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# Understanding the effects of homeownership and regional unemployment levels on internal migration during the economic crisis in Spain

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# Understanding the effects of homeownership and regional unemployment levels on internal migration during the economic crisis in Spain

## Abstract

This paper aims to better understand the effects of homeownership and regional unemployment levels on inter-provincial migration during the recent economic crisis in Spain. We use rich individual level microdata from the last two Spanish censuses (2001-2011) to study migration. Our findings suggest that regional unemployment levels do not have a strong impact on internal migration in the period analysed. However, homeownership is a key explanatory factor of immobility, which became more important in 2011 compared to 2001. This immobility effect of homeownership is stronger in depressed regions, which suggests that some people may be trapped in their dwellings, or the security of homeownership becomes essential when the structural conditions are unfavourable.

**Keywords:** inter-provincial migration, economic recession, unemployment rate, homeownership.

## Introduction

Neoclassical economic theory predicts that people move from regions with high levels of unemployment to regions with low levels of unemployment (Greenwood, 1985; Pissarides and McMaster, 1990). The large neoclassical economic literature often takes into account both characteristics of regions of origin and destination, and shows evidence that generally speaking, people are indeed more likely to leave regions with distressed labour markets, and move to regions with more favourable labour markets (Fields, 1976; Bartel, 1978). However, there is also ample literature showing that the relationship between regional labour market characteristics and the spatial mobility decisions of households is complex. As already observed by Blau and Duncan (1967: 243) *‘Men do not flow from places of poor to places of good opportunity with the ease of water’*.

There are both micro-level restrictions and macro-level constraints, which stop households from responding to labour market opportunities elsewhere (Blau and Duncan (1967). A range of factors is taken into account in household moving decisions, including, for example, housing market conditions (Davies and Clark, 2006), commuting costs (van Ham and Hooimeijer, 2009), local amenities (Chen and Rosenthal, 2008), and local ties to friends and family (Mulder and Cooke, 2009). Possibly one of the most important factors influencing spatial mobility decisions is homeownership. Homeowners are often found to be less likely to move than renters because of both economic (García-Lamarca and Kaika, 2016) and non-economic factors (DaVanzo, 1981). Owning a house is clearly connected to immobility.

This paper aims to better understand internal migration of households in Spain in the 2001-2011 period by taking into account both structural factors (the labour market), and micro-level factors such the housing status of households, as both are playing a role in the (im)mobility behaviour of households. The Spanish labour market is characterised by very large regional differences in unemployment levels, but from 2008

unemployment rates have increased in the whole Spanish territory. For the most depressed regions, this increase has led to a very high and persistent level of regional unemployment. Spain is also a country which is characterised by a very high percentage of homeownership. Decades of Spanish housing market policies stimulating homeownership, and an almost complete absence of a rental sector in many places, have led to a housing market which is dominated by the owner-occupied sector. The resulting homeownership culture has been identified as a major factor in understanding persistently low spatial mobility rates in the last decades in Spain (Leal, 2010). However, as Cresswell (2006) noted, the relationship between macro and micro level factors and migration is not independent from space and time, from where and when decisions are made. So the effects of regional employment levels and homeownership might be different for different regions and in different periods.

Although several studies have investigated the effect of the global financial crisis on the housing market status of households in Spain (Módenes and López-Colás, 2014; Moreno, 2016), we know little about the effects of the crisis on internal migration patterns. We know even less about how the effects of regional unemployment levels and homeownership on migration decisions could change over time. From this perspective, this paper has two main objectives. The first is to better understand to what extent regional unemployment and homeownership are connected with internal migration decisions before and during the crisis. But as stated above, we are also interested in the interactions between structural factors and household characteristics. A high regional level of unemployment might lead to migration, but people in depressed areas may also stay put because they depend more on informal (family) networks and the security of living in their own home. In a severe economic crisis this effect might even be stronger. Therefore, our second objective is to understand better to what extent the effect of homeownership changes over time (before and after the crisis) in the most and least depressed regions (in terms of levels of unemployment).

These questions are highly policy relevant in a country that is so dominated by homeownership. Especially in times of crisis it is important that the labour force is spatially mobile, both from the perspective of optimal matching of vacancies and workers, and from the perspective of the social mobility of individual workers. More insight into the effects of homeownership on migration over space and time will help to develop policies which take into account the interdependencies of the housing and the labour market. This paper uses rich individual level microdata from the last two Spanish censuses. The 2001 census took place during a period of economic boom, and the 2011 census took place during the global economic crisis.

## **Literature review**

### ***Labour markets, regional unemployment and mobility***

There is a large literature on the relationship between labour markets and the spatial mobility of workers (Harris and Todaro, 1970; Fields, 1976; Bartel, 1978). Both studies which investigate migration flows (García-Coll and Stillwell, 1999), and studies which investigate individual behaviour (DaVanzo, 1978; Ballard and Clark, 1981), show strong evidence that generally speaking people move in the direction of employment opportunities as places of opportunity benefit individual labour careers and social mobility. Van Ham et al. (2001) stated that in this respect spatial mobility can be understood as an instrument which helps workers to benefit from employment

opportunities elsewhere. Migration is also instrumental in leaving situations of economic dependency in more vulnerable labour markets (Antolín and Bover, 1993).

