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## **Lagging-behind Areas as a Challenge to the Regional Development Strategy: What Insights can New and Evolutionary Economic Geography Offer?**

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## **Abstract:**

Lagging-behind areas, as an example of convergence failure within a country, have attracted the attention of many researchers who try to adopt appropriate policies and strategies to overcome the problem of low growth paths. The current study concentrates on policy recommendations in the framework of New Economic Geography and Evolutionary Economic Geography for the lagging regions. The agglomerated industry, as a fundamental element of the new economic geography, has limited the potentials of policy prescriptions for lagging-behind areas. Constructing regional advantages, as a policy in evolutionary economic geography, has helped diversifying the policy options for the lagging-behind regions. However, this approach is faced with multi-level challenges in lagging-behind areas including the lack of critical mass in the case of low related variety and the knowledge base gap between the lagging and prosperous regions. Therefore, the policy should provide a structure for the simulation of external knowledge links and differentiate the nature of various related industries if it is going to be a basis for constructing regional advantages.

**Keywords:** Lagging-behind areas, development strategy, New Economic geography, Evolutionary Economic Geography

**JEL Classification:** R11, R12, R58

## 1- Introduction

Convergence failure, defined as inequality within countries and regional disparity in terms of income and employment, has been remarkable in recent years in both developing and developed countries (Iammarino, Rodríguez-Pose, & Storper, 2018). Although aggregate indicators suggest a positive image in macroeconomic performances, at the regional level, they show a different view in which some groups are left behind (Bussolo, Davalos, Peragine, & Sundaram, 2018)

Since the late 1970s, the “new geography of jobs” shows that globalization and technological changes have affected many prosperous rural regions by reducing their jobs and declining per capita income and labor force participation in comparison to the national average level (Moretti, 2012). During the 1990s and early 2000s, strong empirical evidence is available to support the fact that even though income disparity among countries has somewhat declined (Sala-i-Martin, 2006), but this has not happened within countries and the gap between the poorer regions and ones with higher income has increased even further. In fact, the global development has been accompanied by a paradoxically parallel status, namely, “The Great Convergence” between countries (Richard Baldwin, 2016) and at the same time “The Great Divergence” within countries (Moretti, 2012) among several industrialized economies.

Since 2011, there have been signs of reducing disparities within countries but it still remains high in several respects such as significant regional productivity gap and the concentration of income and job opportunities in major cities and specific regions (OECD, 2018a). In the case of the European community, economic integration has also been unsuccessful in reducing within-country disparity (Charron, 2016), intensifying it even after financial crises and sovereign debt period (Fratesi & Rodríguez-Pose, 2016). Also, empirical evidence indicates that the structural shift of inequality from individuals to groups results in the support of extreme political parties by inhabitants of lagging regions in order to voice their discontent (Bussolo et al., 2018). Consequently, the rising populism all over Europe (Ballas, Dorling, & Hennig, 2017), anti-EU voting (Lewis Dijkstra, Poelman, & Rodriguez, 2018), and Brexit superiority vote (Toly, 2017) are the very backlashes of such regional inequalities.

The attention to regional development strategy was revived during the global financial crisis in 2008 when the policy-makers started to think of the most appropriate ways for fostering growth and development. The main reason comes from the fact that during the second half of the 2000s, some noncore regions began to account for an increasing share of economic growth across Europe and many OECD countries (Stefanou (2014); Lewis Dijkstra (2013)). A wide range of major international organizations in recent years also put the spotlight on the underlying rationale, the functions, and the intended consequence of local and regional development strategies (World Bank (2009); European Commission (2017); OECD (2018b)). In addition,

many of the underlying assumptions and the key analyses have been reviewed and the different dimensions of the logic underpinning local and regional development strategies have been discussed on and on (Barca, McCann, & Rodríguez-Pose, 2012). This revival of attention has resulted in more sophisticated regional policy-making strategies from simple core-periphery story to the idea of sustainable and inclusive regional growth in EU (McCann & Ortega-Argilés, 2015), place-based regional policy in both developed (Dąbrowski, 2014) and developing countries (Shenoy, 2018), and place-sensitive (Iammarino et al., 2018) policies.

