



# The shift to competitiveness and a new phase of sprawl in the Mediterranean city: Enterprises guiding growth in Messoghia – Athens



Ioannis Chorianopoulos\*, Georgios Tsilimigkas, Sotirios Koukoulas, Thomas Balatsos

Dept of Geography, University of the Aegean, University Hill, Mytilene 81100, Greece

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## ABSTRACT

Spatial planning frameworks in EU member states have been increasingly supporting the growth prospects of particular metropolitan regions, deemed as regional engines of national economic growth. This paper discusses the shift in spatial planning policies towards territorial competitiveness, focusing on Greece. The country's commitment to competitiveness was confirmed in the 1990s and was symbolically sealed with the decision to host the 2004 Olympic Games in Athens. Examination focuses on one of the key objectives behind the prioritization of competitiveness-related interventions: investment attraction and the locational traits of new business formation in the eastern Athenian hinterland is explored (1997–2010). The locational traits of startup businesses are analyzed by means of exploratory point pattern analysis on the geocoded enterprises, underscoring a sprawl-like type of growth. The proliferation of divergent modes of state spatial intervention is associated in the literature with an increase in spatial disparities. In areas with underdeveloped land-use planning structures, it is argued, competitiveness pre-occupations unsettle stated planning priorities and 'revive' arguments that approach unordered urban expansion as a short-cut to growth.

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## Introduction

Territorial competitiveness is a relatively recent policy trend. In Europe, however, it has already marked the development paths of cities and urban regions (Brenner & Wachsmuth, 2013; Bristow, 2011). The advent of competitiveness-related considerations coincide, schematically, with the 1970s global economic crisis and the ensuing socio-economic restructuring processes. The course of actions unfolded simultaneously at different regulatory scales. At subnational level, economic development strategy documents build increasingly on an apprehension of local 'comparative advantages' and attempt to improve the attractiveness of the 'business environment'. The means to achieve this goal include, among others, subsidies to developers and inward investors, selective relaxation of planning controls, and decisions on infrastructure investment (Begg, 2002; Kearns & Paddison, 2000). In parallel, national spatial policy frameworks shifted away from the post-war target of 'equity' to strengthen the growth prospects

of particular areas, at the expense of others (Dunford & Perrons, 1993; Gonzalez, 2011). Developments at the European front underlined and strengthened this perspective. European integration accentuated the reliance of localities on their distinct 'comparative' advantages to generate development opportunities and to attract investment (Wegener & Kunzmann, 1996). There is a vibrant debate on the causes and consequences of this spatial policy shift, criticizing its impact on the goals of balanced and sustainable growth (Brenner & Theodore, 2005; Peck, 2002). Building on this literature, this paper discusses the shift towards competitiveness in the Greek spatial planning realm.

The Greek case differs from the ideal-typical paradigm of compensatory approaches to planning, noted in post-war western European countries. The dependence of the country's industrialization on urbanization economies arrested the emergence of a comprehensive planning framework with redistributive or land-use regulatory qualities (Giannakourou, 2005a). Greek cities are part of the Mediterranean urban example in which unordered urban expansion was the route via which rapid economic growth was obtained in the post war era (Leontidou, Afouxenidis, Kourliouros, & Marmaras, 2007). The recent endorsement of 'territorial competitiveness' as a strategic spatial priority, therefore, unsettled an already underdeveloped and growth-oriented planning regime.

\* Corresponding author. Tel.: +30 2251036462.

E-mail addresses: [ichorian@geo.aegean.gr](mailto:ichorian@geo.aegean.gr) (I. Chorianopoulos), [gtsil@geo.aegean.gr](mailto:gtsil@geo.aegean.gr) (G. Tsilimigkas), [skouk@geo.aegean.gr](mailto:skouk@geo.aegean.gr) (S. Koukoulas), [thomas.balats@gmail.com](mailto:thomas.balats@gmail.com) (T. Balatsos).

In this paper we investigate the spatial restructuring dynamic noted in Athens as a result of the earmarking of the city as the county's 'growth engine'. The 2004 Olympic Games hosted by Athens affirmed this choice emblematically. The adoption of competitiveness notions in spatial planning is associated in the literature with an increase in spatial disparities (Brenner, 2009). In areas with underdeveloped land-use planning structures, it is argued, the pursuit of territorial competitiveness also sidesteps sustainable development targets, jeopardizing future growth prospects. The competitiveness rhetoric in Greece promoted a vision of urban development at any environmental, functional or operative costs. The central position these arguments hold in the planning agenda is a timely concern. Greece is currently in the midst of a sovereign debt crisis and planning controls have been further relaxed in an attempt to trigger growth (Lekakis & Kousis, 2013; Souliotis & Kandyliis, 2013). In this paper we discuss by means of example the defects of this stance. More characteristically, we note the preference of start-up businesses to locate in a regulated urban environment, a direct acknowledgement of the economic merits of a planned approach to growth.

The paper is organized in three parts. The first part sketches the ideal-typical western European spatial planning example of the post-war era. It then remarks on the subsequent planning shift towards 'competitiveness'. The second part centres on Greece. It explores the path dependent traits of spatial planning since the postwar era, marked by the prioritization of rapid urban growth over sustainable development objectives. The third part examines the contemporary capacity of land-use planning to guide economic development in the Athenian hinterland. Research looks at Messoghia, an area that received major transport infrastructure investment under the auspices of the Olympics. In Messoghia, examination focuses on new business formation, one of the key goals of competitiveness-related interventions. New enterprises in Messoghia were geocoded and mapped. Subsequently, the changes of their point patterns were examined in the pre- and post-Olympics periods (1997–2003 and 2004–2010 respectively). A comparison with land use zones is also presented via point in polygon analysis, emphasizing unordered urban expansion.

