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Article

The Impact of Economic Crisis in Areas of Sprawl in Spanish Cities

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Abstract: The development of dispersed urbanism in Spain ran parallel to the real estate boom and consolidated a new model of city sprawl based on the expansion of suburban areas. This process, which started in the mid 1980s, came to a halt with the onset of the economic crisis in 2007. With it, construction stopped, mobility fell and urban growth came to a standstill. The purpose of this article is to carry out an analysis of the recent evolution and chronology of the expansion of dispersed urbanism in the Barcelona Metropolitan Region (BMR) in order to gain an insight into some of the explanatory factors of such expansion and to deal with the future prospects of middle-term development of dispersed urbanism in the BMR and in Spain. To do this, we examine the trends in the housing market, in residential mobility and we take stock of the impact of business cycles. The conclusion is that dispersed areas retain their appeal in the stages of creation and expansion of households. For this reason, an effective economic recovery and a renewed rise in the price of housing in denser cities may contribute to an upturn in the popularity of the dispersed residential model, which nowadays could be considered to be in a 'lethargic' stage, waiting for certain factors to coincide and re-activate its expansion.

Keywords: Dispersed urbanism, residential strategies, residential mobility, economic crisis, Barcelona Metropolitan Region, social crisis, land squandering.

1. Introduction. Dispersed Urbanism in the Reconfiguration of Spanish Urban Regions. Evidence and Questions

On 23 June, 2015, *The Washington Post* [1] published a news item on the evolution of European cities as derived from the analysis of their population growth between the censuses of 2001 and 2011. The main conclusion highlighted by the article could be summarized, in the authors' words, as "European cities are becoming more American". It is significant that an American newspaper echoed the demographic decline of European urban centres and the increase in population of their respective metropolitan areas, comparing these with American cities, where such a process has been common place. Even if such a comparison needs to be qualified by means of theoretical tools and empirical evidence [2-3]—especially in the case of Mediterranean countries—, the boom of dispersed urbanism in Europe has not gone unnoticed. This boom has come as a consequence of increased residential mobility towards suburban areas and an increased birth rate in these areas due to their special appeal to families in the process of formation and expansion.

Spanish urban regions are a good example of the situation described by the *Washington Post* article. After several decades of urban growth following a model of compact urban development, at the turn of the century, Spanish cities begin to change their patterns of urban expansion. On the one hand, they have experienced an accelerated tendency towards suburbanization, which accounts for

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the loss of both population and compactness of the larger municipalities, in favour of the growth of peripheral areas, which have become more extensive [4,5]. On the other hand, a new model of a dispersed city has become established, a model that had previously been rarely seen and of little importance in urban territorial trends, besides being mostly associated with second homes. In this context of mainly vacational use and modest population and surface extension, the pressure that dispersed urban areas exerted on their territories and on the services offered in these was much lower, and so their relevance was minimal. However, this situation changed from the 1980s onwards. Strong growth of dispersed urbanism has occurred in parallel with the real estate boom, and a rapid increase in people that choose to live permanently in such locations, i.e., to live '*dispersedly*'. Proof of this transformation can be found, for example, in the Barcelona Metropolitan Region (BMR), where it is estimated that almost one third of the urban land development between 1993 and 2000 was allocated to dispersed residential use [6], and where the annual population growth of low-density municipalities exceeded 4 percent between 1999 and 2006 [7].

The increase in dispersed urbanism in Spanish urban areas is a consequence of a series of factors. On the one hand, the real estate bubble is responsible for the extraordinary pushing up of the price of housing in the centre of cities, and this causes an increase in the demand for affordable housing with better price-to-perfomance ratios. On the other hand, among the several reasons for residential mobility, there is the demand of housing in places of greater environmental quality, closer to nature, which adds up to the demand of certain specific housing conditions—larger, single-family houses, with a private garden, etc.—which are not found in city centres. The phase of economic growth prior to 2008 contributes to the whole process by means of lower unemployment rates, increasing salaries and, above all, easier ways to obtain a mortgage. All these facts have been indicated by many studies dealing with such transformations from different outlooks: the demographic perspective [6], the economic one [8,9], the social point of view [10] and the perspective of environmental impact [7].

The bursting of the real estate bubble and the beginning of the economic recession from 2007 onwards bring this phase to an end and lead into a new situation which is characterised by the minimizing of new house building in low-density areas, as well as by demographic stagnation, which brings the process of residential dispersion to a sudden halt. This new stage poses short and medium-term questions concerning the role of dispersed urbanism in the socio-residential dynamics of those Spanish urban areas that have gone through such a process. Firstly, the debate focuses on whether it is possible to speak of land squandering or the model of dispersed urban growth can be continued and take place in an orderly, sustainable way. The expansion of such a model in the past, which was characterised by extremely fast growth and questionable management, besides an abrupt stop when the crisis set in, calls into question the viability and continuity of dispersed urbanism in cities which, apart from periods of intense property speculation, have traditionally displayed compact urban growth. Moreover, the sudden decline of dispersed urban expansion brought about by the economic crisis makes us question whether we are witnessing the end of a process or rather the beginning of an impasse that may come to an end as soon as the economic situation improves. The economic crisis has brought urban dispersion to a halt, but will the economic recovery involve an upturn in the demand of housing in dispersed areas?

A second set of questions concerns the social impact of the economic crisis on the population that moved to live in dispersed areas. The higher cost of living in dispersed quarters [11], the

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difficulties derived from the breaking-up of neighbourhood solidarity networks as a consequence of moving to a new area [10], and the high rate of indebtedness of the families that changed their place of residence in a time of rising housing prices, all make the residents in dispersed areas bound to suffer the social consequences of the crisis in a most severe way.

To answer all these questions, two different lines of enquiry are needed. First, it is necessary to undertake a revision of the past, since an analysis of past processes will give interesting clues about future possibilities. Also, it is necessary to focus on the most recent trends, especially from 2014 on, when the Spanish government officially declared the end of the economic crisis in this country—despite the views of many microeconomics and social researchers.

