



Methodological and Ideological Options

Combining discourse analyses to enrich theory: The case of local land-use policies in South Eastern France

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ABSTRACT

Local land-use policies are determined by a wide range of considerations that do not always favor open-space preservation. To identify them, a field study was undertaken in South Eastern France via semi-directive interviews with people responsible for municipal land-use policies. We use it to compare a qualitative (*i.e.* manual) discourse analysis with two quantitative (*i.e.* computer-assisted) analyses and combine them to identify the drivers of land-use policies, especially with regard to urban sprawl. Performing all three analyses allows us to switch back and forth between a local empirical approach and large-scale modeling and methods. This should enrich micro-economic models by clarifying more complex local features, like unbalanced relationships with neighboring municipalities or why “agriculture” should be considered as an independent interest group.

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1. Introduction

Discourse analysis (*i.e.* the various social science approaches to analyzing written and spoken communication) is well suited to treating data from field studies, to testing hypotheses as well as to validating or reinterpreting data already analyzed (Miles et al., 2013). It is therefore often presented as a way to understand mechanisms in economics, although not explicitly as a way to enrich formalized economic models (see *e.g.* Musson, 2012; Plumecocq, 2012). Any discourse analysis involves, after data formatting to obtain an organized set of information, several cyclical and interactive steps: data condensation (*i.e.* selection, concentration and simplification), data presentation (through matrices, figures or tables) and drafting and checking conclusions (Miles et al., 2013). Data condensation can be “qualitative” using manual analysis or “quantitative” using computer-assisted analysis (lists and frequency of occurrences, systematic coding). The question is whether qualitative and quantitative methodologies can be combined in such a way as to make discourse analysis useful for empirically oriented economic modeling and to exploit information that econometric models do not take into account.

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We apply these two methodologies and combine them to identify the drivers of local governments' choices on land-use policies, especially with regard to urban sprawl. Urban sprawl results from a trade-off between commuting costs and land rent (Alonso, 1964; Muth, 1969; Mills, 1972): high city-center prices and low commuting costs are incentives for people to turn to suburban areas for large developable lots that satisfy their preferences and income constraints. While this is a way of increasing individual well-being, it also leads to social negative externalities of two main types (see Delattre, 2013): open-space scarcity, with the ensuing competition over resources between urban and other land uses (natural, agricultural) (Johnson, 2001; Cavailhès and Wavresky, 2007), and additional social costs (public service costs, traffic congestion, see Burchell et al., 1998, 2002; Carruthers and Ulfarsson, 2003; or Guengant, 1993), with the related issue of their apportionment (Speir and Stephenson, 2002; Longman, 1998; Persky and Wiewel, 1996). Land-use allocations that result from the trade-off between individual willingness to increase space consumption and the social costs of the ensuing negative externalities are mainly driven by land-use policies (see Bengston et al., 2004; for a survey on urban policies). These policies have a huge impact on ecosystem sustainability (Anderies et al., 2004; Wilcove et al., 1998; Chapin et al., 2000; McDonald et al., 2008), a global issue reaching well beyond the local decision level.

Meanwhile, individual preferences related to Nature or Health that were not previously really geographically distinct are becoming more localized, due to the increasing spatial and functional effects on

biodiversity of local human land uses (Ricketts and Imhoff, 2003) and local food supply issues (Murdoch et al., 2000; Hinrichs, 2003). Thus, although containing urban sprawl is a global concern (UNPD, 2007; MEA, 2005), land-use policies often fall to local governments, who make decisions subject to numerous considerations (electoral, budgetary) that are not always in accordance with central government's aim of preserving open-space areas. Consequently, it is crucial to identify local drivers of the trade-offs that guide urban expansion policies in order to understand how local governments behave.

From a theoretical perspective, economic assessments of a local land-use policy decision generally come down to micro-economic models, often based on the lobbying or voting model, e.g. the median voter model (see Schone et al., 2013; for a short review and an application to land-use control issues). Such models are the basis for empirical studies which find – within a local and temporal context focused on issues like land rent, distribution rights, personal benefit conservation (Not In My Back Yard syndrome) – the expected effects of the appropriate socio-demographic determinants (distance from central business district, income level, housing density) (see e.g. Cooley and LaCivita, 1982; Richer, 1995; Fischel, 2001; Hilber and Robert-Nicoud, 2007; Solé-Ollé and Viladecans-Marsal, 2012). Contrastingly, our empirically oriented methodology enriches micro-economic models with variables that report local behaviors through both qualitative and quantitative discourse analyses (relying on two techniques: similarity analysis and the ALCESTE¹ method). The analyses are based on transcripts of semi-directive interviews conducted among elected municipal officials (i.e. mayors or members of the municipal council elected by the population) from South Eastern France. This area is experiencing a particularly strong trend towards sprawl, because local pressures (desire to live in a detached home) have been modifying landscapes through town planning policy and local politics.