Theoretically, the traditional economic approach to dispersion process is found in the neoclassical growth model in which interventions in favor of the less developed regions are not necessary. The idea behind this intention is that congestion and high cost of production factors in large and wealthy regions along with perfect competition and factor mobility yield constant or decreasing return to scale which as a consequence provide diffusion of prosperity and convergence in the real regional income or means of spatial equilibrium (Glaeser, 2008). This interpretation was rejected by both New Economic Geography (NEG) and Evolutionary Economic Geography (EEG). Instead, they argue that agglomeration forces can be a dominant equilibrium in economic geography (Iammarino et al., 2018). However, NEG and EEG have some disagreements in their approaches and policy recommendations; for example, the NEG theory is more interested in space-neutral approaches while EEG tends to consider space as an important factor in regional development prescriptions.

In this paper, we try to clarify the regional policy implications of NEG and EEG for lagging-behind regions in a comparable framework. In the first section, the evolution of regional development strategies with a focus on lagging-behind areas is reviewed to reveal the standing point of these two approaches. Section three provides a discussion on NEG and its implications for regional development policy. Section four includes the discussion on EEG. Finally, we conclude the paper in section five.

## **2- Evolution of regional development strategies**

Until the 1970s, the mainstream regional policy that received a wide range of attention in Europe and North America was trying to attract new firms or re-establish the existing ones in specific sectors in a top-down organized redistributive system. To do so, the investment resources for infrastructures such as transportation systems were provided to help under-performed areas to increase physical accessibility to more prosperous areas (Attila Varga, 2017). Beginning in the 1980s onwards, the drawbacks of this viewpoint in regional development were revealed when the emphasis on physical investment gave way to the importance of regional entrepreneurial activities, education, R&D, and knowledge-intensive economy. The underlying idea was that such policies contribute to regional convergence through two main ways. First, they enhance

the economic efficiency by focusing on the maximization of agglomeration and second such policies counteract the negative impacts of agglomeration. The latter contribution is achieved by helping people become skilled or entrepreneurial as well as by ensuring the geographical mobility of labor and knowledge diffusion (Iammarino et al., 2018).

This so-called spatially-neutral (or people-based) approach is supported by the new economic geography and some other discourses such as urban economics in which regional policy advocates unbalanced economic growth and held that due to the scarcity of resources, promoting growth is not possible everywhere, so the attention is better to be drawn to the cultivation of dynamism in a few selected areas. In other words, the policy has to focus on making a selection of areas to become dynamic in terms of economic performance and then on ensuring that people have access to opportunities in these areas (Rodríguez-Pose, 2018). It is not surprising that these approaches not only have limited success in reducing regional disparities but they are also based on the view that regional disparities are essential and inevitable to sound overall economic performance (Rodríguez-Pose and Wilkie (2018); World Bank (2009)). In fact, these policy prescriptions for under-performed areas are limited to temporary compensation for the mobility of people toward the agglomerated economic core (Pike, Rodríguez-Pose, & Tomaney, 2017).

The idea of space-neutral interventions is backed up by two most influential studies of World Bank (2009), World Development Report “Reshaping Economic Geography” and Sapir report (2004): “An Agenda for a Growing Europe”. Both studies share the idea of space-neutral interventions but they differ in that in the latter there is no economic geography per se and the emphasis is on the sectoral level policies.

Regardless of some successful cases of space-neutral policies such as the Appalachian Regional Commission in the United States and EU Structural Funds in Ireland (WorldBank, 2009), it seems that the overall accomplishment of the strategy in regional convergence is not significant. For example, EU Cohesion Policy did not considerably contribute to the reduction of regional disparity, although the policy had positive effects on the country-level growth (Fratesi and Wislade (2017), Mohl (2016)).

Space-neutral policies have been suspected by the proponents of place-based (or space-based) policies owing to a bunch of empirical and theoretical reasons. The idea comes from the evidence of now leading but once lagging areas such as Asian Dragons, Flanders in Belgium, Southern Germany, and Las Vegas in the US and also the existence of some declined agglomerations in a series of industrial sectors such as Detroit and Buffalo in the US, Charleroi in Belgium, and Katowice in Poland (Rodríguez-Pose, 2018). Other reasons that undermine the spill-over mechanism of space-neutral policies to lagging-behind areas are the diminishing strength of agglomeration forces after the so-called Williamson curve (Attila Varga, 2017), barriers associated with the high levels of mobility of production factors (Partridge, Rickman, Olfert, & Tan, 2015), and the region-specific and localized resources for innovation and industrial application of

new technologies (Attila Varga & Horváth, 2015). Furthermore, the existence of many large consumption cities in developing countries that depend on raw materials export has challenged the idea of agglomerations as the fundamental engine of growth (Frick and Rodríguez-Pose (2018); Gollin, Jedwab, and Vollrath (2016)).

