The role of central cities in urban sociodemographic changes in Southern Europe: an analysis of individuals moving into, out of and within inner cities in Spain[1]

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Abstract: Since major inner cities in Spain have reached their urban and demographic maturity, migration and residential mobility have been the determining factors of the sociodemographic change in urban cores and metropolitan areas. In many urban areas, it has been proved that individuals moving into, moving out of and moving within the urban core are linked to certain sociodemographic profiles. Based on the analysis of the Census 2001 microdata, the results point out that in most of the Spanish inner cities, singles, professionals and the highly educated are more willing to move into and within the central city. On the contrary, family dimension is linked with most of the leaving the inner city movements. Likewise, manual workers and the medium educated are more likely to leave central areas. Consequently, major metropolitan areas in Spain have experienced an intense process of sociodemographic change during the last decade.

Keywords: Urban demography, residential mobility, migration, inner cities, selective migration.

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1.- Introduction

Coinciding with the industrial and urban explosions of the two major cities in Spain (Barcelona and Madrid), which occurred after the second third of the 19th century, both inner cities experienced a continuous population growth based on the incessant inflow of migration. The two central cities reached one million inhabitants by 1930. At that time, one in every two persons was born outside the city limits, mainly in rural areas located in the same region or in the rest of Spain. The majority of the population was concentrated in what we currently regard as the central city.

In the late 1970s, clashing with the saturation of the urban cores, the volume of population living in the central municipality reached its peak, and migration stopped being the main factor to explain changes in the sociodemographic structure of the population in the metropolitan areas. A period of uninterrupted loss of population in the inner cities followed, in a process related with the intensification of the urban sprawl and the development of new functionalities among the metropolitan territory, the arriving of the baby boomers to the age of leaving home, and the consequent reduction of the household size in the urban cores, areas where few new dwelling units were added to the existing urban fabric. In absolute terms, the population of the central municipality of Madrid fell from 3.2 million in 1981 to 2.9 in 2001. Barcelona's central city decrease was more intense in relative terms, from 1.8 to 1.5 million during the same period. On the contrary, the population increased from 1.5 to 2.5 million outside the limits of the central city in Madrid's metropolitan area and from 2.5 to 2.9 million in Barcelona's metro area (Table 1). The population decrease experienced in most of the central municipalities after 1981 didn't coincide with a loss in the absolute number of households. Thus, we may think, that the population decrease in central cities is mainly explained by the inability of the inner city to increase the housing supply at the same rate as new households were generated (mainly as a consequence of the arrival of the baby boomers at the age of leaving home). The reduction of the size of households in central cities has been more intense than anywhere in the metropolitan area (Table 2). Similar processes had already occurred in other European major cities (Mulder, 2006).

The urban core's episode of population decrease ended recently, not only as a consequence of the increase of international migratory flows, but also because of the relative increase of residential movements towards the central city. This whole process has been widely followed with some delay by the rest of the major cities in Spain.

After tracking the urban processes that Spanish major cities have gone through in modern history, we can state that this is the first time that the process of sociodemographic renewal of the individuals living in the central city is explained by the interaction of three residential and

migratory flows: a) people moving out of central cities, mainly because of residential reasons. The suburban processes related with residential relocations that started in Spain after the second half of the 20th century are still intense; b) individuals moving into the central city. The lack of interest for central locations experienced during the last decades has come to an end, since the urban core has been included in the residential strategies of suburban residents and also as a destination for regional and international migrants; c) individuals staying in the central city. Inhabitants staying in the urban core play a remarkable role in the definition of the sociodemographic profile of the central city. Individuals may remain in this area because they decide to move within the inner city or just because they do not move.

As literature states, participants in these residential and migratory flows are not randomly extracted from the entire population. We should assume that people moving out, moving in and moving within the central city have different sociodemographic characteristics. The paper aims at identifying the diverse socioeconomic profile of individuals including the central city in their residential or migratory strategies, and contextualizing it in the new urban processes that are modifying Spanish major cities.

2.- Selective migration in inner cities. Theoretical framework

Sociodemographic profiles of individuals participating in the residential flows have been analyzed in major inner cities around the world. Recent studies on this field fall in a highly accepted literature of reurbanization, the return of inhabitants to central city areas. This process mainly deals with a new functional specialization of the inner city (Musterd, 2006) and to its new emergence (Cheshire, 2006; Storper and Manville, 2006). In the U.S., the majority of the urban cores have experienced population growth since 1990 (Frey, 2006), and the same has occurred in London and Paris, where a long period of dramatic shortfall has come to an end.

Rossi (1955) and Abu-Lughod and Foley (1960) introduced the life-cycle approach to explain selective migration in residential movements, just when leaving the city movements were modifying the urban structure of major metropolitan areas in the U.S. Beginning in the 70's, when the back to the city movements emerged, new research was developed introducing the sociodemographic characteristics of individuals moving to the urban core, considering as well, as a remarkable flow, those who were moving into the city center from the suburbs. Sanchez and Dawkins (2001) point out that the classic life-cycle approach is less relevant to explain the profile of those individuals moving into to the urban core.

In Europe, many efforts have been made to understand the sociodemographic changes in the inner city of Paris and London. Bonvalet and Lelièvre (1991; 1994) defined the demographic filter of Paris urban core and underlined its feature as a privileged space for social success.

Recent studies of Ogden, Hall and Schnoebelen (Ogden and Hall, 1998; 2000; 2004; Ogden and Schnoebelen, 2005), analyze the transformations in the typology of households living in the central city. Selective migration and residential mobility play a major role in the decrease of the size of households in Paris, and in the increase of the number of one member households. In the Greater London, Ford and Champion (2000) reveal differences in the sociodemographic profiles of the three residential flows involving the city (moving into, out of and within). However, the process of population renewal in London's inner city has been widely analyzed from the gentrification approach. Thus, socioeconomic variables are pointed out and observed changes are linked to other urban, economic, politic and cultural processes that are taking place in certain areas of the urban core (Coombes and Charlton, 1992; Champion, 1999; Atkinson, 2000a, 2000b, 2000c; Hamnet 2003).

Gale (1979) examines the first cases of back to the urban core movements in North-American cities. The author concludes that those who move to the inner areas tend to be white, younger, highly educated, and professionals with no children and a higher income. These conclusions are quite similar to those of Spain (1989), who found that unmarried people and households with no children and high income are more willing to move to the urban core. Furthermore, LeGates and Hartman (1986) reach the same conclusions in their attempt to define the profile of individuals moving to the city center: since, usually, the housing market is smaller and more expensive in the urban core than in the suburban areas, the number of households with higher incomes and no children arriving to the urban core is likely to be higher. Long and Glick (1976) underline the attraction of non-traditional households to the urban cores. In a case study of Cincinnati, Varady (1990) deals with a migrant who is characterized by a high level of education, with no children and clearly willing to have better access to job opportunities and to live in a cosmopolitan environment. Frey and Kobrin (1982) emphasize the existence of a different composition in the typology of households participating in the flows moving into and moving out of the central city. South and Crowder (1997) and Sanchez and Dawkins (2001) introduced the importance of movements within the cities. More recently, Frey (2002, 2005, 2006) and Birch (2005) confirm the population growth of most of the USA central cities since 1990, as well as a change in the composition of the population living in the urban core of these cities.

3.- Sources and methodology

Spanish Census 2001 recollects residential and migratory itineraries at a municipal level. To analyze residential movements crossing municipal borders, census data provides origin-destination information of the last movement done, as well as the year of that residential change. It also provides information about the last change of dwelling within the municipality. Both approaches have been used to develop the current research. Those individuals who have moved between January 1st 2000 and November 1st 2001 (census date) are considered as movers. The descriptive indicators and the analysis of the composition of the movers have been calculated using the 100% of the Census data. Logistic regression models have been elaborated using a 5% microdata sample of the Census 2001.

The small size of Spanish municipalities is an essential attribute for the development of the current research, since it allows to clearly distinguish the urban core from the rest of the metropolitan area. Central municipalities of each province are understood as the central city[4], and provinces have been used as a measure of metropolitan areas[5]. However, there are some differences in the extension of these units among the major metropolitan areas in Spain, which have to be taken under consideration in the analysis of the results.

Five major cities have been included in the study: Barcelona, Bilbao, Madrid, Sevilla and Valencia. Barcelona and Madrid are the biggest metropolitan areas in the country, with a remarkable difference compared to the rest of the major cities (Table 3). Although both provinces occupy a similar area and have analogous population (approximately 6 million people in 8,000 km^2), there are significant differences in the area of both central municipalities. It has to be considered that Barcelona's central municipality is six times smaller than Madrid. This attribute has an effect on the results, since a movement from a current residence located in the central municipality to a residence located 15km away will be considered a center to periphery movement in Barcelona, while in Madrid it is regarded a center to center movement in most cases. Nevertheless, the attributes that literature assigns to the central cities of metropolitan areas are clearly distinguished in both units.

Valencia and Sevilla have similar characteristics in terms of area and population of the central municipality and the rest of the province. In both cases the central municipalities occupy an area slightly bigger than Barcelona, and far smaller than Madrid. Bilbao is included in the research

[4] Inner city and urban core terminology are also used as synonyms of the central municipality concept in this paper.

[5] Province has been used as a measure of metropolitan area in this paper. Although in most cases province includes small areas that are not strictly part of the metropolitan area, it will have a minor incidence in the study.

because mainly due to the small area of its central municipality; in consequence, centrality processes may seem more powerful in this case[6].

Selection in migration and in residential movements in Spanish metropolitan areas is analyzed through two main methods. Firstly, a descriptive analysis focusing in the composition of the flows has been carried on. For each variable and metro area, and controlling by sex, and group of age, characteristics of individuals moving within the metro area have been broken down. Four types of movement have been analyzed: center to center, center to metro, metro to metro and metro to center. Absolute values for each one of the flows are shown in Table 4. Secondly, logistic regression models have been calculated. Sociodemographic variables that literature has highlighted as explanatory variables and are available in the 2001 Census have been included in the models. Three regression models (center to center, center to metro and metro to center type of movements) have been calculated for each metropolitan area Area. For each dependent variable in each model, 1 is the value given to individuals who have moved in the specific type of flow and 0 is given to the ones who have not experienced the movement.

4.- Residential change and sociodemographic selection in Spanish metropolitan areas

As mentioned, results have been obtained using descriptive and explanatory analysis. Figures 1 to 9 show the results of the descriptive analysis and Tables 5 to 7 show the values of the logistic regression models.

4.1.- Demographic variables: age, sex and place of birth

As it is accepted in the literature, the effect of individual and family life cycles on the migratory and residential behavior it is clearly stated in the case of the Spanish metropolitan areas. The peak of mobility rates in the studied areas is reached between the age of 25 and 34, considerable later than in most countries in Europe (López Gay, 2004). There is a significant percentage of individuals who move for the first time between this age range, and most of the life cycle transitions that are traditionally associated with a residential movement in Spain occur at this time of life. Mobility rates at the age of 25-34 normally double the ones corresponding to the 20-24 age range.

