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The division of labor need not imply regional specialization

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ABSTRACT

The regional specialization of economic activities is generally deemed desirable for three reasons: (1) the law of comparative advantage; (2) localized economies of scale; and (3) knowledge spillovers. Taking a methodological individualist perspective, we claim that: (1) the law of comparative advantage, while valid for individuals and firms, does not necessarily imply regional specialization when regions are viewed as consisting of heterogeneous individuals; (2) localized economies of scale are seldom specific to one industry and external in all but the regional level; and (3) the study of knowledge spillovers is inconclusive and would benefit from a more disaggregated perspective.

1. Introduction

The division of labor can be envisaged at the individual, social and spatial levels (Scott, 1986). The first refers to individuals specializing in different tasks within a firm, while in the second case specialization occurs between independent firms. Finally, the spatial level refers to firms specializing in the production of the same type of commodities or services at different geographical scales. The spatial division of labor is thus akin to regional economic specialization and is viewed as a preferable outcome, whether through spontaneous market processes or deliberate public policy planning, by analysts and policy makers who invoke either the efficient geographical allocation of scarce resources through trade or, in the case of dense networks of related firms (such as Silicon Valley), a self-reinforcing setting for innovative behavior (Johansson and Forslund, 2008).

While empirical observations have long challenged the relevance of this perspective to describe some real-world trade and location patterns,[1] several arguments also support the greater desirability of more diversified economies. The most common are transportation costs; localized economies of scope (or urbanization economies) which benefit firms in diverse industries; a greater "multiplier effect" when new activities are added to the local economy; greater resilience than specialized regions

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[1] The most pressing, of course, being the "similar–similar problem" in international trade, i.e., "the huge role in world trade played by exchanges of similar products between similar countries" (Krugman, 2009, 561).

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whose fate rests on the demand for a particular good or service; and "Jacobs" spillovers, i.e., the diffusion and adaptation of technical how-know between different industrial sectors which is said to be facilitated by an economically diversified local economy (Polese, 2005).

We attempt to shed new light on this debate by arguing that the traditional case on behalf of regional specialization is ultimately untenable because of a failure to apply a consistent methodological individualistic perspective to its three main supporting arguments: (1) the law of comparative advantage; (2) localized economies of scale; and (3) knowledge spillovers. Our contention is that while each of these arguments is correct at the individual level, they actually undermine to a large extent the case for regional specialization. Regions, after all, are not single, acting units but are made up of heterogeneous individuals pursuing their separate ends.

The paper is structured as follows. In Section 2, we review the basic tenets of methodological individualism and draw some relevant implications for the study of regional economies. Building on this perspective, we then argue that the division of labor should be thought of along the lines of individual skills and firm competencies, rather than final products or industrial classification systems. As such, it is inapplicable to purposeless units such as cities, regions or countries, and therefore need not imply the regional specialization of economic activities. It is demonstrated that regional specialization is efficient only when it is derivative of individual, not regional, comparative advantages. In Section 4, the argument that the benefits of decreasing costs support the case for regional specialization is similarly found unconvincing in as much as such economies would need implausibly to be internal to a single industry at the regional level and external at the individual, interregional, international and interindustrial levels. We then turn our attention to knowledge creation mechanisms and suggest that the claims that a specialized setting is more (or less) likely to promote the development of new combinations than a more diversified one is problematic in as much as analyses at the regional level are unable to unveil processes that actually take place at the individual level. The last section is our conclusion.

2. Methodological individualism in regional studies

Methodological individualism is a well recognized, if controversial, principle of inquiry in the social sciences.[2] Although there are many versions, its central tenets are that all social phenomena are in principle only explicable in terms of individual interactions in which "any one individual acts (rationally) on the basis of his own aims and interests" and "takes into account the existence of other individuals with aims and interests" (Agassi, 1960, 244). In other words, methodological individualism does not deny interaction between individuals ("methodological atomism") and its fundamental ontological or metaphysical principle is that all social phenomena result from individual beliefs, purposes and actions and should therefore be explained in terms of individuals and their interactions.

A methodological individualistic perspective can be applied to both firm-level and regional studies, for even though management scholars and regional scientists may study the impact of non-social factors on human activities, their foremost task is ultimately to understand social phenomena such as the spatial concentration of production or innovative activities. We suggest, however, that methodological individualism has more important implications for the study of regions than of firms. Of course, there are several notions of regions and possible ways of identifying or classifying them, such as their physical characteristics or cultural commonalities among their inhabitants. More relevant in the context of this paper, however, are factors such as political institutions ("administrative regions") and selective spatial interactions by economic agents, sometimes across political jurisdictions ("functional regions") (Noronha and Goodchild, 1992). As Behrens and Thisse (2007, 458) further observe, regional analysts typically "use interchangeably different, yet equally unclear, words such as locations, regions or places without being aware that they often correspond to different spatial units." Be that as it may, the key issue in our discussion revolves around whether or not regional policy makers should design and try to implement economic specialization policies within their areas of jurisdiction, whatever its geographical size.

While a firm is not an individual unless it is completely operated by one entrepreneur, it is nonetheless a goal-oriented organization with well-defined boundaries that, despite its typically multi-product nature, is built around one or a few core competencies.[3] Outside the context of a centrally planned system, however, geographical units do not share these fundamental characteristics.[4] Thus, a consistent application of methodological individualism implies that only individuals and not "learning regions," "regional networks," or "regional systems of innovation" have skills, capabilities and tastes. Besides, unlike firms, geographical units whose boundaries are arbitrarily defined do not enter and exit markets, nor do they produce or trade goods and services, an argument which similarly applies to countries and therefore to theories of international trade. In short, regions do not act like individuals or even organizations (Boschma, 2004; Frenken and Boschma, 2007). Yet this fundamental difference becomes problematic when, for example, the competing agent is often not clearly defined in the interregional competition literature (Lagendijk and Oinas, 2005). Our contention is that

[2] While ontological individualism is less disputed, the question of whether methodological individualism necessarily ensues is more controversial. More recent debates on the issue revolve mostly around the analysis of individual interactions. Sometimes methodological individualism is mistakenly associated with ethical or political individualism, but the term was originally coined by the economist Joseph Schumpeter to distinguish it from political individualism (Elster, 1982; Hodgson, 2007; Udehn, 2001).

[3] Udehn (2001, 265–272) is a more detailed discussion of methodological individualism in the theory of firm.

[4] Krugman (1994) essentially conveys this point in his critique of the frequent practice of treating competition between nations and firms in a similar fashion.