The regional unemployment rate is the most important indicator of labour market performance. Classical economic theory of internal migration predicts that people are most likely to leave regions with high levels of unemployment as these regions offer few opportunities to (re)enter the labour market and to experience upward occupational mobility (Greenwood, 1985; Pissarides and McMaster, 1990). Although the leading perspective is economic, the logic behind the migration behaviour of people can also be understood from a sociological perspective: people move spatially with the aim to also move socially. However, the assumption that high regional unemployment levels *lead* to higher levels of spatial mobility is also criticized (see Clark, 1982 for an extended overview). Several authors have pointed at methodological issues as studies of migration flows and micro behavioural studies sometimes lead to contradictory outcomes (McCormick, 1997). Others have argued that other measures than regional (labour) market performance may be more suitable to understand migration behaviour (Elhorst, 2003). There is now a growing literature highlighting the complexity of the relationship between labour market characteristics, labour careers and migration (Dahl et al., 2010; van Ham et al., 2012).

As explained by DaVanzo (1978), people move home with the expectation to do better after the move compared to before the move. In the decision making process, besides economic costs and benefits, also non-economic factors are taken into account. People might decide to stay in a region with high unemployment levels because the overall quality of life is good. The amenity perspective (Chen and Rosenthal, 2008; Niedomysl and Clark, 2014) has pointed out that quality of life, regional specific characteristics such as the climate (Rappaport, 2007) or the social/public services available (Graves, 1976), or the low costs of living (Cebula, 1979), can all compensate for a poorly performing labour market. Also the geography of social capital plays a role regarding the attractiveness of a place: social and family ties have been mentioned as important reasons to stay put in a region with a high level of unemployment (Mulder and Cooke, 2009; Mulder and Malmberg, 2014; Bähr and Abraham, 2016). Therefore, the relationship between regional unemployment and migration is not linear and is moderated by social and spatial factors.

### ***Residential ties, homeownership and immobility***

When a household thinks about a potential move, a range of factors is taken into account. As we already pointed out, labour market conditions, local amenities or local ties to friends and family are all likely to play a role. But one of the factors most associated to immobility is homeownership. With regard to internal migration, being a homeowner can reduce the benefits of accepting a job elsewhere. Van Ham and Hooimeijer (2009) found for The Netherlands that homeowners are more likely to accept a long commute than to migrate over a longer distance. The role of homeownership in mobility decisions varies by household status (Mulder, 2006), the state of the local housing market (Helderman et al., 2004; Davies and Clark, 2006), and the political context (Ronald, 2008), but in general, homeowners move less than renters.

Homeownership implies certain residential compromises in social and economic terms compared to renting. Both the economic and non-economic costs of moving are higher for homeowners than for renters; for instance, all the costs associated with selling and buying a home, such as notarial costs and estate agent fees, but also costs related to re-decorating a new dwelling (Quigley, 2002). In the short term, such immediate costs associated with moving home, make homeowners less likely to move soon again than renters. Also long term commitments to mortgage lenders have a

negative effect on mobility. This is especially the case in areas where house prices have dropped (Cabr e and M denes, 2004) as people are likely to experience negative equity because their mortgage is higher than the value of their home. Homeowners also socially invest more in their place of residence than renters (DiPasquale and Glaeser, 1999), and they accumulate more local social capital, which reduces the likelihood of moving (DaVanzo, 1981). Also having local family ties (Mulder and Cooke, 2009; Mulder and Malmberg, 2014) or local knowledge (Fisher and Malmberg, 2001) are factors related to homeownership which make people relatively immobile.

However, the role and meaning of homeownership and its immobilizing powers are likely to vary by household composition. For lower social classes, with less financial resources, less economic security and more dependency on local family support (Campbell et al., 1986), moving from their “safe zone” might be socially and economically expensive (B hr and Abraham, 2016). Therefore, it can be hypothesized that the effects of homeownership on mobility are stronger where and when structural constraints are stronger.

### ***(Im)mobility, regional unemployment and homeownership in the current Spanish context***

Compared with other European countries, Spanish mobility rates have been persistently lower in the last century (M denes, 2004). However, the evolution of internal migration rates in the last 80 years shows a U-shape: the rates grew in the decades after the Civil War and peaked in the 1960s, then they dropped in the following two decades, and were rising again from the 1990s (Susino, 2004). This more recent increase is associated with a strong economic growth and expansion of urban regions all over the Spanish territory with both strong temporal and geographic variations regarding patterns and the direction of migration flows (Garc a-Coll and Stillwell, 1999). However, despite the more recent increase in internal migration, close to 95% of the population had not moved in the last censuses compared to the previous year (see Table 1). This implies that Spain is a country of stayers. There are several factors influencing the relative immobility of the Spanish population; such as a labour market which is geographically divided by economic sector, such as agriculture and industry (Jimeno and Bentolila, 1998); or a strong attachment to the region of birth for many people (Reher, 1998). But the most important factor is the culture of homeownership (Leal, 2010). Spanish housing market policies since the 1950s have strongly focused on promoting homeownership. In 2011, more than 83% of the population was a homeowner (see Figure 1).

