

Bargaining and Development: Towards an Alternative Equilibrium Model for Regions and Peripheries

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Abstract: The region and the periphery are crucial for regional policy and inevitably contribute to strengthening economic, social and territorial development of the European Union. However, the literature review provides clear answers on their role neither in endogenous development theory nor in Cohesion Policy. In effect, this is regional development without regions. Thus, the reason regional growth is threatened, slowed or stopped is because there has been a failure of framework. The paper explores the alternative interpretation of development for regions and peripheries as territories in one model, which strengthens their role by mixing endogenous development theory and bargaining process.

Key words: bargaining; core–periphery model; endogenous growth theory; regional development; territorial planning

1. Introduction

In any analysis of the problem of regional disparities in endogenous economic development, it must be explained as the result of some informational deficiency [1, 2]. If regions and peripheries knew in advance their development potential, their bargaining power could guide them to shape their own development conditions in the challenging globalized environment of the territorial world. There is nothing controversial in this. However, the seeds of controversy take root at the next level of abstraction when the question arises of what the role of the region and/or the periphery will be in the development process.

The starting point of this paper is a recognition that by approaching bargaining process as a regional development methodology, their weak role in planning and in deliberation is strengthened. Contrary to the conventional literature, which seeks answers for their development through the intersection of the national

policy level with the local field of action, the article suggests an alternative approach. In particular, the bargaining approach suggests that the region and the periphery decide themselves on their development. The objective is to explore the way which leads them to become the main units of analysis and design of regional development through an alternative bargaining model, which engineers endogenous driving forces and self-regulation behind those internal processes. Realized regional development cannot be accounted for unless there is a general equilibrium for regions and peripheries. Extending the methodology between territories as neighbours it is assumed that becomes possible to identify some common path of regional balance as a policy objective.

Section 2 explores the evolution and gaps of mainstream growth theories and conventional macroeconomic models of regional development. Section 3 then establishes the alternative equilibrium model for regions and peripheries as territories as an answer to the gaps of the conventional ones. The proposed modelling framework attempts to complement rather than tear down the conventional econometric techniques. The notion of equilibrium is

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the key component in the model. This notion yields a generalization of the concept of the solution of a region's/periphery's development. In specific, it suggests a new interpretation of how they can shape their own development conditions as experiments with an alternative methodology by increasing their bargaining power as territories. Territories can derive power from four sources, from their territorial capital, from participatory planning, from the bargaining process as their strategy for development, from self-regulation and territorial governance as their delivery mechanism. The model is designed to be applied independently of the criteria for classifying regions and peripheries. Finally, Section 4 concludes.

2. A Regional Development Without Regions?

The economies of the single market, operating based on price mechanism, are now called upon to develop their activities by including in the mechanism the variable of the territory as a space of social and economic activities [3, 4]. From the extension of regional growth and development to territorial dimension two conclusions can be drawn. The first is that regional disparities cannot be reduced by the forces of the European Single Market as a merger of national markets [5]. The second is that the intervention of central governments is inadequate at improving regional and local economic growth where the market is failing. Hence, is necessary a non-market and non-state construction, which will utilize the tools of those two systems. Therefore, regional decision makers must provide supplementary intervention to regulate and balance the resources with actors, actions and policies within their territory [6, 7].

Nevertheless, regional and peripheral economies face unanswered questions regarding the role of regions and peripheries as territorial entities in the national development model of territorial cohesion financed by the European Union (EU). Literature review provides clear answers on their role neither in

endogenous development theory nor in Cohesion Policy (CP). In fact, the regional dimension of endogenous development and/or growth at best case is degraded and at worst case is not addressed. In specific, mainstream growth theories and conventional macroeconomic models of regional development start with the assumption that the regional level is served through the intersection of the national with the local level. They argue that the national level is the best in terms of market regulation because it is the highest one, so regions are considered as production systems at the intermediate level in a secondary manner, but territorial policies in EU work better in an emerging meso-level dimension [8].

Many prior studies aiming to assess the macroeconomic impact of the European CP predominantly employ econometric techniques, while only a limited number of contributions rely on modeling frameworks [9]. The majority of the econometric studies relies on the neoclassical growth model [10] and utilizes growth regressions [11] to explore the impact of cohesion funds on Gross Domestic Product (GDP) growth. Most of them [12-16] present either EU or country level analyses produced by quantitative general equilibrium models but the regional dimension is not mentioned again. Even those in which a regional dimension exists [17, 18] do not provide a place-based framework for regions.

Endogenous development theory [19-21] and endogenous growth theory [22-24] focus on the relationships businesses form with the local environment, which require appropriate territorial structures and management policies, going beyond the regulation possibilities of state authority. But do not identify the role of the region in relation to the community members as authorized actors, decision makers and mobilisers of idiosyncratic resources who own and manage the territorial capital of the territory, which they acquired over time as natural heirs. The conceptual framework of CP as the political equivalent of the theory highlights the importance of a single

framework for regions but involves the regional level neither in planning nor in delivery of policy. Both theory and policy are silent about modelling the role of the region as territory in planning [25]. Consequently, some development options and counterparty territories are fatally excluded from deliberation process. It can be described as “regional development without regions”.