### Breaching the commitment to balanced growth

The post-war period in Western Europe is approached by the 'regulation school'<sup>1</sup> as a discrete macro-economic configuration of nationally defined 'compromises' (Aglietta, 1979). The so called 'Fordist' era of increased mechanization and rising productivities based on scale economies, schematically coupled with a 'Keynesian' welfare state system of social insurance, guaranteed aggregate demand and allowed the full development of mass production (Jessop, 1991). The concomitant commitment to full employment and balanced growth shaped, and was supported by, a spatial planning perspective which, albeit contextually specific, attempted to simultaneously manage developmental and redistribution-related goals. Thus, on the development front, fast growing metropolitan regions received the corresponding to their population densities high share of social security transfers and public infrastructure investments. In an attempt to spread growth to all parts of the national territory, however, 'lagging regions' were also the focus of concerted policy initiatives. These ranged from industry (re)locational incentives, to major investment in housing, public utilities and transportation (Martin & Sunley, 1997). This broadly sketched socio-political and spatial configuration contributed to an unprecedented economic

growth trend, accompanied by a marked convergence in regional GDP per head throughout Western Europe up to the mid-1970s (Dunford & Perrons, 1993). The global economic crisis that marked the respective decade, and the ensuing restructuring processes, altered this arrangement profoundly.

The fiscal limitations experienced by national authorities in sustaining redistributive spatial policy targets, unsettled the context that defined the orientation of tasks and the distribution of responsibilities between tiers of government (Johnston, 1985). The post-war objective of balanced development across the national socio-economic space was also eroded (Healey, 2004). In this frame, the respective literature acknowledges the emergence of a broad Europe-wide spatial policy restructuring trend, involving two distinct phases of evolution.

First, during the 1980s, a regulatory transformation wave of has been observed, its key manifestation being the dismantlement of the political-administrative structures aiming at tackling uneven regional development. A range of prominent metropolitan institutions aiming at guiding welfare provision and industrial and infrastructure investment were abolished during that time<sup>2</sup> (Brenner, 2003). Second, in the 1990s, a qualitative shift in spatial planning has been noted, marked by the endorsement of the competitiveness goal (Albrechts, Healey, & Kunzmann, 2003). Spatial planning frameworks adjusted their focus on the growth prospects of particular metropolitan regions, viewed as 'national assets' and selected for preferential support (Delladetsima, 2003; McGuirk & MacLaran, 2001). The blueprints of Denmark (1992), Germany (1993), France (1994) and the Netherlands (1990) are characteristic examples of this shift, underscoring the engulfing influence of urban-regions in national spatial planning policies (see Brenner, 2004a; Faludi & Van Der Valk, 1994; Lefèvre, 2003). The adoption of the so called 'leopard skin' approach to national spatial planning (Bozzi, 1995), places emphasis on state-sponsored, large-scale infrastructure developments, indented to enhance the supranational competitive advantages of strategic metropolitan locations<sup>3</sup> (Malecki, 2007). The mode of intervention in such strategically selected and territorially delineated locations assumes many forms. It increasingly includes, however, the suspension of existing planning regulations and the introduction of 'exceptional', area-specific regulatory statuses (Swyngedouw, Moulaert, & Rodriguez, 2002).

The encouragement of divergent modes of state intervention and local economic governance signals a clear break from the 'universalist' model of public infrastructure provision of the post war period, also breaching the comprehensive view of the national economy that informed redistributive targets. Moreover, the institutionalization of competitive relations amongst territories for public subsidies or private investment, tolerates and augments intra-national polarization tendencies (Peck, 2002). The shift to competitiveness is path dependent, reflecting the particularities of post-war development trajectories and socio-political compromises, as defined at the national level. The distinctiveness of the respective traits in Greece is a case in point (Leontidou, 1990).

<sup>2</sup> Examples of metropolitan institutions abolished in the 1980s include the Greater London Council, the English metropolitan counties, the Madrid Metropolitan Area Planning and Coordinating Commission, the Barcelona Metropolitan Corporation, the Greater Copenhagen Council and the Rijnmond in Rotterdam (Brenner, 2003).

<sup>3</sup> Reference is made here to large-scale, state-led transportation infrastructure projects such as the Oresund Link (1990s), that accompanied the formal abandonment of the regional equalization objective of Danish spatial planning (Majoor & Salet, 2008); the Parisian new Central Business District (La Défense) and transport infrastructure (Channel tunnel and TGV hub) that mitigated the post-war French spatial planning 'métropoles d'équilibre' objective (Lefèvre, 2003), and the Mainports project in the Netherlands that altered the Randstad planning concept of controlled urbanization (Lambregts & Zonneveld, 2004).

<sup>1</sup> The 'regulation school' is concerned with the identification of the core mechanisms and socio-economic factors which, in distinctive historical periods, guarantee coherence and relative socio-economic stability, or lead to eras of stagnation, crisis and transformation (Lipietz, 1987).

## The growth imperative in Greek spatial planning

The description of the southern European or Mediterranean development example as ‘peripheral Fordist’ underscores certain variations from the dominant industrialization paradigm of the post-war era, most notably the unorthodox involvement of authoritarian regimes in economic and spatial regulation (Lipietz, 1987). Focusing on Greece, the civil war (1945–1949) and the military coup (1967–1974) outline a period of civil rights infringement and undemocratic administrations. Political legitimacy and societal consensus was sought for and claimed on the basis of rapid economic expansion (Chorianopoulos, 2008). Consequently, at national level, the five year plans that defined the country’s strategic goals at that time consisted, primarily, of an attempt to encourage the growth of manufacturing in selected regions. A strategic spatial plan informed by broader social or environmental considerations was not endorsed (Andrikopoulou & Kafkalas, 2004). Similarly, at urban level, the determining role of urbanization economies<sup>4</sup> in the country’s industrialization endeavour tilted characteristically the spatial policy balance in favour of development. In order for the urbanization trajectory to be maintained unobstructed, spatial planning goals were neither rigidly framed, nor rigorously applied. Development, for instance, was permitted in areas with undefined land uses, such as the peri-urban areas and the urban hinterland, allowing for a set of restrictions concerning construction sizes (Christofilopoulos, 2007). More characteristically, the respective authorities tacitly encouraged the infringement of the already ‘loose’ spatial planning regulations (Wassenhoven, 1984). In this manner, public utility corporations were obliged to provide their services to all constructions, including those that were officially declared as ‘unauthorized’ (Getimis, 1989).