Place-based development approaches endorse the importance of agglomeration in economic growth and argue that, in terms of its social, cultural, and institutional characteristics, geographical context really matters in promoting sustainable development. The competition between space-neutral and space-based policies is somewhat an outcome of the old debate about whether development should be about places or people (Barca et al., 2012). In fact, since these two approaches confirm the significance of each other, their real point of disagreement concerns more the relative importance of various instruments in a setting of desirable policy mix based on the different place-specific circumstances (Attila Varga (2017); Garcilazo, Martins, and Tompson (2015)).

In the following two reports, the place-based approach provides convenient ways for demonstrating regional potentials and social inclusion. The independent Barca (2009) report: “An Agenda for a Reformed Cohesion Policy” and OECD (2009a) report: “Regions matter”, which go beyond “one-size-fits-all” development policies, stress the point that opportunities for growth exist in every region. This idea was followed by; they utilized the sectorial concept of smart specialization in a regional framework to provide a breakthrough in the European Union cohesion policy. However, there are some implications that threaten place-based policies. Among them, the strong tendency of knowledge to concentrate in prosperous areas rather than on the spatial spillover toward lagging-behind regions (Dunford & Smith, 2000), weak labor mobility in terms of skill-biased technological change and uneven distribution of knowledge-intensive economic activities (Iammarino & McCann, 2006), which lead to labor mobility away from such areas and limited innovation diffusion to them. Such a strong market mechanism alongside the equity-efficiency problem is likely to weaken many place-based policies. Furthermore, some studies argue that place-based policies might provide the possibility of national versus local welfare trade-off (Kline & Moretti, 2014).

The other distinguished type of regional development policy is distributed development or place-sensitive policy called by Iammarino et al. (2018) who claims to have some solutions. Space-neutral policies emphasizing efficiency through agglomeration squeeze the importance of regional equity while space-based policies considering territorial inequity, function more socially than the economic development strategy. Place-sensitive or distributed development tries to pursue efficiency and equity simultaneously by focusing on dynamic efficiency and the need for more agglomeration in as many places as possible.

The approaches to regional development policies have recently become more diverse, due to different configurations of economic stagnation in some places. For instance, rural areas in Eastern Germany, Central-Eastern European, and also the Baltic States show a long-lasting economic, social and demographic decline (Lang, Henn, Ehrlich, & Sgibnev, 2015). Some researchers argue that policies that are predominantly growth-oriented and based on dichotomous categories of core-periphery and metropolitan versus non-metropolitan spaces do not have a strong ability to capture local realities in these areas and call for thinking beyond growth in non-core regions from a “social constructivist perspective” (Leick & Lang, 2018). The growing heterogeneity among non-core regions where almost half of the European population lives highlights the need for revising both the theoretical understanding of growth and development and regional policies in practice (Pike et al. (2017); Ron Martin (2015), Leick and Lang (2018)). In this context, some studies such as Smetkowski (2018) argue that lagging-behind and rural areas in Europe clearly need a different strategy as EU-based growth policies are well suited for core agglomerated areas in Western Europe.

### **3- NEG: empirics, development and policy relevance**

Since the seminal Core-Periphery model of Krugman, NEG has been developing for two decades and has paved the way to a mature conceptual framework by drawing much attention from mainstream economics. Developed in 1991, the NEG model was rapidly criticized and then modified within the field. The first criticism was its bias towards full agglomeration as it depends solely on transport cost, which is just one set of theories of agglomeration economies. Since transport costs fall below the threshold amount, full agglomeration would be the inevitable result. The one-size-fits-all approach in the initial NEG and the imprecise treatment with geography have also been criticized. Furthermore, the hypothesis of two regions with ambiguous entities and history as the initial condition is a critically restrictive hypothesis (Garretsen & Martin, 2010).