As a result, as long as their position remains vague in this indefinite development context, they cannot coordinate the development process at their planning level, their growth potential depends on the investment incentives and regional disparities remain. In the absence of this single link in the chain of European unity, the distance increases between actors and the market, actors and the state, actors and space. Furthermore, the concept of integration is not achieved as an act of creating conditions of proximity, co-operation and cohesion of the European society. Without their participation in managing development, the wealth of territorial entities is not exploited and the Community policymaking as social progress of locales and intermediate level societies is undermined.

3. Regions and Peripheries as Experiments With An Alternative Methodology

The concepts of region and periphery comprise two related, but different terms. The concept of region refers to a specific geographical area with an integrated social and economic structure in which is exercised organized authority to control resources and activities within the boundaries of its jurisdiction. This entity becomes an object of individual and independent social scientific analysis. The periphery is conceptualized as a space defined by its dialectic relationship with a centre or a core, which can be found at a national, European or international level. This entity becomes an object of juxtaposition of a “peripheral” region to a “central” region. The development of the peripheral region is a part of a broader periphery in relation to the core, driven by competition within the core for control over the periphery. In this case, there is the behaviour

modelling of satellites at the economic and institutional level. At the economic level, the links can be seen as channels of exploitation and source of the periphery’s dependency because the centre in a core-periphery system is where critical decisions are made about capital flows. At the institutional level, the centre organizes and prioritises the peripheries around it or within its orbit so that the central decision makers who concentrate power can rule them with the advantage of expertise [26, 27]. Thus, is formed a global three-tiered structure of inequality, the core, the semiperiphery and the periphery, which manifests itself along three dimensions: an unequal distribution of global wealth, asymmetrical economic dependence and political inequality [28]. From this point of view, the relationship between them is one of the perennial conflicts — tensions as the densification of resources and activity concentrations are responsible for territorial and income inequalities in individuals and regions [29-31].

In this context, especially after 2020, the EU CP provides more goals but fewer and limited resources, however the needs of the regions are unlimited. Due to increased competition in the European Common Market and despite territories and their local communities have already started cooperating in various fields, they continue to compete with each other for economic activities, jobs and infrastructure. Territories compete and bargain for two reasons: when there is a common interest (integration and development) and conflict over that interest (more goals, fewer financial resources allocated through CP). Hence, the content of the CP becomes an object of conflicting national, regional and local interests and claims, and, inevitably, it is associated with the overall development arrangement while the disparities problem remains. As a result, certain territorial entities will be fatally excluded from the distribution [4, 32]. Therefore, the question that arises is what about territorial entities that cannot claim budget credits? Are they doomed to underdevelopment?

The EU has primarily used the bargaining as the fuel oil of the tripartite cooperation or co-decision process between local authorities, local actors and European institutions starting from strategies for the rural economy and development. The tripartite approach to local governance spread throughout EU regional policy as a development methodology to launch European integration (Local Development Strategies, LEADER/CLLD). In this methodology territories matter and have played a leading role in the process. Since then, it is the preeminent methodology used by the EU to promote a structured dialogue. The purpose is to tackle inequalities in the distribution of development opportunities to individuals and places through efficient bargaining agreements. However, what about the regional and peripheral level? Can this approach be represented to regions and peripheries? Or are they simply great expectations of a planner? Hence, there is a need of new territorial management and planning scales to emerge at the regional and peripheral level [25, 33]. The goal of this paper is to help the theory application void both in terms of management and territoriality at the regional and peripheral level by framing an alternative model for planning and deliberation. There is a lack of theory, thus a gap exists. The theory should be applied to this research issue to generate new insights about regional problem. Consequently, the proposed territorial bargaining model for regions and peripheries explores how the effective tripartite co-operation process contributes to European integration of sovereign states on the basis of intermediate planning level, which, although promoted in the economic and social dimension, is a matter of territorial management [34].

Regions are crucial for regional policy and inevitably contribute to strengthening economic, social and territorial development of the EU [35]. In specific, the region as a territorial, functional, institutional entity and as a planning scale is a typical example of the value of the participation in decentralization in European Cohesion. Decentralization is high on the

(territorial) development agenda. At the EU level, it is a vehicle that articulates subnational identities as units of governance (administrative authorities) and a delivery mechanism, which transfers the financial resources for territorial CP across Member States (players in development policy) [36, 37]. This means that local authorities (municipalities and intermediary level organizations such as districts and counties) are considered as an emerging dimension of development, with increased presence on the international scene due to subsidiarity. Subsidiarity is an organizing principle by which matters should be handled by the most appropriate level. Therefore, the region has a greater particular weight during regional planning and is the familiar planning scale of regional policy. Thus, the development affairs of the region are preferable to be taken care of and solved at the regional level [38].