Mobility rates experience a considerable and progressive decline in the following ages. This trend stops at the ages of retirement, first, and at ages of dependence later. Although this is the general pattern for all types of movements, some heterogeneity is observed. There is a remarkable concentration around the ages of leaving home at the center to metro and metro to

[6] On the other hand, Zaragoza, the fifth biggest metro area in Spain, has been excluded from the study because of the big size of the central municipality; it almost reaches 1.000km^2.

metro movements. However, the decline of the mobility rates in the adulthood is less steep in those movements in which the central city is the final destination. These results are identical to the ones obtained in the logistic regression models and converge with the previous contributions that pointed out the relatively weakness of the life cycle model to explain the residential movements that ends in central cities.

Focusing on the residential movements that start in the inner city, the execution of an early movement is linked to a slightly lower permanence in the city. In the central city of Barcelona, 40% of the 25-29 years old women who moved left the city, whereas only 30% of women in the group 35-39 abandoned the central city because of the residential relocation. Other urban cores like Sevilla and Valencia have a higher percentage of individuals who stay at the city, but in all the cases there is a higher probability of leaving the central city when a movement starts in younger adult ages. Moreover it is observed along adult life that females are more willing to settle in the city center than males. These different strategies should be mainly understood in the context of movements that women and men make independently (separated and divorced men are more willing to cross the municipal border while women tend to stay in the central city).
Due to its small size in population and area, only one in every ten adults of the Barcelona metro area starting a residential movement ends in the central city. In bigger central cities like Madrid, almost one in every four adult movers of the metro area moves into the central city. What all the studied cities hold in common is the increase of the percentage of the elderly moving into the central city.

The logistic regression model states that foreign nationals are the most likely group to change residence in all types of movements, as it has been stated in previous studies (Recaño, 2002). The intensity, compared to other collectives, is especially high in the movements that have the central city as a final destination.

4.2.- Marital status, life cycle and family

Leaving the inner city at a young-adult age is strongly associated with a family dimension of the residential change. Meanwhile, individual movements are considerably more common when the central city is the final destination. In Barcelona, Bilbao, Madrid and Valencia, 75% of men and 80% of women moving out of the central city live with a partner or spouse in the new household located in the metro area. On the contrary, nearly 50% of the men and 40% of women moving within or moving into the inner city do not live with a partner in the new residence. This trend is observed along all the group ages. In Bilbao, half of the men and women aged 50-64 who move to the central city from the metro area do not live with a partner in the new household, while only 25% of movers do so when the destination is another municipality of the metro area. The same line of reasoning can be extended to the effect of marital status in the residential mobility

in the inner city and rest of the metropolitan area. Married people are more willing to move out of the central city, whereas the rest of individuals are more likely to stay or to move into the urban core. The never married population not only takes roots in the central city because they are less willing to leave the central city, but also because the intensity of the residential change is considerably lower than the ever married population. Moreover, central spaces are also attractive destinations for divorced and widowers in most of the Spanish major metropolitan areas.

Introducing the presence of children in the household, metropolitan locations are really appealing spaces for those couples with no children that decide to move in young-adult ages. In the studied areas, more than 80% of the population aged 25-34 moving out of the inner cities and living with partners in the new residence do not have any children in the household. In that sense, residential processes during the last years have strengthened the segmentation of the metropolitan spaces in terms of marital status and cohabitation with the partner. The difference has increased and it is not only caused by a different behavior in terms of nuptiality. In Barcelona's inner city, 54% of the male population aged 30-34 and the 40.3% of the women do not live with a spouse/partner, while these indicators are considerably lower in municipalities located at 10-20km distance from the city center: 33% of the males and 19% of the females. Another data: 43% of the metropolitan population from 30 to 39 years old that does not cohabit with a partner or spouse live in the central city, while only 24% of the individuals living with a partner and children do so (López Gay, 2008).

4.3.- Educational attainment

The filter mechanism that operates in Spanish central cities also acts in terms of the educational attainment of the population. The inner city retains the highly educated, while individuals with secondary school are considerably more willing to leave the inner city. This process is especially intense in young-adult ages, those associated with the residential emancipation.

At these young-adult ages, the population with university degree is the most likely group to experience a residential movement within the city in Barcelona and Madrid, while the results are not significant for the other cities. On the contrary, the highly educated are the least likely group to leave the inner city.

In terms of composition, almost half of the female population moving within the central city in Barcelona at the age of 25-34 has a university degree, while the percentage decreases up to 30% in the case of center to metro movements or to nearly 20% in the metro to metro movements. This pattern is identifiable in the rest of the studied cities, although differences are generally smaller. In older adult ages, in a new family and labor context, center to metro movements seems to be more attractive for the highly educated.

Individuals with secondary school are the most likely group to move to the metro area from the Core in all the cities but Bilbao. The less educated show low intensity in all the types of movements, and they do not present a clear territorial pattern.

The capacity to retain the highly educated has its correspondence in the attraction that the central city holds for this group of population. Results of the logistic regression models are significant in all the studied central cities. Descriptive results indicate that the attraction of urban cores towards the highly educated is repeated in all the group ages, which drive us to understand this process as a consequence of residential preferences rather than as a process linked to the common presence of academic institutions in the central city.

As it has happened in other variables, this process has contributed to increase territorial differences in terms of educational attainment. 54% of the population of the metropolitan area of Barcelona aged 25-39 with a Ph.D. degree live in the central city, while only 23% of the population of the same age group with primary school lives there (López Gay, 2008).

4.4.- Activity and socioeconomic status

The attributes that define the selectivity of central spaces in terms of economic activity are clearly observed in the female population, since it is expected that the vast majority of males are active along the adult ages. Although the same situation occurs in the youngest generation of women, there is still a significant portion of inactive women in older generations of adults.

The incorporation of the youngest adults to the labor market increases their mobility rates, but those students that move show a preference for local mobility. Differences in territorial preferences are observed in the female population when this stage of the life cycle is over. According to the results of the regression model, economically inactive individuals have a lower participation in the center to center movements, and hardly participate in the metro to center flows. Analyzing the composition of the flows, inactive women are considerable more represented in the center to metro and metro to metro movements in all the studied cities, specially at older adult ages. According to these results, it seems clear that central areas in Spain retain those households with a double income. This process should be linked to a bigger capacity of those households to face the selective housing market characteristics of central areas and to the intention of minimizing the commuting distance for both members of the households (Cabré and Pujadas, 1982).

Among the employed population, the residential emancipation of the groups that belong to the lower end of the socioeconomic hierarchy is related to the residential movements that have the metro area as a destination. In the five studied cities, blue collar workers are the group with the highest probability to leave the central city, as it can be stated at the center to metro regression

model, while it is the least likely group to move into the inner city, and usually to move within the city.

Therefore, central areas enable the departure of workers, but these spaces have a clear capacity to retain and attract professional experts as well as population working in the commerce and service sectors. In Barcelona, for instance, nearly 50% of men aged 25-34 moving from the metro area to the central city are professional and technical experts, while they only represent the 25% of the individuals that change residence in the metro context. Groups belonging to the higher end of the socioeconomic status do not show a unique territorial pattern in terms of residential preference. Thus, we may assume that they have enough economic sources to face the selection exerted by the housing market in central areas. These central spaces seem attractive to them, but it is also clear that residential areas in suburban locations are a common destination.

4.5 Dwelling characteristics

Spanish Census data registers the characteristics of the dwellings where movers arrive. Unfortunately, it is not possible to know the attributes of the former dwelling, which would give a significant point of view to understand the effects of the characteristics of the previous dwelling on residential preferences.

On the one hand, the sociodemographic filter that operates in the central cities allows the departure of those who pretend to satisfy their residential preferences in terms of tenancy and size of the new dwelling. On the other hand, the population moving within or into the inner city cannot reproduce the behavior of those who leave it. The results obtained when introducing the dwelling characteristics are expected and they are almost identical in all the studied cities: population arriving to the metro area from the central city lives in bigger dwellings than the ones staying in the city and it generally owns the new residence. On the contrary, individuals starting a residential movement in the metro area move to dwellings that are smaller than those of the population that decide to stay in the metro area and they rent oftener. Characteristics of the housing market in both areas determine the final behavior of the movers in terms of ownership and size of the dwelling, but it should be underlined that renting units have been added to the market due to the strong pressure to the housing market in central cities during the last years.

Case examples are illustrative: 80% of the adults moving out of the central cities in Barcelona, Madrid and Sevilla own the dwelling at the destination. In Bilbao and Sevilla the percentage even reaches the 90%. On the contrary, 60% of adults moving within the central city own the new residence in Barcelona and Madrid and 70% in the other cities. In spite of these differences, ownership is still the most common residential strategy for movers within the city. It is true,

though, that a remarkable portion of them rent as an alternative to satisfy their preferences in terms of local settlement. Newcomers to central cities reproduce, and in many cases intensify, the trend of the local population, and rent much more frequently than those individuals moving from metro to metro locations.

Differences in the size of the dwelling are even more dramatic. Adults leaving the central city live in dwellings with an average size of 110 m^2 in Barcelona, Sevilla and Valencia, and 130 m^2 m^2 in Madrid. In some cases the dwellings are even bigger than those where metro to metro movers end living[7]. On the contrary, individuals moving within and moving into the central city live in dwellings with an average size of 75 to 85 m^2.

Moreover, age and life cycle have an effect on the characteristics of the new dwelling. As it is expected, in all the types of movement younger adults live in smaller apartments and rent more often than older adults. When analyzing the center to metro movements, the small difference in the proportion of owners between young and older adults is really interesting. The metro area is clearly the destination for young adults who come from central cities and want to own a property.

5.- Conclusions. Migratory selectivity in Spanish Central Cities

Processes of residential and migration selectivity define the final location of individuals changing their residence in the Spanish biggest metropolitan areas according to their sociodemographic characteristics. The demographic and housing market context of the last two decades in the major Spanish metropolitan areas has strengthened these processes. The impossibility of inner cities to add new dwellings to the central housing supply is a common attribute of the Spanish cores, since its urban fabric is intensely saturated. From a demographic perspective, the age structure of the population has contributed to the urban sprawl experienced during the last decades. Creation of new households in central cities as a consequence of the arrival of baby boomers to the age of leaving home has been dramatically faster than the destruction of households due to mortality effects. Spanish baby boomers crossed the 1990 decade at the ages of higher mobility rates. As a consequence of the intense increase of residential mobility rates in adult ages, and in a context of a remarkable local preference in the residential choice, the relation between supply and demand in the housing market of central cities has been dramatically unbalanced. The demographic scenario that central cities have experienced during the last two decades has been unique in their history. We may think that it will not be experienced any longer because the “empty generations” born in the 1980s are about

[7] The city of Bilbao is an exceptional case, since the central city is singularly small and the first ring of the metro area contains many small apartments that were build in the 1960s as a result of the arrival of immigrants from Spanish rural areas.

to cross the ages of maximum mobility and because a high number of households are going to disappear due to household destruction at the peak of the population pyramid. Thus, it seems that the episodes of dramatic disequilibrium between supply and demand in the housing market in central spaces are coming to an end. Only foreign born migration may introduce changes into the scenario where central spaces are driven by the age structure of their residents.