Later, attempts were made to remove the agglomeration bias in the basic NEG model by including non-tradable sectors such as housing as additional spreading factors, capital, and intermediate goods as additional inputs, or moderation of the assumption of interregional labor mobility. In addition, some NEG studies targeted a specific level of geographical unit casting the light on the importance of spatial scale (Combes, Mayer, & Thisse, 2008).

Another line of criticisms addressed the specific modeling assumptions in NEG such as the Dixit-Stiglitz assumption of monopolistic competition and numerical simulations. This downside was addressed in the second generation of NEG models by allowing for alternative utility, demand function, and the production function (Gianmarco Ottaviano, Tabuchi, and Thisse (2002), Forslid and Ottaviano (2003)). In this regard,

there are also studies such as Richard Baldwin and Martin (2004) that tried to generate NEG growth models by combining insights from the endogenous growth theory and NEG.

The overall focus of NEG models was on the various types of spatial economic agglomeration than on policy relevance; however, Krugman (1991b) mentions some potential policy implications of NEG, especially for European Monetary Union. Later, the policy implications stood at the center of analyses in NEG researches (see, for example, Puga (2002); Gianmarco Ottaviano (2003); Brakman, Garretsen, and Van Marrewijk (2009); Potter (2009); Richard Baldwin, Forslid, Martin, Ottaviano, and Robert-Nicoud (2011)), and the policy-makers became more interested in regions and cities as significant factors in competitiveness and economic growth. Agglomeration and NEG type models were also used in the policy suggestions of prominent policy-making organizations like World Bank (2009), European Commission (2009), OECD (2009b), the UK Treasury(2007), and Federal Reserve (2006) (Ron Martin & Sunley, 2010).

Analyzing the NEG policy for the lagging-behind areas, based on its tendency towards full agglomeration has some clear implications. First, it recognizes unbalanced economic growth, emphasizing the large and most prosperous areas, and second, it determines the main target of policies as the relocation of people to the places with more opportunities rather than transferring opportunities to lagging-behind areas (WorldBank, 2009). In other words, this approach is more interested in the people-based policies in which attention on lagging-behind areas is inefficient in the best case and it distracts from the need for structural changes in the worst case (Partridge et al., 2015). Therefore, any regional policies emphasizing the balanced growth might face a regional equity–national efficiency trade-off. In other words, in the NEG framework, any policies that aim at reducing spatial concentration and regional disparity might have a detrimental effect on national growth (see, for example, P. Martin and Ottaviano (2001); Richard Baldwin et al. (2011)). In NEG, this implies that policies are in favor of the reinforcement of spatial agglomeration while pursuing the policy of reducing inter-regional or intra-regional disparities is unnecessary and inefficient from a national growth point of view. As an example, the spatial agglomeration or the unbalanced development strategy for boosting national growth in developing countries was recommended by the World Bank's 2009 Development Report.

There are some ambiguities in the empirical evidence, which are mostly based on the studies of European regional disparities. While a group of NEG-type studies proposes a direct relationship between national growth and the degree of spatial agglomeration or regional disparity (Crozet and Koenig (2005); Treasury (2007)), others fail to find any significant relationships (Maarten Bosker (2007); Ron Martin (2008); Gardiner, Martin, and Tyler (2010)). Regarding this ambiguity, Krugman (2009) also cast some doubt on whether internal increasing returns to agglomeration are as crucial as they used to be. Also, studies like



Fingleton (2010) have proposed that models emphasizing the spatial interdependencies in general and NEG models, in particular, are more robust at higher geographical scales such as the country level.

The ambiguity of the NEG approach has also been observed in the studies of stability in the face of historical shocks. The main question about the investigation of initial equilibrium stability of regional distribution is that whether the system backs to its initial equilibrium after a shock happens. In fact, it is a matter of testing for the existence of multiple equilibria and hysteresis effects. The allied bombing of Japan and Germany during WWII, the US bombing of Vietnam, the bubonic plague in medieval Italy, and division and reunion of Germany are some samples of shocks that have been considered to assess the existence of multiple equilibria (Garretsen and Martin (2010); Redding (2010)). Davis and Weinstein (2002), (2004) considered the effect of the WWII bombing of Japan on the growth of the cities in the post-WWII period. Maarten Bosker, Brakman, Garretsen, and Schramm (2007) studied the effect of allied bombing WWII in Germany on their post-war development. The overall findings of such studies are not in favor of the existence of multiple equilibria since city growth returns to its “pre-shock” level after some time.