The post-war urbanization wave in Greece was substantial, culminating in an increase of urban population from 37.3% of the total in 1950, to 55.3% in 1975 (UN, 2006). Economic growth rates were also particularly high, marked by an average annual GNP increase of approximately 5% between 1950 and 1970 (Williams, 1984, p. 8). Cities, however, expanded disorderly, shaped informally by private initiative. The implications of this stance were soon to be revealed at both national and local levels. By the late 1970s, a total of 57% of the country’s urban population was concentrated in only one city, Athens (CEC, 1992a). In cities, unordered expansion impaired notably quality of life conditions. Traffic congestion and environmental degradation, in particular, conveyed a sense of pressing importance, prioritizing intervention (Petrakos, Mardakis, & Caraveli, 2000). Political developments enabled the surfacing of such concerns. The fall of the military dictatorship (1974), signals a period of renewed interest in spatial planning.

### A circumscribed response

The country’s new democratic Constitution (1975) stated a commitment to sustainable development and environmental protection. The move was accompanied by the establishment of the Ministry of Spatial Planning and the Environment (1980), and the concurrent re-organization of the country’s spatial policy framework (Giannakourou, 2005b). In this context, emphasis was placed on haphazardly developed peri-urban settlements. Detailed land-use plans were introduced in these areas, incorporating the respective settlements into an expanded ‘town plan’ (Karidis, 2006). Growth pressures in areas surrounding the urban catchment, in turn, were to be controlled through mapped zones, aptly termed

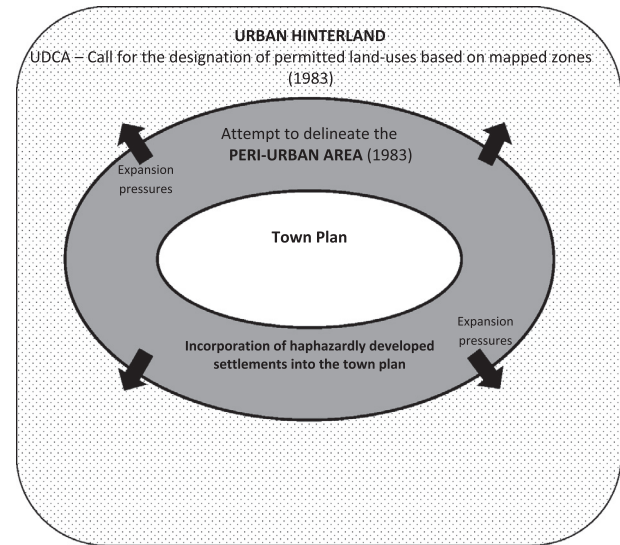


Fig. 1. Urban Development Control Areas.

Urban Development Control Areas (UDCAs). The overall attempt aimed at delineating the urban fabric and at designating permitted uses of land in the hinterland (Christofilopoulos, 2007; GGN, 1983). Fig. 1 illustrates graphically this spatial policy arrangement, underscoring its orientation towards urban containment.

Moreover, in the country’s two major cities, Athens and Thessaloniki, a Master Plan (1985) defined the medium and long term goals of land use regulation, guiding intervention. In both cases, a national government agency was set up to oversee its implementation (GGN, 1985). Reform goals, however, were soon toned down in the face of fierce opposition by interest groups to urban growth controls.<sup>5</sup> Further obstacles that hindered the process direct analysis to the country’s contemporary economic challenges.

### The shift to competitiveness

The economic downturn affecting most European economies in the early 1990s was addressed in Greece through a combination of expenditure controls and ‘developmentalist’ policy measures. Expenditure restraining efforts – reinforced by the convergence criteria for entering the European Monetary Union (CEC, 1992b) – centred on the realm of public service provision. The quest for development, in turn, was backed up by an array of political-administrative reforms and spatial policy re-orientations.

State spatial structures changed twice during this decade in an attempt to create fewer yet more competent and development-responsive local authority units.<sup>6</sup> Emphasis was placed on the creation of local co-operation platforms, capable of promoting neo-corporatist development schemes (Chorianopoulos, 2012). Spatial policy, in turn, re-acquired a distinct pro-growth perspective, one that resembled post-war approaches of minimal planning intervention. Three key examples illustrate this argument:

<sup>5</sup> The projected by the national authorities new urban agglomeration limits (1983) were received unfavorably. Local authorities and interest groups exercised pressure to expand these limits, delaying and mitigating the process of urban growth control. As a result, original nationwide estimates of 16,000 ha of peri-urban space to be incorporated into the respective statutory urban plans (1983), reached approximately 30,000 ha in 1985 (Getimis, 1989, p. 85).

<sup>6</sup> Structural reorganizations included the transformation of the 54 prefectures in the country from an administrative arm of the state apparatus into a political body with a directly elected Prefect and Council (1994). Also, a municipal amalgamations reform (1997) decreased the number of local authorities from 5992 to 1033 (Council of Europe, 2001).

<sup>4</sup> Urbanization economies reflect benefits resulting from a larger labour market and service sector. The extent of scale economies relevant to a particular industry, therefore, is primarily affected by the size of a city, and not by its industrial composition (Louri, 1988).



- The implementation of the UDCA zoning schemes was postponed throughout the 1990s.
- Developers were given the right to formulate layout plans in peri-urban areas to be built up, by-passing local authority regulatory controls (Getimis, 1992).
- The set-up of a strategic spatial planning framework at national level was decided upon (1999), but it was formally introduced a decade later (GGN, 2008).