Therefore, not all the individuals moving from the inner city have been able to include the urban core's permanence in their residential itineraries. The results of this paper state that the educational attainment, activity and socioeconomic status of residents in major inner cities does not explain the intensity of the residential change, but it defines their final destination, therefore, their territorial distribution. The highly educated, professionals and active women are the most likely groups to remain in the central city, while individuals with an intermediate education, manual workers and inactive women are more willing to leave the urban core. The research has also identified the high intensity of settlement of those movements with an individual dimension. On the other hand, most of the population that has moved out of the central city is married or live with a partner in the new residence. The reluctance of the never married and the ones that do not cohabite with a partner to abandon central areas drives them to adopt those residential strategies which enable them to face the competitive housing market of central cities, that is renting or choosing smaller dwellings. On the other hand, individuals moving out of central cities satisfy their preferences in terms of ownership and size of the new dwelling. Thus, center to metro movements are characterized by the absolute preponderance of ownership and dwellings considerable bigger.

Residential mobility into the central city is not so much determined by elements associated to the family life cycle as the movements leaving the central city are. The individual dimension is involved in many movements into the central city and differences are strong compared to the metro to metro movements. Individuals moving into the inner city tend to be similar to the individuals moving within the central city, but the filtering is even more remarkable. The attraction towards metropolitan singles and divorced, highly educated and professionals is significant in most of the studied cities. On the other hand, it is improbable for metropolitan nuclear households, blue collar workers and low educated population to move into central areas.

These selection processes are widely followed in the five studied areas. Due to the smaller territorial size of Barcelona's central municipality, the densely populated metropolitan area that surrounds it and the competitive housing market, Barcelona is the best example that proves the statements mentioned along the paper. Madrid's bigger size of the inner municipality decreases the power of the centrality implications. Results of the logistic regression models are in some variables not significant in the other studied cities because of their smaller population size and the lower saturation of the central municipalities.

Nevertheless, sociodemographic transformations in the characteristics of central cities as a consequence of residential mobility are widely stated. We would wish to have a more recent source of information to update the results obtained in this paper using the 2001 census. Housing market prices reached their peak in 2006, so we may expect an intensification of the stated processes until that moment. The intensification of the international migration after 2001, the recent decline of prices in the housing market, the arrival of emptier generations at the ages of maximum mobility rates and the destruction of older households are new elements that surely affect selectivity processes in the Spanish major cities. Unfortunately there is no data in Spain better than the census to develop a thorough analysis about the socioeconomic profile of individuals moving across the territory. Fortunately, the 2011 census is getting closer; it will be time then to update these results.

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Table 1.- Population and household growth by metro area and distance to the central city, 1950-2001

		Population total						Household total					
		1950	1960	1970	1981	1991	2001	1950	1960	1970	1981	1991	2001
Barcelona	Centr, City	1,276,675	1,526,550	1,741,979	1,752,627	1,643,542	1,503,884	320,301	394,859	478,717	578,058	573,056	594,452
	<10	200,553	349,199	750,276	1,020,984	987,793	939,479	62,287	88,428	190,518	287,212	300,225	331,332
	10-14	50,334	74,742	176,846	277,459	296,791	313,478	14,321	17,843	43,893	75,165	86,741	107,426
	15-19	110,885	182,616	320,879	452,887	505,026	589,859	36,946	45,680	82,995	125,822	152,224	205,131
	20-29	175,098	239,836	370,609	479,783	542,278	663,593	57,442	60,728	97,794	137,318	167,715	233,399
	30-44	139,515	158,839	202,032	248,641	275,459	355,609	44,258	39,662	52,837	71,601	85,435	125,645
	>45	262,841	307,019	352,389	390,823	403,518	440,025	80,989	75,996	91,913	113,874	127,780	156,947
Bilbao (Vizc,)	Centr, City	216,417	294,174	405,908	433,115	369,839	349,972	62,346	71,355	102,732	124,007	117,253	129,285
	<10	109,167	175,470	251,519	298,699	323,963	307,827	28,742	43,608	63,728	83,483	97,875	108,714
	10-14	91,806	128,120	190,142	246,984	254,163	257,138	23,759	30,412	47,161	67,444	75,504	88,030
	15-19	33,222	36,256	41,435	45,148	45,083	49,255	7,925	8,551	9,989	12,107	13,382	16,994
	20-29	62,690	71,958	90,894	99,071	98,422	97,843	16,446	16,551	21,764	26,299	28,940	33,829
	30-44	41,000	45,036	61,563	66,261	63,636	60,602	9,896	9,292	14,106	16,966	17,917	20,345
	>45												
Madrid	Centr, City	1,553,338	2,177,123	3,120,941	3,158,818	2,909,792	2,938,723	449,830	545,356	817,238	938,916	969,518	1,080,364
	<10	1,943	3,748	25,074	63,731	78,825	92,090	504	1,074	6,028	16,231	21,431	27,670
	10-14	8,481	16,760	46,548	126,256	179,576	214,269	2,042	4,218	11,312	32,903	49,085	65,252
	15-19	24,380	37,867	115,314	327,909	414,364	506,121	6,071	9,686	28,354	85,922	115,289	160,807
	20-29	64,723	93,054	265,167	788,097	1,006,439	1,288,039	15,578	23,356	67,486	210,584	280,571	410,444
	30-44	93,602	102,782	113,070	142,645	174,829	289,021	23,874	26,208	29,407	39,732	50,975	95,982
	>45	76,943	78,883	75,234	79,439	82,026	95,121	17,572	21,106	20,802	23,209	25,840	33,273
Sevilla	Centr, City	374,138	441,869	545,692	645,817	683,028	684,633	94,262	103,982	134,808	173,815	197,967	226,621
	<10	20,801	30,094	37,307	43,848	46,821	54,248	5,367	6,752	8,662	10,719	12,710	17,008
	10-14	77,616	107,555	158,728	205,775	222,582	242,540	20,887	27,162	40,751	55,630	65,846	82,071
	15-19	47,226	54,999	63,118	68,978	78,376	89,541	11,888	12,616	15,145	16,707	19,958	27,025
	20-29	85,716	97,122	101,037	106,716	119,081	131,135	22,034	22,728	23,835	25,808	30,886	40,493
	30-44	132,656	149,813	139,519	137,463	153,622	159,169	30,641	34,851	33,015	33,839	40,624	50,497
	>45	358,931	368,035	314,821	285,178	292,263	297,421	82,789	84,918	76,237	72,226	80,788	99,181
Valencia	Centr, City	503,886	501,777	648,003	744,748	752,909	738,441	167,786	141,389	176,764	224,882	252,727	275,594
	<10	98,295	129,953	210,438	287,377	301,012	325,091	28,894	33,244	55,452	80,001	91,602	114,988
	10-14	77,616	107,555	158,728	205,775	222,582	242,540	20,887	27,162	40,751	55,630	65,846	82,071
	15-19	42,869	48,859	61,478	76,785	85,882	109,843	12,080	12,954	17,239	22,064	26,662	37,666
	20-29	144,276	162,023	181,436	205,082	209,265	229,268	42,840	43,360	50,319	60,199	66,332	81,362
	30-44	170,244	177,663	191,073	208,009	208,121	214,868	48,987	48,678	53,406	61,494	67,250	76,637
	>45	307,179	310,213	318,396	337,928	338,156	356,234	87,945	84,281	88,578	99,538	107,672	126,757

Source: National Statistical Institute of Spain. Census 1950-2001.

Table 2.- Population and household growth and evolution of the household size by metro area and distance to the central city, 1950-2001

		Population increase (%)					Household increase (%)					Average persons per household					
		1950-60	1960-70	1970-81	1981-91	1991-2001	1950-60	1960-70	1970-81	1981-91	1991-2001	1950	1960	1970	1981	1991	2001
Barcelona	Central City	19.6%	14.1%	0.6%	-6.2%	-8.5%	23.3%	21.2%	20.8%	-0.9%	3.7%	3.99	3.87	3.64	3.03	2.87	2.53
	<10	74.1%	114.9%	36.1%	-3.3%	-4.9%	42.0%	115.4%	50.8%	4.5%	10.4%	3.22	3.95	3.94	3.55	3.29	2.84
	10-14	48.5%	136.6%	56.9%	7.0%	5.6%	24.6%	146.0%	71.2%	15.4%	23.8%	3.51	4.19	4.03	3.69	3.42	2.92
	15-19	64.7%	75.7%	41.1%	11.5%	16.8%	23.6%	81.7%	51.6%	21.0%	34.8%	3.00	4.00	3.87	3.60	3.32	2.88
	20-29	37.0%	54.5%	29.5%	13.0%	22.4%	5.7%	61.0%	40.4%	22.1%	39.2%	3.05	3.95	3.79	3.49	3.23	2.84
	30-44	13.9%	27.2%	23.1%	10.8%	29.1%	-10.4%	33.2%	35.5%	19.3%	47.1%	3.15	4.00	3.82	3.47	3.22	2.83
	>45	16.8%	14.8%	10.9%	3.2%	9.0%	-6.2%	20.9%	23.9%	12.2%	22.8%	3.25	4.04	3.83	3.43	3.16	2.80
Bilbao (Vizc.)	Central City	35.9%	38.0%	6.7%	-14.6%	-5.4%	14.5%	44.0%	20.7%	-5.4%	10.3%	3.47	4.12	3.95	3.49	3.15	2.71
	<10	60.7%	43.3%	18.8%	8.5%	-5.0%	51.7%	46.1%	31.0%	17.2%	11.1%	3.80	4.02	3.95	3.58	3.31	2.83
	10-14	39.6%	48.4%	29.9%	2.9%	1.2%	28.0%	55.1%	43.0%	12.0%	16.6%	3.86	4.21	4.03	3.66	3.37	2.92
	15-19	9.1%	14.3%	9.0%	-0.1%	9.3%	7.9%	16.8%	21.2%	10.5%	27.0%	4.19	4.24	4.15	3.73	3.37	2.90
	20-29	14.8%	26.3%	9.0%	-0.7%	-0.6%	0.6%	31.5%	20.8%	10.0%	16.9%	3.81	4.35	4.18	3.77	3.40	2.89
	30-44	9.8%	36.7%	7.6%	-4.0%	-4.8%	-6.1%	51.8%	20.3%	5.6%	13.6%	4.14	4.85	4.36	3.91	3.55	2.98
	>45																
Madrid	Central City	40.2%	43.4%	1.2%	-7.9%	1.0%	21.2%	49.9%	14.9%	3.3%	11.4%	3.45	3.99	3.82	3.36	3.00	2.72
	<10	92.9%	569%[8]	154.2%	23.7%	16.8%	113.1%	461.3%	169.3%	32.0%	29.1%	3.86	3.49	4.16	3.93	3.68	3.33
	10-14	97.6%	177.7%	171.2%	42.2%	19.3%	106.6%	168.2%	190.9%	49.2%	32.9%	4.15	3.97	4.11	3.84	3.66	3.28
	15-19	55.3%	204.5%	184.4%	26.4%	22.1%	59.5%	192.7%	203.0%	34.2%	39.5%	4.02	3.91	4.07	3.82	3.59	3.15
	20-29	43.8%	185.0%	197.2%	27.7%	28.0%	49.9%	188.9%	212.0%	33.2%	46.3%	4.15	3.98	3.93	3.74	3.59	3.14
	30-44	9.8%	10.0%	26.2%	22.6%	65.3%	9.8%	12.2%	35.1%	28.3%	88.3%	3.92	3.92	3.85	3.59	3.43	3.01
	>45	2.5%	-4.6%	5.6%	3.3%	16.0%	20.1%	-1.4%	11.6%	11.3%	28.8%	4.38	3.74	3.62	3.42	3.17	2.86
Sevilla	Central City	18.1%	23.5%	18.3%	5.8%	0.2%	10.3%	29.6%	28.9%	13.9%	14.5%	3.97	4.25	4.05	3.72	3.45	3.02
	<10	44.7%	24.0%	17.5%	6.8%	15.9%	25.8%	28.3%	23.7%	18.6%	33.8%	3.88	4.46	4.31	4.09	3.68	3.19
	10-14	38.6%	47.6%	29.6%	8.2%	9.0%	30.0%	50.0%	36.5%	18.4%	24.6%	3.72	3.96	3.90	3.70	3.38	2.96
	15-19	16.5%	14.8%	9.3%	13.6%	14.2%	6.1%	20.0%	10.3%	19.5%	35.4%	3.97	4.36	4.17	4.13	3.93	3.31
	20-29	13.3%	4.0%	5.6%	11.6%	10.1%	3.1%	4.9%	8.3%	19.7%	31.1%	3.89	4.27	4.24	4.13	3.86	3.24
	30-44	12.9%	-6.9%	-1.5%	11.8%	3.6%	13.7%	-5.3%	2.5%	20.1%	24.3%	4.33	4.30	4.23	4.06	3.78	3.15
	>45	2.5%	-14.5%	-9.4%	2.5%	1.8%	2.6%	-10.2%	-5.3%	11.9%	22.8%	4.34	4.33	4.13	3.95	3.62	3.00
Valencia	Central City	-0.4%	29.1%	14.9%	1.1%	-1.9%	-15.7%	25.0%	27.2%	12.4%	9.0%	3.00	3.55	3.67	3.31	2.98	2.68
	<10	32.2%	61.9%	36.6%	4.7%	8.0%	15.1%	66.8%	44.3%	14.5%	25.5%	3.40	3.91	3.79	3.59	3.29	2.83
	10-14	38.6%	47.6%	29.6%	8.2%	9.0%	30.0%	50.0%	36.5%	18.4%	24.6%	3.72	3.96	3.90	3.70	3.38	2.96
	15-19	14.0%	25.8%	24.9%	11.8%	27.9%	7.2%	33.1%	28.0%	20.8%	41.3%	3.55	3.77	3.57	3.48	3.22	2.92
	20-29	12.3%	12.0%	13.0%	2.0%	9.6%	1.2%	16.0%	19.6%	10.2%	22.7%	3.37	3.74	3.61	3.41	3.15	2.82
	30-44	4.4%	7.5%	8.9%	0.1%	3.2%	-0.6%	9.7%	15.1%	9.4%	14.0%	3.48	3.65	3.58	3.38	3.09	2.80
	>45	1.0%	2.6%	6.1%	0.1%	5.3%	-4.2%	5.1%	12.4%	8.2%	17.7%	3.49	3.68	3.59	3.39	3.14	2.81

