

Chapter 5

Conclusions

As it probably occurs in so many other fields, the leakage of results from the urban economics research to the planning practice is virtually none. At least, this is the sensation it turns out when observing that regulation, re-regulation and deregulation in the land market, at all levels of government, are continuously taking place. Thus, economic analysis that often advise against overusing land-use regulations do not seem to be influencing planning practice. As Evans (1989) points out, it is as though welfare economics and planning were unrelated.

The outcomes from the three research studies presented suggest that land-use controls do not necessarily respond to the objective of correcting externalities, although this is the commonly encountered theoretical claim from the economics field. Similarly, they would not necessarily benefit urban residents, for different reasons. In this sense, the works presented partially contribute to the pessimistic belief that urban growth controls are not always justified from an economic point of view, or rather that they are suboptimal. This suspicious view associated to the use of urban growth controls has its origins in different aspects in each of the works developed.

Consider first the latter, an empirical analysis based on a contingent valuation and a contingent ranking exercises. It has been shown that for a particular instance, the

Metropolitan Region of Barcelona, the current stringency in the setting of allowed city boundaries may not be justified on environmental grounds. In a context in which urban growth is taking place and is to be accommodated, the choice is between either spatial growth or an increase in density. It is found that residents would be willing to trade off some outer landscapes in order to gain in a reduction of density. This results from the fact that the mean –and median– value associated to a less dense environment is positive, even when accounting for the external costs arising from the loss of outer agricultural landscapes.

As a result, a change implying less density and more green areas per person is perceived by urban residents as welfare-improving, in net terms. We infer that this result evidences that current growth restrictions would be over-correcting the environmental negative externalities caused by the loss of amenities linked to sacrificing landscapes around cities. This result does not of course constitute a general criticism against urban growth restrictions, nor can it be generalized to other geographic contexts without further analysis. Rather, it represents an illustration of government failure for a specific case. Whether the current suboptimal situation is superior or not to the suboptimal situation with no regulations at all is an empirical question that remains unanswered.

In the two theoretical chapters local governments are assumed to behave strategically. This is a realistic assumption, since it is unlikely that current local governments ignore how other cities make their decisions. Land-use controls arise in this context as Nash equilibrium solutions of a game, and do not coincide with the optimum solutions. In the first chapter, efficiency has been measured through aggregate land rents. As mentioned above, aggregate land rents potentially incorporate the costs and benefits that may derive from the utilization of the urban growth controls. This has been the case for the analysis in chapter 3, but not in chapter 2, where amenity effects are absent from the utility function of residents.

In the games between jurisdictions considered in the first theoretical chapter, no externalities were considered. As a consequence, the analysis takes the form of a supply-restriction model, and non-owners households necessarily suffer from any deviation from the market situation. Under this simple framework, the chapter provided a first contribution to the little urban economics literature that attempts to explain observed urban growth controls as the result of strategic interaction between local jurisdictions. Two novelties were included, the extension of the analysis to the context of repeated games and the consideration of cooperative solutions. Two different urban growth controls, population controls and a tax on housing, were used. In terms of the utility levels, competing with population controls causes smaller costs. Regarding total revenues, population controls prove to be superior to taxes only when all land rents are confiscated, but inferior when only increased land rents constitute the tax revenue. When competition was considered to take place along infinite periods, cooperation becomes the equilibrium strategy as long as interest rates are reasonably low. The intuition is that cooperation is not self-enforcing if the planning horizon is short enough, for instance when it corresponds to the political mandate. Instead, if it can be considered that urban growth controls are established under the realization of documents that typically are thought of to guide the urban development for indefinitely long periods of time, then cooperating can constitute a plausible equilibrium strategy.

