Moving to suburbia? Effects of residential mobility on community engagement

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Abstract
Previous research has emphasised that residential mobility, especially the suburbanisation of metropolitan regions, is a key factor in understanding the social and institutional context that shapes local political dynamics. Recent studies show that local communities with high rates of recent population growth show lower levels of turnout than others with significantly lower levels or even negative growth. However, because of both the aggregate nature of most available data and sample designs, no firm conclusions can be drawn regarding the specific relationship between residential mobility and the individual and contextual determinants of social and political behaviour. In this paper we explore the interaction between individual and contextual features to better understand the problems that suburbanisation poses to local community engagement. We use data from a survey specifically designed to comply with the requirements of such a study. The sample was designed through strata that take into account the recent population growth of municipalities. Results show the relevance of accounting for both individual- and contextual-level variables to shed light on the political and social dimensions of residential mobility and local suburbanisation.

Keywords
community engagement, democracy, local government, metropolitan areas, residential mobility, suburbanisation

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Introduction

Residential mobility is a relevant factor in understanding the social and institutional context that shapes local and metropolitan political dynamics. The single and quite common act of moving from one municipality to another requires not only reestablishing daily habits such as shopping or jogging, but also building ties with the new local community. While finding new local grocery stores or a new gym usually takes no longer than a few days, effectively engaging socially and politically with the new community can take years. For instance, research across various models of local government (Caren, 2007; Magre et al., 2011) shows that at an aggregate level municipalities with high rates of recent population growth show lower levels of turnout than those with lower or even negative growth. This negative impact of residential mobility on participation, however, is less clear when residential mobility is measured as individual length of residence in survey data (Oliver, 2001).

In fact, because of the varying nature of the data available, the variety of sample designs (Sampson, 1988) and the common conceptualisation of community engagement as simply electoral turnout, no firm conclusions have been drawn on either the individual effects of residential mobility or the interaction between individual and contextual factors accounting for different levels of community engagement at the local level.

In this paper we explore precisely that: the interaction between individual orientations and contextual features to better understand the problem of community engagement at the local level. To this end we address the combination of contextual and individual bases of civic and political engagement with the municipality within a process of metropolitan suburbanisation. To measure the level of engagement with the municipality we build an index of community engagement based on individual-level data from an, as of yet, unpublished survey in the Spanish region of Catalonia.

Residential mobility and local politics

How does residential mobility affect the social and political engagement of citizens with their local communities? The literature on the relationship between contextual features and democracy has yet to reach a consensus on this. On the left-hand side of the equation, although having roots in the community has theoretically been considered a determinant of political participation (Almond and Verba, 1963), the lack of a general theory linking social contexts and political behaviour (Oliver, 2000) has blurred the boundaries between civic or political participation and community engagement. This literature has shown, though, that those who move tend to vote less, and that the likelihood of developing any kind of political activity increases with length of residence (Highton, 2000; Knack, 1992; Rosenstone and Hansen, 1993; Squire et al., 1987; Wolfinger and Rosenstone, 1980). In the USA, the administrative costs associated with residential mobility, such as voter registration, have been identified as being a key factor in explaining this phenomenon (Highton, 2000; Rosenstone and Hansen, 1993). However, this explanation is hardly extrapolable to any European case. A more general factor is the social costs of mobility, since ‘mobile citizens report fewer social ties to people in their neighborhood, and social connectedness is a powerful predictor of civic-minded activity’ (Gay, 2012). Seen from this perspective, ‘the administrative and social costs to moving may be enough to disrupt the habit of voting for the residually mobile’ (Gay, 2012). In sum, a host of political scientists interested in the
effects of contextual change (e.g. residential mobility) have used electoral turnout as a proxy for everything else.

On the right-hand side, despite the need to include contextual factors in the explanatory models of political behaviour (Sellers and Walks, 2013), the literature on this is scant and does not present a unified approximation to residential mobility. In particular, mobility as an individual factor (e.g. length of residence) or as a characteristic of the community (e.g. recent municipal population growth) are rarely included in the same study and therefore almost never independently assessed. In this paper we contend that, although related, these two factors have independent effects on community engagement.