Source: National Statistical Institute of Spain. Census 1950-2001. The areas with the highest and lowest growth for each period have been highlighted. Dark grey for the highest increase, light grey for the lower increase of households or inhabitants.

[8] The increase of 569% of the <10 km area at the metropolitan area of Madrid in 1960-1970 is exclusively caused by one municipality, Alcobendas, which population ranged from 3,748 inhabitants in 1960 to 25,074 in 1970.

Table 3.- Geographic characteristics of central municipalities and provinces

	Central municipality			Province (metro area)		
	Population	Km^2	Density	Population	Km^2	Density
Barcelona	1.615.908	98.21	16,453.42	5,416,447	7,728.17	700.87
Bilbao	353.340	41.31	8,553.66	1,146,421	2,217.28	517.04
Madrid	3.213.271	605.77	5,304.42	6,271,638	8,027.69	781.25
Sevilla	699.759	141.31	4,952.04	1,875,462	14,036.09	133.62
Valencia	807.200	134.63	5,995.78	2,543,209	10,806.09	235.35

Source: National Statistical Institute of Spain. Populations updated at 1-I-2008

Table 4.- Summary of individuals moving in the 5 selected metro areas, 2000-2001

		Movers 2000-2001	Total mobility Rate	Age average
Barcelona	**Center to Center**	107,647	3.14	33.57
	Center to Metro	42,684	1.26	33.16
	Metro to Center	12,597	0.16	33.87
	Metro to Metro	86,268	1.10	33.60
Bilbao	**Center to Center**	17,870	2.23	32.86
	Center to Metro	4,967	0.61	33.09
	Metro to Center	2,616	0.14	34.36
	Metro to Metro	12,877	0.70	33.27
Madrid	**Center to Center**	238,854	3.50	33.24
	Center to Metro	68,013	1.01	32.00
	Metro to Center	29,022	0.51	36.35
	Metro to Metro	51,406	0.84	33.49
Sevilla	**Center to Center**	51,349	3.16	35.40
	Center to Metro	12,614	0.77	33.71
	Metro to Center	3,608	0.15	35.20
	Metro to Metro	9,131	0.36	34.36
Valencia	**Center to Center**	60,699	3.52	34.81
	Center to Metro	16,245	0.95	32.80
	Metro to Center	6,421	0.19	35.38
	Metro to Metro	22,145	0.62	32.47

Source: National Statistical Institute of Spain. Census 2001.

Table 5.- Odds ratio of the logistic regression models. Metropolitan Areas of Barcelona and Madrid with 3 types of movement

	BARCELONA			MADRID		
	Center to Center	**Center to Metro**	**Metro to Center**	**Center to Center**	**Center to Metro**	**Metro to Center**
Sex						
Male	- -	- -	- -	- -	- -	- -
Female	1.024-	1.015-	1.025-	1.019 -	0.997-	0.891-
Age						
16-24	0.789***	0.801*	0.927-	0.830 ***	0.863*	0.706***
25-34	- -	- -	- -	- -	- -	- -
35-49	0.488***	0.442***	0.578***	0.527 ***	0.405***	0.531***
50-64	0.223***	0.184***	0.272***	0.212 ***	0.136***	0.297***
65+	0.131***	0.067***	0.157***	0.109 ***	0.070***	0.280***
Nationality and Place of birth						
Spanish citizen and born in the central city	- -	- -	- -	- -	- -	- -
Spanish citizen and born somewhere else	1.091*	1.005-	2.296***	1.116 ***	0.859**	3.942***
EU + OECD	1.356*	1.263-	1.649-	1.430 ***	1.294-	3.693**
Other foreign citizens	3.840***	2.028***	5.785***	5.065 ***	2.686***	10.933***
Marital status						
Single / Not Married	0.730***	0.629***	1.663***	0.629 ***	0.441***	1.106-
Married	- -	- -	- -	- -	- -	- -
Separated or divorced	0.939-	1.836***	2.278**	0.995 -	1.299-	0.827-
Widow	1.209**	1.650***	2.163***	1.060 -	1.284**	2.194***
Educational attainment						
Primary completed or less than primary	0.861**	0.846*	0.574***	0.967 -	0.906-	0.792*
Secondary completed	- -	- -	- -	- -	- -	- -
University completed	1.200***	0.924-	1.864***	1.178 ***	0.977-	1.758***
Socioeconomic status and economic activity						
Businessmen/women, heads, managers and higher administrators	0.975-	1.240*	1.228-	1.165 ***	1.372***	0.972-
Professionals and technical experts (self and not self-employed)	0.969-	1.207*	1.379*	1.128 ***	1.198**	1.171-
Others at the administration, commerce and services	- -	- -	- -	- -	- -	- -
Workers	1.173**	1.877***	0.491***	1.037 -	1.349***	0.672***
Unemployed	0.792***	1.157-	0.663*	0.824 ***	0.973-	0.784*
Inactive	0.739***	0.922-	0.593***	0.765 ***	0.845*	0.705***
Ownership? (at destination)						
Yes	- -	- -	- -	- -	- -	- -
No	1.444***	0.565***	4.318***	1.478 ***	0.794***	2.876***
Type of household (at destination)						
One person hh	2.668***	2.393***	4.570***	3.113 ***	2.456***	5.559***
Couples no children	3.179***	5.426***	7.761***	3.741 ***	5.275***	6.540***
Couples with children	- -	- -	- -	- -	- -	- -
Single parent hh	0.821*	0.679**	1.682**	1.039 -	0.813*	1.878***
Extended families	2.403***	1.917***	2.047***	1.837 ***	1.262***	3.214***
No family forms	1.693***	1.525**	6.149***	1.953 ***	1.529***	4.878***
Constant	-2.328	-2.973	-6.966	-2.230	-2.893	-6.163
X^2	4,508.56	1,954.86	1,297.04	11,189.71	3,388.85	1,971.47
-2^{LL}	28,688.30	14,413.88	5,588.37	60,070.54	23,189.86	10,402.77
R^2 de Nagelkerke	0.168	0.134	0.193	0.198	0.141	0.169
N	63,468	60,653	120,479	121,697	114,091	87,059

Source: National Statistical Institute of Spain. Census 2001. Significance: ***p<0.001; **p<0.01; *p<0.05; - p>0.05.