Peripheral areas are also essential for local and regional (territorial) development as in debates in literature the concepts of peripheral and rural (agricultural) are often considered two sides of the same coin and the two words are used interchangeably [36, 39]. It goes like this: the concept of territoriality is an evolutionary approach of the concept of locality. Accordingly, the concept of locality forms the basis of endogenous development and the evolution of the concept of rurality as the basis of analysis of rural development. On every occasion, the way from local action to the international level of policy delivery inevitably passes through the periphery as a set of localities or territorial entities as neighbours that are parts of the global space or territorial world [40]. Hence, both the region and the periphery qualify as leading forces as they express a unique advantage compared to other entities or scales of planning and policy design: they are located where global inequality problems intersect with the territorial dimension of these problems [32, 41, 42].

3.1 How Regions and Peripheries Bargain

The proposed bargaining model is a courageous and

flexible attempt to integrate the current forms of bargaining process and territorial planning theoretical

insights into one alternative system. It is considered in two levels.

Table 1 Levels of regional and peripheral bargaining in territorial planning and development.

Bargaining Levels			
Between local/regional actors: • Community members • Lobbies		→	Between local/regional actors, government agencies and businesses: • EU (<i>institutions, bodies, agencies, Structural and Investment Funds</i>) • Member State • Regional Agencies • Local Authorities • Businesses
<i>a</i>			<i>b</i>
Economic level	Mobilization of territorial capital	→	Micro-level Utility maximization from fitting resources to actors and actions
Institutional level	Self-regulation of governance mechanism for policymaking	→	Macro-level Fitting leads to deliberative decision making, planning and tailored policy design and delivery mechanism

At the first level, the bargaining is considered as a process of investigating the information deficiency regarding the territory’s development potential. When the territorial resources are not known or realized, they are not fit to tailored policy design and delivery mechanism, thus revealing a problem in exploiting a region’s/peripheral area’s capacity. On the contrary, if the territory knows this in advance, its bargaining power can guide it to shape its development conditions in the challenging globalized environment of the territorial world (*a*). At the second level, it is examined as the outcome of efficient cooperative bargaining between local/regional actors, agents, businesses, and centers of power favouring the endogeneity of territorial resources co-management and decentralization behind endogeneity (regional self-regulation) (*b*). At the economic level, the endogenous resources are revealed by mobilizing the territorial capital of the territory (bargaining between community members). At the institutional level, it is expressed by self-regulation of governance mechanism for policymaking to authorities and agencies as emerging dimension of development (bargaining between the region as an agent and as a locale, national and/or supranational institutions and the market). At the micro-level, it maximizes benefits from the

equilibrium of resources, actors and actions. At the macro-level, equilibrium is linked to tailored regional policies design and delivery mechanism. Territorial governance retains and capitalizes benefits of development within the territory.

3.1.1 Four Sources of Bargaining Power of Regions and Peripheries

The proposed system is a *regions-first* model. In order for the regions and peripheries as territories to move from last to first position in development, they must increase their shares in deliberation. That is to increase their bargaining power. There are four sources from which they can derive bargaining power. Each source complements the effect of the others and no source can exist without the others.

Territorial capital: In the context of regional policy as the main investment policy, the EU provides a more even geographical distribution of growth across the territory of countries as Member States and their regions, recommending the territorial dimension of development as the model of their national economic development [4, 43, 44]. The idea and concept of CP belongs to the endogenous and/or new regional growth theory, constructed in order to bridge the gap between mainstream macroeconomic growth theory and heterodox economic growth theory, represented by

competitiveness (efficiency) and cohesion (equity) goals [42, 45]. This evolutionary representation of cohesion gave a leading role to the territory as a new dimension of European Policy in close articulation with the socio-economic dimensions [46]. In addition, it led to the emergence of new notions, concepts and quantities, such as: the territorialization of development as the support for localities and regions that lagging behind by putting the last first; the

territoriality as a spatial strategy of controlling resources and people by controlling area; the territorial entity as a dimension of policy and a planning subdivision at the local level. Moreover, it led to the rise of new methodological tools, such as the territorial capital as an assessment measure of the territorial potential and capacities of the territorial entities, and new delivery mechanisms for territorial CP, such as territorial governance [32, 47, 48].

