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Abstract

The paper introduces a theoretical model to show how in a territorial framework characterized by spatial inequalities, the availability of goods and services decreases moving from central to peripheral areas. Specifically, private firms and public administrations might supply an insufficient level of goods and services in socially and/or physically remote areas due to lack of market size and higher distance costs. Peripheralization, therefore, often implies economic marginalization and political exclusion. Against this backdrop, non-profit organizations can foster local development rebalancing, or at least narrowing, economic and social inequalities, but a territorial dualism between a core linked to global patterns of development and marginalized peripheries left to autarchic forms of subsistence might emerge. To avoid territorial polarization and revive equitable and sustainable development, it is important to empower cooperative and social enterprises, as the latter exert a productive and distributive function that at the same time improves workers' employability, facilitates market access for local initiatives, and raises the factor productivity of market activities.

Keywords: marginalized places, distance costs, non-profit institutions, spatial inequalities.

JEL Classification: J54; L 34; R11; R12.

1. Introduction

Cities are important drivers of political change and technological innovation, as they usually host political institutions, attract investments and provide infrastructural services that foster growth and development across a wide portion of territory. Nevertheless, as emerged from the vast urban-rural dichotomy literature (Champion and Hugo, 2004), the urban areas are often addressed as the major cause of several problems affecting the countryside. Indeed, cities polarize the space, often becoming "central places" that foster profitable economic activities, but, in the absence of development and cohesion policies, they also often relegate suburbs and rural areas to the role of "peripheries"[1].

Territorial imbalances and spatial inequalities manifest their effects especially during recessions and in times of crises, when the action of public and private institutions (firms, administrations, financial intermediaries) is limited to what can be considered financially sound. In those periods, central places often focus on core business activities or follow innovation patterns that, as a collateral effect, lead to cut the supply of good and services to the neighborhoods, producing peripheralization.

In most cases, marginalized areas are left behind from the market economy, which prefer competitive business contexts (Warner and Hefetz, 2003 and 2008), but also from the public sector, which, due to high transaction costs, might opt for contracting out solutions (Bel et al., 2010; Bel and Costas, 2006; Dijkgraaf and Gradus, 2007; Bel and Mur, 2009; Warner 2011) that not always are effective due to lack of commitment of the delegated organizations. Therefore, marginalized

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[1] We will discuss later how this issue reflects a static view of the concept of periphery, while in a dynamic perspective the roles might well be inverted, as peripheralization processes simply require the existence of a centre, independently from its territorial characteristics [see 2.4]. However, as a first approach to the topic, the metaphors of the urban-rural (or downtown-suburbs) dichotomy provides a starting point closer to common sense, and it widely debated in the literature.

communities are forced to explore complementary patterns of development to overcome the economic scarcity. Indeed, both due to underdeveloped markets and urgent territorial needs create in peripheral areas robust incentives to turn into non-profit activities or even household production by virtue of social norms which motivate individuals to focus on achievements rather than on monetary compensations.

Finally, in a territorial framework characterized by the dualism between cores of economic agglomeration and left behind peripheries, cooperatives and social enterprises can contribute to narrow spatial inequalities by fostering the connection between market and non-market economic activities, making the short term perspective of the former more sustainable, and turning the self-production attitude of the latter into a broader vision coherent with a mutualistic and shared approach to development. Indeed, cooperatives and social enterprises are able to satisfy at least a share of the residual demand of goods and services even in marginalized areas not served by the market, as, by matching the needs of peripheral communities, they are able to pay lower monetary wages and dividends compared to for-profit firms, as they reward workers and owners with a mix of monetary and non-monetary assets (Frey 1997; Leete 2000; Narcy 2011; Becchetti at alii 2012). Laying on these premises, our research begins by discussing at intraregional level the urban-rural dichotomy following the classical approach of the economic geography, that since the XIX century focused on land use, transport costs and rents (Von Thunen, 1826), but rather than on the production of agricultural goods and services, we focus on the location of three macro-groups of economic activity (four, if we consider separately private and public firms) classified according to their purposes and organizational structure: the (private and public) market economy, the social economy and the informal (non-market) economy.The analytical framework developed can be adapted to analyze a wide array of coexisting territories and geographical scales, as we

intentionally discuss it at a level of generalization that needs to be fulfilled with specific observations concerning "distance" that are both place and scale specific. An important *caveat* is that, to use an economic metaphor, the analytical framework and the economic model proposed in [3] are not "final goods", but only "intermediate goods" that must be completed with institutional and place-specific knowledge to achieve their analytical purposes. Finally, it is worth noticing how, due to the coexistence of multiple spatial dynamics (several geographical scales, social groups, economic sectors, administrative territories, technological patterns and so on), our approach reminds of Amartya Sen's vision expressed in "Identity and violence":

> *"Consider a person firmly wedged into a subsidiary, and only one* [*identity*]*, cancel the complex interweaving of multiple groups and multiple loyalty by replacing the full richness of human life circumscribed by a formula that insists that every person is "located" only in a single compartment staff"* (Sen, 2007, p.23).