This article seeks to contribute certain elements to address the questions we have just specified before. In particular, it deals with two aspects. On the one hand, it describes and explains the evolution of dispersed urbanism in the Barcelona Metropolitan Region (BMR) and establishes the chronology of its recent evolution based on the analysis of intra-metropolitan residential mobility (intensity, direction of flows and characteristics of the moving persons), the observation of trends in the housing market (new constructions) at the metropolitan level, and the impact of business cycles. Based on this analysis, it will be possible to describe in greater depth the socio-demographic challenges facing dispersed areas in the recent past and at the present moment. On the other hand, the article deals with the future prospects of middle-term development of dispersed urbanism in the BMR and in Spain. All in all, our study seeks to improve our knowledge of the present functioning of Spanish metropolitan dynamics based on its past and most recent developments, with the ultimate goal of contributing to the management of low-density urbanism in Spain.

2. Materials and Methods

Although it is true that dispersed urbanism has been the subject of a good number of both theoretical and applied studies, its definition and measurement has two important limitations, independent of whether we consider the Spanish case or that of other countries.

In the first place, there is no consensus definition of dispersed urbanism, and this makes it difficult to establish the criteria required for demarcating its spatial extent. Generally, studies have resorted to extensive land occupation [12,13], relating this to low-density areas [14,15], as the most common indicator for demarcating dispersed urban areas. Sometimes, besides taking into account population density, the definition of dispersed urbanism also involves the presence of morphologically and functionally isolated urban elements, where the prevailing type of housing consists of single-family, detached or semi-detached houses [16]. After all, population density is one of the most widely used criteria for measuring residential dispersion [17]. Several recent works use net density to study dispersed urbanism, sometimes in combination with measures of distance and/or discontinuity from the city centre based on observations using CORINE Land Cover [18].

Secondly, in the Spanish case, there is a limitation concerning the potential sources of information available to researchers, namely: there is no correspondence between the various administrative and statistical divisions and dispersed residential areas, especially when it comes to suburban residential complexes. Thus, it is not feasible to reconstruct the socio-demographic traits of such areas via the aggregation of census sections or to discern them from examining the municipal registers of inhabitants or other sources of intra-municipality information. In view of this, only in the

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case of a few municipalities is it possible to gather statistical information regarding this type of urban reality.

In the face of these obstacles, our study uses a methodological strategy of its own in order to define and characterize dispersed urbanism in the BMR; one which was developed in the context of the R+D+i projects entitled "Mobility, Family Solidarity and Citizenship in the BMR" (2003-2006) and "Social Change and Urban Transformation Processes in a Context of Crisis in the Urban Peripheries of Large Metropolitan Areas in Spain. The Case of the BMR" (2014-2017). On the one hand, we use an indirect approach based on information relating to the municipalities taken as a whole and, on the other hand, we use two *ad hoc* surveys carried out in 2005 and 2017 in a sample of suburban residential areas.

First of all, in order to identify the phenomenon of dispersed urbanism at the municipal level, we considered the surface of urban land allocated for residential use and calculated its net density. In our case, we also had information about the municipal surface allocated to "extensive, low-density patterns of land use, with single-family or two-family (semi-detached) houses surrounded by a plot of land with a garden", from the Urban Planning Map of Catalonia (MUC) [19] prepared by the General Office for Country Planning and Urbanism of the Catalan Government. This allowed us to calculate the proportion of residential land surface allocated to this type of dwelling. By combining both indicators (net density and percentage of land allocated to detached/semi-detached houses), we were able to group the different municipalities in the BMR in several categories according to their degree of compactness or dispersion (Table 1 and Figure 1). We identified five types of municipalities, categorizing as 'dispersed' those with net density lower than 81 inhabitants/hectare in 2015 and with more than 66 percent of their land allocated to detached/semi-detached houses. According to the 2015 data, in the BMR there are 106 municipalities (64.7 percent of all) which satisfy these criteria, amounting to 14.2 of the BMR population.

Table 1. Classification of BMR municipalities by urban typology.

Typology	Municipalities		Population		Net density	(**) % land
	Number	%	Number	%	hab/ha (*)	isoled houses
Highly Compact	12	7.3	2,506,046	49.8	659.2	6.7
Compact	10	6.1	737,568	14.7	404.5	17.4
Medium	36	22.0	1,070,608	21.3	223.4	42.4
Dispersed	57	34.8	447,419	8.9	81.1	66.8
Highly Dispersed	49	29.9	266,617	5.3	31.0	92.2
Total	164	100.0	5,028,258	100.0	204.8	58.0
Aggregated data						
Compact	22	13.4	3,243,614	64.5	576.7	10.2
Dispersed	106	64.6	714,036	14.2	50.5	82.3

(*) Computed using surface of urban soil allocated for residential use. (**) Percentage of land allocated to detached/semi-detached houses.

Source: Compiled by the authors based on *Censo de población* [Population Census] 1991; *Padrón Municipal de habitantes* [Municipal Register of Inhabitants] 1996; and *Padrón continuo* [Continuous Register] 1998-2016, by the National Institute of Statistics (INE).

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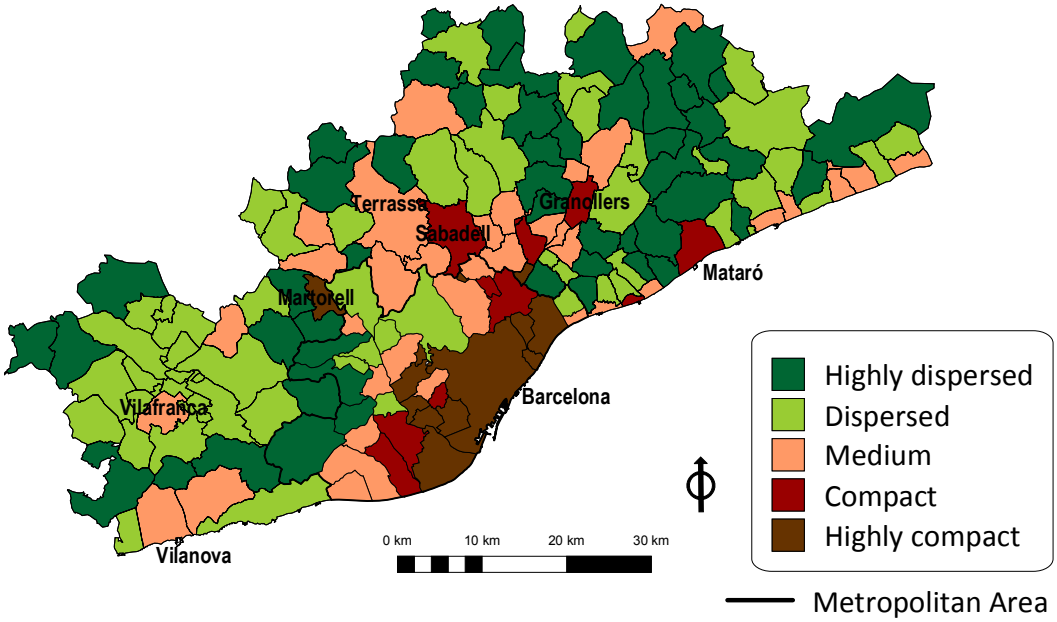

Figure 1 Classification of BMR municipalities by urban typology. Source: Compiled by the authors based on *Censo de población* [Population Census] 1991; *Padrón Municipal de habitantes* [Municipal Register of Inhabitants] 1996; and *Padrón continuo* [Continuous Register] 1998-2016, by the National Institute of Statistics (INE).