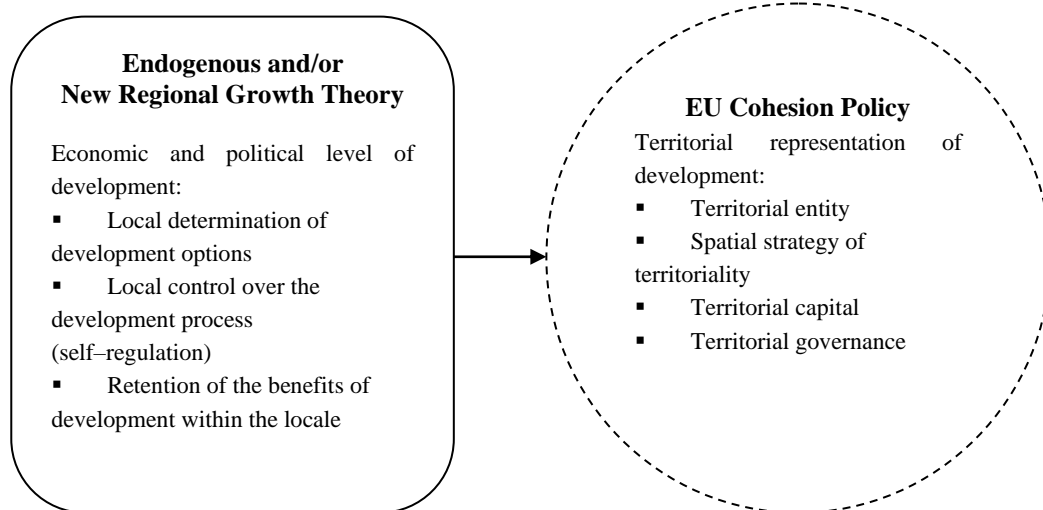


Fig. 1 Endogenous and/or new regional growth theory in relation to the EU CP [32, 45].

The territorial dimension is then explained as a local affair, evolving as the offspring of the local level, coming from endogenous and/or new regional growth theory, extended in CP [49]. This leaves room to explore the evolution of the conventions which lead territoriality as a balance factor of resources, actors, actions and policies to an aligned mechanism as the new invisible hand in terms of territorial cohesion at the regional and the peripheral level [48]. In particular, the objective is to explore how the territory maximizes the benefits at the point at which the resources equal actors, actions and policies at a broader spatial scale. Territorialization of development and the determination of the territoriality of the region/periphery can be estimated only by taking into account their inherent potential, i.e., the territorial resources as the territorial capital of the same territory [47, 50].

From this perspective, the territorialization of development has recently furnished some exciting theoretical and experimental insights. Territorial capital is defined as the system of economic, cultural, social and environmental assets that ensures the development potential of places. The crucial part is the inherent potential of a territorial system available for change, as this potential defines the range of possible future choices [51]. A theoretical taxonomy of elements, features and aspects of the territorial capital can be built upon two main dimensions: the dimension of rivalry (public goods, private goods and an intermediate class of club goods and impure public goods); the dimension of materiality (tangible goods, intangible goods and an intermediate class of mixed, hard-soft goods) [47]. Regional policy schemes are based exactly on the possible combinations of classes and axis specified in those dimensions. As the above

suggests, close connection exists between territorial capital and regional economic development. The capacities and capabilities of a region as territorial entity are determined by measuring elements, features and aspects of its territorial capital to assess the achieved development in relation to the potentially available development (ex-ante approach). The purpose of the determination is to identify the imbalances between exploited and unexploited resources and design the tailored strategy for development. The reason is that not all resources (inactive or latent) are exploited and mobilized and not all resources provide the same value. The actual territorial resources then may not be articulated with tailored strategies and policies, denoting a problem in managing a territory's development. This is different than estimating the regional GDP, which informs about the regional performance (ex-post approach). In specific, the value of the realized resources of a region is not equal with the regional performance; the two values can be equal only if the region exploits all its territorial capacities. As a result, regions have a particular and significant weight for achieving a common peripheral balance within the framework of the CP. The assessment of the territorial capital as a measure of a region's development potential enables balancing and equalizing space, actors, processes and policies as one of the most critical cohesion factors of the EU [48]. At the opposite case, when territorial capital is not taken into account, local priorities are not defined, complex decisions are not supported, better policies are not designed and never delivered and the distance between local/regional actors, territories as space and governments is getting longer (peripherality). Thus, proximity as the main goal of territorial cohesion is not achieved and regional disparities are not reduced [52].