We know from the literature that the global financial crisis had a major impact on the Spanish housing market, and the housing careers of households (M denes and L pez-Col s, 2014). In 2011, when housing prices were still high and the labour market was increasingly getting instable, the housing markets and the productive sector of construction collapsed. Although there have been several studies of the effects of the crisis on housing and labour markets, there has not been any detailed study on the relationships between homeownership, regional unemployment levels and internal migration, and the interconnections between these factors. For this current study two relationships are particularly important.

The first is the relationship between *regional unemployment rates and internal migration*. In the past, the Spanish literature shows contradictory results regarding the role of regional unemployment in understanding migration (Antol n and Bover, 1993). But during the economic crisis unemployment levels have increased everywhere, and especially in some regions such as Andalusia and Extremadura (Figure 1). So although in the past the relationship between regional levels of unemployment and migration was

not clear, the impossibility for many to find a job locally might lead them to look for opportunities elsewhere in the country during the crisis. On the other hand, as Morrison and Clark (2011) point out, the structural changes in the national labour market could be seen as a reason to stay put as job opportunities are perceived to be poor everywhere.

The second is the relationship between *homeownership and internal migration*. Spanish researchers have pointed out that the increase in mobility in the recent past (1996-2008) is a consequence of the decreasing effects of homeownership on residential moves (Módenes and López-Colás, 2014). It was found that onward moves, from ownership to ownership, have become more common as the dynamic Spanish housing market in the economic growth period made it possible to invest in a new dwelling while selling the old dwelling quickly. But as Helderman et al. (2004) highlighted, the meaning and utility of homeownership changes through the economic cycles; during an economic crisis homeownership is mainly a factor that causes people to stay put. Therefore, in the Spanish context of the economic crisis, the security role of homeownership (Hiscock et al., 2001), or the negative equity of many homeowners (Ferreira et al., 2010) could be major factors in explaining immobility. Moreover, due to social differences in need/support (Campbell et al., 1986), homeownership could also be a major factor in explaining immobility in disadvantaged regions where the economic and labour market consequences of the recession have impacted hardest.

## **Data and methods**

### ***Data and sample***

For our analysis, we used the individual level microdata of the two last Spanish Censuses (2001-2011). The 2001 microdata is a 5% sample of the whole population in 2001 and was obtained by simple random sampling methods. The 2011 microdata is a 10% sample of the whole population in 2011 and was obtained using a sampling method with weights based on the size of localities. As a result of this sampling method, the rural population is overrepresented if the weights are not applied. Therefore, we ran our models using proportional weights as provided by the Spanish Institute of Statistics.

As we analyse migration between the census year and the year before for each census (2000-2001; 2010-2011), we have made a number of selections on the two census micro datasets. We have removed: (i) individuals who are 28 years old or younger and still living with their parents at Census date as they do not form independent households. Young people who lived with their parents one year before the census and who have moved to form an independent household during the study period are included in our sample; (ii) immigrants who moved to Spain in the year before the census as they were not at risk of moving within Spain compared to one year ago; (iii) residents of Ceuta y Melilla, which are specific Spanish enclaves in North Africa and which are not provinces but autonomous municipalities in the administrative geography of Spain. After these selections, our final sample consisted of 1.364.960 inhabitants in 2001 and 2.953.774 inhabitants in 2011.

### ***Variables***

The dependent variable measures interprovincial migration. With Spanish data, we can only capture mobility between large administrative geographical units. Censuses provide data at the municipality level (but only when the municipality population is higher than 20.000 inhabitants); the level of provinces (50 in total); and the level of autonomous communities within which the provinces are located (17 CCAA in total). Information on metropolitan regions, which would be an ideal spatial unit to distinguish migration from residential mobility is missing. As a result we focus on migration between provinces as a proxy for internal long-distance migration (Susino, 2011).

We determined whether a move took place in the year before the census by using two questions: *Where was your last place of residence?* and *When did you move to your current dwelling?* Based on these questions we were able to determine both origin and destination of movers in the year before each census. It is important to note that the way in which the arrival date to the current dwelling was registered is different in the 2001 and 2011 census. In the 2001 Census, every person living in the same household was assigned the same arrival date: the year of the first person who inhabited the dwelling. In 2011, the arrival date is not a household variable but an individual level variable. Although using individual level information is the most accurate way to register moves, we have recoded this information using the 2001 method for comparability reasons. It is also important to note that for the logit regression models we took into account the population at risk of migration one year before the censuses. Hence, the internal migration dummy is coded as 0 for stayers in the same dwelling and 1 for those who left their province and moved to a different province, excluding those who moved inside the same province (see Appendices/Table A.1 for totals).

One of the main independent variables in our models is the provincial unemployment level (at the province of origin). We have used lagged unemployment rates -one year before each census- to avoid endogeneity issues and to obtain correct estimates based on the characteristics of the place of residence where people lived before the last move. We obtained data from the *Encuesta de Población Activa*<sup>3</sup>. Census dates differ between the two years (November in 2011 and April in 2001), but we use the yearly average unemployment rate in 2000 and 2010 (one year before census date). In our models, the resulting unemployment variable was centered using the national mean in each year.