Indeed, we believe that (and we will try to argue how) each individual or aggregation of individuals (community, industry, territory, system…) is nested in a plurality of relations whose dynamics are related to multiple scales and dimensions, therefore, as Amartya Sen subtitled his work, destiny is an illusion. Using a more scientific terminology, a path-dependent deterministic development decided *ax ante* implies the imposition of a *coeteris paribus* condition along the whole set of other relevant dimensions. Against this backdrop, we provide evidence that several major streams of economic, geographic and institutional literature regarding territorial development tried to advocate the power to impose a path-dependency, therefore mutually unrecognizing this "capability". In order to reconcile seemingly unrelated patterns of development, we instead propose a static framework that mimics Von Thunen's approach to stress the fact that economic, institutional and geographical dynamics coexist in the same space, and to highlight how only a

mixed approach can effectively contribute to the internal adjustment of an economic system, fostering also the external embeddedness of the latter within the international community.

The paper is articulated as follows. In paragraph 2 we present a literature overview on the epistemological implications of recent theories that integrate social (economic and institutional) and spatial (geographic and territorial) dynamics, and we outline the main research issues that we will address in the theoretical part of the paper. Specifically, the explorative analysis focuses on the major contributors and representative authors of the New Economic Geography, the New Institutional Economics and what we have called the new Regional Economic Studies. Laying on the issues collected in the literature overview, in paragraph 3 we sketch an economic model illustrating how: *i*) the behavior of private and public institutions is affected by distance costs; *ii*) marginalized residents have stronger incentives to turn into non-profit activities; *iii*) distance costs affect people's accessibility to the labour market. Finally, in paragraph 4, we discuss the results of the theoretical analysis and we elaborate a set of policy recommendations.

2. Economic theory, institutions and geography: an epistemological comparison

Since late Eighties, several strands of economic literature tried to innovate a consolidated economic view that so far had mostly ignored the spatial implications of the economic behaviour. Due to the limited purpose of this research, we focus only on the thesis of Paul Krugman, the initiator of the New Economic Geography (henceforth, NEG), and we try to highlight the major assumptions of his research. Therefore, we discuss an alternative view elaborated within the economic discipline by Douglass North, one of the most representative authors of the New Institutional Economics (henceforth NIE). Furthermore, we illustrate the geographical thought of Ron Martin, one of the major critiques of NEG, to highlight the convergences and divergences

among the two disciplines. Finally, we present a brief analysis of the concepts of periphery, peripheralization and centralization (Kuhn, 2015), and we elaborate our research questions.

2.1 Agglomeration economies and the rise of the new economic geography (NEG)

The New Economic Geography (NEG) provides an endogenous explanation of the agglomeration processes observed during the last two decades at every geographical scale. In his seminal work of 1991, Krugman illustrates how, in a two-region, two-sector general equilibrium model, under specific hypotheses regarding firms' behavior and the underlying scenario[2], due to circular causation all manufacturing production concentrates in a unique region. Krugman's perspective introduces three major innovations within the discipline:

- economic geography, previously considered a "peripheral strand of the economic literature", becomes a mainstream branch of the economic thought (NEG);

- many issues there were part of international trade theory shift toward regional economic studies and the economic geography approach;

- the Increasing Returns to Scale (IRS) hypothesis substitutes the Constant Returns to Scale hypothesis (CRS) within most economic models;

- economic behavior becomes "path-dependent", i.e. initial conditions determine the optimal location into which agglomeration economies must be produced.

After the first enthusiasm, however, a more reflexive thought emerges still in 1995, when Krugman and Venables recognize that when "*a core-periphery pattern spontaneously forms,* […] *nations*

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[2] Specifically, the hypotheses are the following:
- the location of agricultural production is fixed while monopolistically competitive manufacturing firms choose their location to maximize profits;
- transport costs are low, scale economies are strong, or a high manufacturing share is involved in the process of agglomeration.

that find themselves in the periphery suffer a decline in income. […] *As transport costs continue to fall, however, there eventually comes a second stage of convergence in real incomes, in which the peripheral nations definitely gain and the core nations may well lose*" (p.1, 3).