Community engagement

Our vision of community engagement combines three common approaches for measuring the extent to which citizens build social networks, participate in their community’s civic life, and present a cognitive or informational attachment to local political life.

The first dimension of community engagement, which we label *Identity*, concerns the level of satisfaction and identification expressed by individuals with their city, and has obvious links to Kasarda and Janowitz’s (1974) measure of community attitudes and sentiments. The second dimension (*Participation*) combines elements that account for the individual’s level of involvement in various activities within the municipality. This second component seeks to capture ‘resources embedded in social networks accessed and used by actors for actions’ (Lin, 2004), which correspond to Putnam’s concepts of informal sociability, voluntarism and participation in public affairs. These include the extent to which people maintain their social ties within their current municipality, their level of social activity measured through their membership of civic organisations of different purposes (sports, culture, etc.) and their degree of trust in local commerce, and their level of informal social interaction with other neighbours. Finally, our third dimension (*Knowledge*) captures individuals’ level of knowledge of, and interest in, municipal activity, and is closely related to classical approaches to political culture (Almond and Verba, 1963).

These three dimensions of community engagement are well known and have been used separately in a wide range of research projects. However, we believe that they only provide partial views of what community engagement actually entails. Unlike Kasarda and Janowitz’s (1974) measures of community attachment, our concept of community engagement combines elements indicative of the development of social bonding and the building of networks based on political interest and knowledge. In the case of social capital research, we borrow from its two main approaches (Lin, 2004). On the one hand, in line with such authors as Burt (2000), Erickson (1996) and Lin (2000, 2004), we adopt a micro-level strategy and (partly) focus on the way ‘individuals access and mobilize resources embedded in social networks’ (Son and Lin, 2008) at the local level, although we do not focus on the way these networks lead to the attainment of personal goals (Burt, 2000, 2005). Rather, on the other hand, following Putnam et al. (1993) and Putnam (2000) we are interested in both (1) the mechanisms that lead to different levels of community engagement, and (2) its political consequences.

Our approach differs from Putnam et al. (1993) and Putnam’s (2000) index of social capital in at least three significant ways. First and foremost, social capital is usually measured as an aggregate-level indicator, while we build an individual-level indicator of community engagement. Second, Putnam et al. (1993) and Putnam’s (2000) index of
social capital is based mainly on measures of the role of organisations in community life; indicators of participation in public affairs, such as political affiliation; rates of voluntary work; measures of informal sociability; and, finally, indicators measuring interpersonal trust. The selection criteria for these constituent elements have not gone unchallenged. For example, some critics, most notably Boix and Posner (1996), have emphasised the index’s dependence on the specific context it was designed to explain (Italy), and thus its problems when applied to other settings, specifically Spain (Torcal, 2000) where, for instance, political affiliation has been low since the democratic transition to democracy (Montero, 1981). Moreover, the inclusion of different forms of trust in the measurement of social capital gives rise to both conceptual and empirical problems (Cook, 2005; Lin, 2004; Son and Lin, 2008).

Finally, some of Putnam’s critics have emphasised that despite his efforts to separate the notion of social capital from the political and civic culture tradition (Almond and Verba, 1963), ‘the model of causation, which goes from civic capacity to political behavior, is in the line of political culture research from the pioneering studies of Almond and Verba onward […] and picks up on crucial arguments of that superb culturalist, Alexis de Tocqueville’ (Tarrow, 1996). In order to emphasise the link between the two traditions, our concept contains both elements explicitly related to political culture, such as knowledge of and information about the affairs of the municipality, as well as indicators of political interest in municipal politics, which measure the affective orientation toward politics and have proved to be good predictors of civic and political participation (van Deth, 1990).