The second main independent variable is homeownership and it is measured at the individual level. The category of homeowners consists of *outright owners* (who fully own their dwelling), and *homeowners with a mortgage*. The other two housing tenure categories are *renters* and *other type* (not owning or renting). As with all studies using cross-sectional census data, information on many socio-demographic and household variables, including homeownership, are based on the place of residence at the time of the census. Although census questionnaires often include questions on the last place of residence, no other information on this last place of residence has been collected. This is an artefact of census data in most European countries. As a result, the models of mobility are slightly biased with regard to the effect of housing tenure on mobility and it is important to keep this shortcoming of the data in mind when interpreting the results of the regression models. Some of the homeowners after the move were renters before their move and the other way around, but the census does not include information on housing tenure before the move. Each type of housing exchange is associated with life course triggers, such as forming and dissolving a marital engagement (Mulder, 1993). Hence, we know the age groups which are most likely to be affected by this census artefact. Fortunately we know from the literature that most moves occur within the same housing tenure (Clark and Dieleman, 1996). Moreover, with the rise of homeownership as the main housing tenure in modern societies (Ronald, 2008) most moves occur within homeownership. This is especially true in Spain, where there has been an increase of movements ‘from ownership to ownership’ during the last decades (Módenes and López-Colás, 2014).

We also included in the models control variables which are briefly described in Table A.1 (in the appendix). All of the control variables refer to the individual and

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<sup>3</sup> Rotational Panel Survey conducted by the Spanish Institute of Statistics four times per year, using a sample of 65.000 households.

household level, except for the provincial house prices, which like the regional unemployment rate is lagged. The data has been extracted from the Ministerio de Fomento (houses prices statistics). To ensure robust models, we checked for multicollinearity problems using the variance inflation factor test –the VIF – and we checked for specification problems of independent variables.

### ***Analytical strategy***

We first provide descriptive analyses to show the inter-census changes in unemployment rate, percentage of homeowners, and types of mobility. For the first objective of better understanding the changing effects of the regional unemployment rate and homeownership on internal migration, we pooled into one database the individual records of both censuses and we ran two logistic regression models. In the first model we included all our independent variables and the census year as a dummy (0=2001/1= 2011) to investigate changes in migration over time. To further investigate the direction and intensity of changes, we included several interaction terms with census year in the second model: (i) census year\*unemployment level at origin and (ii) census year\*housing tenure at the year of the census.

For each model we provide measures of the model fit and we have checked the consistency of the models calculating coefficients as well as odd ratios (we show OR). Because the provincial unemployment variable is a higher level variable (there are multiple individuals in each province in our dataset) we have used the cluster option in Stata to correct the standard errors by provinces. Hence, we allow for intragroup correlation and control for over/under estimating probabilities of provincial indexes.

We also calculated migration matrixes between quintiles in 2001 and 2011 using provinces categorized by their unemployment level quintiles. To make these matrices we only took into account interprovincial movers. For the analyses of the matrices we have used two common measures used in income and social mobility studies but rarely used for the study of socio-spatial mobility: Shorrocks Index of mobility rigidity (1978), based on the analysis of the matrix diagonal; and Bartholomew's Index (1973) to analyse movements between quintiles (moves up and down).

To better understand the interactions between homeownership, unemployment level and census year on migration moves, we calculated the average marginal effect (AME's) of being a homeowner (ref: renters) in 2001 and 2011 over the five unemployment rates quintiles. As homeownership is an immobility factor, the AME's have been calculated over the probability to stay.

## **Results**

### ***Changes in homeownership, unemployment levels and mobility***

Between 2001 and 2011, homeownership remained the tenure of choice for most households and in all regions (Figure 1). In 2011 the percentage of homeownership was over 72% in all provinces and still growing in many of them (although only slightly). Although the Spanish rental market is still small, recent studies are showing evidence of an increasing role of the rental market in Spain (Módenes and López-Colás, 2014). Renting is especially popular with mobile groups such as young professionals, university students and international migrants. Especially larger metropolitan regions, which have been receiving a high inflow of these mobile groups during the first decade of the century, have experienced a growing importance of the rental market.

In almost all Spanish provinces unemployment levels have risen dramatically as a consequence of the economic recession. The map in Figure 1 shows that despite overall increases in unemployment, the geographical distribution of vulnerable labour



markets is clearly reproducing the historical differences between provinces and regions. The southern Spanish regions of Andalucía and Extremadura have been much harder hit by the economic crisis than other regions as their labour markets already underperformed in 2001 which was a period of economic boom.

This brief description of both variables shows that homeownership and, above all, unemployment are not randomly distributed over the Spanish territory. Hence, housing and labour characteristics of Spanish regions must be taken into account to understand migration as there may be compositional effect.