Indeed, Krugman's criticism on mainstream (ageographical) economics has always been mild, because the latter has the comparative advantage with respect to geography to allow for "what if" analyses, therefore providing sound policy recommendations with respect to the scenarios built.

Rather than abandoning economics, Krugman proposes to integrate the two disciplines (economics and geography) within a model-based approach, by nesting neoclassical models into a multiregional scenario accounting for transport costs, economies of scale and factor mobility (Krugman, 2011). The result is innovative because, even by accounting heterogeneity on a limited number of variables and only among regions rather than within regions, he obtains a consistent variability in the results of the analysis, encompassing the standard neoclassical prediction of industry's uniform location along space, and introducing self-reinforcing concentration processes that lead to a core-periphery dualism among regions.

Finally, it is worth noticing how Krugman's main self-criticism, rather than to scarce concerns for geographic issues, is related to the fact that core-periphery models mainly emphasize "*tangible causes of the spatial concentration of economic activities, and not so much* […] *intangible sources, such as information spillovers*" (Krugman, 2011). Indeed, rather that smoothing territorial attrition, recent economic growth patterns frequently follow technological a-spatial path-dependences, therefore eliminating any interest for geographical and territorial studies. The development of digital manufacturing is a clear example of these dynamics: bytes are intangibles and move around the globe almost instantly, therefore objects are built (or "printed") locally, abating geographical distance and particularly transport costs.

2.2 Connecting institutions and economics: the New Institutional Economics (NIE)

While NEG aims at replacing the neoclassical theory, the new institutional economics (NIE) tries to extend its framework to "*deal with an entire range of issues heretofore beyond its ken*" (North, 1992). Rather than discussing the CRS hypothesis, NIE lays its foundations in the abandonment of the perfect rationality assumption. This epistemological shift determines the rise of transaction costs that invalidate standard neoclassical results, confining them to a hypothetical benchmark case of maximum efficiency. According to North, transaction costs always exist and might depend both on the "*costs of measuring the multiple valuable dimensions of the goods or services exchanged or of the performance of agents*", and on "*the costs of enforcing agreements*" (North, 1992). Therefore, rather than on efficiency and market clearing mechanisms, the economic performance depends on institutional changes, i.e. on changes in the formal and informal rules that regulate organizations interactions at several societal scales (political, economic, social and educational). Consequently, North devotes his research efforts to the joint analysis of economic theories and political thought, whereas the political process is addressed as the major influencer of the economic performances, both in terms of efficiency and heterogeneity, and the major cause of the existence of inefficient markets (North, 1992). Specifically, against the neoclassical backdrop, North argues how in a world characterized by positive transaction costs bargaining strength affects the efficiency of outcomes and consequently "*shapes the direction of long run economic change.* […] [O]*nce an economy is on an "inefficient" path that produces stagnation it can persist* […] *because of the nature of path dependence*". Finally, "*institutional path dependence exists because of the network externalities, economies of scope, and complementarities that exist with a given institutional matrix*" (North, 1992).

Therefore, while Krugman attributes the heterogeneous level of economic development observed among regions and the achievement of self-sustained economic growth to a path dependence of economic nature (i.e. generated by a mix of IRS and a of other exogenous causes), North identifies a path dependence of political nature (i.e. generated by a mix of institutional causes), inverting the attributes of structure and process with respect to the NEG approach.

2.3 NEG seen by geographers after the critical review of Regional Economic Studies (RES)

Since its first steps in the academic debate, the NEG paradigm has been criticized also by geographers. According to Martin, the main criticism of NEG rests on its lack of originality, as it looks like a "*re-invention of traditional location theory and regional science*" (Martin, 1999). His criticism rests on the same list of epistemological fallacies that led many geographers to abandon the old regional economic studies (RES). In brief, NEG does not account regional and local dynamics and the methodologies that can be used to model these issues. Secondly, NEG seems to be blind with respect to the historical, social and cultural factors that shape community relations in daily life. Thirdly, NEG assumes the economic processes to be "*largely scale independent*", while for economic geographers "*the issue of spatial scale is central*" (Martin, 1999). Notwithstanding the critiques moved to NEG, Martin, as also Krugman did, opens to cross-fertilization of the two disciplines (economic geography and geographical economics) by concluding that "*just as economic geographers have found the ideas and concept of heterodox economics useful in their explanation of regional development, so heterodox economists could learn much from the work of economic geographers*" (Martin, 1999).