In sum, because of its aggregate nature, Putnam’s index allows the measurement of the civic capital of a given community or society or, at most, of a given human group. Our concept, in contrast, is designed to measure the engagement of individuals with their community.

**Time and space**

A varied sociological literature has pointed out that length of residence is a key factor for discussing and qualifying community attachment (Kasarda and Janowitz, 1974; Theodori, 2004). In this literature, ‘the local community is viewed as a complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and on-going socialization processes’ (Kasarda and Janowitz, 1974), for which minimum length local settlement is key at the individual level. In addition, Alford and Lee (1968) report data showing that mobility alone accounted for 31% of the variation in turnout in a sample of US municipalities, with ethnic composition accounting for 19% and other variables such as age, education and city size having only minor explanatory power. The authors conclude that high levels of population mobility imply large sets of ‘residents who have lost their ties to social groups and political networks which have been their channels of communication of political stimuli’ (Alford and Lee, 1968).

Other literature, though, points out that contextual features such as city size or the level of homogeneity may have an effect. On the one hand, the well-established literature examining the relationship between size and democracy in urban regions is structured around the debate that opposes the ‘small-is-beautiful’ perspective with the ‘bigger-is-better’ or ‘large-is-lively’ approaches (Kelleher and Lowery, 2004). According to the former approach, people living in smaller communities tend to present higher levels of electoral turnout and attachment to their municipalities, and stronger levels of civic participation (Dahl and Tufte, 1973; Oliver,
2001), even within metropolitan scenarios (Magre et al., 2011; Oliver, 2000). Larger cities, in contrast, provide more sparse social networks that erode the connection of citizens with their communities and their interest in local politics, thus making civic action and participation less likely.

From the early studies of Verba and Nie (1972) to the systematic review by Blais (2000), the ‘small-is-beautiful’ formulation of the problem has reached a higher level of support in empirical studies that examine voter turnout (Geys, 2006). Certainly, there are studies that report data supporting the opposing idea (Matsusaka and Palda, 1999; Oliver, 2000), or that at least identify other factors reducing the effect of city size on participation (Kelleher and Lowery, 2004, 2009; Lyons et al., 1992). For instance, Kelleher and Lowery (2004) found no indication of municipal size effect on aggregate municipal electoral turnout in the USA when the variation in contextual features at the metropolitan level was taken into account. These results, though, are in sharp contrast with those obtained by Magre et al. (2011) also at the municipal level but under a different model of local government. Moreover, recent work shows that population density within cities and the distribution of population across cities within regions may neutralise any negative or positive effects of city size (Tavares and Carr, 2012). Thus, the contingent effects of population density on civic engagement seem important (Carr and Tavares, 2014).

Yet, the differences between empirical studies might also be attributable in part to a lack of clarity concerning the conceptual definition of size, concentration and territorial fragmentation (Kelleher and Lowery, 2004). Generally, though, the empirical evidence reported tends to support – both geographically and temporally – a negative effect of size on voter turnout.

Less unanimity exists, however, concerning the explanations for the phenomenon. On the one hand, size may reduce the utility gained from voting, since the probability of being a decisive voter falls with municipal size (Blais, 2000). On the other hand, economic (Costa and Kahn, 2003; Oliver, 1999), ethnic (Alesina and La Ferrara, 2000), or other types of segregation resulting from specific urbanisation designs have also been found to be relevant in explaining different levels of community attachment and participation, above and beyond length of residence. In this sense, stronger attachment to communities might not be explained solely by city size but also by specific aspects and consequences of suburbanisation processes, or even by endogenous factors that confound the effect of city size and foster higher levels of participation and attachment (Verba and Nie, 1972).

In only a few cases has residential mobility been approached in an aggregate manner. In his work on local elections in US cities, Caren (2007) stated that ‘cities experiencing the largest growth in population are also those with the lowest rates of participation’. Indeed, his analysis shows that cities with high levels of participation are also the ones with negative population growth, and vice versa. Population growth is not the only factor explaining political participation, but it is an important one, together with a city’s electoral and governmental structures and its campaign dynamics.