It is in this era of territorial restructuring and regulatory void that the national authorities decided to embark on a characteristic, according to the respective narrative, territorial competitiveness endeavor. Development resources were to be channelled to Athens, selected on an *ad hoc* manner as the country's 'growth engine'. The choice was manifested in 1990, when the city was put forward as a candidate for the centennial Olympic Games. Athens was awarded the event seven years later (1997), hosting the 2004 Olympics. During this time, a number of major physical infrastructure projects were expeditiously initiated in the region, preceding formal assurances that the Games will actually take place in the city. Bidding for the Olympics, therefore, denotes a commitment to competitiveness, also suggesting that the national authorities were ready to take on the risks that such a major undertaking entailed. The following section approaches the 2004 Olympic Games as the key example of Greece's spatial planning shift towards competitiveness. It looks at the mode of incorporation of Olympic Games projects and related infrastructure investment in the city's spatial planning framework, underscoring the impromptu qualities of the process.

### A planning by-pass: The 2004 Olympic Games

Staging the Olympics was portrayed by the respective authorities as a unique occasion, capable of enhancing the capacity of Athens to attract investment and to improve its prospects as a year-round tourist destination (METREX, 2001). This approach was politically contested. Divergent modes of state intervention, it was argued, and the prolonged concentration of the country's development efforts on a single location, was only to exacerbate unbalanced growth trends, augmenting intra-national spatial polarization tendencies (Avgi, 2004). In response, official argumentation drew from the territorial competitiveness rhetoric to present the channelling of resources to Athens as capable of "...benefiting not only the city itself, but also the Region and the Country as a whole" (METREX, 2001, p. 33). Moreover, the physical infrastructure projects included in the Olympics 'Action Plan',<sup>7</sup> it was claimed, were in line with the strategic spatial planning goals for the area. Olympics were to act as a catalyst in speeding up the implementation of the already overdue Athenian Master Plan, geared towards environmental protection and sustainable growth (METREX, 2001). This was not the case.

Athens did not adopt a strategic plan, linking spatial policy priorities with Olympic Games investment (Beriatos & Gospodini, 2004). The locational, construction and co-financing particularities of Olympics' related venues and physical infrastructure projects were laid down in two independent *ad hoc* Acts that assumed a prevailing status over all other planning regulations applicable to the areas in question (GGN, 1991, 1999). The respective enactments were also affixed to the city's Master Plan. The latter docu-

ment, however, was not revised to accommodate the ensuing changes in the city's development prospects. More characteristically, the UDCA zoning scheme, the only available planning tool capable of guiding urban expansion, was downgraded as a policy priority and was introduced in 2003, a year before the Games commenced (GGN, 2003). In the meantime investment in transportation infrastructure altered the morphology of the city's hinterland. The effects of this change were examined in the Messoghia plain, the accessibility patterns of which were significantly enhanced in the context of the city's competitiveness shift.

### The Messoghia plain

'Messoghia' lies between the eastern coastline of the Attiki peninsula and the metropolis itself. As seen in Fig. 2, the mountainous barrier separating Messoghia from the Athenian conurbation, 'shielded' the plain from the successive urbanization waves noted in the western parts of the city throughout the post-war period (Leontidou et al., 2007). The resultant rural traits that typified the area were appraised in the Athenian Master Plan (1985) as 'valuable' to the agglomeration and in need of safeguarding.

During the 1990s and the early 2000s, a number of key Olympic venues (Equestrian Centre, Shooting Centre) and transport infrastructure projects (international airport, ring road, suburban railway) were constructed in Messoghia, blurring the area's 'protected' status. The transformation of local accessibility patterns and the absence, up until 2003, of any land-use planning schemes regulating growth, resulted in a marked expansion of the city's functional limits eastwards. More characteristically, between 1983 and 2003, a time-span framing the conception and the introduction of the Messoghia UDCA zoning scheme, urban land uses in the area increased 177%, covering a further 12% of the respective territory (Chorianopoulos, Pagonis, Koukoulas, & Drymoniti, 2010). Such unregulated growth, in turn, put at risk of unsustainable development an area the size of the Athenian conurbation (Kandyli, Arapoglou, & Maloutas, 2008; Salvati, Sateriano, & Bajocco, 2013; Sayas, 2006). Building on this work, our examination focused on one of the key objectives behind the prioritization of competitiveness-related interventions in the area: we explored investment attraction and the locational traits of new business formation in Messoghia in the 1997–2010 period. Research is divided into two sections. The first part looks at the 1997–2003 period, in light of heightened infrastructure investment and the absence of a zoning ordinance in the area. The second part investigates the area's post-Olympics economic traits and business responses (2004–2010). Studies on the relevance of urban form to local economic prospects, suggest that the physical make-up of cities affects economic performance. Compact and accessible – as opposed to sprawling and auto-centric – landscapes benefit from higher productivity rates (Cervero, 2001; Prud'homme & Lee, 1999). Our research, therefore, aimed at exploring the effectiveness with which the spatial planning framework guided business locations choices, influencing a sustainable economic growth trend.

### Case-study

Commencement of any business activity in Greece presupposes the compulsory registration of the new enterprise to the respective local Chamber. In this study we used the data of the 'Athens Chamber of Commerce and Industry' (ACCI). New enterprises as recorded by the ACCI were initially geocoded for the Messoghia area. These enterprises were split into two layers: one for the enterprises registered during 1997–2003 period, and a second for the 2004–2010 period. The two spatial patterns were mapped and their spatial distribution was explored using non-parametric (kernel based)

<sup>7</sup> Examples include the new Athens Underground, the international airport, the Athens ring road, the suburban railway and the tramway connecting the city-centre with the western waterfront, the Unification of Archaeological Sites in the city's historical centre, the Regeneration of the western Waterfront area, and the post-Olympic conversion of sporting facilities to convention, business and entertainment venues (TEE, 2002).