In the case of sustainable growth and competitiveness, the capacity of regions for innovation has been considered as a fundamental factor. New economic geography views the industrial agglomeration as the conceptual cornerstone of economic activity in general and of knowledge and innovation promotion at the regional level in particular. In this regard, the definition of agglomerated industry is a geographic concentration of firms in interrelated industries that compete and cooperate in creating spillover of knowledge and competence (Eklinder-Frick & Åge, 2017), which provides the opportunity for local actors to communicate and facilitate innovation by learning processes (Den Hertog, Bergman, & Charles, 2001). Social capital also plays a significant role in the dispersion of knowledge across regional actors which is a crucial prerequisite for innovation (Roman Martin & Moodysson, 2013). In fact, the interrelationships among industry agglomeration, social capital, knowledge, and innovation reveal the fundamentals of NEG in association with the regional policy.

This interpretation of NEG has been adopted by the European Commission as the cluster policy in creating industry agglomerations for achieving innovative behavior (EU Commission, 2008). Although the cluster model and agglomerated industry as a basis for regional development strategy have attracted lots of criticisms, the main discontent concerns the definition of knowledge and innovation. In empirical studies usually, firms ‘investment in research and developments and the number of patent are used as an indicator of innovation within regions (Srholec & Verspagen, 2012). Such simplistic measurements of innovation attract many criticisms; for example, those who are geographers argue that such a conceptualization fails to recognize the non-linearity among innovation process and R&D investments.

Overall, some argue that NEG has its limits and would not be easy to apply to empirical evaluation but its insights offer important theoretical guidance and make NEG models better in ex-ante estimates of potential policy impacts (Potter, 2009). Krugman is aware of the methodological limitations of NEG (see; Fujita and Krugman (2004); Krugman (2011)) but regarding policy implications, he argues that the formal abstract modeling of NEG is a methodological approach to ‘what if’ type questions. He also suggests that this general abstract formal modeling is more appropriate to ask and answer such questions than a case-study approach and the simplicity of formal modeling of NEG is a primary advantage which can represent the complexity of the real world with only a few key parameters.

#### **4- EEG: theory, empirics, and regional development strategy**

Recognition of the importance of geography, space, and location in the Krugman’s new trade theory (1980) and new economic geography (1991a), (1991b) was not very impressive for the economic geographers (Ron Martin, 2011). Despite the internal criticism of the NEG, like what called theoretical strait-jacket (Behrens & Robert-Nicoud, 2010), outside the field, geographers who dedicated themselves to Proper Economic Geography (Overman, 2004) and Evolutionary Economic Geography (Boschma & Martin, 2007) also raised some related issues. They argue that the so-called new economic geography was not that new and was merely a modification of the regional science obsessed with abstract space and history. In addition, economic geographers argued that combining the notion of equilibrium in NEG, even the multiple equilibria, and the evolutionary economic perspective is difficult as it squeezes down the capacity for endogenous self-transformation and change (Sunley and Martin (2017); Boschma and Frenken (2006)).

Unlike NEG models in which decision-making is based on utility maximization process, evolutionary approaches try to rely on the concept of routine behavior and bounded rationality (Boschma & Lambooy, 1999). The beginning analyses in EEG starts with the black box of organizations in which they are competing with each other based on their routines. Routines can be understood as organizational features beyond the aggregation of individual skills. It includes experience knowledge (learning-by-doing) and tacit knowledge which are difficult to imitate by other firms (Teece, Pisano, & Shuen, 1997) where there is no longer any reliance on the assumption of a representative agent. Having this variety paves the way for the selection process as an open-ended and out-of-equilibrium process of economic development (Hodgson, 1999).