Only a few studies, however, have examined the effect of residential mobility using data for the southern European model of local government. And where it has been studied, only aggregate measures have been used. Recent work (Magre et al., 2011) shows that, at an aggregate level, municipalities in the Spanish region of Catalonia with high rates of recent population growth show lower levels of turnout than those with lower or even negative growth.
Even more recently, in his contribution to a comparative ecological analysis of metropolitan areas (Sellers et al., 2013b), Navarro (2013) indicates that in Spanish urban agglomerations, municipal size, population growth, immigration and commuting are demobilising factors for local political participation. In particular, the study shows that although commuting inhibits turnout, other characteristics of suburban communities (such as social homogeneity, lower density and fewer ties to the urban centre) contribute to higher rates of participation. Yet, the author admits that residential mobility, together with other factors such as ethnic diversity, may limit opportunities for local social integration. However, these studies have only dealt with residential mobility as an aggregate measure, and the link between individual residential mobility and contextual population growth is still in need of explanation.

In sum, several contrasting models and a wide catalogue of variables have been proposed to explain the extent to which the length of residence has some effect on people’s attachment to their municipality or their levels of participation.

**Hypotheses**

In this paper we seek to offer an explanation for this situation: namely, the effects of residential mobility (measured at both individual and aggregate levels) on individual community engagement, within a process of suburbanisation. We measure community engagement through the creation of a composite index (explained more fully below). In order to explore these effects, we test two hypotheses.

Our first hypothesis ($H_1$) is simple and comprises the identity dimension of community engagement, and the individualised version of what Magre et al. (2011) conclude from their aggregate data: shorter lengths of residence produce lower levels of community engagement among individuals, given that time is a key factor for building the networks and the bonding that result in civic integration. Yet, some authors (Kasarda and Janowitz, 1974) claim that it is not only the length of residence that affects an individual’s level of attachment to a community, but that distinct features of the host communities also affect the probability of newcomers developing the ‘complex system of friendship and kinship networks’ required to achieve successful attachment. Thus, our second hypothesis tests whether aggregate levels of population growth or loss modify the effect of length of residence as a factor triggering the community engagement of the population that moves from one municipality to another. In this regard, it is our belief that population growth not only has an independent effect on levels of community engagement, but that the length of residence of individuals and community population growth are engaged in a complex relationship. Specifically, since communities with high rates of recent population growth have been found to present depressed rates of participation, we expect them to provide a less favourable context in which to engage than communities with small or negative growth, regardless of the length of residence. Our hypothesis ($H_2$) is that inter-municipal migrants settling in communities with high rates of population growth present lower levels of community engagement than those settling in communities with close to zero or negative population growth.

**Data and methodology**

We test our hypotheses with data from a survey carried out between 6 and 14 September 2010 in Catalonia, Spain. The survey was conducted via computer-assisted telephone interviewing (CATI) with a sample of 1600 individuals from the national population, aged 18 or older. Catalonia, and more specifically the metropolitan area of Barcelona,
is a good setting in which to test the relationship between residential mobility and local politics owing to (1) the high level of municipal fragmentation even within the metropolitan area, and (2) the large-scale process of citizen residential mobility that has characterised the last 15 years.

**Metropolitan area, institutions and residential mobility**

The 947 municipalities of Catalonia have a population of 7.5 million, half of which is concentrated in the metropolitan area of Barcelona, resulting in a highly unbalanced territory in terms of both its urban and population density. For instance, the median Catalan municipality has fewer than 1000 inhabitants, while only 36 municipalities account for the 3.5 million metropolitan population of Barcelona. Beyond the boundaries of the metropolitan area proper, the surrounding metropolitan region comprises a further 1.5 million people occupying a total of 128 municipalities. This means that approximately 66% of the Catalan population live in just 17% of its municipalities. As such, most of the Catalan population is urban.