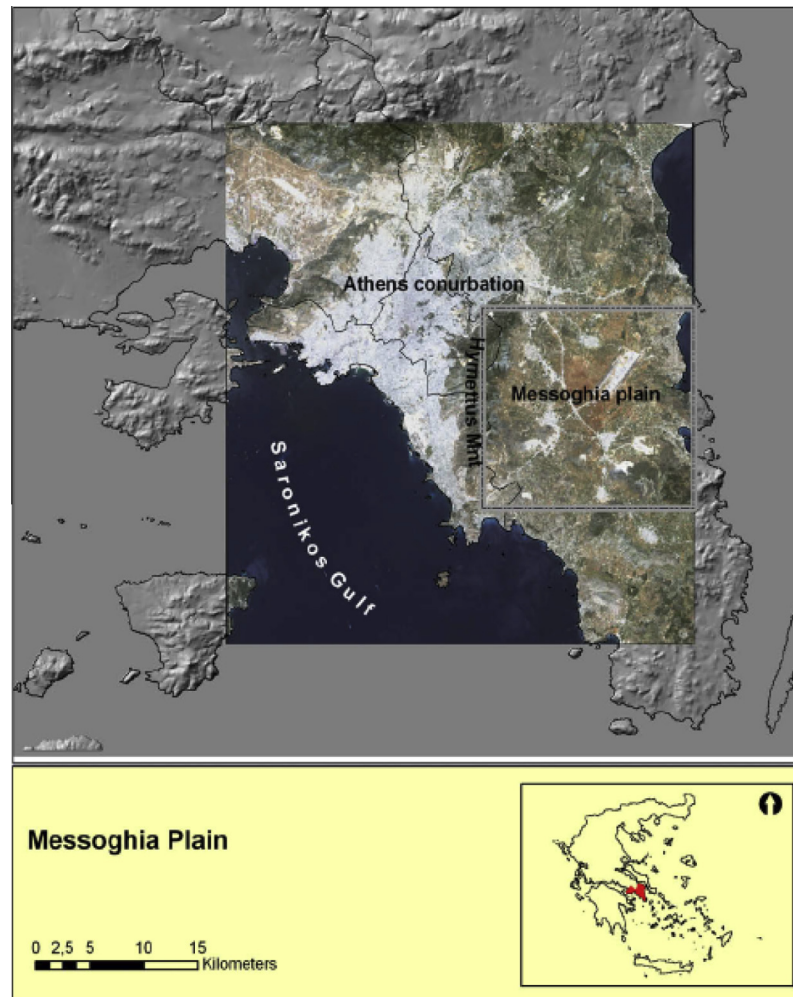


Fig. 2. The Messoghia plain.

intensity measures as described in the following sub-section. Subsequently, the point patterns were examined in comparison with the land use zones in order to identify possible incompatibilities.

#### Kernel Intensity estimation

Kernel estimators have been used in a variety of fields including epidemiology, crime statistics, ecology (Chainey & Ratcliffe, 2005; Diggle, 2006, 2014) and in fewer cases in urban studies (Maoh & Kanaroglou, 2007). There are only a few examples using kernel estimators for urban areas in Greece and in relatively different areas such as emergency planning (Grekousis & Photis, 2013). A brief description of the method follows.

Kernel intensity is a suitable method to represent the spatial variability in the mean of a variable of interest. The value in a specific location is taken to be a weighted function of the neighbouring values; the closer the locations of the neighbours the greater the weight they receive. The resulting surface is smoothed enough to eliminate each observation's contribution but allows for the detection of spatial variability. This is a useful way to visually explore the data and at the same time have some estimated quantities in order to compare through time or space.

Kernel estimation was originally developed to obtain a smooth histogram from an observed sample and it has since been adopted to estimate intensity of an observed pattern using a function known as kernel (Silverman, 1986). The kernel function can be

conceptualized as a moving function usually in the shape of a circle or square that is applied over a fine grid of locations in the area of interest and 'visits' each point in this fine grid. Distances to each observed event that lie within the region of influence (e.g. within a radius  $r$  for a circle) are measured and contribute to the intensity estimate of the origin according to how close they are to the origin. Choosing the right radius (if it is a circle) is an important issue, as a very large  $r$  will obscure local features and make the area look 'flat' and a very small  $r$  will result in a 'spiky' surface. This is determined either empirically, by using several values and choose the value that represents better the process under study (Bivand, Pebesma, & Gomez-Rubio, 2008), or by using one of the methods proposed in order to optimize the 'radius' of the kernel function for regions with different density (see Kelsall & Diggle, 1995, 1998).

A two dimensional kernel intensity estimate at location  $Z_0 = (x_0, y_0)$  is defined as:

$$\hat{\lambda}(Z_0) = \frac{1}{Nr_x r_y} \sum_{i=1}^N \left\{ \text{ker}\left(\frac{x_0 - x_i}{r_x}\right) \text{ker}\left(\frac{y_0 - y_i}{r_y}\right) \right\} \quad (1)$$

where  $r_x$  and  $r_y$  are the bandwidths in  $x$  and  $y$  directions and  $N$  is the total area (Diggle, 2006).

Usually we use symmetric kernels and the bandwidth is equal to  $r$  for both directions.  $\text{ker}()$  is known as kernel and the researcher can choose from a list of symmetrical to the origin bivariate probability density function. For this study, the Quartic kernel function was used, with  $r$  equal to 700 m for both directions

(chosen empirically to retain the linear trends), estimating the function for a grid of locations  $S = (x, y)$  and creating the overall intensity surface.

The kernel intensity results for the two periods are shown in Fig. 3. In the second panel of this figure we can observe that the establishment of new enterprises has intensified in the main urban centres (doubled, as shown in Table 1) and in the areas around the main road network that connects the urban centres. This is particularly true for the southern and eastern section. For the mid-western part we can observe diffusion into agricultural areas.

#### Enterprise locational traits and land use zones

Land use zones in Messoghia were established in 2003 aiming to reconcile two distinct realities: (a) the presence of major infrastructures constructed in the area as part of the Olympic Games endeavor; and, (b) the city's Master Plan intention to preserve the area's rural traits. The land use zone categories introduced in Messoghia are illustrated in Fig. 5, following the UDCA classification example. In this light, an overlay analysis (point in polygon) was applied for the period 2004–2010 in order to explore point pattern associations with certain land use zones (Fig. 5). For reasons of comparison, analysis was also applied in the 1997–2003 period (Fig. 4). Results are summarized in Table 1.