Local/regional actors as community members in participatory planning: Participatory planning helps local/regional actors to design, plan and decide themselves how to develop the territories they live in,

either under usual conditions or emergency situations. This is not just a simple developmental equation, this is something stronger. It is strategy. As a general rule, participatory planning is a human-centered strategy, which considers actors more significant than economic results and that's exactly why achieves way much better ones. Correspondingly, community members focus on their actual local/regional identity in order to boost their community's absolute territorial advantage. Local/regional actors are community members with multiple qualities as key driver to increase the bargaining power of a region/periphery as territory, providing local/regional control over the development process. Community members decide themselves on their development, they are the bargainers as authorized actors and mobilisers of idiosyncratic resources who own and manage the territorial capital of the territory, which they acquired over time as natural heirs. No third part can replace the bond of proximity between individuals and territory as space that gives them the edge of knowledge. They know better than the remote decision-making centers the territorial features of the area they live in, the current situation, their abilities and capabilities and what they want to achieve in the future. Therefore, they are the appropriate policy designers and decision makers for their own development problems, according to their real needs. Becoming active partners, they are also empowered to become part of the solution, increasing their social responsibility. Social responsibility builds higher local/regional trust between people, private enterprises, public institutions and sectoral interest groups and cultivates a sense of local/regional pride. Responsibility, trust and pride strengthen the community's territorial competitive advantage and make a territory self-reliant under usual conditions and resilient to disturbances. It means they can also help other communities. Broadening this bond from people to communities as neighbours becomes clear that is born a high-value provider network of regional trust in ways that have multiplier effects (cohesion as network).

In specific, public participation in planning evolves many opportunities. Planning as a process for community members means that every step and decision of the procedure is taken together (transparency). The actors design the multidimensional and inclusive the same time vision of the context. All actors take responsibility for the design, realization and maintenance of the plan. This creates space for dialogue between stakeholders. They operate in separate sectors and they can interact and share ideas and data (consistency). The bargaining power they acquire leads to a conditional decision-making process with the institutions, authorities, bodies and agencies, building higher trust between the community and government administration (accountability) [53, 54].

The key factor of social bargaining is the notion of *sensitivity*, which associates with unity or agreement of feeling or action, especially among local/regional actors with a common interest, expressed as mutual support within the community. Sensitivity allows disclosure of information between bargainers about the planning process, so everyone benefits from the process, and everyone knows that everyone else knows that all the others know that by participating, they benefit. Therefore, one bargainer's interest is another bargainer's interest. By way of explanation, there is social reason to disclose the information. The disclosure has the form of extension in the mathematical part of the model by adding the information as a variable. The information is the territorial identity of the region/periphery as distinguished bargainer in the participatory planning process. The region and the periphery as the source of information provides perfect information to local/regional actors as bargainers which they need to make a decision and/or an agreement about the action plan and the tailored policy design based exactly on those special elements or features of the area's territorial identity. If for an information source

$$A = \{\alpha_1, \alpha_2, \dots, \alpha_n\}$$

is valid and with probabilities.

$P = \{p_1, p_2, \dots, p_n\}$, $P(A) = \{p_1, p_2, \dots, p_n\}$,
then for a new (expanding) source of information applies:

$$A^2 = AxA = \{(\alpha_i, \alpha_j) / i, j = 1, 2, \dots, n\}.$$

Thus, it holds that

$$p(\alpha_i, \alpha_j) = p(\alpha_i)p(\alpha_j)$$

and by introducing the entropy (H) then:

$$H(A^2) = H(AA) = H(A) + H(A) = 2H(A)$$

and

$$p_1 \log_3(1/p_1) + p_2 \log_3(1/p_2) + \dots + p_n \log_3(1/p_n).$$

Entropy increases as it is spent (here by expanding information). Hence, for information expansion applies

$$H(A^k) = kH(A).$$

The source from which information comes matters because if it comes from decision makers with social criteria (local/regional actors), it shifts from the strategy of conflict to a strategy of co-operation. Then, all the three bargainers, the region and/or the periphery, the community members, the state and/or the market win, having equal shares of the action plan as the bargaining benefit (win-win-win games).

Concluding, if the information on how to achieve territorial development (the role of the territory as Bayesian player, the strategy, tools and mechanisms) comes from the community as distinguished factor with social criteria, motivation and collective interest, then occurs the transition from imperfect information to perfect information. It is now clear that any local/regional action, which is proposed by a community member or group of members, bottom-up planned in a spirit of teamwork, brings value on the table of European cohesion. Every single step is part of the bigger European strategic plan for integrated development. The involvement of local/regional community members in European CP does not replace market regulation or state intervention to achieve growth, but completes both of these functions.

Bargaining: Bargaining comes from cooperative games and is the process of reaching an agreement regarding exchange or realizing a common interest when a conflict of interest is foreseen. Two necessary

elements are identified for a bargaining: a common interest and a conflict for this interest. If either is absent, there is no bargaining. In bilateral bargaining, when bargainers are not willing to reach an agreement the problem has two solutions: a single source of information, which distributes the same information to players; a third factor that prevents conflict, even if players desire it [55-57]. In terms of growth and development, the framework of development is the information, the EU is the common source of information and the territorial entity as equaliser is the third bargainer.