**Local and metropolitan institutions.** The fragmentation of Catalan local government is a feature common to the French style of local government (Hesse and Sharpe, 1991). According to this typology, the Napoleonic model – which includes Spain, France, Italy, Portugal and Greece – presents high levels of local identity at the expense of local autonomy, making local government essentially political rather than functional. This ‘political localism’ (Page, 1991) explains the strong incentives to keep the local map fragmented. As a consequence, several proposals from the Catalan government (most recently in 2001) to merge municipalities have failed. Indeed, additional municipalities were created as recently as 2010.

Catalan municipalities have directly elected legislatures, which elect their respective executive bodies, and the municipal level of government is considered politically relevant by the citizens. First, in Catalonia, separate elections (not usually in the same year) are held for national, regional and local legislatures, and although turnout is traditionally highest at the national elections (72.3% on average), participation at local elections is far from negligible (61% on average). Second, because of the existence of a distinct Catalan national identification and the strong institutionalisation of both regional and local governments in Catalonia, citizens present consistently high levels of knowledge of and identification with both tiers of government, and show distinct voting preferences at each level (Riba, 2000).

**Residential mobility.** In the last 50 years, Catalonia and especially the metropolitan area of Barcelona has undergone an extraordinary demographic change. Briefly, three main phases have been identified (Martí-Costa et al., 2011). From 1960 to 1975, big cities grew with the arrival of migrants from the Spanish rural regions. The city of Barcelona experienced an accelerated population growth throughout the 1960s and the 1970s, reaching 1.9 million inhabitants in 1979, while the metropolitan area of Barcelona reached three million.

From 1975 onwards this growth continued, albeit at a slower pace, evolving eventually into a model of relative sprawl. Up until the 1990s the area experienced a process of suburbanisation and an increase in inter-municipal metropolitan migrations. In the process, the larger cities lost population, with migrants moving to the smaller surrounding municipalities, thus increasing the population of the metropolitan second ring. This process has been explained mainly in terms of the systematic differences in housing prices and in housing supply between the first and second metropolitan rings, and the
higher levels of motorisation and public transportation throughout the whole metropolitan region that have increasingly facilitated commuting.

Starting in 2000, the present phase is characterised by two simultaneous trends: first, the arrival of foreign population to central cities, reaching 17% of the total population of the city of Barcelona in 2012, and second, an increase in intra-metropolitan migration, especially towards the metropolitan region. In 2007 around 15% of Catalan voters lived in a different municipality to the one in which they had lived 10 years earlier (Alberich, 2010). These migratory flows took people out from the city of Barcelona and its first metropolitan ring into the wider metropolitan region (the second ring).

During this period, the inter-municipal mobility of the national population (thus excluding foreign immigrants) has been the main factor explaining demographic growth and population redistribution throughout the territory. According to detailed annual census data of each individual’s place of origin and destination, which allow us to keep track of migration flows, between 1999 and 2011 inter-municipal residential mobility was overall positive, with an aggregate increase in municipal population of between 700,000 and 800,000 people every four years.

Moreover, this movement of citizens flows from the central city (Barcelona) to the urban periphery and from the generally larger cities to smaller communities (Alberich, 2010), triggered by a large-scale suburbanisation process based primarily on the construction of new suburban communities around medium-sized and small municipalities within the broad metropolitan region.

**Survey design**

To ensure that we capture the effect of the context in which the inter-municipal migration takes place, the survey sample was produced using a stratified design of six different categories of municipalities depending on the growth of the number of national citizens (thus, excluding foreign immigration) they experienced over the last 10 years, according to census data:

- Municipalities with a growth rate higher than 30%
- Municipalities with a growth rate between 20 and 30%
- Municipalities with a growth rate between 10 and 20%
- Municipalities with a growth rate between 5 and 10%
- Municipalities with a growth rate up to 5%
- Municipalities with negative population growth
- The city of Barcelona (negative growth)

Once the strata had been created, each stratum was assigned a minimum of 200 interviews, with the last 200 allocated proportionally among the five categories of communities presenting positive growth. Within each stratum, the interviews were assigned proportionally according to the actual population distribution, depending on city size, except in the case of Barcelona where interviews were assigned by city district population. The final individual selection was completed using sex and age crossed quotas, according to their actual distribution within each stratum. The sample error of the survey is ±2.9% at a 95% level of confidence and \( p = q = 0.5 \).