Once we had identified those municipalities with a strong presence of dispersed urbanism—which we termed as 'dispersed municipalities'— our analysis of their evolution was carried out based on statistical sources which provided us with individual data for each and every municipality. For this stage of the analysis, we grouped together the categories of 'dispersed' and 'highly dispersed' areas, since both of these satisfy the criteria established in order to identify municipalities with a sprawling residential pattern as a essential part of their urban morphology.

The sources used in this particular phase of the study were the micro-data provided by the *Statistics of Residential Variation* (EVR) and the *Padrón Continuous Register*. The EVR allowed us to study intra-metropolitan residential mobility in the period 1996-2016 and, therefore, the migration flows displayed by the different types of municipality. The Padrón Continuous Register, on the other hand, made it possible to describe the characteristics of the populations in the different municipalities meeting the criteria for dispersed areas. Even though this was an indirect characterization—because it included the totality of the population in the different municipalities—the trends identified provide us with a robust framework in order to delimit the existing processes.

Additionally, as a complement to this preliminary observation of our object of study, we used the results of two surveys that we ourselves carried out in 2005 and 2017. The first one, "Mobility, Family Solidarity, and Citizenship in Metropolitan Regions", included a total of 600 households (1,024 individuals) from a sample of 24 suburban residential complexes in 17 municipalities. This first survey was implemented by using quotas for different socio-economic, age and sex categories; this way, the results were representative of the totality of the population living in suburban residential complexes in the BMR. The second survey, entitled "Social Change and Urban Transformation Processes in a Context of Crisis in the Periphery of the BMR", was a replica of the

one carried out in 2005. This time, information was gathered about 1,759 individuals who had been living in the selected surburban residential complexes since at least 2005. Both surveys give information about the living conditions of people living in this kind of suburban setting: their family structure, labour conditions, spaces of life, family and social relationships, reasons for moving into a suburban residential complex and reasons for choosing the place of residence. To this, other highly significant information must be added, such as: the residents' assessment of issues related to the house they live in and the suburban residential complex they inhabit, or to municipal policies, as well as information concerning their future residential projects. The 2017 survey was complemented with questions aimed at comparing the situations in 2005 and 2017, apart from the questions relating to the interviewees' assessment of the changes in their employment situation or family income during that period, which was helpful for evaluating the impact of the economic crisis on the inhabitants.

3. Results

The process of residential expansion and increase of dispersed urbanism in the Barcelona Metropolitan Region took off in the second half of the 1980s, transforming the territory in a radical way [20-24]. This section explains the recent chronology of dispersed urbanism based on an analysis of the growth and evolution of its population, intra-metropolitan residential mobility rates, and rates of new property construction.

3.1. Business Cycles, Real Estate Market, and Residential Mobility. Stages in the Recent Evolution of Dispersed Urbanism in the BMR and its Explanatory Factors

In 1991, dispersed municipalities in the BMR contained 351,340 inhabitants. In 2016, their population was 717,832 (Table 2) (Figure 2), which means that they had doubled their population in that period. Besides this steep rise in population, these municipalities had drastically changed their demographic structure and composition over that same period of time.

Table 2: Population Evolution (1991-2016). BMR Municipalities by Typology

Typology	1991	2002	2008	2016	1991-2001	2002-2007	2008-2016
Highly compact	2,540,899	2,395,323	2,511,575	2,514,324	-0.5	0.8	0.0
Compact	634,037	672,045	722,827	739,658	0.5	1.2	0.3
Medium	738,146	888,204	1,028,087	1,074,929	1.7	2.5	0.6
Dispersed	234,852	337,546	418,273	450,410	3.4	3.6	0.9
Highly dispersed	116,488	189,505	248,090	267,422	4.5	4.6	0.9
Aggregate data							
Compact	3,174,936	3,067,368	3,234,402	3,253,982	-0.3	0.9	0.1
Medium	738,146	888,204	1,028,087	1,072,929	1.7	2.5	0.6
Dispersed	351,340	527,051	666,363	717,832	3.8	4.0	0.9
Total	4,264,422	4,482,623	4,928,852	5,046,743	0.5	1.6	0.3

Source: Compiled by the authors based on the *Censo de población* [Population Census] 1991, *Padrón Municipal de habitantes* [Municipal Register of Inhabitants] 1996, and *Padrón continuo* [Continuous Register] 1998-2016, by Instituto Nacional de Estadística [National Institute of Statistics] (INE).

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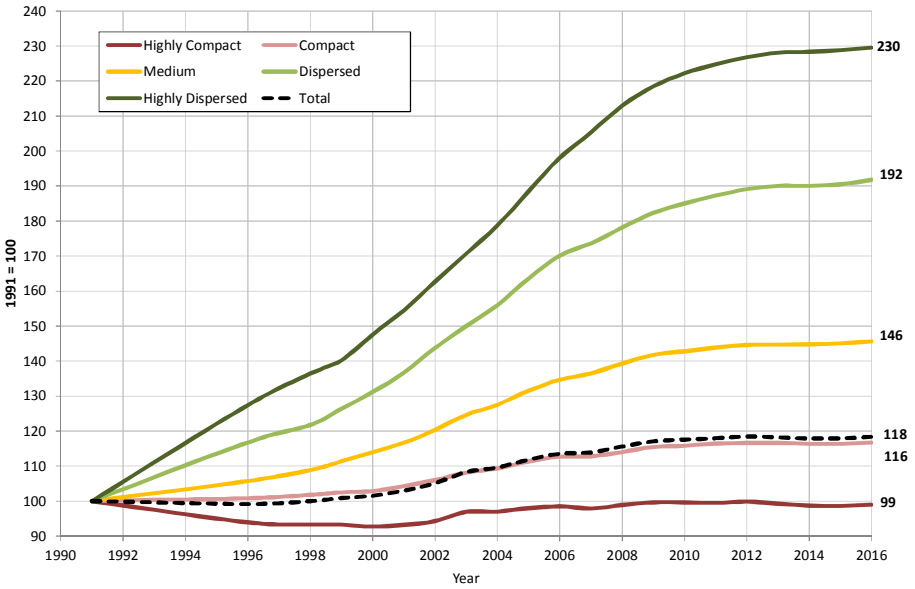