As seen in Table 1, the steady increase in the number of start-up businesses founded in Messoghia suggests the area's strong urban growth trend (see also, Grekousis, Manetos, & Photis, 2013). The fact that a high percentage of these enterprises were established in incompatible with their activities land-use zones, however, underscores the unordered, sprawl-like qualities of this type of growth.

#### Discussion

'Sprawl' is an umbrella term that directs analysis to rapidly growing areas on the urban fringe. In this context, it is applicable

to many unwanted conditions, defined mostly on an *ad hoc* basis, following the characteristics of the case-study examined. The negativity that accompanies the term draws from the following costs, associated with urban expansion:

- (a) *environmental*, with reference to the unordered conversion of rural to urban land use, heightened reliance on car transportation, ecosystem fragmentation and loss of forested land;
- (b) *economic*, enshrining land value speculative dynamics and a non-economical rationale for infrastructure extension and maintenance;
- (c) *social*, related to the 'suburban exploitation thesis' of under-investment in the inner cities, increased commuting, weakened sense of community and spatial segregation tendencies (EEA, 2006; Phelps, Parsons, Ballas, & Dowling, 2006).

Conversely, an increase in central densities as an 'antidote' to sprawl, is not always a viable option. In cities with population gains, the setting in of diseconomies of scale in the form of congestion impairs the efficiency of urban markets (Batty, Besussi, & Chin, 2003). 'Smart-growth' policy responses acknowledge this, as well as the wider context of city dynamics and agglomeration benefits. They are also sensitive, however, to issues of environmental degradation, housing diversity and traffic congestion (Burchell, Downs, McCann, & Mukherji, 2005; OECD, 2010). The capacity of land use planning to influence a sustainable mode of urban expansion, therefore, relies principally on a policy commitment to growth control. It is this commitment to sustainable development that has been unsettled by the increased weight of competitiveness-related priorities in Greek spatial planning.

In a similar manner to state-financed major interventions noted in EU Member States, spatial planning regulations hindering new infrastructure developments in Messoghia were circumvented by the introduction of place- and project-specific institutional forms. Increased accessibility and the absence of a spatial planning

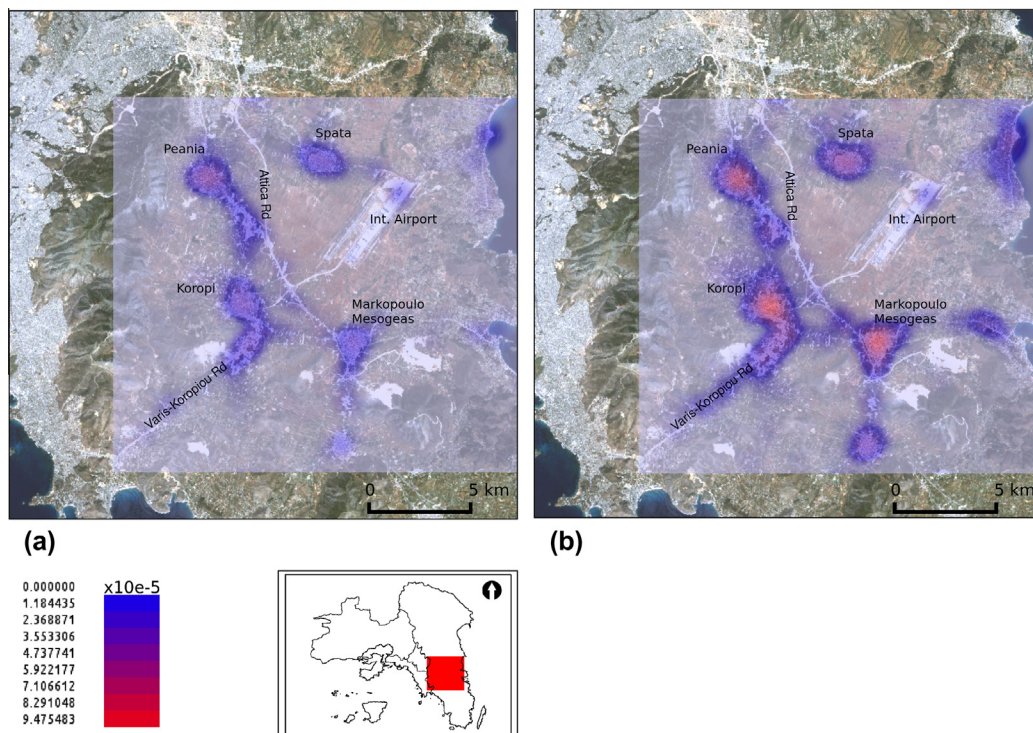


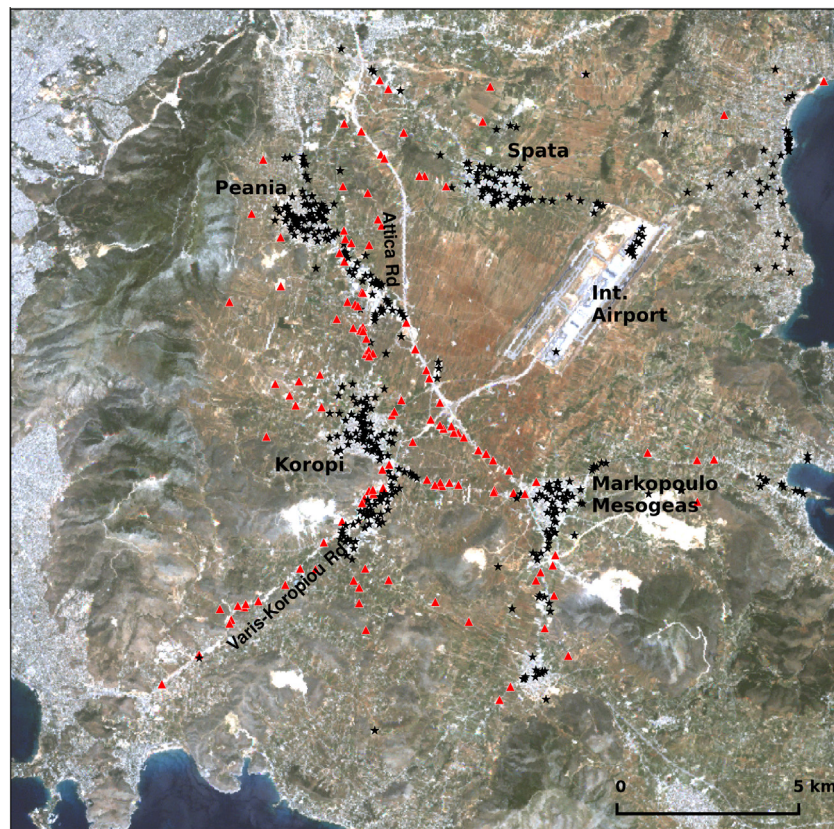
Fig. 3. Kernel intensity for the new enterprises for the period 1997–2003 (a) and for 2004–2010 (b).