**Methodology**

To test the two hypotheses we fit OLS regression and analysis of variance (ANOVA) models with the index of community engagement (C) as the response variable (see section ‘Index of community..."
engagement’ below). As for the models’ main predictors, the aggregate measure of residential mobility is the variable used to create the sample strata (see section ‘Survey design’ above). In turn, length of residence is used as an individual-level measure of residential mobility, with seven different categories.

Additionally, the models include controls for a number of individual and contextual characteristics. The main contextual variable is city size, since we seek to observe differences in community engagement due to changes in length of residence and population growth with size being kept constant. In the case of individual-level measures, we first control for individual characteristics that commonly affect participation and engagement: age (continuous measure), education, occupation and gender. Second, in order to neutralise the effect of potentially confounding variables in the variation of community engagement, we include additional controls for (1) the frequency with which individuals discuss politics with others, (2) which of the multi-tier elections individuals consider to be most important, (3) the value individuals attach to their opportunity to vote in the next municipal elections (on a scale from 0 to 10), and (4) individual perceptions of external political efficacy (on a scale from 0 to 10). Finally, since having children is a trigger for participation in and membership of local organisations, we also control for the presence of children aged six or younger in the respondent’s household.

**Index of community engagement**

**Construction of the index**

The variables used to build the index of community engagement ($C$) seek to capture the three dimensions of our concept of engagement. Table 1 contains details of the levels of measurement of each original variable and the values used to classify each component as true – i.e. the set of scores that would give a respondent a score of 1 in community engagement (see section ‘Community engagement’ above).

Each of these 16 components was coded as a binary variable (true = 1, false = 0), according to fairly strict criteria. For instance, component ARR03, based on a variable measuring the level of identification a respondent feels with her municipality on a scale from 0 to 10, takes value 1 (i.e. TRUE) only when the respondent scores 9 or 10, and 0 otherwise. Some components, including ARR01 and ARR13 to ARR16, take value 1 when the variables are awarded the highest score on a four-point scale, while others, including ARR05, ARR07 and ARR12 were based on what were already dichotomous variables. This extreme classification criterion can be a double-edged sword, however. On the one hand, central tendency bias (Choi and Pak, 2005) in scale-type responses reduces the overall contribution of the true values of the components to the index, since the extreme original values tend to be of lower frequency. This in turn tends to reduce the explanatory power of subsequent models when the index is used as the response variable. Yet, on the other hand, if models of this type are able to reveal significant effects of the main predictors on an index designed under such strict rules, then the interpretation of results is less ambiguous.