Without a cooperative model, managing regional development becomes difficult in two ways. Firstly, due to the uncertainty and fear of actors towards social processes in a globalized environment over which they have no control due to imperfect information and self-interest. Secondly, this gap is also found in the role of the region/periphery in planning and policy design regarding the issues of mobilizing territorial resources and organizing development affairs on their scale. Thus, regional development is threatened, slowed or stopped because there has been a failure of framework. In other words, inequality is a matter of choice about the rules and the policies decision makers put together [58]. Specifically, in the way resources are aligned to actors, actions and policies. Consequently, their weak role reverses development from a cooperative game to a conflict field of social groups competing with each other for the limited financial resources allocated through the EU budget.

By contrast, the bargaining approach begins with the recognition that the region and the periphery as territories decide themselves on their development [59]. It focuses on linking actors with processes and resources within the jurisdictional limits of a territory and between several territories as neighbours. In particular, it deals exclusively with the question of whether local actors would agree to an agreement and how important it is to have a model that indicates which agreement they would reach; in addition, it

identifies the role of the region/periphery in relation to the bargainers as authorized actors and mobilisers of idiosyncratic resources who own and manage the territorial capital of the territory, which they acquired over time as natural heirs. The bargaining does not take place if even one does not participate (inclusion). Moreover, when financial resources are attributed to regions and peripheries as a product of distribution through the EU budget, then arise conflicting interests and competitive relations between them that claim resources, employment and infrastructure. Thereafter, they are creating obstacles in the overall arrangement of development and contradicting the core principle of the CP, which is co-operation [60]. Furthermore, the shortcomings of the managing authorities do not allow the fulfilment of their mission. Also, when the case reaches public consultation, community members do not show the expected interest in participating due to imperfect information and problems caused in the flow of the process, which creates new conditions of uncertainty.

For that reason, the bargaining is proposed as a methodology of managing idiosyncratic resources and policymaking, giving the region and the periphery bargaining power to make the optimal decisions as socially desirable ones in planning. Evolving bargaining strategy, to explain and justify the proposed model, it is necessary to say more about the general assumptions, about the situation facing the three bargainers or the conditions under which the territorial development game is to be played. Suppose there are three players as actors/decision makers: A community members, B institutions, businesses, and R/P region/periphery.

Axiom I: Regional community members will co-operate to make those development decisions that are optimal for the region and/or the periphery and maximize the efficiency of resources, the effectiveness of processes and the utility of the bargaining object (development) that is being delivered.

Axiom II: The region and the periphery have the bargaining power, which maximises the benefits from

the connection between resources, actors, actions and policies in order to decide themselves for their development. Bargaining power strengthens their weak role. Hence, the territorial entity (region, periphery) is a distinct player and first among equals in order to intervene in planning and delivery of regional policy, where the driving forces of the single market and the state fail to intervene. The region and the periphery always placed in the middle of the process as a third bargainer, player, mediator or decision maker in a distinguished position who regulates the process and prevents the other two parts from tending towards extreme positions, assessments or decisions that cause conflicts. The order of shares to three players (actors, territorial entity, third parts) respectively in regional development game is: [win] – [win] – [win] ⇔ [Community Members] – [Region/Periphery] – [Institutions|Single Market] ⇔ [33,33] – [33,33] – [33,33].

Axiom III: Bargainers are Bayesian players who inform each other of all details about the process to decide upon their estimates, moves or decisions (perfect information) because there is a common

interest (development). A Bayesian player derives information from the value system of the territory as common source [61].

Axiom IV: Bargainers are instrumentally rational. Everybody knows that all the others know that all know that everyone wins in this cooperative process of development. This means that they do not have reasons to not co-operate. Any bargainer enters a bargaining in order to maximise their utility by their share. The above is the ideal scenario of 100% Nash’s distribution, a possible but rare case. Thus, it must be examined how useful and beneficial the proposed model is for bargainers and at which point. In the territorial bargaining scenario, if everyone co-operates the shares can be configured as [30]–[40]–[30] and/or with the various combinations given by the extreme positions but keeping the intermediate share increased. One of these (extreme) combinations gives the maximum marginal utility point for all bargainers and is taken as the optimal one. By *optimal* is meant the socially desirable combination. Hence, the (as fair as possible) shares are gradually and marginally shaped over time to reach the point of absolute equilibrium.

Table 2 Utilities and shares between actors, territorial entity and third parts respectively in regional development game according to Nash’s distribution (1950).

Win–Win–Win								
Share	Share	Share	Total Share	Utility	Utility	Utility	Utility	Utility
A	B	R/P	A+B+R/P	A	B	R/P	AxB	AxBx R/P
(%)	(%)	(%)	(%)					
4	6	90	100	1	1	71	1	71
13	7	80	100	2	2	70	4	280
22	8	70	100	5	3	68	15	1020
31	9	60	100	10	4	64	40	2560
40	10	50	100	16	5	60	80	4800
50	9	41	100	23	4	52	92	4784
60	8	32	100	31	3	40	93	3720
70	7	23	100	40	2	24	80	1920
80	6	14	100	50	1	12	50	600

The optimal point for the territory (R/P) at which the agreement is reached is $U_{R/P} = 60$, where R/P is the set of expectations of the community members. That is the

point where $U_A \times U_B \times U_{R/P} = 4800$, which is getting maximum for all three bargainers. When the median bargainer (R/P) enters the bargaining, the utilities of

the two players (A and B) marginally increase and the shares become fair. The axiomatic approach then is formed:

utility of A: $U_A = x$,

utility of B: $U_B = (100-x-lx)^k$,

utility of R/P: $U_{R/P} = lx$, where l is a part or percentage of x (of one's utility).