Fundamentally, evolutionary economies try to explain the structure of routine distribution due to the process of selection forces and search behavior. The selection device to diffuse fit routines and make the unfit ones disappear is market competition. In other words, EEG figures out the spatial distribution of routines over time and is especially interested in diffusing new routines in space and investigating the forming process

and mechanisms through which the diffusion of fitter routines occurs. Unlike NEG, analyzing the emergence of spatial agglomeration and dispersion does not need to be based on rational location decisions (Boschma & Frenken, 2006). In EEG, attention is chiefly on the emergence of specific spatial landscape and its evolution over the real historical time. This approach does not explain the regional growth differences from a micro-macro perspective, but it concentrates on the micro-histories of firms that operate in territorial contexts. Furthermore, evolutionary theory is obsessed with path-dependent trajectories where previous outcomes affect the probability of future outcomes and current affairs are not determined based on current conditions only and also current conditions are constrained by previous affairs.

In this regard, many empirical studies have been carried out on the historical emergence and evolution of industries and technologies across space, the reduction of growth and industrial specialism in specific regions and clusters, and the development and evolution of inter-firm and entrepreneurial networks (Boschma & Frenken, 2006). In fact, the importance of time and history in regional development studies has been recognized in this framework. Surveying a 100-year span of regional US data for investigating the relationship between various types of industrial linkages and co-agglomeration in the work of Diodato, Neffke, and O'Clery (2018), 174 years of invention history in metropolitan areas in the United States in Mewes (2019), investigation of the Italian motorcycle industry from 1893 to 1993 in a study of the impact of spinoff generation events on the performance of parent organizations in Capone and Morrison (2018) and a study of the 1850s to 1920s to find out the nexus of migration and invention in the US in Morrison, Petralia, and Diodato (2018) are the examples of the growing interest in the historical empirical studies in the EEG.

The fundamental concept of regional policy implications in EEG rejects a quadrilateral approaches: top-down, picking the winner, one-size-fits-all, and start a policy from scratch (Boschma, 2009). In picking the winner policy, the policy-maker targets a few specific sectors or regions, regardless of the risk of selecting the wrong region and wrong trajectory for moving regions into a new direction (Iammarino and McCann (2006); Ron Martin and Sunley (2006)).

One-size-fits-all regional policy is also no longer valid because of different regional characteristics like geographical location, institutional structure, and regional diversity. In addition, it suggests that the variety of innovation potentials across regions should be instead taken into consideration (Boschma, 2009). In fact, in regional policy, region-specific endowments should be regarded as a means to strengthen and expand the regional economic base rather than as an imitation of successful policy models from elsewhere (Asheim, Boschma, and Cooke (2011); Boschma (2004)).

The regional history and background will determine the available options and the possible results of any policy. The starting point of regional policy should be the region's endowment, resources, specific requirements, and institutional background rather than starting from scratch (Lambooy & Boschma, 2001). Besides, being open to new ideas, newcomers, and new policy experiments increase the probability of effective policy and avoid regional lock-in (Boschma, 2009).

In the regional policy of EEG, Constructing Regional Advantages (CRA) is the main structure that focuses on the regional innovation policy (Boschma & Frenken, 2018). This approach was born out of a dissatisfaction with the R&D policy of the European Commission in the 2000s when the focus was on Research and Development (R&D) to enhance technology and innovation. CRA argues that the innovation process is not a linear process of R&D and because of the heavy concentration of R&D across space, this policy would not be competent enough for all regions to boost technology and innovation (Cooke et al., 2006).

“Related variety”, as the key concept of CRA, refers to the variety of industries in various regions that are cognitively interconnected (Frenken, Van Oort, & Verburg, 2007). Emphasizing the specific knowledge base of activities and their combinations in regions, the model provides an alternative regional innovation policy approach for any type of region (Boschma, 2014). While CRA argues that any region has its own specific endowments and its source of diversification. In NEG, agglomerated industry plays a crucial role in regional innovation development. However, innovation achievements without industrial structure might not be significant. Like NEG, CRA implicitly seems to be more relevant for large and well-off regions with a diversity of industrial sectors, but empirical studies also show the relevancy of CRA for small regions (Isaksen & Karlsen, 2013).

Region specificity of policy recommendations and the rejection of ‘one-size-fits-all’ policy of EEG in CRA reveal the idea that regional intangible assets like institutional settings, specific knowledge bases, and their geographical and industrial contexts are the starting point as they define the available options of policies and determine the regional differences in the existing specializations and knowledge bases.

