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Capital indivisibility and tax competition: Are there too many business areas when some of them are empty?

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Abstract

In this paper, we propose a model where local jurisdictions must engage a development cost before competing for hosting a firm with uncertain preferences among possible sites. We first show that even an optimizing central planner managing all the jurisdictions develops more sites than there are plants to host. Doing so, he diversifies his supply and has a higher probability of hosting the firm. Then, we show that, if every jurisdiction is managed by a local government, there are more developed sites than with the central planner, which implies excess supply.

Keywords: Tax competition; Market of sites; Central planner; Informational asymmetry; Business areas; Decentralized equilibrium; Investment indivisibility

1. Introduction[1]

If competition for firms often takes the form of tax reductions or subsidies, local investments in infrastructure may be as important as financial incentives in attracting new firms (Taylor [15]; Justman, Thisse and van Ypersele [6]). Indeed, competition may also take the form of creating infrastructure prior to the firm's location. For example, in order to reduce disparities in terms of

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quality in infrastructure, transportation infrastructure has become one of the main expenditure of the European Union's regional development policy in the last decade (Martin [10]). Moreover, the competitive supply of infrastructure can become wasteful when jurisdictions sink resources that are not fully offset by the gains raised by the new investment (Taylor [15]). In Europe, for example, some public and private developers consider that there is evidence of business areas and industrial premises provided in excess. Most of them are not efficiently used. They are underoccupied; some of them may be empty. In France, Lorrain and Kukawka [8] propose the example of the city of Lyons where "the urban authority developed 1195 hectares,[2] 745 being still available in the eighties." This underoccupation of business areas is also documented by Madies [9], Jayet and Paty [5]. In Picardie,[3] half of the industrial premises are not occupied. It leads the French Court of Accounts to consider that the developing activity of most local authorities results in a waste of resources [3].

Moreover, these observations are in clear contrast with theoretical results, as it is widely accepted that tax competition implies undersupply of public goods. Most theoretical models lead to this conclusion (see for example Mintz and Tulkens [12]; Wilson [19]; Zodrow and Mieswkowski [20]; Wildasin [16–18]). The source of this inefficiency is a fiscal externality. When a jurisdiction taxes capital at a higher rate, capital flows out of the jurisdiction. With larger tax bases, competing jurisdictions can provide more public goods or lower their business tax rates and become more attractive.

Is there really oversupply of development areas and, if the answer is positive, how to explain it? In order to answer these questions, the model presented in this paper introduces several features of industrial investment which are generally neglected by models of tax competition. The first one is capital indivisibility. We consider a single firm looking for a location for one plant only. This is the situation local authorities most often face. A similar assumption appears in Doyle and Van Wijnbergen [4]; Bond and Samuelson [2]; Black and Hoyt [1]; King, McAfee and Welling [7]. These authors also introduce an informational asymmetry, the firm being uncertain about the productivity of local factors it will use, the local authority knowing it. The second feature of our model is also an informational asymmetry, but the other way round. At the time the firm chooses its location, it knows exactly the effect of local factors on productivity. When they enter competition for attracting the firm, the local authorities do not know them.

Thirdly, our local authorities produce a purely productive public good. What we have in mind is mainly infrastructure necessary for industrial activity. In most models of tax competition, only consumers benefit from the public good. This is true for fiscal models, for example Wildasin [16] as well as for bidding models, for example Black and Hoyt [1]. The last feature of the model is that the public good, or at least some part of it, must be produced before the firm chooses its location. Producing the productive good then appears as a sunk cost for entry on a market of sites. Therefore, our model shares important features with models of firm entry in the industrial economics literature (Salop [13]): there is a sunk cost for entering a market of sites.

In the second section of this paper, we present the main hypothesis of our model. A firm considers setting up a new plant to locate on a new site. Possible sites differ by the effect of their characteristics on productivity. Some of these effects are publicly known. Others are the firm's private information. Sites are managed by governments, who have two functions. At first, they develop sites, building infrastructure and providing various facilities. Developing a site entails a

[2] A square kilometer equals 100 hectares.

[3] Picardie is one of the French regions.