**Table 1**

New enterprises and their locational agreement with land use planning zones.

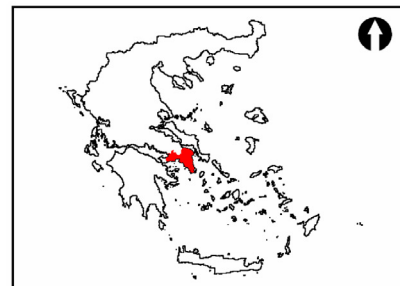
	New enterprises (1997–2003)		New enterprises (2004–2010)	
	Number	% of total	Number	% of total
<i>Compatible land use zones</i>				
Airport and development control zone	25	4.1	21	1.6
Areas regulated by urban plans	291	48.8	684	52.5
Industrial zones	88	14.7	131	10
New industrial zones	14	2.3	17	1.3
Olympic venues	3	0.5	0	0
Second home, suburban areas	46	7.7	146	11.2
Other	1	0.1	2	0.1
Sum	468	78.5	1001	76.9
<i>Incompatible land use zones</i>				
Agricultural land	82	13.7	189	14.5
Green zones and protected areas	46	7.7	112	8.6
Sum	128	21.5	301	23.1
Total	596	100	1302	100



New Enterprises for the period 1997–2003

Agreement with Land Use Zones

- ★ In agreement
- ▲ Not in agreement

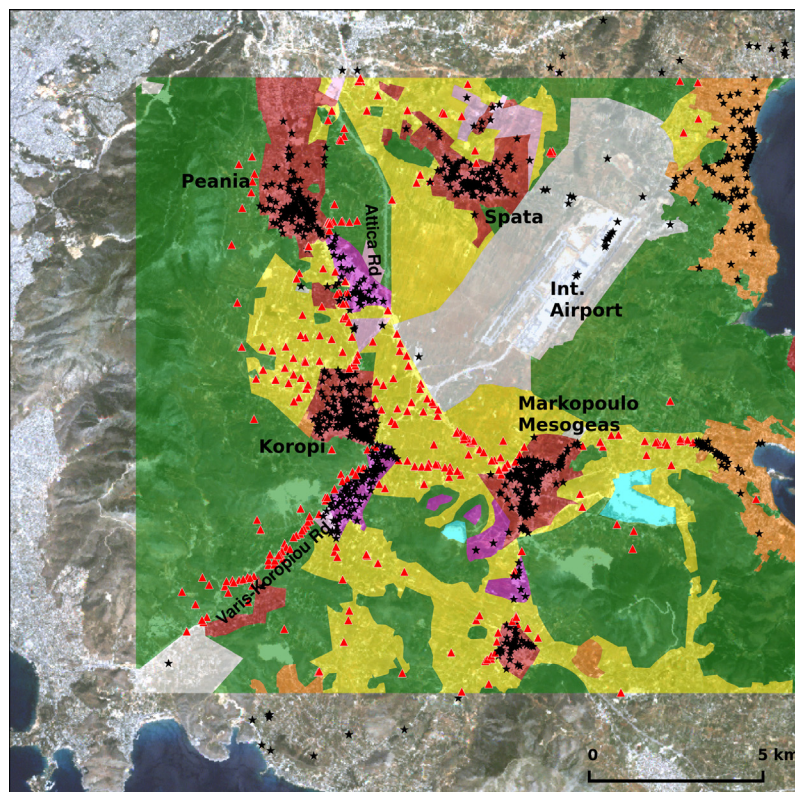
**Fig. 4.** Point patterns of new enterprises (1997–2003) and their agreement with land use planning zones.

framework controlling growth resulted in the rapid urbanization of the countryside driven by market forces. During this time, economic development, as measured by the establishment of new enterprises in the area, displays a positive record. In the period defined by the year Athens was chosen to host the Games (1997), and the introduction of the UDCA zoning scheme in Messoghia (2003), 596 new businesses were located in the area. As shown in Table 1, however, 21.5% of these opened up in areas that were subsequently designated as 'protected zones'. Land-use planning regulations, therefore, had to practically adjust to a reality that they were supposed to sway.

Positive economic signs continued in the post-Olympic era. In the 2004–2010 period, 1302 new businesses were established in Messoghia. As Fig. 5 and Table 1 indicate, however, a total of 23.1% of new businesses were set up in protected areas. This is not surprising. Zoning is the first step in the regulation of peri-urban space. It provides a broad system for mapping areas according to permitted land use. In order for a particular zoning scheme to be effectuated, however, detailed urban plans have to be drafted and

implemented by the local authorities. Such plans draw from the zoning scheme and specify the accommodation of activities in a given territory. Binding urban plans defining land layout and uses in Messoghia, however, had not been drawn at the time of writing (TEE, 2013). The zoning scheme, therefore, was devoid of any formal or mandatory steering qualities. In this context, noteworthy is the fact that a total of 76.9% of new companies decided of their own accord to locate in zones compatible with their activities. This high percentage suggests that planning regulations exert a significant degree of influence on business location choices, despite the implementation deficit. This window of opportunity to regulate urban expansion in Messoghia, however, was not made use of. Instead, the transportation network in the area was significantly upgraded, ignoring in the process the distinct impact of enhanced accessibility on land-use change (Iacono, Levinson, & Geneidy, 2008).