Figure 2. Population Evolution. BMR Municipalities Classified by Typology. 1991=100. Source: Compiled by the authors based on the Censo de población [Population Census] 1991, Padrón Municipal de habitantes [Municipal Register of Inhabitants] 1996, and Padrón continuo [Continuous Register] 1998-2016, by Instituto Nacional de Estadística [National Institute of Statistics] (INE).

However, this transformation process did not take place in a homogeneous way over the period, and it is possible to distinguish four stages of evolution:

a) First, there is the stage from 1991 to 1999, when the population grows at an annual rate of slightly over 3 percent. At this point, we witness the consolidation of this form of residence, which had started to develop in a previous period, and the start of the boom of dispersed residential areas.

b) A second stage is that covering the period 2000-2006, when the great boom of dispersed urbanism takes place in the BMR. In this phase, we see a combination of five strategic factors. In the first place, we have a real estate market that—in the face of the saturation, rising prices, and lack of diversity of the residential offer in the city—finds available land in low-density peripheral areas, at lower prices than in higher density ones and offering unprecedented possibilities of population absorbtion and expansion [25]. Secondly, the type of property which is built consists mainly of single-family houses targeting a particular market; namely, that of families with young children, fond of living in a quiet environment close to nature, with high environmental standards and owning a detached or semi-detached house. Thirdly, this stage marks the full beginning of an expansive business cycle which generates better economic prospects for households and, simultaneously, creates a climate of economic confidence that has an upward effect on the residential market. Fourthly, in view of the economic prosperity, banks focus their mortgage policy on the provision of credit facilities to buy a home [26], with the consequence that families have now at their disposal the possibility of getting indebted in pursuit of their residential ends. Finally, the existence of a broad offer of suburban housing developments well-established in the territory makes it easier for dispersed urbanism to expand. Although these were of rather limited size and were mainly used for vacation purposes [25], they provided embryonic spaces for building projects that, in this way, were not created from scratch.

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As a result of this combination of elements, we witness a boom of dispersed urbanism, which is characterized by a very intense growth of population, with annual rates over 4 percent that coincide with rates of initiation of new-property construction nearing 45 percent [27], and net migration rates higher than 33 per thousand (Figure 3 and Table 3).

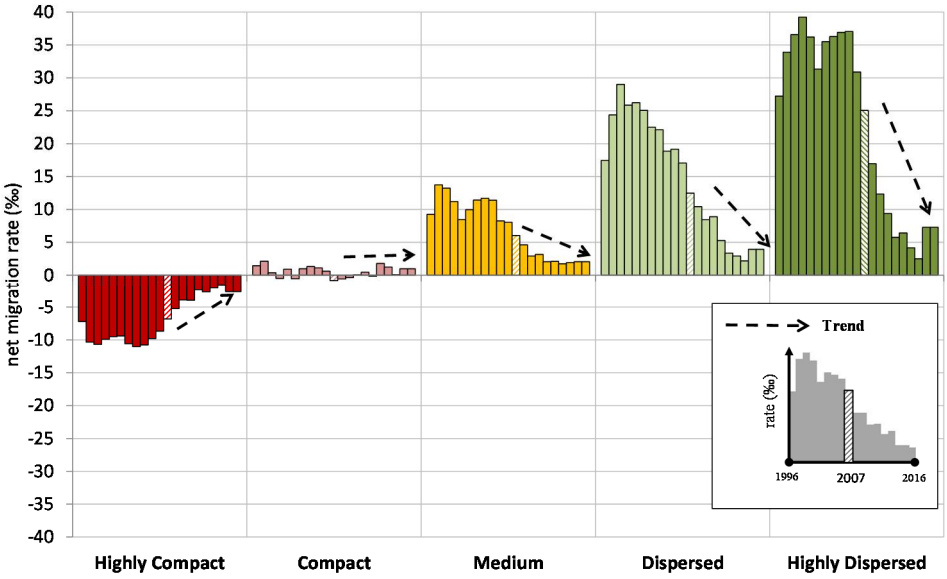

Figure 3. Net Intra-Metropolitan Migration Rate by Types of Municipality. BMR, 1996-2016. Source: Compiled by the authors based on *Padrón continuo* [Constinuous Register] 1996-2017, and *Estadística de Variaciones Residenciales* [Residential Change Statistics] 1996-2016. Micro-data File. INE.

c) The third stage is marked by a deep turn away from the previous trajectory. It begins with the sudden onset of the economic crisis, whose effects are gradually felt. Some authors [28-29] dealing with the changes that take place in this period highlight the advance in the metropolitanization of the BMR and the transformations in urban regions leading to increased social fragmentation and inequality.

First of all, there is a drop in the rates of new-property construction in dispersed municipalities, rates that, from 2006, go abruptly down to values of less than 5 per thousand in 2009 and thereafter.

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Table 3: New-property Construction Rate by Types of Municipality. BMR, 1999-2017