Finally, also Martin advocates to his discipline the power to determine a path dependency:

> *"Path dependence […] has a place-dependent character. Path dependence does not just 'produce' geography as in the 'new economic geography' models; places produce path dependence"* (Martin, 1999).

Therefore, while NEG and new RES seem to be at the antipodes of a line that ideally connects spaces and places (NEG is indeed spatial economics, while new RES emphasize the importance of places), NIE is located somewhere in the middle among the two extreme views. Specifically, the social groups which NIE refers might be closer to domestic or foreign stakeholders, therefore institutional path dependence might be sometimes closer to NEG, sometimes closer to RES.

2.4. How mainstream thoughts impact on territorial development?

In order to better understand the implications of NEG, NIE and new RES at territorial level, it is important to make a distinction among the concept of periphery and peripheralization. Following Kühn (2015), the concept of periphery refers to a regional/local structural view that considers remote areas as disadvantaged by construction due to a higher distance from the centers and scarce population. This condition is somewhat immanent, as, both in the urban-rural dichotomy or in the core-periphery model, once the initial conditions are fixed, they cannot be reversed, at least in the short run. A more dynamic concept is instead that of peripheralization, which refers to the process of "production of peripheries" (Kühn, 2015). The process of peripheralization involves multiple dimensions (economic, political, social, human…). Clearly, in the long run also territories at the edge of the hierarchy can be subject to processes of peripheralization, therefore roles are interchangeable.

It is worth noticing how, most peripheralization processes manifest their effects in short periods of time, anyway referring to a long run horizon, and often they are followed or preceded by opposite processes of centralization. The difference among the two dynamics can be appreciated

along multiple dimensions, and following the literature surveyed we focus on the economic (formal), social and informal ones. At economic level, as argued by NEG, a process of centralization implies the agglomeration of the economic activities in a core location, and consequently new jobs, economic growth and R&D investments. On the contrary, an economic process of peripheralization implies deindustrialization, and therefore unemployment, stagnation and lack of innovation. At political level, as argued by NIE, centralization means achieving the institutional power to design incentive schemes to promote self-interests, while peripheralization means the lack of this power and therefore marginalization. At geographic level, centralization means the development of a common narrative enforced through shared norms, while peripheralization means the loss of heritage and cultural identity, and therefore homologation.

2.5. The implementation of a theoretical background

Clearly, the reductionist approach proposed to illustrate the dichotomy centralization/peripheralization does not match up with the variety of perspectives that lay below the NEG, NIE and new RES umbrella. As an example, North, that we stigmatized as a new institutionalist mainly interested in the political process, indeed often encompasses all the dimensions considered, achieving a perspective that is similar to the one we are elaborating (see, as an example, North, 2003). But also Krugman, when calibrates its model to reproduce several settings according the values estimated for the relevant parameters, and Martin, when discusses how regional economic studies overcame the epistemological crisis of Seventies by developing more heterodox approaches, implicitly seem to recognize that a univariate perspective is destined to fail as it by construction defects from the goal of providing a complete picture of the phenomenon under inquiry. In brief, our research effort is not devoted to discover a new

epistemological principle, but rather to encompass all the perspectives surveyed in a way that has been already followed by many authors before, but that sometimes needs to be retraced in order to clean the field from arbitrarily imposed path dependencies.

To conclude the recognition of the theoretical background, we try to single out some relevant issues that emerged during our brief exploration. Firstly, centralization/peripheralization processes "*must not necessarily be understood as binary dichotomies; they may also constitute continuums with different degrees of centrality/peripherality*" (Kühn, 2015). To our purpose, this issue is of the utmost importance, as it allows us to consider the existence of intermediate areas laying between central places and peripheries, overcoming the mainstream strand of literature deeply rooted in the dichotomic approach. Secondly, it is worth noticing how when the balance of powers among the stakeholders is obtained through a polycentric process of development (i.e., in a polycentric territory, the economic pole, the social pole and the political pole are at the three vertexes of a triangle), unidimensional core-periphery relations might be persistent, and therefore, in a certain sense, structural, even if under control of agents' behaviour. Thirdly, when analysing the distance that separates the core by an intermediate/peripheral area, we refer to a social rather than on a physical space, or to both dimensions, but anyway we define the distance in spatial terms rather than using a discursive approach. Fourthly, we observe how the relations among individuals and organizations can be thought in terms of interdependencies rather than in terms of power: individuals living in central places are related to the international contexts and follow (or lead) the innovation patterns, while individuals living in peripheral places are related to local communities and activate processes of local development to counterbalance a scarce availability of goods and services (innovation and market dependence). Fifthly, we observe how countries often host in the same place economic and political institutions, institutionalizing a hierarchy among the capital and

the other metropolitan areas, medium towns and small centres, that often activates unintended processes of peripheralization of the latter. Instead, a functional diversification among the urban centres of different size might keep the territorial organization flatter.