\*\*\*Figure 1 about here\*\*\*

Table 1 gives more information on mobility rates by different types of mobility in both census years. Although the global financial crisis was not yet at its top in 2011, mobility rates were already dramatically lower compared with 2001 (from 4,95 to 2,61% of the population in our study); mobility had almost halved in the study period. But the largest drop can be seen for migration between provinces: the interprovincial mobility rate in 2011 is 79% lower than in 2001. As Recaño (2016) highlighted, this drop in mobility is especially pronounced within the group of foreigners, a group with specific migration patterns and which is less sensitive to labour markets changes than the natives.

\*\*\*Table 1 about here\*\*\*

Figure 2 shows the changes in (im)mobility between 2001 and 2011 by provinces. The overall drop in mobility, especially internal migration rates, shows that there are underlying general mechanisms related to the economic crisis. But the variation between provinces indicates that these regional differences are rooted in historical and cultural factors. For instance, the southern provinces where traditionally unemployment is highest, also show the greatest drop in all types of mobility, suggesting that longer exposure to economical vulnerability could be stopping people to leave these regions during a crisis, an argument which does not fit the neoclassical perspective on migration.

\*\*\*Figure 2 about here\*\*\*

### ***Models of internal migration***

Table 2 shows logit models of the probability of moving between provinces. The first model shows that homeowners are much less likely to have moved than renters, which is as expected, and associated with the higher costs (both monetary and non-monetary) of moving for homeowners compared to renters. Interestingly, the effect of the provincial unemployment rate is not significant. As expected, the effect of the census year dummy is large and negative (even larger than the effect of homeownership), indicating that in 2011 the probability to migrate was much lower than in 2001.

Model 2 includes various interaction effects with census year. We find that homeowners are much less likely to have moved between provinces in 2011 compared to 2001, while the main effects of homeownership and census year hold. Thus, the immobility effect of homeownership increased over time, and it is the key factor to understand why people stayed during the economic recession. On the other hand, we did not find an interaction effect between census year and the regional unemployment rate. This might be explained by the geographical distribution of non-skilled and skilled labour markets, or the fact that some economically vulnerable regions can still be

attractive to live in (amenities). Cultural and social factors may also play a relevant role. The Spanish population is likely to stay close to family networks (Reher, 1998). In times of increasing regional economic and social vulnerability, living close to these networks may outweigh the benefits of moving to a region with more employment opportunities.

The control variables for age, education, household composition and socioeconomic position of individuals show results already known in the internal migration literature. With increasing age people are less likely to move between provinces. Higher educated people are more likely to emigrate from their province than lower educated people and all the socioeconomic groups (except service workers) are less likely to move than those with a professional or managerial position. This clearly shows that internal migration is an important instrument for the higher social classes to adjust their labour market position. Families are less likely to move than couples without children and singles. In the models we find significant effects of region on the probability to move. Especially those living in the South-East, North-West, Catalunya and the Canary Islands are less likely than others to move to other provinces. The effect of regional house prices is remarkable: with increasing regional prices the probability to move decreases significantly. Although we do not know how this effect changed between 2001 and 2011, this finding suggests that structure and characteristics of housing markets and its effect on migration decisions merits further investigation.

\*\*\*Table 2 about here\*\*\*

To get more insight in the relationship between regional unemployment levels and internal migration, Table 3 shows matrices with inter-provincial migration for origin-destinations by unemployment rate quintiles for the years 2001 and 2011 respectively. For both years the regions in the fifth unemployment quintile (the highest unemployment levels) both send and receive migrants. So economic circumstances are not a simple explanation for the direction of mobility flows in 21<sup>st</sup> century Spain. There are however some noteworthy temporal effects that can be mentioned. The Shorrocks index show that socio-spatial immobility (mobility between the same quintiles, the diagonal) is more pronounced in 2011 than in 2001; implying that in 2011 people are more likely than in 2001 to move between similar distressed regions. The Bartholomew index also highlights an interesting fact; in 2001, mobility to regions with higher levels of unemployment was more important than mobility to regions with lower levels of unemployment, and in 2011 it was the other way around. So compared to 2001, in 2011 people who moved in the last year were more likely to move to regions with more employment opportunities. Hence, patterns of socio-spatial mobility are affected by the changing labour context, but it is not a linear association.

\*\*\*Table 3 about here\*\*\*

### ***Interactions of homeownership and local unemployment level between 2001 and 2011***

Our second research objective relates to the extent to which homeownership is connected to the regional unemployment level in explaining mobility decisions in 2001 and 2011. We have found some interesting evidence on their relationship and how it is changing during a period of crisis. Figure 3 shows the Average Marginal Effects (AME's) of the homeowners (compared to renters) probability to stay versus moving to another province over the five regional unemployment quintiles in 2001 and 2011 (Table of margins, SE, and interval of confidence are shown in the Appendices, Table

A.2). Figure 3 confirms the results from our previous analyses: being a homeowner is much more associated with the probability to stay in 2011 compared to 2001, in all quintiles of unemployment.