The concept of Constructing Regional Advantage (CRA) and Smart specialization approach (SS) (McCann & Ortega-Argilés, 2015), as a key element in the EU 2020 Innovation Plan and the reformed EU Cohesion Policy, have some similarities. Both are in favor of policy intervention in the regions aimed at identifying and prioritizing ‘promising’ targets with the idea of rejecting ‘one-size-fits-all’ policies, creating new activities in regions from scratch and adopting ‘picking-the-winner’ approaches. The focus of identification process in SS is on the entrepreneurial discovery in which entrepreneurs select the domains of future specialization while the CRA concept tries to identify the related variety and the impediments that prevent

the related industries in the regions to connect and interact. Both approaches consider the involvement of local stakeholders as a crucial part of the policy and rent-seeking behavior, corruption, and lock-in as potential threats to their policy (Boschma, 2014). Also, NEG shares the idea of public-private collaboration in regional innovation system with SS and CRA concepts.

## **5- Discussion and concluding remarks**

Due to the new trends in regional economic divergence in recent years and its impact on the economic progress as well as social and political stability, the importance of sound regional development strategy has come to the fore once more.

The lack of opportunities in lagging-behind areas, the rise of populism, and the implications of regions for inclusive growth are new challenges for optimum regional development policies. Apart from the neoclassical growth theory which sees no need for intervention in favor of the less developed regions, other approaches insist on appropriate regional development policies. Considering the idea of agglomeration economies as a fundamental factor for overall economic performances, in urban economies and new economic geography, the empowerment of the market mechanism to spread the prosperity and opportunity to non-agglomerated areas is prescribed. In this context, the crucial importance of location and geography and scarcity of resources cause the development strategy to be inherently unbalanced with the final goal of selecting a few numbers of core or agglomerated areas and relocating people to those areas. However, people-oriented policies have been challenged by some empirical evidence on such grounds as the growing importance of non-core regions in national economic growth in developed countries, the decline of some old agglomerations and the emergence of the new ones, and the restrictions placed on the geographical mobility of labor and knowledge diffusion. However, the importance of agglomeration is still undeniable. In fact, this new status of regional development drives us to a more pluralistic approach as a regional development strategy.

In this regard, evolutionary economic geography and its regional policy prescription in the framework of CRA helps to diversify the policy options. The core idea of evolutionary economic geography is to reject 'one-size-fits-all' policies and suggest the idea of 'related variety' that provides context-specific recommendations for any type of region.

In the development of regional policy approaches, the complexity of analysis has risen extraordinarily and various methods try to capture as many factors as possible in their examination. The growing importance of the inclusion of institutional background and multi-level good governance is at the center of recent approaches.

The increasing attention to innovation and technology and their role in competitiveness and sustainable growth make it difficult for NEG to prescribe a development strategy for lagging-behind areas. The reason is that industrial agglomeration in NEG is a cornerstone of economic activity in general and the main factor for promoting knowledge and innovation at the regional level.

The idea of smart specialization and related varieties reduces the importance of industrial agglomeration and hence provides a more applicable development strategy for lagging-behind regions. The reason is that they provide a space for entrepreneurs to select the domain of future specialization and identifying the related variety. The main challenges that these approaches face are multi-faceted including the possibility of the existence of national versus local welfare trade-off, rent-seeking behavior, corruption, and lock-in. In addition, obviously, the creation of regional advantages is not as easy as it appears in the framework of CRA, especially in the peripheral regions. There is a strong tendency of knowledge and high-skill labor to concentrate in core areas, and uneven distribution of knowledge-intensive economic activities have always contributed to the gap between prosperous and lagging-behind areas. Besides, the lack of critical mass of company and employment in case of low related variety, institutional settings, and geographical features such as natural climate adds more restrictions to the development of new trends. Considering the regions' endowments as the benchmark for the creation of new paths reveal some drawbacks as these regions' structure is usually accompanied by such characteristics as low-knowledge intensity and medium-to-low skilled labor pool. Therefore, the policy should provide some recommendations to stimulate external knowledge links especially for the industries that have high development costs, knowledge-intensive, and require a fairly long period of time for expansion in the peripheral regions. In fact, the framework should try to capture the different natures of various related industries when it is going to be a basis for constructing regional advantage.

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