3. A logical framework to interpret the interrelations among cores, peripheries and institutions

To provide some theoretical support to the issues discussed in the previous paragraph, we develop a logical framework that illustrates how land matters in determining the localization and the degree of development of the market and of the public sector along a continuous space that goes from central to remote areas. Specifically, the economic analysis initially focuses on how distance costs affect the intensity and the territorial coverage of the market supply of goods and services, therefore we sketch the impact of distance costs on the efficiency of the public expenditure and on workers' participation in the labour market.

To make the analysis less abstract, we build a theoretical model focusing on a specific case, i.e. a region characterized by an urban-rural dichotomy. Moving along a ray that goes from the center to the periphery, we associate the central place with the urban area and we place a metropolitan, a rural and a natural area at an increasing distance from the center. As a result, the logical framework, as reported in figure 1 in appendix, is made of three vertexes ("Urban", "Rural" and "Institutions"), and three sides ("People", "Resources" and "Land"). It's worth noticing how every perspective has a blind spot: specifically, by adopting an institutional perspective that focuses on the economic and political scale, "Land" is not considered in the analysis, as everything is perceived in terms of "People" (labour, organizations), and "Resources" (capital, norms).

Therefore, we try to reintroduce "Land" in the economic analysis, i.e. an explicit consideration of

(a mix of physical and social) spatial inequalities, through a place-based economic model that lies its rationale on the concept of distance costs. We base our analysis on the following set of assumptions regarding the structure of the territory under inquiry:

- Land (L) is a continuum that goes from Urban (U) to Rural (R) areas, characterized by a heterogeneous level of distance costs, population density and per capita income;

- firms supply local residents (people living in a specific place L_0) with a homogeneous output Y, that is obtained through a CRS production process and it is initially stored in the central place;

- distance costs only affect distribution activities and monotonically increase as far as Y is exchanged from the central place due to several reasons (scarce availability of infrastructures, transport costs, transaction costs, binding social norms, etc.);

- population density and per capita income decrease with the remoteness of L_0, therefore the market demand of Y decreases as far as one place is from the city;

- the productive structure is made of four classes of economic institutions (profit-oriented firms, the public sector, cooperatives and social enterprises, non-profit institutions).

Most of the assumptions stated can be relaxed or modified, but we leave this task for further research, in order to focus on a relatively simple territorial environment and pay more attention on the analysis of the relation between the rise of spatial inequalities and the complexity of the organizational structure of the overall production process.

3.1. The economic analysis of distance costs

We begin the discussion of the economic model by providing the following definitions:

- $Y \in [0, +\infty)$ is the output produced by the domestic industry;

- $L \in [0, +\infty)$ is the distance from the central place, where $L = 0$ represents the central place (in our analysis, the urban area);

- $m(L) = m_0 - m_1 L = m_0 [1 - (m_1/m_0)L] = m_0 (1 - \mu_m L)$, where $m(L) \geq 0$, is households' nominal income (by construction, it is decreasing as far as an individual lives from the central place);

- $n(L) = n_0 - n_1 L = n_0 [1 - (n_1/n_0)L] = n_0 (1 - \mu_n L)$, where $n(L) \geq 0$, indicates the number of individuals living in place L (by construction, it is decreasing as far as a place is from the central place).

We use these variables to build the local demand function, namely the aggregate demand function in L_0. Indeed, the latter depends on local residents' income and number, as we assumed that residents have no convenience to move toward other marketplaces due to the high distance costs that they suffer. This hypothesis can be relaxed, but it allows to radically simplify the model: as in each place local residents are all identical, the local demand for good Y is equal to n times resident's demand. By assuming that each resident's preferences can be represented through a quasi-concave utility function with s arguments (one of which is the output Y), that Y is a superior good and that each household faces a linear budget constraint, the *UMP* has a unique inner solution, and the individual direct demand of Y is negatively sloped. Specifically, it can be written as

$$Y_i^d[p, m(L)] = Y^d[p, L], \quad \frac{\partial Y}{\partial p} < 0, \quad \frac{\partial Y}{\partial L} < 0.$$

where p is a vector of prices, and $m(L)$ is the income of one resident living at distance L from the central place. The local demand of good Y, therefore, is simply

$$Y_0^D[p, m(L_0), n(L_0)] = \sum_{i=1}^{n(L_0)} Y_i^d[p, m(L_0)] = n(L_0) Y_i^d[p, m(L_0)]$$

as all residents living in the same place are identical by construction.