\*\*\*Figure 3 about here\*\*\*

It is worth noting that homeownership and regional unemployment have a clearer relationship in 2011 than in 2001. In 2011 homeowners are more likely to stay in regions with a higher level of unemployment. An exception are regions with the lowest levels of unemployment, as people are also relatively likely to stay in these regions. The otherwise increasing probability to stay in regions with higher levels of unemployment is probably connected with the economic vulnerability of people in these places. In areas with high levels of unemployment, some people are trapped in their owner-occupied dwellings because they cannot afford to move or to sell their dwelling, or they just stay because remaining into their “safe zone” gives more security when the regional context and the structural conditions are unfavourable.

## **Discussion and conclusions**

Like in other Western countries, the economic crisis in Spain has led to a major drop in spatial mobility, but as we showed in this study, the magnitude of the drop in interprovincial migration is especially pronounced. In 2011 staying put became the norm in Spain, although there are large differences between regions. The underlying mechanisms of the increase in the decision to stay, are clearly connected to the economic recession, but also have their roots in much earlier structural factors, especially the homeownership focused housing system.

Regarding our first research objective, we found that opposed to what is predicted by neoclassical economic theory, the regional unemployment rate does not play a more important role in understanding internal migration in 2011 compared to before the crisis. Also in 2011, the regional unemployment rate did not affect the probability to migrate. However, the matrix analysis still indicates a relationship between regional labour market vulnerabilities and migration. Compared to 2001, in 2011 people were more likely to stay put, but those who migrated, moved to regions with more favourable labour markets. But our findings suggest that recent patterns of internal migration in Spain, cannot be understood from a purely neoclassical economic logic. We already mentioned some possible explanations for this: the geography of the Spanish labour market (Polavieja, 2006); the attractiveness to live in some regions strongly impacted by rising unemployment (for example Andalucía); or it might be the case that because of high levels of unemployment in the whole of Spain, people do not perceive benefits of moving to other regions.

However, it could also be that people, in the decision to migrate or to stay, are taking into account much more than only labour market and economic factors. Preece (2017) highlighted in a recent study that in insecure labour markets, immobility could be more than a passive response; it might be a strategic and adaptive decision regarding structural constrictions. In vulnerable labour markets, staying close to social/family networks might be a crucial response to labour market insecurity. Thus, to better understand the underlying decision making processes, more targeted research is needed which investigates the impact of changing regional labour markets on (im)mobility using a variety of labour markets measures (such as labour market precariousness).

Another objective of this paper was to better understand the effect of homeownership on migration in Spain. As could be expected in a country of homeowners, we found that with increasing economic vulnerability, homeownership became an even more important factor in understanding internal migration than before the crisis. We already knew that homeowners are less likely to move than renters because owning a home is bonding people with places for a variety of reasons. But the fact that homeownership is much more relevant in a period of crisis, and in some regions with high levels of unemployment in 2011 compared to 2001, means that the role of homeownership is also connected to regional and contextual disadvantage. As shown in previous research, during the crisis especially the lower social classes were affected in both their housing and labour careers, and especially homeowners with a mortgage may have become trapped in their dwellings (García-Lamarca and Kaika, 2016). But homeownership could also function as a financial buffer in times of crisis, and as a resource when other resources are scarce. In concordance with the ideas expressed by Preece (2017), the ontological security that is provided by a home might be essential to face a changing insecure context. Thus in addition to new research in Spain that focusses on the rising importance of the rental market and rental preferences (Módenes and López-Colás, 2014), our findings suggest that more research is also needed on the effects of the changing context in the immobility response of “homeowners”, especially for vulnerable socio-economic groups and those with negative equity.

Traditionally, policies designed to combat unemployment have focussed on the labour market, and especially on creating jobs. And housing market policies have resulted in a system that is focused on homeownership. But our study shows important links between homeownership and structural regional labour market disadvantage, and this suggests that labour market policies should also take into account the housing market. In a country with persistently high levels of homeownership, stimulating the rental sector and promoting a rental housing policy might lead to more labour mobility. And mobility becomes especially relevant in a context where both housing and labour vulnerability increase.

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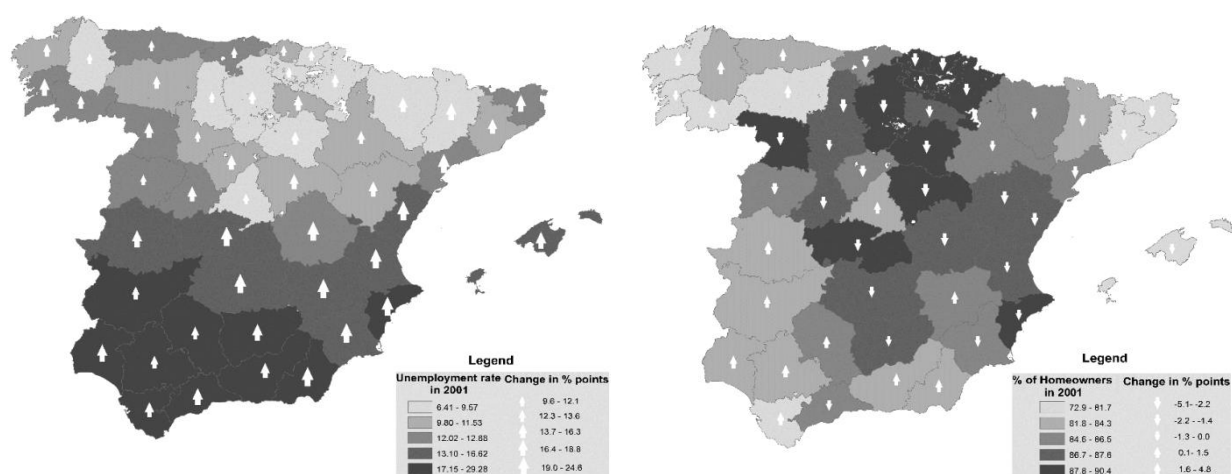
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## Tables and Figures