According to Nash's distribution, the pay-off is formed independently of the expectations of the players and without taking into account whether the shares are distributed fairly or unfairly (the distribution must not exclude anyone). Thus, the distribution is now deterrent.

$$U_A \times U_B \times U_{R/P} = \max \rightarrow x[(100-x-lx)^k]^2 = 0 \leftrightarrow x'(100-x-lx)^k + x[(100-x-lx)^k]^2 = 0 \leftrightarrow 1(100-x-lx)^k + xk(100-x-lx)^{k-1} = 0 \leftrightarrow xk(100-x-l)^{k-1} + 1(100-x-lx)^k = 0 \leftrightarrow xk(100-x-lx)^{k-1} + 1(100-x-lx)^{k-1}(100-x-lx) = 0 \leftrightarrow xk(100-x-lx)^{k-1} = -[1(100-x-lx)^{k-1}(100-x-lx)], \text{ if } (100-x-lx) \neq 0, \text{ then: } xk = -\frac{1(100-x-lx)}{\frac{100}{k+1}}$$

where k is the distribution modifier. By sharing, it means the pay-off of the development agreement between individuals and regions and/or peripheries as territories from territorial capital mobilisation or EU financial resources allocation. The model is based on the binary number system 0, 1, 01, that is whichever bargainer has more information about the game strengthens their position. Hence, if $k = 0, l = 0$, then each A, B, and R/P bargainer can win 100% of the share, i.e., the overall benefit being distributed. If $k = 1, l = 0$, then each of A and R/P can win 50%, and one of the three may win nothing (bargainer B). If $k = 1, l = 1$, then each of the A, B and R/P bargainers can win 33.3% (equal and fair shares), which also constitutes the distribution of the win-win-win model. If $k > 1, l > 1$, then A and B may get a share $> 33.3\%$, but the model always allows for a share for the territory, which is exclusively owned. If $k < 1, l < 1$, then the territory's share is $> 50\%$, which shows absolute sensitisation in the community members over their development affairs. Thus, $\lim P_i(\&) Q_i(\&) R_i(\&) = \max P_i Q_i R_i$,

where $i \rightarrow \infty$. Since there is pure awareness, it is true that the community members co-operate and make marginally optimal decisions for the community. Therefore, a new, upgraded type of contract, the *territorial contract* arises. Sensitized strategic plans are developed as parts of the territorial plan. The proposed model is totally useful for bargainers.

Self-regulation and territorial governance: In the process of regional development where the region is in control, the function of self-regulation of affairs is crucial to shaping the optimal outcome. The region, its public authorities, services and bodies have the statutory capacity to intervene in the local economy by producing, supplying, and regulating the distribution of public goods. Thus, it is more receptive to adopting new standards and provides greater flexibility in access to new rules (such as the proposed model) [62, 63]. In terms of territorial development, territorial governance is the best fit for organizing development affairs at the regional level: regional authorities as decentralized agencies have their own legal personalities and can guarantee the territorial strategy of controlling resources and people by controlling area [64].

4. The Territorial Bargaining Model for Regions and Peripheries

The model has a twofold contribution. On the one hand, it stresses the construction of a general development model at the intermediate level of planning and deliberation (regions, peripheries). On the other hand, this model extends at the territorial dimension of the region/periphery, highlighting a new planning scale.

The model can be performed in four stages.

Stage one: Bottom-up approach in participatory planning. All three players as actors and decision makers are involved, placing the community members (40% shares), public services and territorial businesses at the base of the triangle (10% shares) (Fig. 2), the region and/or the periphery at the top (50%). The territorial plan represents the 100% of the distribution.

The three players then move into two levels. (a) They begin the preparation for the measurement of the territorial capital of the region which helps the territorial entity to be self-financing regardless of EU funding, and (b) they begin the preparation to apply for EU funding by submitting their proposal. In addition, is recommended the creation of Regional Action Groups (RAGs). Next is the regulation of the process (local/regional control over resources and actors). The

region has the natural right to manage local affairs and it receives legitimacy as a bargaining or arbitration authority. Thus, intervenes to regulate the behaviour of public and private entities in the process. Planners and public policy experts recommend concurrently the manual of Territorial Bargaining Regulation, which includes acts, practices, tools, and resources. Next is the territorial strategic plan.