	New-property construction rate (‰)					Single family new-property construction rate (‰)				
Year	Highly Compact	Compact	Medium	Dispersed	Highly Dispersed	Highly Compact	Compact	Medium	Dispersed	Highly Dispersed
1999	9.17	20.43	27.54	37.40	36.58	1.04	3.26	6.72	16.68	27.07
2000	8.32	21.32	29.79	36.51	38.01	0.49	1.72	4.56	11.88	27.78
2001	7.10	16.80	24.11	30.98	31.00	0.31	1.37	2.86	8.32	18.55
2002	7.55	17.52	26.03	29.44	31.79	0.36	1.11	2.94	8.10	17.96
2003	7.68	21.05	28.37	31.69	35.79	0.33	1.14	3.06	9.82	21.61
2004	8.23	23.15	32.89	34.58	47.76	0.18	0.83	2.96	9.33	24.74
2005	8.15	21.26	34.07	47.07	49.21	0.16	0.79	2.82	9.40	25.07
2006	9.73	27.17	40.75	44.48	52.62	0.15	0.86	3.17	7.48	23.13
2007	7.67	16.58	25.41	31.67	34.75	0.11	0.59	1.99	4.89	13.07
2008	4.31	5.57	6.97	7.74	10.05	0.07	0.21	0.69	1.56	4.77
2009	2.12	2.67	3.47	2.45	5.09	0.04	0.15	0.35	0.94	2.00
2010	2.85	4.28	3.29	6.74	6.63	0.04	0.21	0.51	1.20	2.50
2011	1.83	3.14	1.75	5.71	2.71	0.03	0.16	0.30	0.86	2.02
2012	1.26	1.46	1.44	1.53	1.91	0.03	0.19	0.28	0.64	1.47
2013	0.84	0.33	0.70	1.36	1.80	0.03	0.08	0.27	0.54	0.99
2014	1.19	1.60	0.92	0.97	1.08	0.03	0.11	0.33	0.61	0.91
2015	1.95	1.60	1.71	3.42	2.00	0.04	0.27	0.37	0.88	1.40
2016	2.56	2.31	2.44	5.05	2.65	0.05	0.27	0.82	1.27	2.09
2017	3.40	4.55	4.45	7.17	3.22	0.05	0.45	0.72	1.75	2.36

Source: Compiled by the authors based on Generalitat de Catalunya. Departament de Territori i Sostenibilitat [Department of Territory and Sustainability] *Licencias viviendas iniciadas y acabadas* [Licenses housing started and finished] and *INE Censos de viviendas* [Housing census] 2001 y 2011.

Secondly, in-migration comes to a sudden standstill (Figure 4), with the subsequent effects on net migration rates, which fall to values of under 10 per thousand from 2009 onwards. A certain degree of saturation in the housing supply accounts for the fact that the first sector to experience the economic downturn is the construction sector, whose downfall precedes the drop in sales. The increase in the value of land once it is put to use increases its price, and this slows down the pace of new construction. Next, the effects of the economic crisis pull down the rates of migration motivated by the search for a better dwelling, due to an increase in the requirements to obtain a mortgage [30] and the readjustment of family budgets in a context of rising unemployment and wage settlements in the case of employed individuals [20]. Overall, property sales become stagnant due to the fall in arrivals of new residents, and this drags the construction of new houses down to a minimum level.

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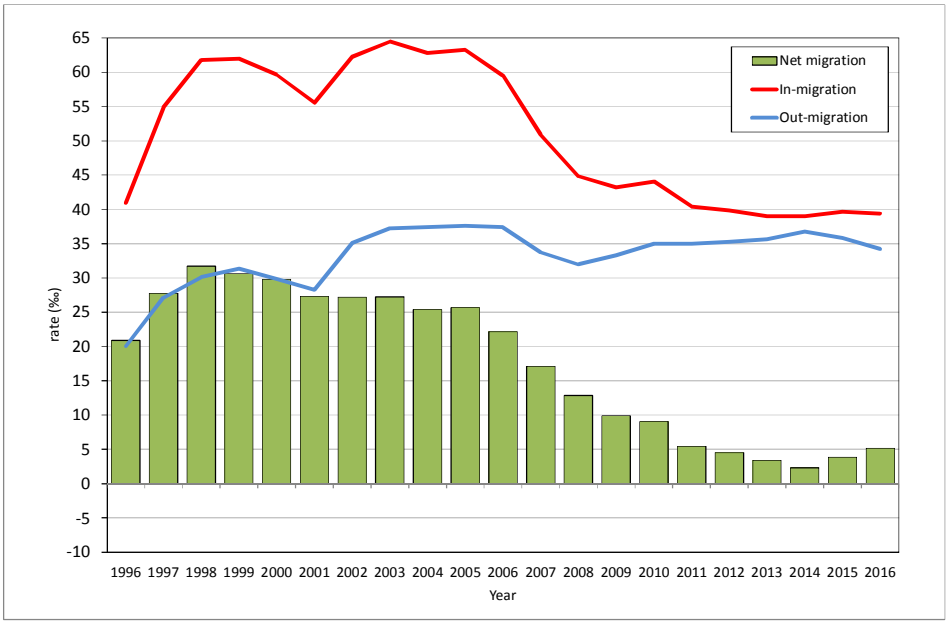

Figure 4: Component elements of the intra-metropolitan migration dynamics of dispersed municipalities (1996-2016). Source: Compiled by the authors based on the *Padrón continuo* [Continuous Register] 1996-2017, and the *Estadística de Variaciones Residenciales* [Residential Change Statistics] 1996-2016. Micro-data File. INE.

Despite the gradual shrinking of the real estate market and the drop in the arrival of in-migrants, there is a certain inertia in the evolution of the growth of dispersed municipalities, which remains high until 2012 (Figure 4). This dynamic is a consequence of natural population growth in a context of a high birth rate due to the inflow of young adults. For this reason, it is not until 2012 that a phase of demographic stagnation sets in.

d) The fourth stage starts in 2012 and is characterized by demographic stagnation in connection with reduced migration inflows. This situation of slow population growth tends to be associated with the end of the process of urban dispersion. Nevertheless, despite the slowing down of the development of dispersed urbanism imposed by the economic crisis, the available intra-metropolitan mobility data reveal that dispersed municipalities have not completely lost their appeal. They still display net migration rates higher than the rest of urban typologies considered for the BMR. For this reason, it seems that its present situation is more a phase of lethargy—while waiting for the evolution of the economy and the credit market—than one of disappearance of the residential model. This is the key to understanding the increase of the net migration rate in 2015 and 2016, when the economic recovery begins to show up timidly in some economic sectors. As it can be seen in Figure 4, in those two years, the previous trend pointing to a sustained reduction of net migration rates is reversed. It is significant that this recent increase in net migration in dispersed municipalities coincides with a rise in the loss of population of more compact areas in the BMR due to intra-metropolitan out-migration. This change of trend does not only coincide with the beginning of the economic recovery, but also with another phenomenon that takes place at the same time, namely, the renewed increase in the price of housing in large metropolitan cities—both in the sale and the rental markets. In the city of Barcelona, as it happened in other cities [31] the purchasing price of a newly-built home rose by 20.05 percent between 2015 and 2017 (Table 4). As for rent prices,

they increased by 19.36 percent [32]. This situation, which some commentators consider as a new real estate bubble, intensifies the process of population expulsion from the densest cities and stands in the way of the arrival or the return to them of potential residents.