Table 6.- Odds ratio of the logistic regression models. Metropolitan Areas of Sevilla and Valencia with 3 types of movement

	SEVILLA			VALENCIA		
	Center to Center	**Center to Metro**	**Metro to Center**	**Center to Center**	**Center to Metro**	**Metro to Center**
Sex						
Male	- -	- -	- -	- -	- -	- -
Female	1.031-	1.104-	0.784-	1.085 -	1.108-	0.939-
Age						
16-24	1.063-	0.758-	0.996-	0.885 -	0.883-	1.137-
25-34	- -	- -	- -	- -	- -	- -
35-49	0.481***	0.307***	0.752-	0.488 ***	0.393***	0.547***
50-64	0.216***	0.157***	0.657-	0.266 ***	0.156***	0.341***
65+	0.136***	0.061***	0.205**	0.116 ***	0.076***	0.145***
Nationality and Place of birth						
Spanish citizen and born in the central city	- -	- -	- -	- -	- -	- -
Spanish citizen and born somewhere else	1.056-	1.171-	3.398***	1.067 -	0.963-	2.776***
EU + OECD	0.708-	3.070*	0.000-	2.249 ***	0.512-	0.000-
Other foreign citizens	3.746***	1.153-	4.372-	3.478 ***	1.444-	5.988***
Marital status						
Single / Not Married	0.399***	0.336***	0.936-	0.578 ***	0.640***	0.894-
Married	- -	- -	- -	- -	- -	- -
Separated or divorced	0.717*	1.348-	1.390-	1.112 -	0.960-	2.328*
Widow	0.986-	0.959-	3.581***	1.066 -	1.392-	3.112***
Educational attainment						
Primary completed or less than primary	0.891-	0.724*	0.666-	1.036 -	1.034-	0.473***
Secondary completed	- -	- -	- -	- -	- -	- -
University completed	0.939-	0.700**	1.789*	1.034 -	0.901-	2.447***
Socioeconomic status and economic activity						
Businessmen/women, heads, managers and higher administrators	0.889-	1.711**	0.571-	1.170 -	1.533**	0.809-
Professionals and technical experts (self and not self-employed)	1.138-	1.461*	1.459-	1.053 -	0.924-	1.020-
Others at the administration, commerce and services	- -	- -	- -	- -	- -	- -
Workers	1.039-	1.348-	0.317**	1.034 -	1.328*	0.477**
Unemployed	0.745***	1.157-	0.899-	0.819 *	0.756-	1.204-
Inactive	0.785**	0.998-	0.524*	0.676 ***	0.769*	0.586*
Ownership? (at destination)						
Yes	- -	- -	- -	- -	- -	- -
No	1.737***	0.716*	1.488-	1.851 ***	0.929-	2.069***
Type of household (at destination)						
One person hh	3.344***	3.972***	4.165***	2.982 ***	3.368***	3.856***
Couples no children	3.145***	4.896***	11.001***	2.651 ***	4.477***	5.638***
Couples with children	- -	- -	- -	- -	- -	- -
Single parent hh	1.319**	0.995-	2.800**	1.112 -	0.765-	1.963**
Extended families	0.914-	1.323*	2.212**	2.223 ***	1.469**	2.024***
No family forms	2.244***	2.213**	7.324***	1.521 ***	1.200-	3.961***
Constant	-1.783	-3.086	-6.562	-2.069	-3.183	-6.132
X^2	1,397.17	573.46	280.52	2,039.98	630.04	457.98
-2^{LL}	13,587.21	4,563.60	1,507.20	15,715.50	5,605.33	2,648.53
R^2 de Nagelkerke	0.117	0.121	0.160	0.146	0.111	0.151
N	28,171	26,585	37,357	30,874	28,944	54,696

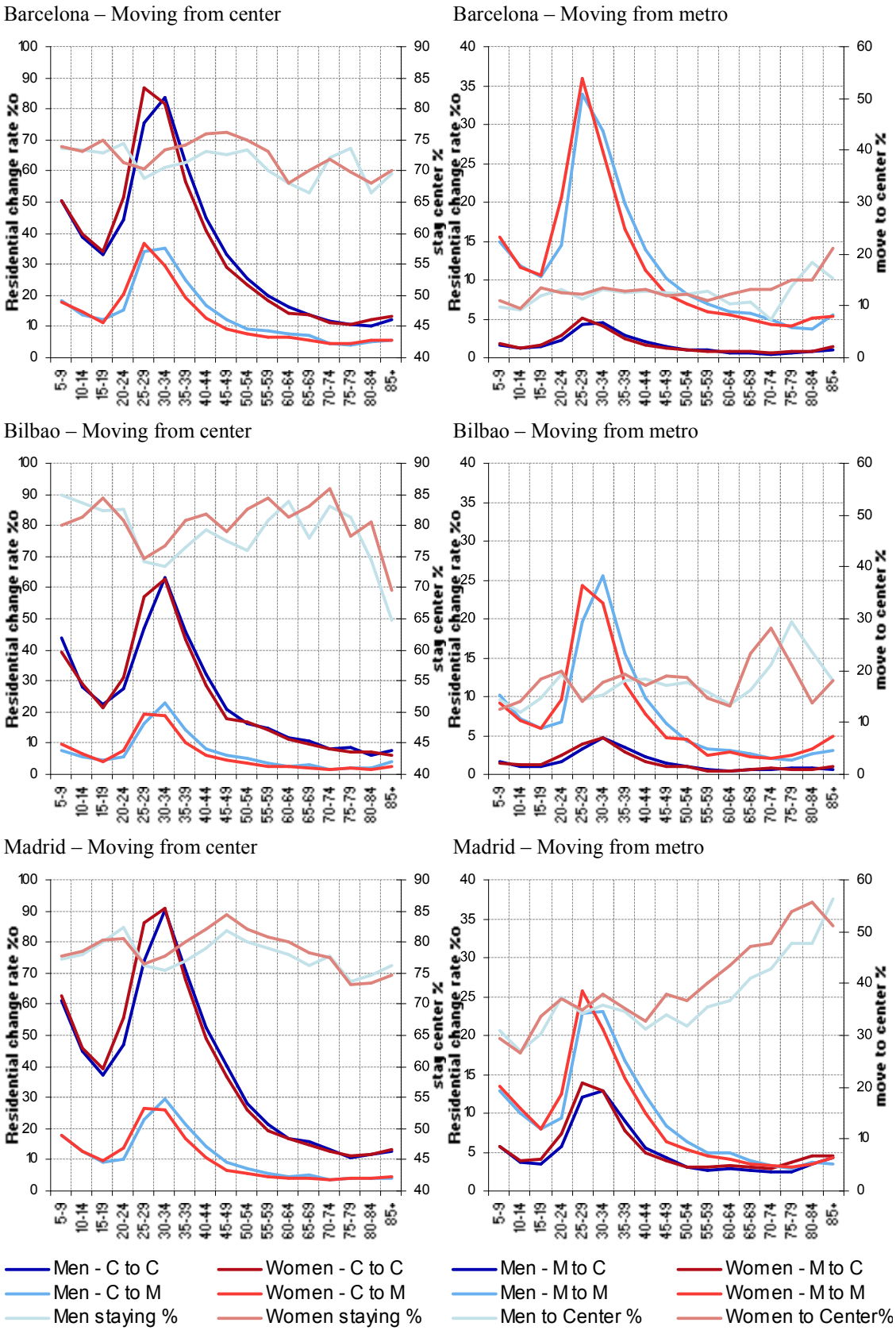
Source: National Statistical Institute of Spain. Census 2001. Significance: ***p<0.001; **p<0.01; *p<0.05; - p>0.05.

Table 7.- Odds ratio of the logistic regression models. Metropolitan Area of Bilbao with 3 types of movement

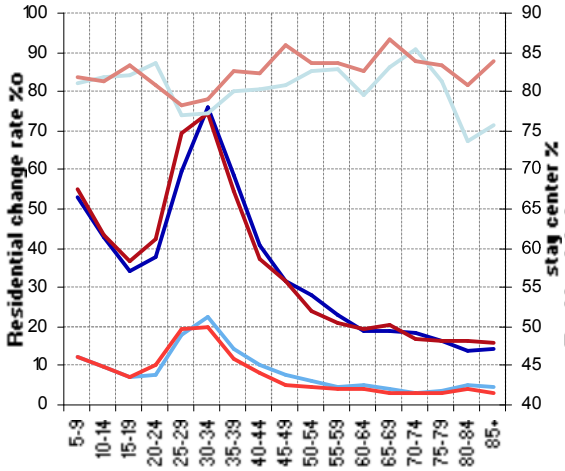
	BILBAO		
	Center to Center	**Center to Metro**	**Metro to Center**
Sex			
Male	- -	- -	- -
Female	0.923-	1.027-	0.839-
Age			
16-24	0.994-	0.601-	0.610-
25-34	- -	- -	- -
35-49	0.485***	0.404***	0.414***
50-64	0.249***	0.189***	0.066***
65+	0.124***	0.060***	0.048***
Nationality and Place of birth			
Spanish citizen and born in the central city	- -	- -	- -
Spanish citizen and born somewhere else	1.036-	1.060-	1.711*
EU + OECD	0.000-	8.426***	0.000-
Other foreign citizens	5.384***	1.806-	6.455***
Marital status			
Single / Not Married	0.636***	0.651*	0.622-
Married	- -	- -	- -
Separated or divorced	1.334-	1.103-	1.932-
Widow	1.375-	1.523-	2.080-
Educational attainment			
Primary completed or less than primary	0.828-	0.437**	1.360-
Secondary completed	- -	- -	- -
University completed	1.182-	1.390-	2.189**
Socioeconomic status and economic activity			
Businessmen/women, heads, managers and higher administrators	1.192-	1.627-	1.820-
Professionals and technical experts (self and not self-employed)	1.022-	0.933-	1.417-
Others at the administration, commerce and services	- -	- -	- -
Workers	0.994-	1.305-	1.156-
Unemployed	0.816-	0.739-	1.896-
Inactive	0.611***	0.899-	0.974-
Ownership? (at destination)			
Yes	- -	- -	- -
No	2.646***	1.473*	2.576***
Type of household (at destination)			
One person hh	4.596***	6.445***	5.200***
Couples no children	3.615***	6.860***	6.309***
Couples with children	- -	- -	- -
Single parent hh	0.709-	0.799-	0.414-
Extended families	2.445***	3.348***	2.537**
No family forms	1.665*	4.610***	8.123***
Constant	-2.588	-4.097	-6.184
X^2	908.19	336.71	229.75
-2^{LL}	5,269.80	1,848.31	1,231.84
R^2 de Nagelkerke	0.174	0.164	0.160
N	15,007	14,428	31,128

Source: National Statistical Institute of Spain. Census 2001. Significance: ***p<0.001; **p<0.01; *p<0.05; - p>0.05.

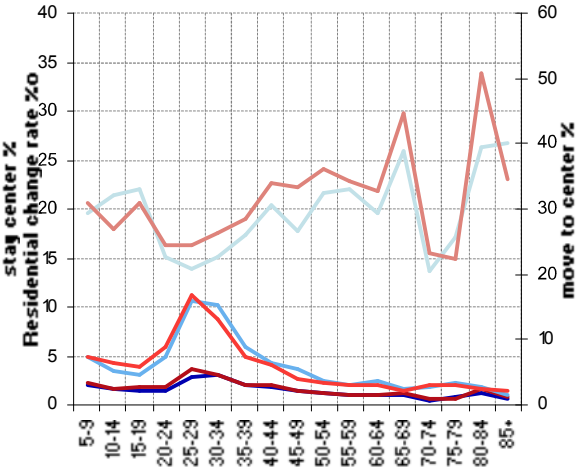
Figure 1.- Residential change rates (‰) and proportion of individuals staying or moving into the city center by sex, age type of movement and metropolitan area