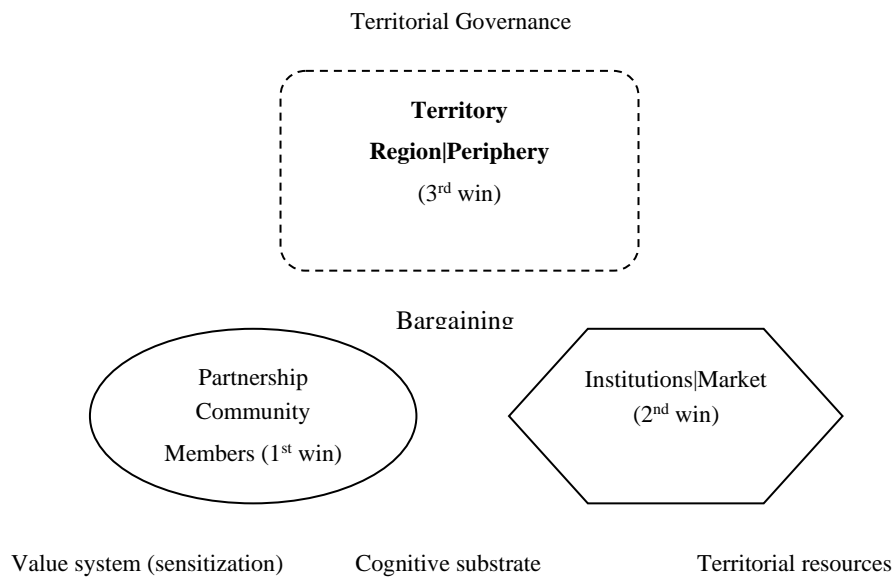


Fig. 2 The structure of the model.

Table 3 Stages of the territorial bargaining at the intermediate level of planning.

Bargaining Stages Decision Makers & Shares	(1) Bottom-up approach to planning	(2) Activation of local value system (sensitization) and territorial resources (cognitive substrate) (3) Support mechanism	(4) Territorial regional product
	Region Periphery as Territory (50%) Regional self-regulation of governance mechanism for policymaking Creation of Regional Action Groups (RAGs)	Territorial capacity, value system (behavioral code, rules, ethics), administrative system (2)	Task Force (3)
Local/Regional Actors as Community Members (40%) Participatory and deliberative Territorial Plan	Skills (2)		
Institutions (EU, State) Market (Businesses) (10%)	Structure and infrastructure	Smart specialization (2)	Cohesive network

Stage two: Activation of the local/regional value system (sensitisation) and territorial resources as cognitive substrate of the region/periphery. Every region and/or peripheral area as territorial entity has a special cognitive substrate which is unique. The cognitive substrate is separated in functional level (value system) and material level (resources). The link between them is proximity. The local/regional value system means the behavioural code, rules and ethics within the jurisdictional boundaries of the territorial entity, resolving conflicts and allowing mutual benefits to be gained from decision making under conditions of uncertainty. This impels actors to make decisions in accordance with the features and aspects of the territory (Bayesian players), tending to perfect information. In other words, the cognitive substrate “*makes decisions*” for actors. The actors are mobilisers of idiosyncratic resources. The socialized transcoding of information then, which works through cooperation enhancing, operates the supply of resources represented mainly by the local labour market, in which processes of collective learning are embedded. The transcoding is framed by a special Task Force with diagnostic tests and psychometric tools, psychological support, and training needed to put the right person in the right place in planning process, analysing the abilities, skills, capabilities and inherent inclinations in the context of the value system. This equalises actors with processes and resources, extended in tailored strategies and policies design (equilibrium) [20, 21].

Stage three: Establishment of the support mechanism of the territorial plan. The data (territorial capital, human resources and functional processes) is collected and recorded on a platform as digital network.

Stage four: Creation of the territorial regional product. Actors decide for the region’s brand, creating a flag theme based on unique territorial aspects, promoting their position in the challenging globalized market of the territorial world. Therefore, the regional

product functions as a flag theme and ultimately as an absolute or competitive advantage.

5. Conclusion

The paper explored the construction of an alternative equilibrium for regions and peripheries as territories by mixing endogenous development theory and bargaining process. In the model a close connection exists between development potential and bargaining power at the intermediate level of (territorial) planning. If one assumes, as equilibrium bargaining theory does, that there exists a model that strengthens their position in development process (planning, deliberation, policy delivery), thus their bargaining power can guide them to shape their development conditions in the challenging globalized environment of the territorial world. In order to do so, they must increase their shares. Shares can be increased through four sources of power: territorial capital, local/regional actors in participatory planning, bargaining process, self-regulation and territorial governance. Finally, the model extends at the territorial representation of the region/periphery, highlighting a new planning scale, calling for more research in the field.

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