Table 4: Evolution of the sale price of housing in Barcelona (2004-2017)

Year	New housing		Used housing		Total housing	
	Value (€/m²)	Change (%)	Value (€/m²)	Change (%)	Value (€/m²)	Change (%)
2004	3,336		2,986		3,079	
2005	3,708	11.1	3,782	26.7	3,758	22.1
2006	4,452	20.1	4,296	13.6	4,349	15.7
2007	5,009	12.5	4,505	4.9	4,622	6.3
2008	5,144	2.7	4,235	-6.0	4,464	-3.4
2009	4,264	-17.1	3,643	-14.0	3,773	-15.5
2010	4,259	-0.1	3,577	-1.8	3,745	-0.8
2011	4,276	0.4	3,327	-7.0	3,559	-5.0
2012	3,109	-27.3	2,904	-12.7	2,946	-17.2
2013	3,197	2.9	2,628	-9.5	2,719	-7.7
2014	3,116	-2.5	2,705	3.0	2,754	1.3
2015	3,237	3.9	2,934	8.4	2,971	7.8
2016	3,850	18.9	3,167	7.9	3,238	9.0
2017	4,048	5.2	3,714	17.3	3,746	15.7

Source: Generalitat de Catalunya. Departament de Territori i Sostenibilitat [Department of Territory and Sustainability] (2018). *Informe sobre el sector de l'habitatge a Catalunya* [Report on the Housing Sector in Catalonia] 2017. July 2018. [33]

Given this state of affairs, the supply of housing in dispersed municipalities may gain prominence once more and provide a choice for intra-metropolitan in-migration again. It will be necessary to be attentive to the evolution of the metropolitan supply of housing, knowing that it is a type of market that generates dynamics which put different urban areas in relation to one another, as it happened before. Once again, the general evolution of the country's economy and the credit policies of its financial institutions will play a key role, as Lomax and Stillwell pointed to the UK case [34].

3.2 The choice of living in a suburban residential complex. Portraying the actors of residential dispersion in the BMR

An analysis of the information gathered by the survey "Mobility, Family Solidarity, and Citizenship in Metropolitan Regions 2005" allowed us to make out the characteristics of the population who had moved to suburban residential complexes. These were people who had changed their residence mostly after 1996; 34 percent of them coming from the city of Barcelona, and 40 percent coming from the rest of the BMR. Their profile was that of young people with a great potential for growth (between 25 and 45 years of age); 20.39 percent were aged under 15, and only 10 percent were older than 65. Predominantly, they were in active employment, with both members of

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the couple working. Forty-five percent of those in work belonged to the categories of technicians, professionals and managerial staff, and 56.8 percent were in medium-high socio-occupational groups. The prevalent family structure was that of a couple with underaged children (51.78 percent) living in a single-family house which was large (mean surface was 176 square metres), new (one third of them had been built after 1985) and owned by the residents, but pending full payment (48.2 percent).

The appeal of dispersed areas is visible in the reasons stated by the interviewees for moving to a suburban residential complex, which mostly have to do with the characteristics of the dwelling, the quality of life, nature and the environment and, of lesser importance, with factors related to the actors' life trajectories, such as the creation or the extension of a family.

Table 5. Reasons to Move to a Surburban Residential Complex**.**

Reason	%
Residential Reasons (home and environment)	**54.1**
Reasons related to the dwelling	31.6
Desire to own one's home	4.2
Quality of life, environment, nature	14.8
Moving out of the city	3.4
Changes in the life cycle	**26.2**
Marriage or stable union	10.9
Family growth	8.7
Family reduction	1.2
Break-up of sentimental union	2.1
Retirement	2.1
Retirement of one's partner	1.2
Work-related reasons	**9.3**
Change of jobs	3.9
Partner's change of jobs	1.6
Closeness to (own/partner's) place of work	3.7
Health	**5.4**
Taking care of an elderly person	1.8
Health-related reasons	3.6
Other	**6.6**
Financial reasons	**1.3**
Total	**100.0**

Source: Compiled by the authors based on the surveys "Mobility, Family Solidarity, and Citizenship in Metropolitan Regions 2005" and "Social Change and Urban Transformation Processes in a Context of Crisis in the Periphery of the BMR 2017".

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The most significant reasons were those relating to residential factors (54.1 percent), in particular, the conditions of the house (31.6 percent): its price; the fact of being a single-family house or a newly-built one; its surface area; its location in a natural environment and the quality of life (14.8 percent); or the desire to become the owner of one's residence (4.2 percent). Changes in people's life trajectories also affected the decision to live in a dispersed area (26.2 percent); in this respect, the fact of getting established as a couple (10.9 percent) or expanding the family (8.7 percent) were the most frequently stated reasons in this category. On the contrary, work-related motives did not play a very significant role, amounting to only 9.3 percent of the stated reasons. It must be noted that the interviewees prioritized those reasons related to the appeal of low-density suburban areas over the rejection of denser areas. Thus, contrary to the North-American case [35], there is no mention of criminality, greater dangers or higher pollution rates as reasons for migration.

This pattern of migratory behaviour produces a sex and age structure which both contrasts with and complements that of compact municipalities (Figure 5), which are actually the places feeding the migration flows towards dispersed municipalities. Thus, we find a population which is quite rejuvenated, with strong presence of residents between the ages of 40 and 59, and little pressure from elderly groups. It is obvious that the overrepresentation of these age groups will surely determine the municipal agenda for the planning of services and infrastructure. Besides this, the movement of these age groups up the population pyramid will also reshape the demands that the different administrations—especially the local ones—will have to satisfy.