Figure 1. Unemployment rate and percentage of homeowners in 2001 and changes in % points between 2001 and 2011



Source: Spanish Census of Population, 2001 and 2011

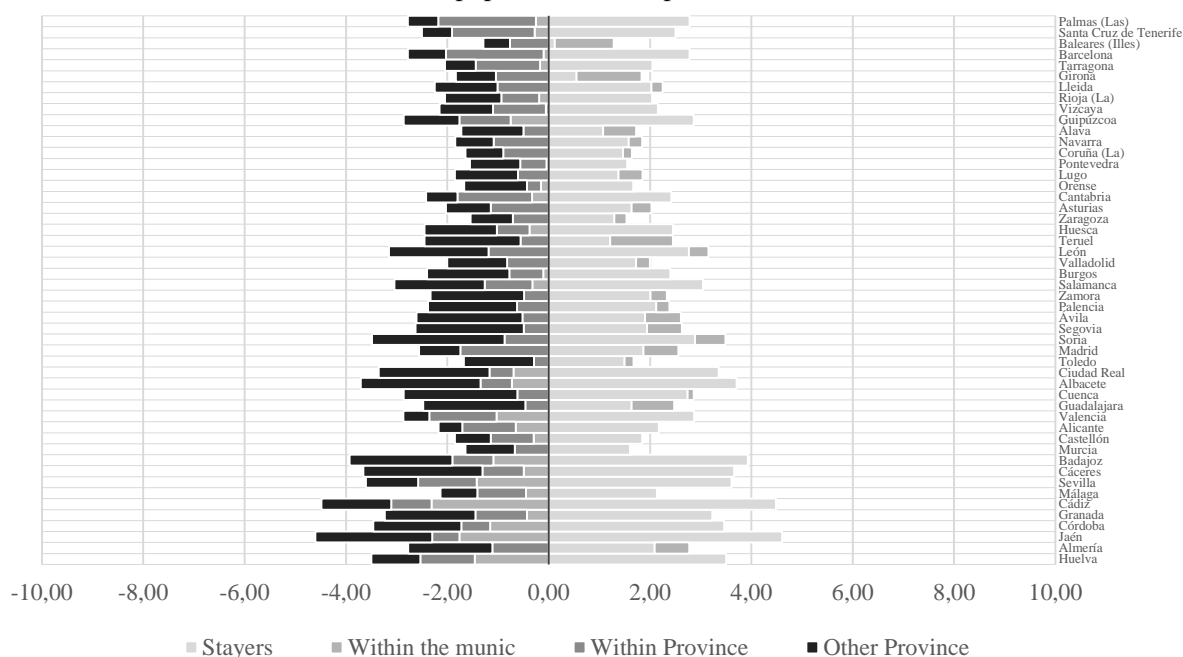
Table 1. Mobility rates by type of movements and census year (%)

	2001	2011	Increment 2001-2011
Stayers	95.05	97.39	<b>2.47</b>
Within municipality	1.97	1.83	<b>-7.27</b>
Within Province	1.67	0.51	<b>-69.69</b>
Other Province	1.31	0.27	<b>-79.07</b>
Total mobility	4.95	2.61	<b>-47.31</b>

Source: Spanish Census of Population, 2001 and 2011



Figure 2. Change in (im)mobility rates 2001-2011 by provinces (percent points). Sorted by Region and population size of provinces



Source: Spanish Census of Population, 2001 and 2011

Table 2. Logistic model: internal migration in the last year (2001/2011)

	Model 1		Model 2	
	Odds Ratio	SE	Odds Ratio	SE
<b>Household tenure (ref: Renters )</b>				
Homeowners	0.210***	0.024	0.278***	0.029
Other tenure	0.237***	0.032	0.266***	0.042
<b>Province Unemployment Rate^</b>				
Census Year (ref: 2001)	0.179***	0.011	0.278***	0.073
Age	0.935***	0.005	0.278***	0.073
Age square	1.001***	0.000	0.934***	0.005
Sex (ref: women)	1.093***	0.018	1.000***	0.000
Nationality (ref:spanish)	0.984	0.049	1.091**	0.018
<b>Education (ref: Medium)</b>				
Any studies	0.718***	0.036	0.719***	0.035
Low	0.805***	0.039	0.812***	0.039
High	1.381***	0.056	1.378***	0.057
<b>Socioeconomic status (ref: Prof and manag.)</b>				
Administrative workers	0.809***	0.027	0.810***	0.027
Services workers	0.996	0.045	0.999	0.046
Manual workers	0.879*	0.056	0.886	0.057
Others (Agric., self-employed,...)	0.762*	0.083	0.768*	0.083
Unemployed	1.088	0.111	1.058	0.109
Inactives	0.940	0.073	0.932	0.073
<b>Household composition (ref: Singles)</b>				
Couples	1.080	0.047	1.032	0.044
Families	0.419***	0.017	0.406***	0.017
Others households	0.549***	0.038	0.559***	0.037
<b>Region (ref: South Interior)</b>				
South-Andalucía	0.775*	0.092	0.775*	0.093