To simplify the notation, we define the inverse local demand of good Y as $p^D(Y, L_0)$. Firm A's total revenues in place L_0 are therefore

$$TR = p^D(Y, L_0)Y,$$

While the marginal revenue function is

$$MR = \frac{\partial TR}{\partial Y} = p^D(Y, L_0)\left[1 - \frac{1}{|\epsilon|}\right]$$

Now, assume that the industry of good Y is made of a single firm (say, firm A) located in the central place and characterized by a CRS technology. We assume also that the production process is independent by the distribution process, therefore, even if the average cost of good Y is fixed, firm A's local supply curve (namely, the aggregate supply of firm A in the marketplace L_0) tends to shift upward as far as the marketplace is "distant" from the central place. Specifically, we assume that

$$TC\ (Y|L_0) = production\ costs\ of\ Y + distribution\ costs\ of\ Y\ \ =$$

$$= production\ costs\ of\ Y + distance\ costs\ in\ L_0 \times Y =$$

$$= cY + d(L_0)Y = c\left(1 + \frac{d(L_0)}{c}\right)Y = \left[1 + \mu_t(L_0)\right]cY$$

It is worth noticing how, by assuming that distance costs are linear in Y, it is possible to interpret distance costs as sort of "territorial mark-up" on Y's average production. Therefore, firm A must solve the following algorithm to maximize profit in marketplace L_0

[PMP] $\qquad \max \pi = TR(Y, L_0) - TC(Y, L_0) = p_0^D(Y, L_0)Y - \left[1 + \mu_t\ (L_0)\right]cY$

The solution of the profit maximization problem (PMP) is obtained by solving

$$MR(Y, L_0) = MC(Y, L_0)$$

It follows that

$$p^D(Y, L_0)\left[1 - \frac{1}{|\epsilon|}\right] = \left[1 + \mu_t\ (L_0)\right]c$$

and the previous equation can be rewritten as

$$p^D(Y, L_0) = \left[1 + \mu_m(L_0)\right]\left[1 + \mu_t(L_0)\right]c$$

It is worth noticing how an important result is that the market equilibrium is affected by two sources of inefficiency: one is economic and depends on firms' market power, but the other is territorial and depends on distance costs.

Provided that $p^D(Y, L)$ is decreasing both in Y and in L, it is possible to find a relation between Y and L. Specifically, in each place it must be that

$$Y^E = Y\left[L, \mu_m(L), \mu_t(L), c\right] = Y(L, c), \quad \partial Y/\partial L \leq 0 \quad \partial Y/\partial c \leq 0$$

It means that the level of output exchanged in marketplace L_0 is decreasing as far as it is located from the central place. Indeed, distance affects both the local supply and the local demand of Y, reducing the efficiency of the exchange process for reasons that partially depend on firm A's behaviour, and partially depend on territorial imbalances. Therefore, antitrust and cohesion policies are of the utmost importance to narrow spatial inequalities and foster the equitable and sustainable development of a country.

3.2 Spatial inequalities as a market failure: is government spending really a feasible solution?

In the previous paragraph we have modeled distance costs as a territorial mark-up over firm A's marginal cost function, therefore as a source of inefficiency (i.e. as a market failure). In similar circumstances, the role of the public sector is usually invoked to correct the biases and turn the economy back to an efficient equilibrium. But sometimes also public policies lead to an inefficient use of resources, determining the rise of government failures.

As an example, we discuss the case of territorial imbalances between the North and the South of Italy. At the beginning of Fifties, the Italian government founded "Cassa del Mezzogiorno"

(CasMez), an institution aimed at financing the economic and social progress in Southern Italy. CasMez was financed with public funds, and operated until 1992, allocating the equivalent of almost 140 billion euros in 40 years. A complete assessment of CasMez's activity goes beyond the purpose of this research, but it is worth noticing how after 40 years of government spending, at the beginning of Nineties, the Italian territory was still characterized by both regional and local imbalances, and the Centre-North was benefitting of a higher level of public expenditure with respect to the South.

Therefore, in the last two decades the idea of concentrating on Southern Italy at least the 45% of public expenditure (that compared to a demographic share of 35% means a higher level of per capita public expenditure with respect to Centre-North) in order to incentivize infrastructural development and foster economic growth became very popular. Nevertheless, most of policy makers have recently recognized the failure of both interregional and intraregional policies. Specifically, during the Great Recession (but also before) the share of 45% of public expenditure in capital account was never achieved, and Southern Italy remained a peripheral area.