Although these behaviors can be studied satisfactorily through qualitative analysis, this method cannot be easily extended to large sample sizes to implement large-scale models. However, because the transcription task is a common mandatory step that can be outsourced more easily than qualitative analysis, applying quantitative methods, if judged relevant enough, to a large corpus would save time. Consequently, we propose to highlight local determinants using a qualitative method and then to scrutinize these determinants using two quantitative discourse analyses (see Grimmer and Stewart, 2013; or Laver et al., 2003; in political sciences). Similarity analysis helps us select the behaviors or variables that are the most closely related to our research assumption and to build readable graphs representing relationships between them. The ALCESTE method, through associations between words and arguments within each discourse, helps clarify more complex local behaviors like unbalanced relationships with neighboring municipalities, or a desire to keep land within the agricultural sector rather than to build on it, which depends on local agricultural characteristics. The advantage of performing all three analyses is that researchers can switch back and forth between local empirical study and large-scale modeling.

Section 2 presents the standard theoretical framework as well as the French legal framework. Section 3 presents the materials and methods. Section 4 contains the results of the qualitative and quantitative discourse analysis. Section 5 discusses the enriched theoretical framework that results from this combination of techniques. Section 6 concludes.

2. Theoretical and French legal frameworks

2.1. Theoretical framework: political market and elected official utility model

Regarding land use, local governments can make regulations to reduce political transaction costs incurred in dealing with contradictory

goals among local constituencies. However, as individuals and groups in a community have different preferences about land use and urban growth, these regulations have major distributive impacts (Lubell et al., 2009). Thus, at the same time as coming to terms with individual preferences (policy adoption for the government and bargaining for individuals), local governments may also be aiming, through the regulations they adopt, to favor the interests of a given group rather than to maximize local community welfare (Downs, 1957; Fischel, 1987; Webster, 1998; McDonald and McMillen, 2004).² This is especially true when the local government structure is strongly politicized (electoral versus administrative/managerial power in the executive branch of city government – see Feiock et al., 2008; Lubell et al., 2009).

In this regard, public choice theory views political decisions as being made by rational self-interested individuals. Thus, as Breton (2007) put it, the policymaker can be characterized “by a utility function defined for a probability of reelection (or election) variable and for variables such as personal pecuniary gains, personal power, his own image in history, the pursuit of lofty personal ideals, his personal view of the common good, and others which are peculiar to each politician” (p. 124). To maximize their utility function, the policy makers will consider the preferences of the median voter (see Downs, 1957) and those of interest groups (see Olson, 1965; Stigler, 1971; Peltzman, 1976; Molotch, 1976; Logan and Molotch, 1987; Ellickson, 1977) that they imperfectly know (as well as voters' imperfectly known preferences and the positions of the current government and candidates).

Based on these seminal works, Fischel (1987) presents zoning as a method for redistributing property rights from the owners of undeveloped land to others in the municipality and concludes that “the degree of restrictiveness of a community is greatest for small, homogeneous suburban jurisdictions and least for large, heterogeneous cities and very rural areas. Small cities and the larger suburbs fall in between these extremes [...]. In larger places, voters more often live and work in the same jurisdiction, and their political process allows for logrolling, vote trading, and other devices that roughly balance development interests with home-owners' concerns” (Fischel, 1987, p. 228; see also McDonald and McMillen, 2004).

We rely on this description by Fischel (1987) of zoning as a “political activity”. In particular, it states that because of information costs, elected officials³ and voters only have partial knowledge of each other's preferences/political actions. Thus, there is an opportunity for interest groups to influence both elected officials (by lobbying) and voters (by advertising or “electioneering”). These interest groups are opportunistically structured in reaction to the political context of a given public decision, which makes them more likely to be composed of a small group of peers rather than a large group of individuals. Therefore, because organizing and operating such a group is costly, interest groups only appear when few individuals are involved with the required capacities, time and money, and when the stakes are high enough. The extent to which interest groups can influence local government decisions depends on the local context, increasing therefore when land issues are numerous and diverse, and when voters' preferences are less clearly identified (e.g. in large cities).

Fig. 1 proposes a way to graphically summarize Fischel's observations for a “stylized” average case. Each voter is represented by a dot whose coordinates correspond to preferences in terms of developable area and authorized density within developable areas. The barycenter of the dots gives the median voter's preferences on land-use policy issues. However, elected officials have imperfect knowledge of the barycenter's location and their uncertainty increases with the number

¹ Analysis of co-occurring lexemes in simplified text statements (ALCESTE: Analyse des Lexèmes Cooccurrents dans les Énoncés Simplifiés d'un Texte).

² Moreover, considering the “social welfare” of the local community can have exclusionary impacts at the metropolitan scale by pricing out potential residents that cannot afford land prices and taxes (see Tiebout, 1956; Fischel, 1987), especially in highly fragmented metropolitan areas (Carruthers and Ulfarsson, 2002).

³ Although we only mention “elected official”, this framework also applies to all candidates in municipal elections prior to election.

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