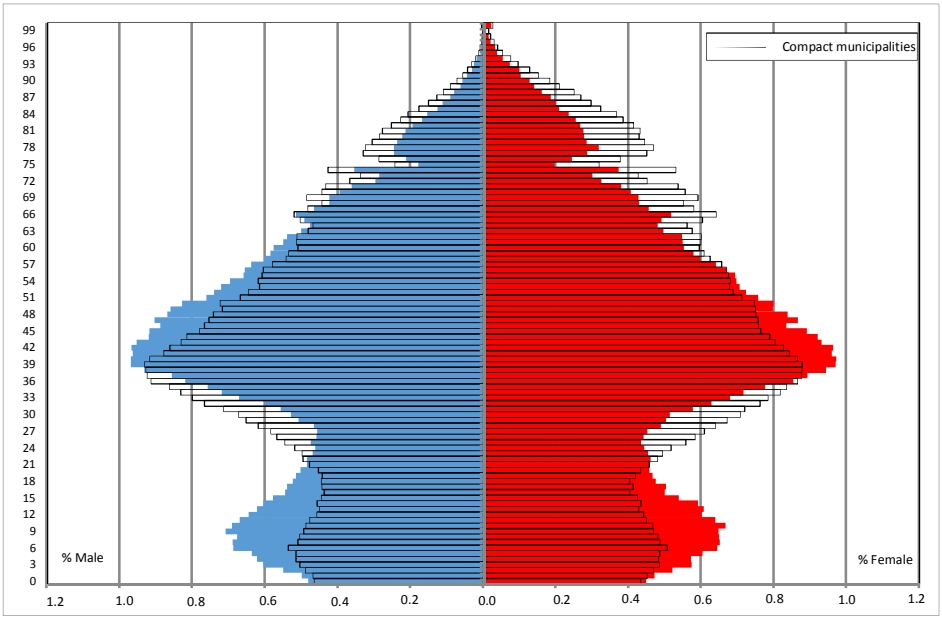

Figure 5. Sex and Age Structure. BMR Dispersed Municipalities, 2015. Source: Compiled by the authors based on *Padrón Continuo* [Continuous Register], 1/1/2015. INE

When we compare the intra-metropolitan migration profiles of different age groups, we are reminded of the key role played by the strong appeal of dispersed residential areas to those between 25 and 44 years old, ages at which net migrations rates are higher (Figure 6).

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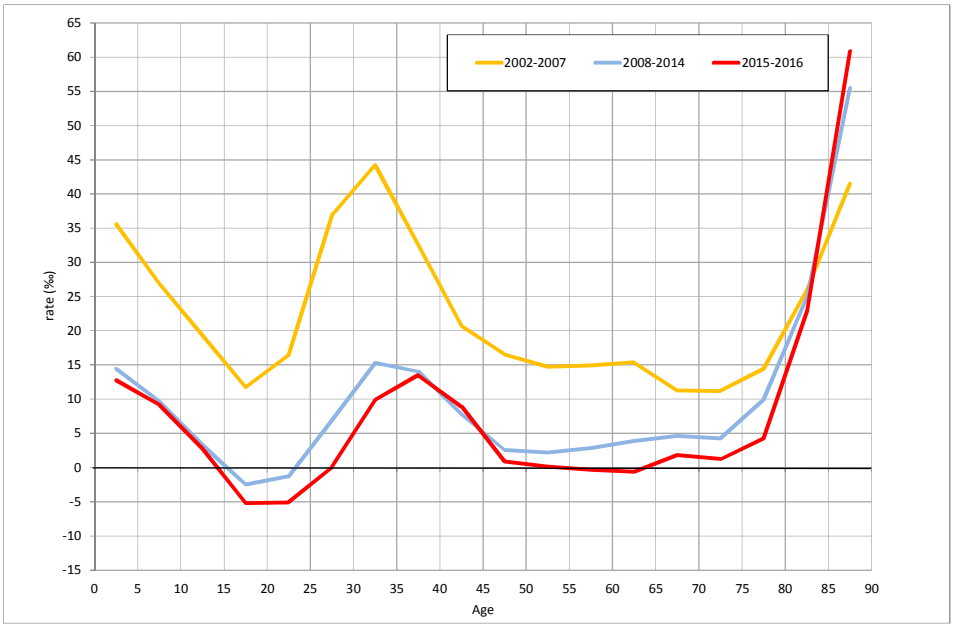

Figure 6. Net Intra-Metropolitan Migration Rates by Age. Dispersed Municipalities (2002-2016). Source: Compiled by the authors based on data from the *Padrón continuo* [Continuous Register] 1996-2017 and the *Estadística de Variaciones Residenciales* [Residential Change Statistics] 1996-2016. Micro-data File. INE.

In this case, we must highlight the fact that this age pattern repeats itself over time, even when the effects of the economic crisis pull down the rates of migration towards such destinations. Therefore, it is obvious that dispersed municipalities retain their appeal as places of residence for a specific target population, an appeal that may be boosted or curbed by the economic situation, but which remains in place throughout our period of observation. Parallel to this, the mobility of adults has a pull on the mobility of both underaged young people—who migrated with their parents—and elderly people—who migrated in order to live closer to their children, who moved earlier in time, and thus to receive care from or provide care to them.

On the other hand, what we see is a pattern of residential appeal clearly segmented by age and also by socio-economic category. This is a phenomenon which has been well described in the literature about migration focusing on the analysis of changes in residential preferences in relation with life stages [36,37]. What is new about the case of the BMR is that, when we examine the behaviour of the eldest age groups, we still observe net gains. The residential strategies of the elderly display certain features of their own, due to the fact that mobility is here associated with preparation for old age. Thus, as well as the appeal for residential quality, we must add other factors such as the proximity to family or friends, and to services, and the rejection of excessive dependence on private vehicles for transportation [38]. Therefore, *prima facie*, the appeal of elderly people for dipersed municipalities that is evident in the case of the BMR would hardly agree with the behaviour stipulated by such theoretical frameworks.

3.3. *Twelve years living in a suburban residential complex: the actors' assessment*

The last point we should like to stress in this study is the residents' assessment of—and satisfaction with—the suburban residential complex and housing as revealed by our 2005 and 2017 surveys. This

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information is especially significant for our investigations for two reasons. Firstly, because it tells us about the impact that the economic crisis had on the families that chose to move to this type of residential area. Thus, a drop in household income or in the funds allocated for the provision of services by public administrations—as a consequence of budget cuts imposed by the economic crisis—might give rise to a less positive evaluation of a residential choice that was made years before, in a context of economic welfare. Secondly, because the existence of high levels of dissatisfaction would point to the possible failure or rejection of life in dispersed residential areas, this might lead to a new change of residence.

The answers to the questions concerning the level of residential satisfaction in our surveys—conducted at two different points in time—show high values, in relation to the place of residence and the dwelling. Actually, the results obtained by the 2017 survey are even better than those of the 2005 one (Tables 6 and 7). Forty five percent of the interviewees stated that the suburban residential complex where they lived had improved since 2005. All together, the average score obtained by the residential place of living in the survey was 4.2 out of 5, while people's satisfaction with their homes reached an average score of 4.5 out of 5. The interviewees were more critical about the town council administration of their residential areas, which they valued at 5.4 points out of 10.