Therefore, the key question is still how the national government could narrow regional and local divides, and what kind of policies should be developed. We suggest that the persistence of an interregional and of an intraregional divide in Italy (and consequently the failure of regional and cohesion policies at least in achieving the final goal of a "fair" territorial development) might depend on a positive, rather than on a normative, consideration of distance costs.

To simplify the analysis, define gross per capita public expenditure as $g = G/Pop$, where "G" is total public expenditure and "Pop" is population. Assuming that only distance costs affect the real effectiveness of public policy, net per capita public expenditure is

$$g = \frac{G - distance\ costs \times G}{Pop} = \left[\frac{1 - d(L_0)}{Pop}\right]G$$

If the public sector fixes a homogeneous level of gross per capita public expenditure, the level of net per capita public expenditure decreases as far as one place is from the central place, raising a specific kind of spatial inequality. As residents must buy several public services independently from their economic convenience (consider, as an example, health, education, mobility…), in places where distance costs overcome the level of gross per capita public expenditure they obtain a negative contribution in terms of welfare.

Finally, we notice how, during the Great Recession, the Italian government was forced to cut the public expenditure in order fulfill the prescription of the Stability and Growth Pact, and cuts on public investments were more severe in Southern Italy than in the Centre-North, probably to save on distance costs and improve the overall efficiency of public policy. As a result, territorial imbalances became more severe. But was it really necessary?

In the next paragraph we illustrate how, especially during crises, in peripheral areas, non-profit institutions can foster local development, as residents' incentives to involve in non-profit activities are strengthened by the economic crisis. Both the private and public institutions benefit from the development of the non-profit sector, as distance costs decrease improving the cost efficiency of firm *A*'s production processes and the effectiveness of per capita public expenditure.

3.3 Household production and nonprofit activities

Non-profit institutions contribute to reduce spatial inequalities, as, under certain circumstances, non-profit activities can reward volunteers and donors with gifts that are more valuable than the wage offered in the same place by profit-oriented firms and by the public sector.

As an example, consider the case in which the cost of living in place L_0 is at least C^{min}. Recalling that each resident living in L_0 earns the same level of income $m(L_0)$, in the absence of non-profit institutions, when $m(L_0) < C^{min}$ residents are by construction unable to afford the minimum cost of

living, therefore are subject to economic marginalization. In a static framework, marginalized residents have no exit strategies, as migration requires time and resources.

A well-developed non-profit sector, instead, can offer a legal and ethical opportunity to obtain a decent income by offering rewards (monetary or non-monetary) in exchange for volunteering, allowing marginalized residents to afford the cost of living. As in the central place a significant share of residents' demand is satisfied by the market and by the public sector, leading to consumption patterns that overcome the minimum living standards, it is reasonable to expect increasing rewards $m'(L_0)$ as far as non-profit activities are located from peripheral areas, because where the market supply of goods and services is lower, non-profit institutions are asked to pursue more urgent (and therefore more valuable) needs. We assume that the opportunity cost of volunteering is equal to the wage obtained by employing in firm A, and that the reward obtained by volunteers corresponds to the value of their marginal productivity, that is increasing in the distance from the central place for the reasons we explained in the previous statement. Laying on these assumptions, we suggest how peripheral residents might prefer volunteering rather than working, while residents in central areas might prefer the opposite. Instead, in intermediate areas the difference $[m'(L_0) - m(L_0)]$ might be close to zero, therefore residents should be almost indifferent between volunteering and working. Due to shocks involving the demand and the supply curves on the markets of goods and services and to changes in welfare needs, the difference $[m'(L_0) - m(L_0)]$ can be highly volatile, and we suspect that intermediate areas might be characterized by frequent "motivational shifts", i.e. a constant need of rebalancing the mix of non-profit and for profit activities. In intermediate areas, therefore, cooperatives and social enterprises are the most efficient institutions, as by their nature they integrate social motivations with economic interests, avoiding frequent reorganizations of the production process.

3.4 Spatial inequalities and equal opportunities

In the previous paragraph, we have depicted a territory characterized by glocal dynamics that left to themself might determine a sequence of polarization and harmonization phases. Now we want to discuss how spatial inequalities might raise concerns on the need of achieving equal opportunities among residents in terms of participation in the labor market and in non-profit activities, as, even by allowing residents to migrate in search of the most paid jobs, distance costs affect the individual utility to apply for them. Specifically, in the absence of distance costs, the highest wages are assigned to the most efficient workers, as in equilibrium, when the ability of each employee is observable, the for-profit sector hires all those people whose productivity is equal or higher than the equilibrium (real) wage. For the same reason, the most rewarded non-profit activities are assigned to the most motivated and capable volunteers, as, when the non-profit sector exists, it hires all the volunteers whose productivity is higher of the reward offered.