Chapter 3 analyzed an scenario where a different population restriction, the density level in the city, was used as the strategic variable. This has been developed in a framework in which land rents adjust and always equate the agricultural value at the city border. To our knowledge, the analysis of competition with density instruments is absent in the literature, as it is the joint study of more than one planning instrument. We leave the latter for further research. The level of density then becomes a decision variable, and it constitutes an urban environmental characteristic that affects the utility of residents as well. It was found that densities act as strategic substitutes,

and can be considered substitutive instruments with city sizes. Likewise, the chosen values of densities result too low compared to the social optimum, even when accounting for the negative effect that increased densities cause on households. This results holds regardless of the specification of the utility over wealth or the density disutility functions. This outcome has been related to the possibility that some of the effects on utility are ameliorated through land rents diminishments and the adjustment of city sizes.

Based on the research carried out so far, the following lines of research are suggested as possibilities to be developed in the future. Some of them have already been suggested in the section of concluding remarks of the respective chapters and they constitute relatively straightforward extensions of the research presented. Other should be rather understood as more long term proposals for research.

- From a theoretical perspective, we think it is worth-dedicating the research to deep into the economic impacts of simultaneously using more than one land-use restriction although we have not succeed in this task so far. The fact that the combined use of land-use controls is common practice in planning policy-making offers several opportunities for research. For example, whether different combinations of land-use controls are redundant, whether they reinforce or they contradict each other is an understudied issue. Their analysis within an appropriate theoretical framework should help in the understanding of the effects of real life urban regulations.
- All along the theoretical chapters urban growth controls have been explained as the result of the maximization of total land rents by local authorities. Although it has been pointed out that this is a defensible argument and that land rents are generally vindicated as a proxy for measuring the efficiency of regulations, alternative objective functions would be plausible. The utility level of the system

would be a possible objective function. A function consisting in a weighted combination of utility and land rents has sometimes been proposed in the literature, with the object of considering all the affected groups, residents and landowners.

- For the analysis of the sustainable city or of the problems associated to sprawl, the impacts of incorporating other environmental variables into the analysis could be studied. In addition to density, for instance, the city limit could be considered to enter the utility function of residents. Incorporating more variables into the models is not costless, since it adds complexity to the analysis.
- With respect to the valuation exercise and the empirical analysis of optimal urban growth, other valuation techniques could be used. In particular, market-based methods that have the potential of measuring the variations in welfare associated to changes in densities.
- One of the areas towards which future research should be definitely leaded is the one that contemplates the consideration of the distributive effects of land-use regulations. To our knowledge, this issue has received little attention in academic studies and the effects on different households groups have hardly ever constituted the focus of the analysis. This is most surprising if one interprets the debate on the sustainable city as a particular case of the more broadly discussion on environmental sustainability. One of the frequent claims is that future generations, a non-represented group in current decision-making, should be accounted for. From this perspective, it results peculiar that another traditionally underrepresented group, low income households, are not given that much attention. Specially, when it is widely accepted that land-use controls negatively impact prices and housing affordability, even when positive amenity effects are present. Few studies undertake the consideration of distributive effects, even as a secondary focus of attention [(Fujita and Tokunaga, 1993); (Brueckner and Lai, 1996)] and even more scarce are the papers that attempt an empirical analysis of how the costs

and benefits of urban growth controls are distributed among different types of households [(Cheshire and Sheppard, 1997)].

In the framework of the model discussed in the second chapter, the differentiation of two income groups could be useful in order to analyze the stability properties of equilibrium solutions in a context of rising incomes, or in other words, considering a shift of households from the low to the high income group. Rising incomes have been the major cause provoking spatial urban growth in societies where population had stabilized for a series of years, and yet, the particularities associated to this particular type of growth together with the consequences of imposing limits to spatial growth have received little attention.

- In the Spanish context, the literature empirically testing the impact of land-use regulations on housing or land prices, shortage of land, or the availability of environmental amenities within cities is non-existent, contrary to what happens in other latitudes where urban planning has a comparable tradition. Certainly, the poor databases on land and housing prices difficult the undertaking of this type of research, but the progressive improvement of these offers new possibilities for future research. The fact in Spain many types of land-use regulations are simultaneously implemented and that they have been in scene for decades will probably complicate the obtainment of clear-cut outcomes. That may make the challenge more interesting, but we think that there are enough reasons to develop such type of research in a country where land-use regulations are that much popular and that much unquestioned by politicians and local governments.