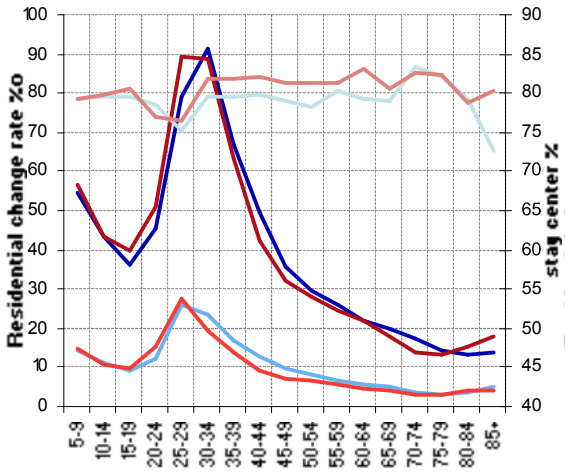
Sevilla – Moving from center



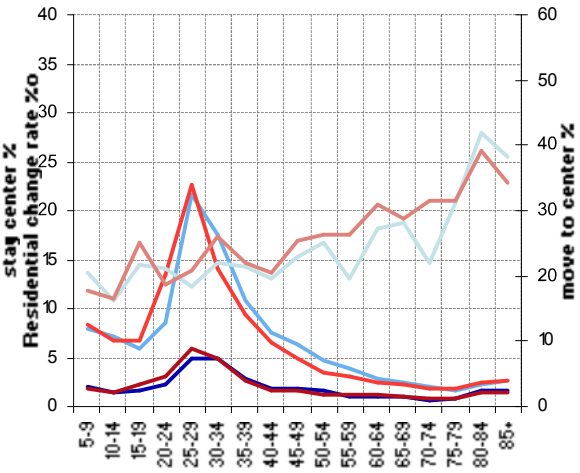
Sevilla – Moving from metro

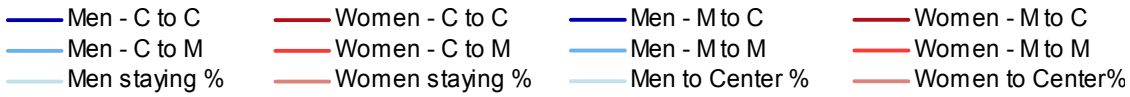


Valencia – Moving from center



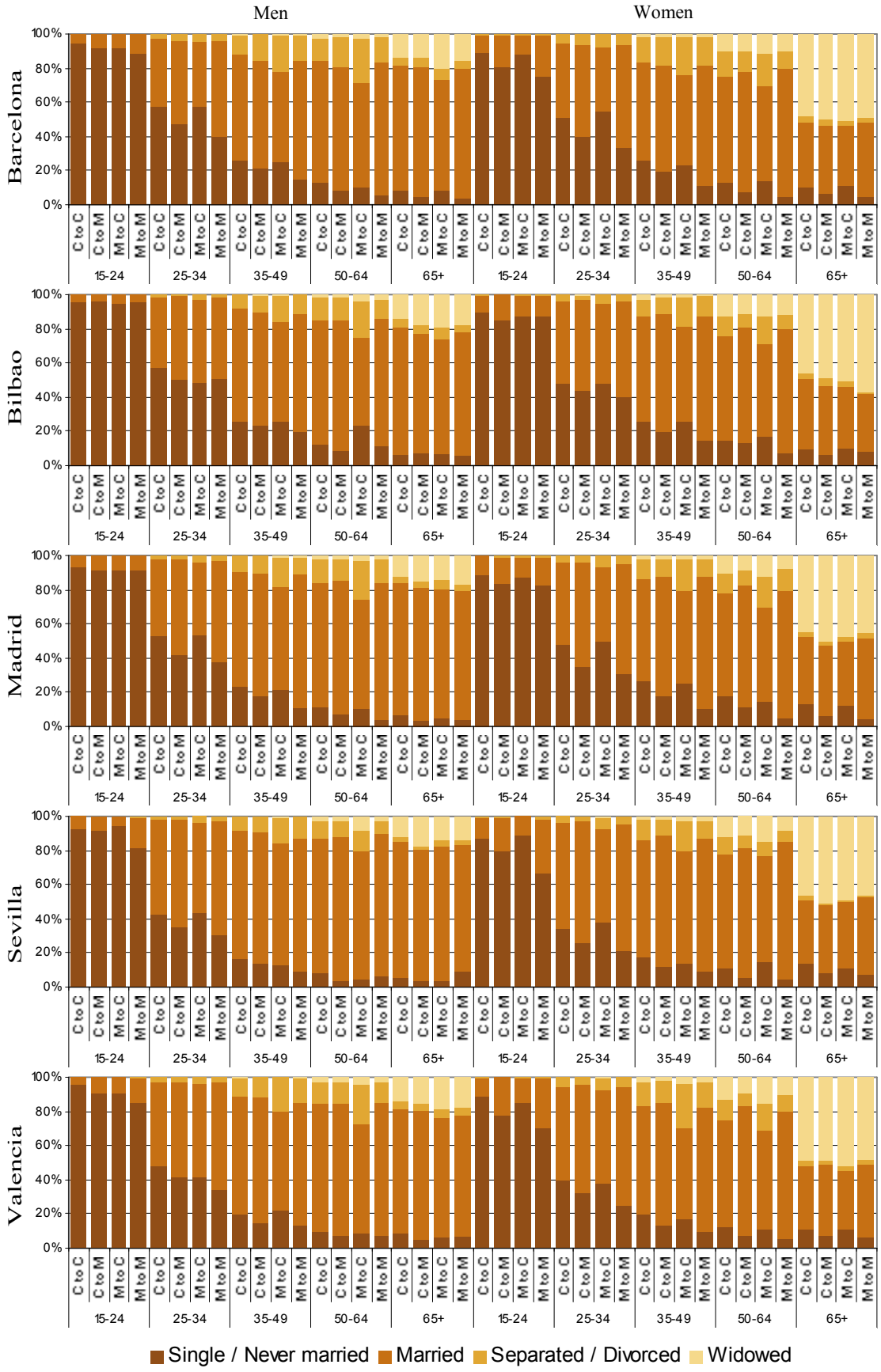
Valencia – Moving from metro





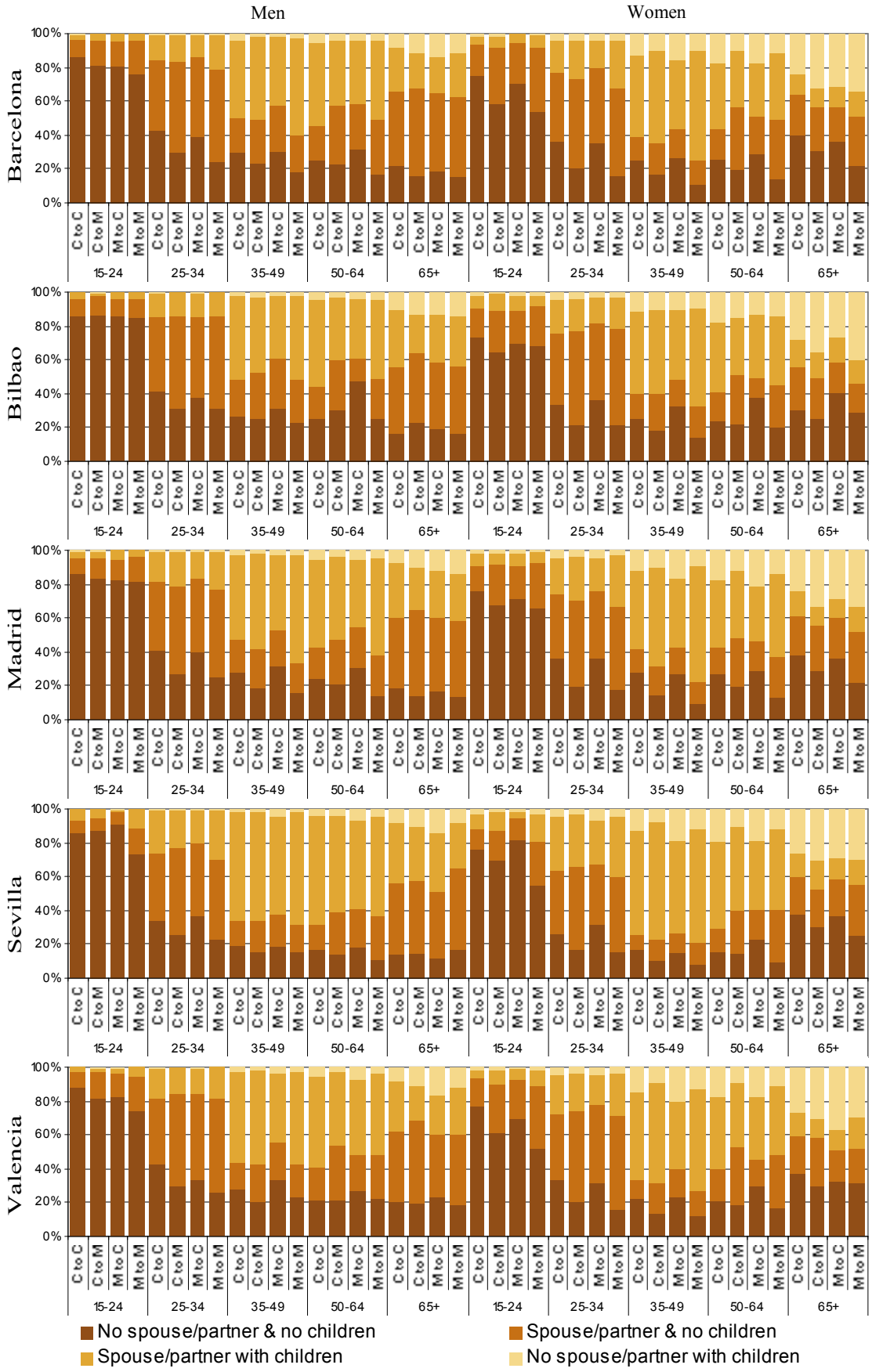
Source: National Statistical Institute of Spain. Census 2001.