When, instead, land is characterized by positive distance costs affecting residents' mobility, the latter must compare the utility of the net compensation offered by the industry and by the public sector (gross wage minus distance costs) with the disutility of the job proposed. Similarly, when residents decide to apply for a volunteering position in the non-profit sector, they must compare the net value of the reward (gross reward minus distance costs) with the disutility of the activity that they must perform. Clearly, in both cases residents face a subjective assessment, depending on their skills and on their attitude to mobility. Specifically, a resident living in the central place has an advantage in achieving the most paid jobs positions in the for-profit sector, but might have a limited access to the most rewarded non-profit activities. Similarly, a resident living in a peripheral area has an advantage in volunteering in the most rewarded non-profit activities, but

might have a limited access to the most paid jobs. Lastly, residents living in intermediate areas have a privileged access to jobs and volunteering activities characterized by an average compensation, but might have a limited access to the most paid positions both in the for-profit and in the non-profit sector.

Finally, it is worth noticing how peoples' net utility (wages minus disutility of effort minus distance costs) decreases as far as citizens find a job that is distant from their residence, as distance costs increase. The disutility of commuting can be partially reduced by peoples' intrinsic motivation, as it reduces the disutility of effort, but anyway it raises concerns on the opportunity of achieving a broader diffusion of work-from-home activities.

4. Conclusions

Our research provides a brief exploration of the epistemological foundation of three main streams of recent literature concerning a place-based economic development (namely, NEG, NIE and new RES), and here we briefly summarize the major issues highlighted in the previous paragraphs.

In the literature overview we discussed how a mixed spatial approach (partially based on social factors generating transaction costs, and partially based on physical factors generating transport costs) might help in better identifying the distance costs that shape the space under inquiry. As regards the economic space, we believe that the factors that lead to a territorial polarization can be associated to demand and supply forces. Specifically, on the demand side the size of the market positively depends on the level of real GDP per capita, prices, and population, while on the supply side relevant economic factors are, apart from those endogenous factors affecting the production process (i.e. labour, capital and technological progress), the level of territorial accessibility, the degree of institutional development, and in general all those exogenous dimensions that might

raise distribution costs. Laying on these premises, we agree with North (2003) that self-accounting lobbies and autarchic communities might push toward territorial polarization and rent-seeking behaviours rather than toward territorial cooperation and increasing productivity, but we also believe that against this backdrop the social economy can constitute a powerful driver of territorial cohesion, as it constitutes the missing link between the market economy and local development. Therefore, rather than focusing on resources and on vertical networks, peripheral disadvantaged actors can improve their status by turning into social activities along a scale that goes from household production and non-profit activities toward cooperation and social entrepreneurship, up to the involvement in market activities.

In paragraph 3, we have sketched a simple theoretical model to briefly discuss the issues presented. Specifically, we have illustrated why the market and the public sector might be unable to satisfy the needs of peripheral areas, activating peripheralization and marginalization processes. Indeed, profits are more consistent in places characterized by high population density and high per capita incomes, i.e. in central places or urban areas, and the effectiveness of public expenditure in peripheral areas can be reduced by increasing distance costs. Additionally, given a fixed and positive level of gross per capita expenditure, under certain circumstances distance costs lead to the impoverishment of people living in marginal areas, activating an unsustainable process of economic divergence.

In such a situation, non-profit organizations are able to compensate the lack of private and public supply, re-establishing a fair and equal treatment among residents, by rewarding in real terms rather than through monetary compensations the inputs employed in the production processes. The low opportunity cost of volunteering in marginalized areas explains from a rational point of view the importance of non-profit organizations in detecting and fostering opportunities of local

development. Finally, we have observed how spatial inequalities might raise concerns on residents' heterogeneous access to the labour market.

To conclude, we suggest how it is of the utmost importance to consider distance costs in normative terms rather than in positive terms. Saying it differently, rather than investing in the most competitive territories to benefit of efficiency gains, it is often more convenient to narrow the territorial imbalances to put the economy on a sustainable pattern of development. Finally, we recognize that in times of economic growth the public sector plays a pivotal role in narrowing spatial inequalities by concentrating resources on the infrastructural development of peripheral areas. However, in times of recession the focus should shift on the non-profit sector, due to its capability of identifying and activating sources of local development in marginalized areas.

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Appendix 1 – The logical framework