South East	0.379***	0.045	0.382***	0.046
Madrid	0.687*	0.114	0.695*	0.108
North Interior	0.966	0.107	0.973	0.110
NorthWest-Litoral	0.543***	0.052	0.547***	0.051
North-Pais Vasco-Navarra	0.906	0.184	0.913	0.189
Catalunya	0.583***	0.088	0.584***	0.087
Canary Islands	0.382***	0.038	0.383***	0.033
<b>Provinces measures^</b>				
Housing prices	0.449***	0.080	0.452***	0.079
<b>Interactions Household tenure</b>				
Year*Homeowners			0.232***	0.048
Year*Other tenure			0.682	0.151
<b>Interactions Unemployment rate</b>				
Year*Unemployment Rate			1.250	0.349
<b>Constant</b>	3.608***	0.836	3.113***	0.707
<b>N</b>	4.231.381		4.231.381	
<b>Log-Lik (Null)</b>	-2604638.2		-2604638.2	
<b>Log-Lik Full Model</b>	-2190567.8		-2175335.4	
<b>chi2</b>	9568.3		14304.1	
<b>R2</b>	0.159		0.165	
<b>AIC</b>	4381195.5		4350736.9	

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

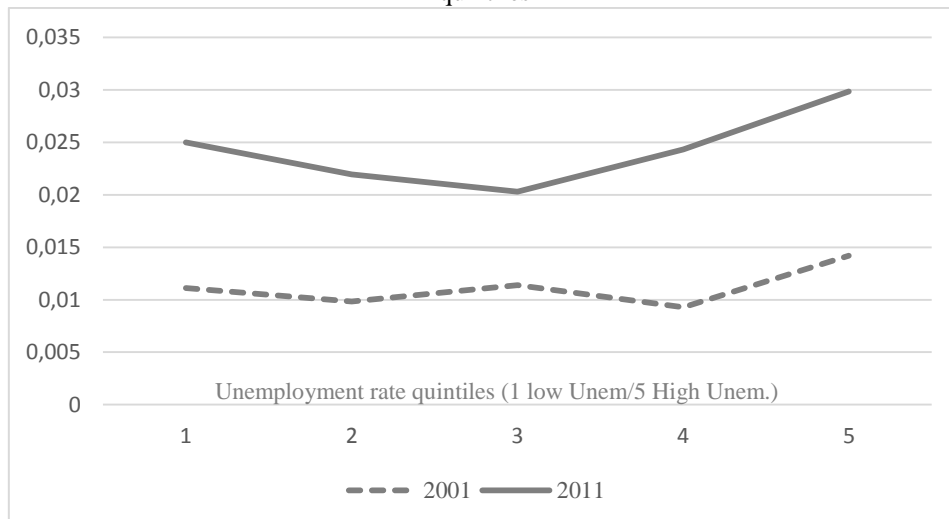
Source: Spanish Census of Population, 2001 and 2011

Table 3. Inter-provincial movers in 2001 and 2011 by unemployment rate quintiles

2001						
Destinat.	1	2	3	4	5	Total
Origin	Low Unem.				High Unem.	
1 Low Unem.	14.43	37.93	25.16	11.24	11.24	100
2	26.55	14.04	34.51	11.37	13.54	100
3	8.91	25.34	28.29	18.47	18.98	100
4	8.10	18.17	42.62	15.73	15.38	100
5 High Unem.	9.03	18.94	28.08	12.77	31.18	100
Total	13.12	21.36	31.60	14.33	19.59	100
Shorrrocks Index (movers)	Barthtolomew Index (Low to High Unem)		Barthtolomew Index (High to Low Unem)			
0,961	67,32		66,97			
2011						
Destinat.	1	2	3	4	5	Total
Origin	Low Unem.				High Unem.	
1 Low Unem.	14.95	28.35	16.50	28.97	11.23	100
2	32.13	17.09	28.78	12.26	9.73	100
3	23.80	37.33	17.64	13.87	7.36	100
4	24.04	17.87	13.88	25.71	18.51	100
5 High Unem.	17.89	13.39	7.65	20.92	40.16	100
Total	22.48	22.06	17.71	20.80	16.96	100
Shorrrocks Index (movers)	Barthtolomew Index (Low to High Unem)		Barthtolomew Index (High to Low Unem)			
0,991	64,55		77,34			

Source: Spanish Census of Population, 2001 and 2011

Figure 3. Average Marginal effects of homeowners on the probability to stay over Unemployment rate quintiles



Source: Spanish Census of Population, 2001 and 2011