Investment in transportation infrastructure in Messoghia started in 1991, when the national authorities decided to locate the city's International Airport in the area (CGN, 1991). As seen



New Enterprises for the period 2004–2010

Agreement with Land Use Zones

- ★ In agreement
- ▲ Not in agreement

Land Use Zones (UDCA Classification)

- Agricultural Land
- Airport and Development Control Zone
- Areas Regulated by Urban Plans
- Green Zones and Protected Areas
- Industrial Zones
- New Industrial Zones
- Olympic Venues
- Second Home, Suburban Areas



Fig. 5. Point patterns of new enterprises (2004–2010) and their agreement with land use planning zones.



in Fig. 4, the new ring road (Attica Road) connecting the airport with the city, by-passed the mountainous barriers that separated Messoghia with Athens, enhancing ease of access. Eight years later (1999) a new Act by the national authorities found a train and metro line in Messoghia, connecting the airport with the city-centre and the port of Pireaus (GGN, 1999). All these decisions, however, were taken in isolation, without prior consultation with the planning authorities responsible for setting-up and revising local land-uses (Lainas, 2013). New transportation infrastructure, in turn, created an accessibility dynamic which, in conjunction with the absence of a regulatory framework guiding business location choices, produced an unsustainable effect. Reference is made here to 'strip development', a low intensity and auto-dependent form of commercial land-use in which each establishment is afforded direct access to a major transport route. Strip development is seen in the literature as the epitome of sprawl, an inefficient land-use associated with low-density land coverage, long distances and poor connectivity between uses, intense congestion and augmented costs for public infrastructure investment (Burchell et al., 2005; EPA, 2010). As seen in Figs. 3 and 5, this urban form is visible in all major roads in the area. The presence of a vital route, linking Messoghia with southern Athens, in particular, explains the noticeable concentration of new enterprises in the southwest of the plain. Enterprises are located alongside this road ('Varis-Koropiou'), 'driving' urban expansion.

## Conclusions

At first glance, Greece's spatial planning shift towards strengthening the Athenian growth prospects achieved its goals. The development gap between Greece and the EU, for instance, was reduced in the last two decades<sup>8</sup> (CEC, 2007). The national average, however, conceals uneven regional economic performance. During this time, eleven out of thirteen Greek regions moved in the opposite direction. Exceptionally high growth rates were noted only in the 'South Aegean' and 'Attiki'; the capital region's GDP standing currently at 46% above the national average (Caraveli, 2011; OECD, 2011, p. 250–251). Similarly, in the last decade, 87% of Foreign Direct Investment (FDI) inflows into the country were attracted by Attiki. The capital city's impressive record was not reflected elsewhere (Monastiriotes & Jordaan, 2010, p. 142–143). Such findings concur with the arguments put forward by the territorial competitiveness literature. Spatial planning focus on a number of growth-promising urban regions is capable of boosting the economic performance of these areas. This re-alignment, however, inflicts a regulatory undercutting logic upon most local and regional economies. It undermines the national state's organizational coherence and leads to inter-territorial divergence, downgrading national economic performance (Brenner, 2004b, p. 476; CEC, 1999; Wegener & Kunzmann, 1996). The Greek experience adds a new dimension to these considerations.

In light of underdeveloped land-use planning structures and controls, the quest for territorial competitiveness brought back to surface arguments viewing unhindered urbanization as a shortcut to economic growth. In the process, long lasting attempts to regulate urban expansion were de-prioritized and faded gradually away via the non-implementation route. This was the case in the Messoghia plain. Institutional fragmentation<sup>9</sup> and the absence of basic land management tools, such as a national cadastre, or of mechanisms monitoring land-use change, elucidate the non-effectuation of the zoning scheme in the area (Pagonis, Chorianopoulos,

Koukoulas, & Drymoniti, 2008). The uninterrupted presence of such planning impediments since the post-war years, suggests the determining influence of arguments favouring the 'growth at any cost' approach, revived by the 'competitiveness' narrative. The urban forms prevailing in Messoghia, however, question the effectiveness of this viewpoint. The prioritization of rapid economic growth over sustainable development entails sprawl-related inefficiencies and costs which, though not instantly visible, are capable in the long-term to impair hard-gained 'attractiveness' traits. As our research findings suggest, new enterprises in Messoghia seemed to acknowledge this prospect. Spontaneously, the very agents of urban growth showed a marked preference to locate in zones designated as compatible with their activities, underscoring the advantages of a regulated urban environment.

In an era of sovereign debt crisis and fiscal retrenchment, path dependency in the role and the performance of land-use planning in Greece, risks tipping the scales once more against the adoption of sustainable development goals. The trend is already noticeable. A series of regulations introduced with the onset of the crisis mitigate further planning controls on development, including fundamental regulatory exercises such the issuing of a 'building permit'.<sup>10</sup> It is at such a crucial crossroad that our study has been conducted, warning on the consequences of this stance. Sprawling growth is an unsustainable way to development, one that requires ex-post planning intervention in order for a degree of functionality to be restored, often at arrestingly high costs.

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<sup>8</sup> The Greek GDP stood at 74% of the EU-27 GDP per capita average in 1995, reaching 88% in 2005 (CEC, 2007, p. x).

<sup>9</sup> Up until 2010 Messoghia was administratively subdivided into 13 Municipalities and Communes, the actions of which were coordinated by a directly elected Prefecture that lacked, however, decision-taking powers.

<sup>10</sup> Reference is made here to two Acts that allowed owners of unlawfully developed constructions (GGN, 2010), or simply possessors of buildings that lack a planning permit (GGN, 2011), to purchase an official 'legalization' title.

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