as developing organisational support, allowed the region to overcome the issue of depopulation. This is a common problem within the CEE area, posing a significant threat to the development of the whole macro-region. In Gorizia, the established HEI helped attract and retain talented students usually moving to the Capital Region for study. The competitive status of local enterprises contributes to the attraction of international experts: "nowadays we have a good name, well-established research group, and now good people all over Slovenia and across the border are finding us, and applying for a job." Therefore, the region can balance between losing, retaining and attracting the population. In 2020, Gorizia displayed an increase of 465 people, despite its negative natural growth (-309, SiStat). The region still loses population to the capital but is capable of compensating due to foreign employees and students (net migration counts additional 688 foreigners and 100 Slovenians in 2020, SiStat). The size of the region and the country still impedes its development. The increasing population highlighted the issue of insufficient infrastructure: "not only the accommodation for the students but also accommodations for young families […] we build very small quantitates of houses." The capacity to retain and attract educated and skilled personnel is not great, but it symbolises the development of Gorizia. Nevertheless, the region is yet to overcome the infrastructure blockage to achieve further growth.

Gorizia's integration into the TVC framework is high. A significant factor of its RIS is the engagement with foreign partners and reliance on export. According to the respondents, the region is highly active in the Automotive industry, which is a national characteristic: "Slovenia is highly dependent on Automotive Industry of Germany."

Furthermore, all local sectors are mostly oriented to foreign markets, even recreational: "many other are dependant. HIT depends on Italian guests. Istra, Gostrol, depend on foreign markets. They are all exporters here." Companies are highly engaged, but the TVCs are not necessarily strongly embedded with the region's social or institutional framework. As companies access external expertise, the presence of international staff in universities, for example, is negligible: "we can count on our fingers the foreign professors in our universities." The embeddedness is primarily economic and kept at the level of Market and Modular Governance (see Gereffi et al., 2005). It allows Flagships to choose local suppliers and partners based on their performance and project interests: "if they are not happy with the supplier, they will choose another one." Regional performance is high in the production hierarchy. Gorizia supplies components parts (also addresses as Tier-I), usually used by final manufacturers: "we don't have raw materials, semi-products. So, component parts like automotive. Some small, like layers of software that are embedded somewhere." It also increases the sectoral dependence, as the imports and exports are TVC-based, but offers essential market and learning opportunities.

The modular integration explains the clustering effect. Flagships can easily change the suppliers, posing additional risks and uncertainties for local SMEs. Therefore, the technological and innovation support from TVCs is indirect (e.g., information, data analysis) and minimal. The local and global competitive pressure motivates companies to constantly implement new things, to the benefit of Flagships and TVCs: "[interest is] not to invest in R&D in a supply chain. They need quality. They are happy with innovations." When the chain partners are interested in local innovation, "[they] are buying parts of the good companies, because they want to be involved, because they want to have access to their IPR." Such practices increase the relevance of local RIS and their bargaining position: "If Germany closes the door for us, we will go somewhere else." The automotive specialisation and competence to supply innovation to TVCs make the region globally relevant. Respectively, the region, although geographically fixed, can be more flexible in networking and production terms. Good bargaining contributes to inter-chain (move to another production chain or MNC buyer) and functional upgrading (increasing the importance and the level of modular production closer to the final product) (Pietrobelli and Rabellotti, 2010; Giuliani et al., 2005). It evens the co-dependence balance and helps the region to sustain its ties and developmental opportunities.

## 5. Conclusions

The study aimed to describe the post-transitional innovation systems in CEE, focusing on the case study of Gorizia, Slovenia. The analysis revealed that it successfully progressed to a market model, switching from big companies to multiple SMEs and integrating into the global economy. Nevertheless, the region still faces several

obstacles, such as lacking regional cooperation or "salesman" initiatives.

Focusing on endogenous factors, the region resembles an IRIS, with institutions and organisations leading the most prominent projects, promoting cooperation (including in R&D) and creating conditions for development. The inter-institutional cooperation is tighter compared to resource-dependent and shorter-lived clusters. Being a small region with limited resources and space is affecting regional collaboration, creating a robust competitive environment. This reflects in the size and structure of the local network.

However, looking at the exogenous factors, the situation changes significantly. The small regional/national demand and network motivate SMEs to integrate into transnational production networks. The local private sector is pursuing the perspective of engaging in foreign partnerships and becoming TVC suppliers. Flagships have embedded Market and Modular conditions, collaborating with the suppliers of their choice. This pressure makes Gorizia an innovation-dependent economy focused on fulfilling the production and innovation needs of TVCs. In this context, the region can be exemplified as Entrepreneurial IS. Regional businesses are interested in maintaining these relationships and global competitiveness. Thus, they utilise local opportunities, cluster, and engage in heterogeneous cooperation to gain advantages. The collaboration is maintained as long as the companies see the added value. The weak innovation policy and the direct help from the support subsystem only encourage this conclusion. It indicates that organisations are susceptible to feedback from the private sector (e.g., funding opportunities, HEI providing research, etc.), instead of being in the vanguard of the innovation process. Gorizia is a case of net-chain integration into automotive TVCs (Coe et al., 2008). The ability to supply and interest Flagships in local innovation and IPR increases the region's bargaining potential and as such, its ability to capture value. The process can explain the increase in population due to experts and students from abroad, which is atypical for non-capital regions in CEE.

The production and innovation pressures probably helped the region achieve its developmental potential. Proximity to foreign social and economic systems, and the continuous interconnections with Italian stakeholders, had a positive impact over the transition period. When the region outgrew its internal market, the decision to become a part of global trade was imminent. Given its interaction system, Gorizia can be characterised as a Networked RIS. Learning and innovation are done through interactions, collaboration in public-private groups, accessing local and global knowledge sources. At the same time, external cooperation is crucial for innovation and development. Still, the region does not show signs of being a Dirigiste RIS, as the Flagships do not invest in regional R&D, but can be tempted to access local IPR. Therefore, Gorizia is what can be described as a Globally Networked system (see Stuck et al., 2014).

Its role in the GIN framework is not very clear. On the one hand, it supplies innovation to the production chains. On the other, it is not guided or controlled by Flagships

directly and is neither involved in routine R&D tasks. Based on the processes within the region, it can be a Catching-up location. Following Ernst (2009), these regions have to build up additional soft and hard innovation competencies through interactions and R&D potential. The regional support subsystem is working in this direction.

The study acknowledges that Gorizia is not representative of the whole CEE sample, which is a significant limitation of this research. The focus group did not mention multiple issues that are widely observed in developing countries. The regional stakeholders benefited from the geographical position, being in direct and tight contact with Italian and Austrian partners. This might not be the case for many other CEE regions. However, it does highlight some important factors. Many regions have limited internal RIS potential. This case study is an example of the positive integration into TVC, in which stakeholders utilised endogenous and exogenous opportunities. It is a crucial aspect to avoid bad coupling (see Coe et al., 2004; Yeung & Coe, 2015, etc.). Gorizia shows that an easy way to overcome transition is with an active private sector that reaches abroad. A competent support system can help them by focusing on activities strengthening local competencies in the absorption and utilisation of knowledge as to increase the potential for value enhancement and capture.

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