Table 6. Evaluation of the residence area and the dwelling. 2017

Score	Suburban Residential Complex	Dwelling
1	2.0	0.0
2	2.8	0.7
3	13.8	5.2
4	26.3	26.7
5	44.8	67.5
Total	100.0	100.0
Average Score	4.2	4.6

Source: Compiled by the authors based on the survey "Social Change and Urban Transformation Processes in a Context of Crisis in the Periphery of the BMR 2017".

Table 7. Perception of the town council actions in the residence area 2005-2017

Score	**2005**	**2017**	**Diference**
0	13.3	7.5	-5.8
1	4.0	2.2	-1.8
2	6.0	4.2	-1.8
3	7.7	7.0	-0.7
4	10.3	7.7	-2.6
5	19.8	19.3	-0.5
6	13.0	13.7	0.7
7	9.0	17.8	8.8
8	10.3	12.8	2.5
9	1.0	2.8	1.8
10	2.3	4.0	1.7
Total	100.0	100.0	0.0

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Source: Compiled by the authors based on the surveys "Mobility, Family Solidarity, and Citizenship in Metropolitan Regions 2005" and "Social Change and Urban Transformation Processes in a Context of Crisis in the Periphery of the BMR 2017".

Despite the time elapsed after their arrival to a dispersed residential area—all the interviewees had been living in a suburban area for at least 10 years—the hard impact of the economic crisis, and the expenses associated with living in there, the level of satisfaction of the people who took part in our surveys wasin 2005, and is in 2017, very high. Thus, the crisis did not alter the residents' evaluation of the option of living in a dispersed residential area.

4. Discussion and Conclusions. A Look into the Future

Nowadays, the key question concerning dispersed urbanism is what its future propects are in the middle and long term. As we have seen in the previous sections, residential sprawl occurred in Spain in a context of economic growth accompanied by a series of other factors which facilitated its swift expansion. The setting in of the economic crisis brings such an rapid expansion to a sudden halt, which is interpreted as the end of a process. This verdict is founded on the extra costs of living in dispersed areas—which would act as a deterrent for new residents and would favour a retreat to compact residential areas—and on the hardening of the requirements to access a mortgage loan—which would be the cause of putting off or giving up the purchase of a home. However, such views are not completely right in their predictions.

As we have verified, the economic crisis curbs in-migration and limits the age range in which net migration takes a positive value. Nevertheless, out-migration does not increase, and it even goes down in the reported years. The conclusion is that dispersed areas retain their appeal in the stages of creation and expansion of households, as theoretical models point out. For this reason, an effective economic recovery and a renewed rise in the price of housing in denser cities—with Barcelona as an outstanding exponent of such evolution—may contribute to an upturn in the popularity of the dispersed residential model, which nowadays could be considered to be in a 'lethargic' stage, waiting for certain factors to coincide and re-activate it. Such re-activation would mostly involve the wealthiest socio-economic groups—the only ones fulfilling the requirements to gain access to a mortgage loan or which might even not need one— unless we witness an easing of the conditions to obtain a mortgage. As a consequence, this type of residential mobility could be restricted to high-income households, which would result in the concurrence of processes of residential dispersion and social segregation.

The renewed increase in the price of housing in larger cities might produce a renewed dynamization of the real estate market by encouraging the sale or renting out of homes; at the same time, this coud re-active migration flows towards dispersed municipalities which boast a large supply of housing and a great potential for growth. In the same way, an exorbitant rise in the price of housing—both in rents and purchasing prices—might give rise to new family strategies such as the transference of second homes to their children (or the moving of parents to such second residences) in order to make it possible for the younger members of the family—victims of the recent skyrocketing of housing prices—to become emancipated.

The prevalent theoretical models often point to people's aging and entering an empty-nest life stage as factors leading to the relocation of populations. In our case, however, the results of the

surveys show little intention of changing places of residence, of moving again and/or returning to previous areas of residence. Thus, there is a determination to become old in the same suburban residential complex: only 16 percent of the interviewees seemed to have taken into consideration a change of residence and, paradoxically, individuals aged between 40 and 54 seemed more likely than elderly people to embark on a new migration process. Only a small minority declared their will to change homes in search of a dwelling with different characteristics: smaller, requiring less maintenance, and located in an area where there is not so much dependence on private means of transportation. Our information reveals a will to get old in areas of dispersed urbanism.

If one of the dimensions exposed by previous research was the weakness and shortage of family and support networks in dispersed urbanism [39], the information gathered in our 2017 survey makes it clear that, with the passing of time, people have managed to weave social networks that act as fixing factors and make residents stay in the suburban areas where they have spent their last years. Even though emancipated children do not reproduce their parents' residential model (only 23 percent of them stay in the same municipality where their parents' suburban area of residence is located), our study reveals the beginning of the formation of the so-called family 'entourage'[40], which would reinforce people's attachment to their place of residence. This strategy of residential re-location in search of closer proximity to other family members does not only take the form of staying near the parents' home, but it also accounts for the high in-migration rates of elderly people, who look for their children's vicinity in order to develop strategies of inter-generational solidarity.

The worsening of economic indicators does not affect in a more acute manner people living in dispersed areas, despite the special features associated to this style of living: relative isolation, distant services, extra costs, greater weakness of support networks. In this respect, the significant presence of middle and high-class households may account for the less dramatic impact of the economic crisis and the absence of situations of serious social degradation, situations that were feared at some point in time. Due to the lack of a tradition of living in dispered areas in Spain, the gradual evolution of the residential choices of families is observed with even greater interest, as those who moved to low-density areas in the 1980s were pioneers in displaying the effects of changes in life circumstances and in the business cycle on residential strategies involving migratory exchanges between dispersed and compact areas.

Finally, neither the economic crisis nor the passing of time or the change of life-cycle stage have altered the indexes of residential satisfaction of our interviewees. There is a sustained highly positive appraisal of both the dwelling and the suburban areas of residence, while the presence of projects of re-location and families waiting to sell their houses to move out of the area is scarce.

In conclusion, there is a demand for the lifestyle that dispersed urbanism represents and, in parallel, there does not appear to be a process of out-igration or strong rejection of such residential type. Everything seems to suggest that dispersed urbanism is here to stay.

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