Figure 2.- Marital status by metro area sex, age and type of movement



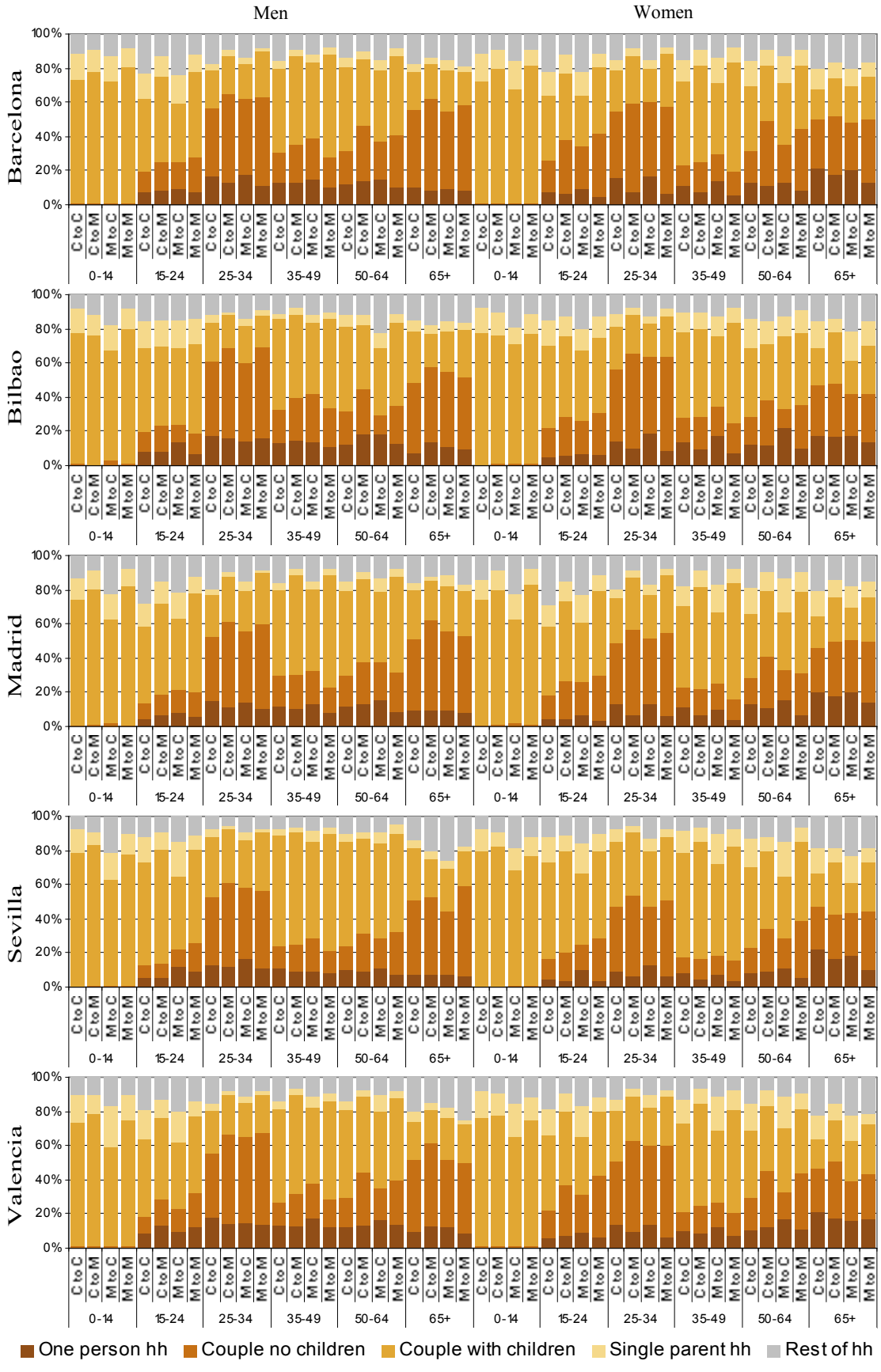
Source: National Statistical Institute of Spain. Census 2001.

Figure 3.- Form of cohabitation (at destination) by metro area sex, age and type of movement



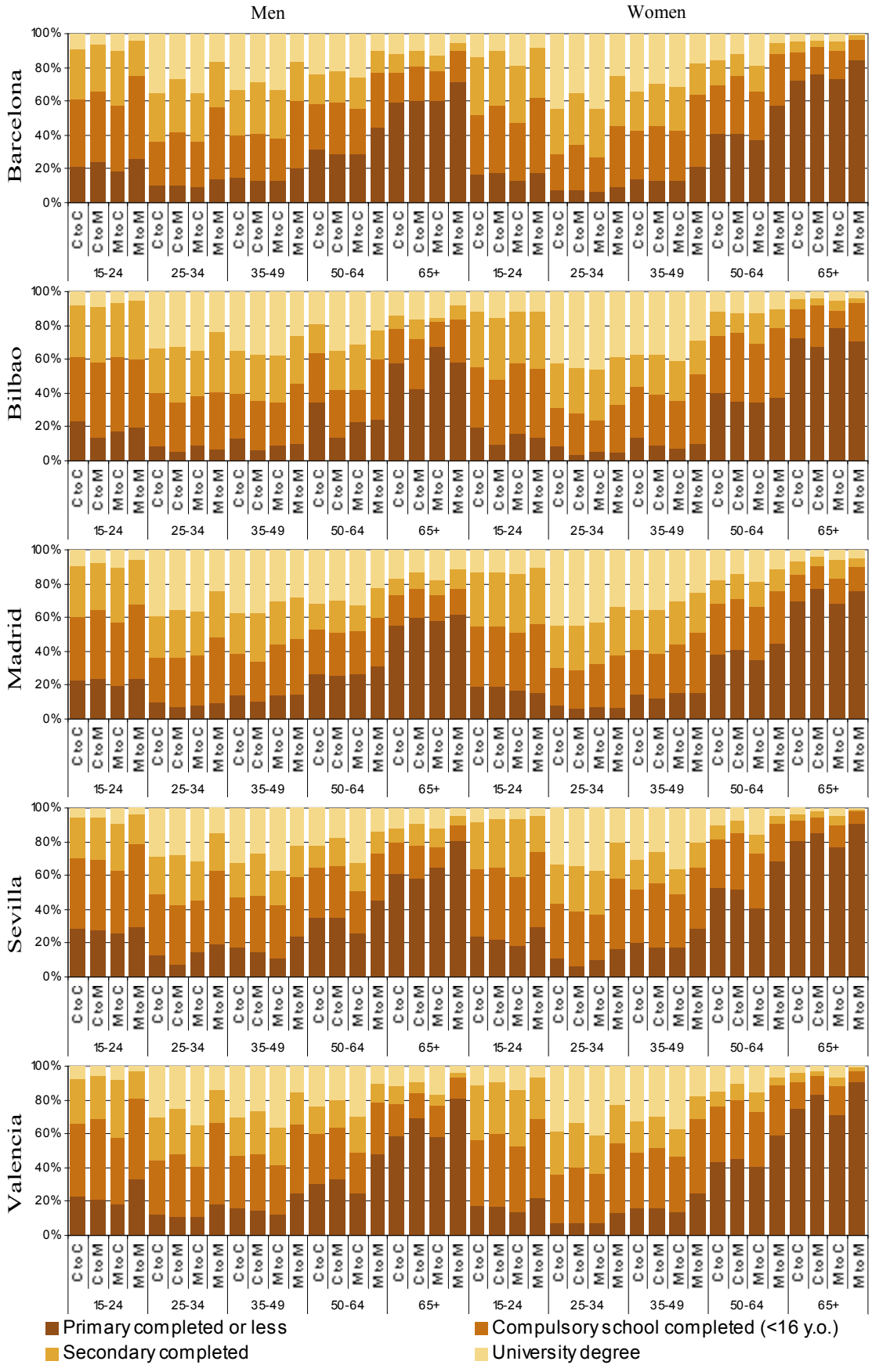
Source: National Statistical Institute of Spain. Census 2001.

Figure 4.- Household structure (at destination) by metro area sex, age and type of movement



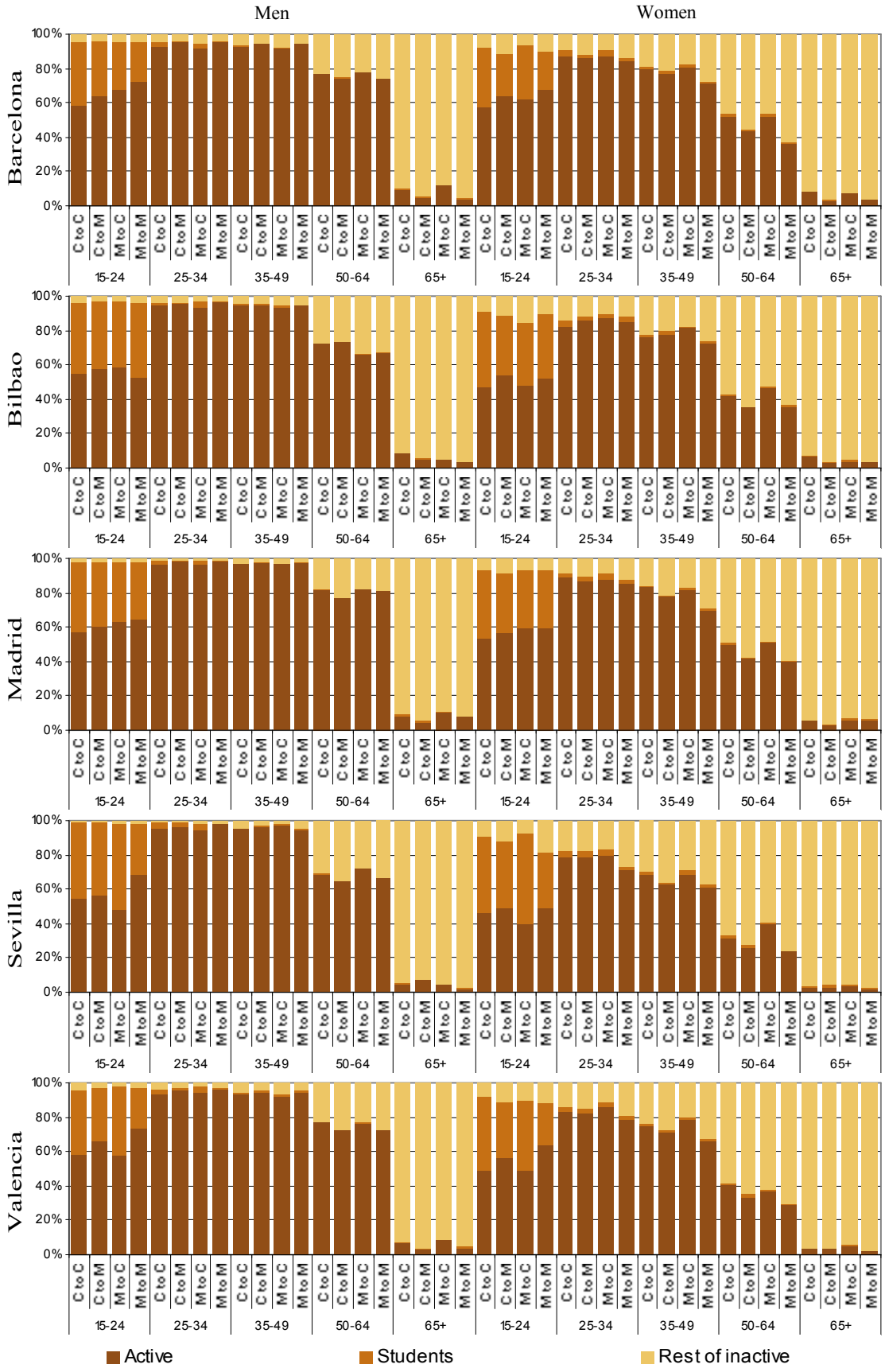
Source: National Statistical Institute of Spain. Census 2001.

Figure 5.- Educational attainment by metro area sex, age and type of movement



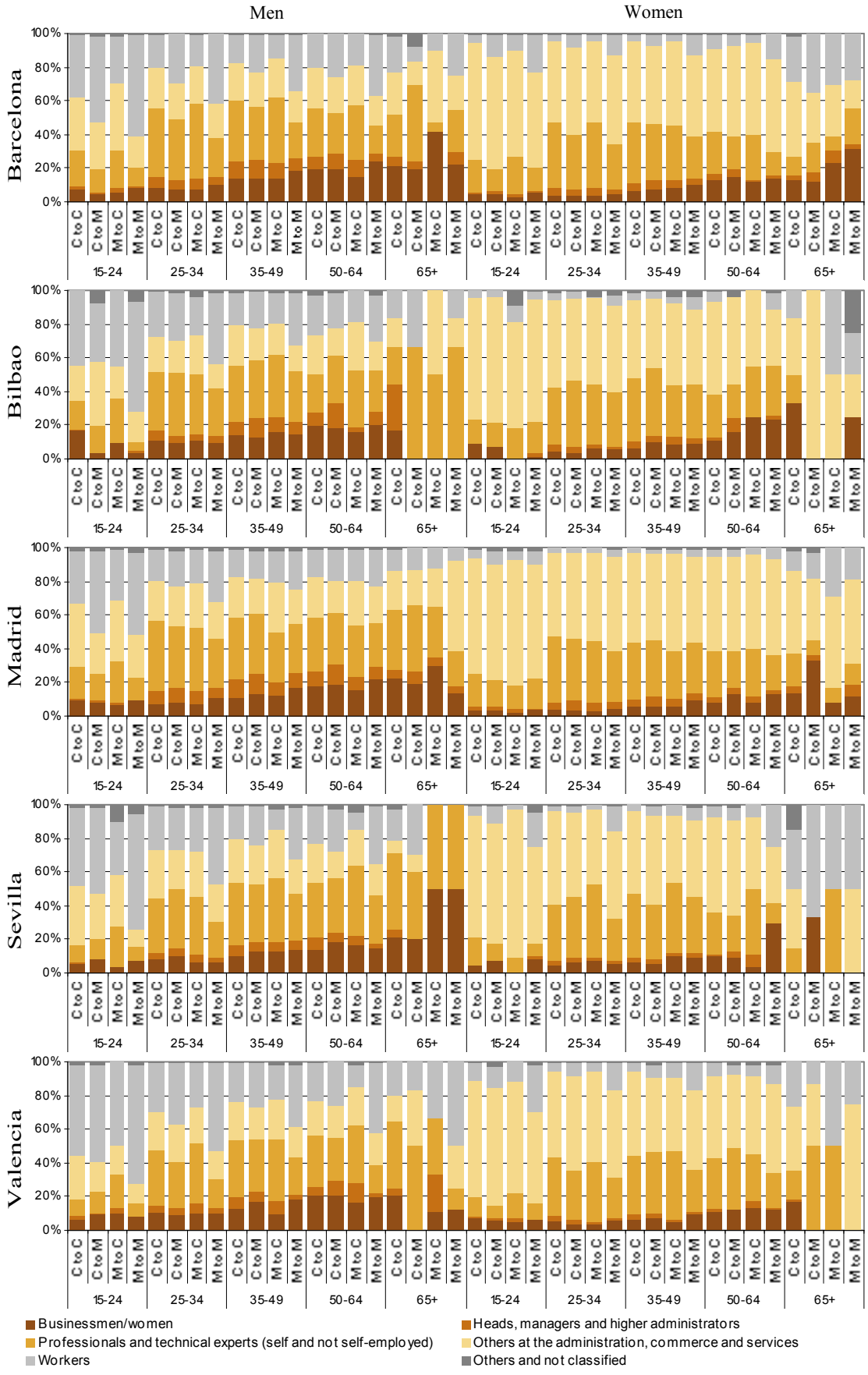
Source: National Statistical Institute of Spain. Census 2001.

Figure 6.- Economic activity by metro area sex, age and type of movement



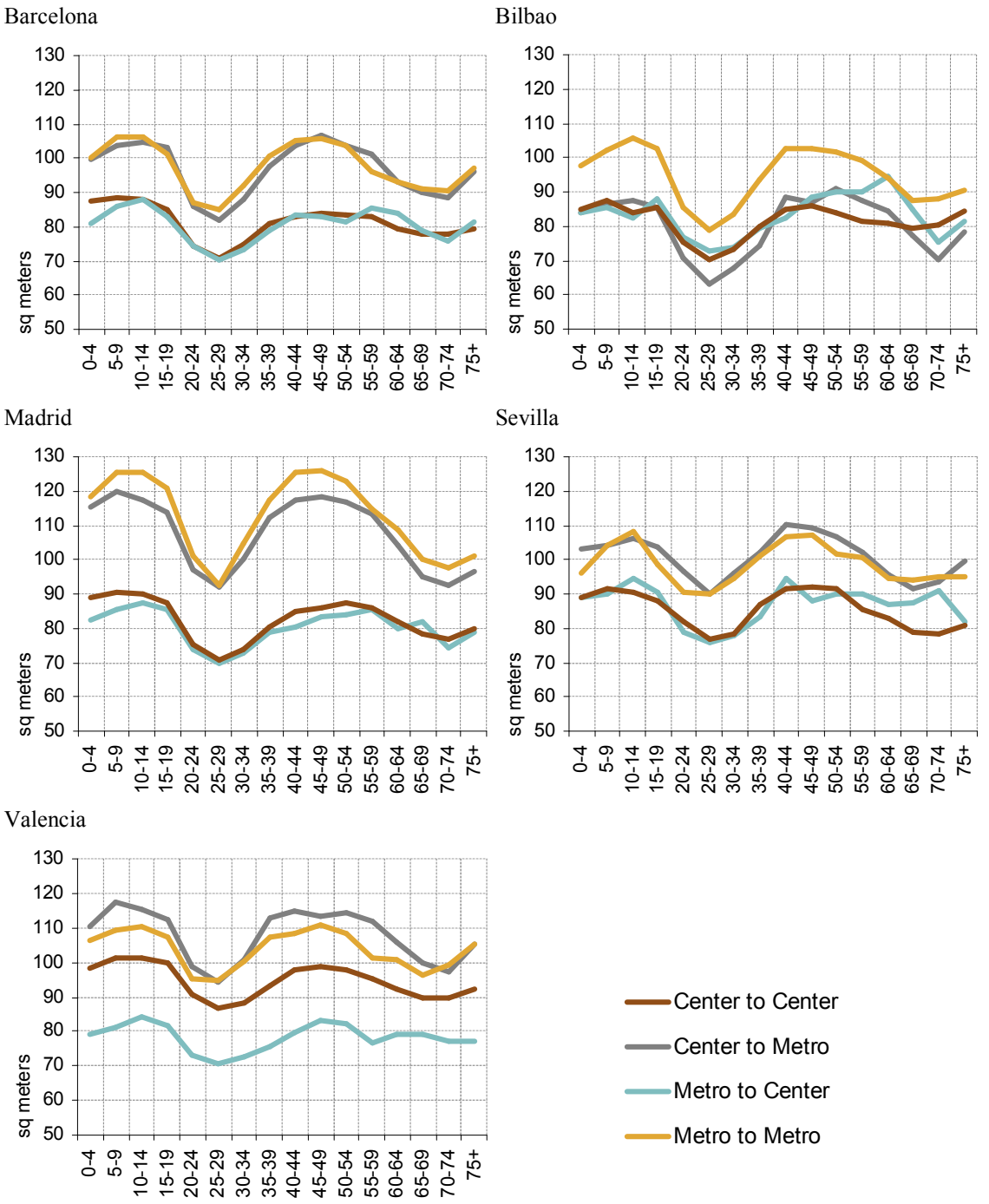
Source: National Statistical Institute of Spain. Census 2001.

Figure 7.- Socioeconomic characteristic (hh head) by metro area sex, age and type of movement



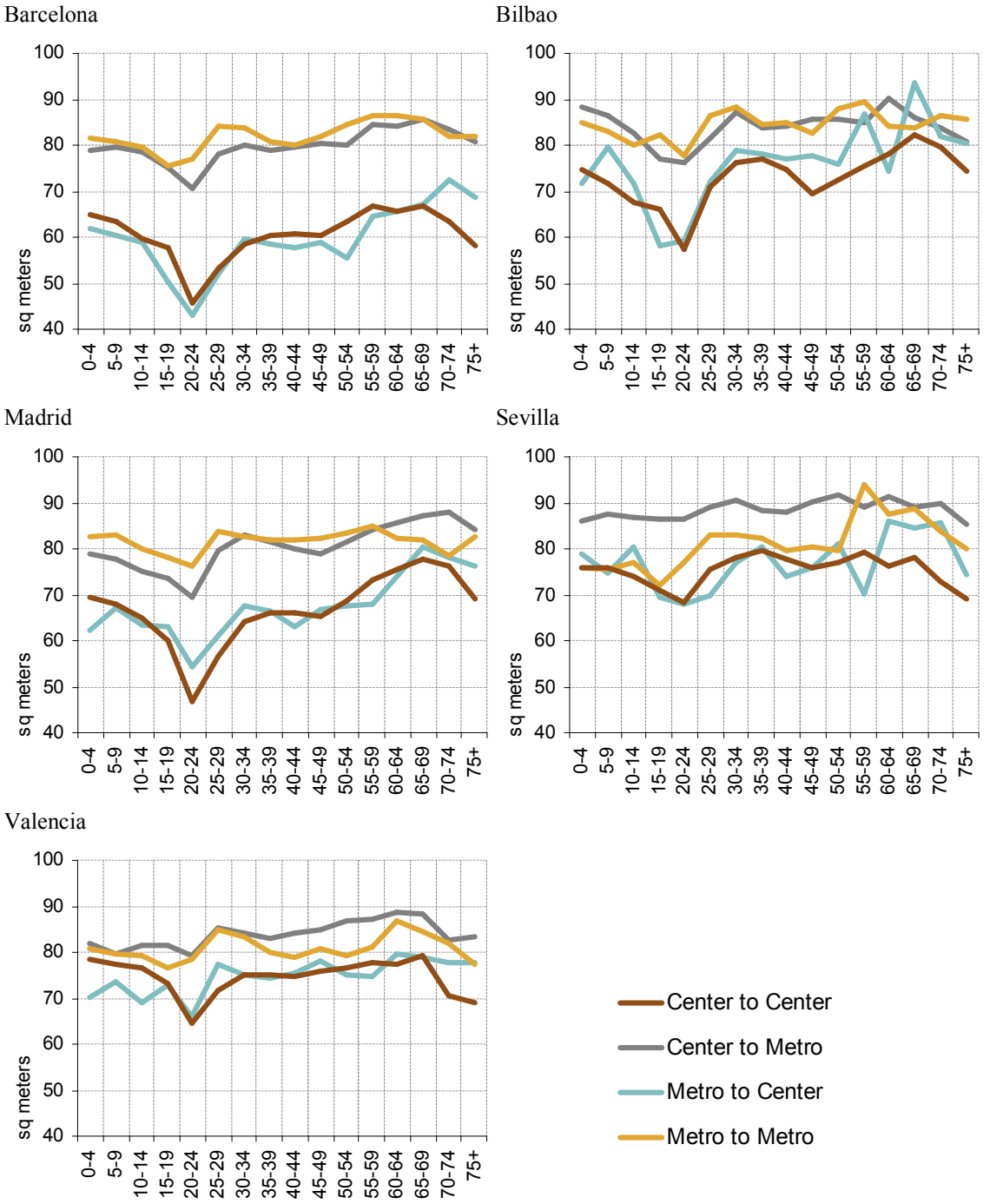
Source: National Statistical Institute of Spain. Census 2001.

Figure 8.- Size of dwellings (at destination) by metro area, age and type of movement



Source: National Statistical Institute of Spain. Census 2001.

Figure 9.- Ownership of the dwelling (at destination) by metro area, age and type of movement



Source: National Statistical Institute of Spain. Census 2001.