Table 1 also shows the distribution of each component in the index in terms of the percentage of respondents scoring 1 in each component. Note that the last four components (ARR13-16) are based on a Likert scale where, as commented above, the frequency of true cases is low. The lowest percentage of true cases is just 10.3 (ARR14, the individual considers herself very informed about what happens in her town), while the highest is 82.9 (ARR08, the individual believes her most reliable grocery
Table 1. Dimensions, components and variables used to create the index of community engagement (C). The fifth column shows the variable values used to classify each component as TRUE.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Component</th>
<th>Variable</th>
<th>Measurement</th>
<th>True values</th>
<th>Frequency (=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>ARR01</td>
<td>Level of satisfaction about living in the municipality</td>
<td>Very satisfied, somewhat satisfied, not very satisfied, not satisfied at all</td>
<td>Very satisfied</td>
<td>43.35</td>
</tr>
<tr>
<td></td>
<td>ARR02</td>
<td>How sorry would you be should you have to leave your current municipality and move to another one?</td>
<td>Very sorry, somewhat sorry, not very sorry, not sorry at all</td>
<td>Very sorry</td>
<td>38.63</td>
</tr>
<tr>
<td></td>
<td>ARR03</td>
<td>Level of identification with the municipality</td>
<td>0–10 scale</td>
<td>9–10</td>
<td>38.53</td>
</tr>
<tr>
<td></td>
<td>ARR04</td>
<td>Where do most of your friends and relations live?</td>
<td>Current municipality, another municipality, both equal/everywhere</td>
<td>Current municipality</td>
<td>69.08</td>
</tr>
<tr>
<td></td>
<td>ARR05</td>
<td>Are you a member of a sports club in your municipality?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>25.62</td>
</tr>
<tr>
<td></td>
<td>ARR06</td>
<td>Have you attended an event at the local festa major (fair) in the last two years?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>75.49</td>
</tr>
<tr>
<td></td>
<td>ARR07</td>
<td>Do you participate in a cultural organisation in the municipality?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>29.40</td>
</tr>
<tr>
<td>Participation</td>
<td>ARR08</td>
<td>Are your most reliable shopkeepers/grocery stores to be found in your current municipality?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>82.93</td>
</tr>
<tr>
<td></td>
<td>ARR09</td>
<td>Do you go to a local venue to meet people you already know from the municipality?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>57.18</td>
</tr>
<tr>
<td></td>
<td>ARR10</td>
<td>Are you a member of a neighbourhood association in your current municipality?</td>
<td>Yes/No</td>
<td>Yes</td>
<td>17.73</td>
</tr>
<tr>
<td></td>
<td>ARR11</td>
<td>Would you please tell me what party or parties are currently in power in the municipal council?</td>
<td>Absolutely correct, partially correct, incorrect</td>
<td>Absolutely correct</td>
<td>28.15</td>
</tr>
<tr>
<td></td>
<td>ARR12</td>
<td>Would you please tell me the Mayor's name?</td>
<td>Correct/Incorrect</td>
<td>Correct</td>
<td>69.19</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Component</th>
<th>Variable</th>
<th>Measurement</th>
<th>True values</th>
<th>Frequency (=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>ARR13</td>
<td>How informed are you on the affairs of your <em>neighbourhood</em>?</td>
<td>Very informed, somewhat informed, not very informed, not informed at all</td>
<td>Very informed</td>
<td>11.01</td>
</tr>
<tr>
<td></td>
<td>ARR14</td>
<td>How informed are you on the affairs of your <em>municipality</em>?</td>
<td>Very informed, somewhat informed, not very informed, not informed at all</td>
<td>Very informed</td>
<td>10.32</td>
</tr>
<tr>
<td></td>
<td>ARR15</td>
<td>How interested are you in the public affairs of your <em>neighbourhood</em>?</td>
<td>Very interested, somewhat interested, not very interested, not interested at all</td>
<td>Very interested</td>
<td>18.85</td>
</tr>
<tr>
<td></td>
<td>ARR16</td>
<td>How interested are you in the public affairs of your <em>municipality</em>?</td>
<td>Very interested, somewhat interested, not very interested, not interested at all</td>
<td>Very interested</td>
<td>20.73</td>
</tr>
</tbody>
</table>
stores are to be found in her current municipality).

**Definition of the index of community engagement**

The index of community engagement can be expressed as follows:

\[ C_i = \frac{1}{N} \sum_{k=1}^{N} ARR_{ki} = 1, \]

which is the sum, for each individual \( i \), of the values of the \( N = 16 \) variables selected as true (\( ARR_{ki} = 1 \)), and divided by the highest possible number of true responses \( (N) \) so that it is standardised to have a range \([0,1]\).

The values of this new variable concentrate around the 39.76% value of the index – i.e. the population presents an average of 6.24 true values for the 16 variables included in the index. Furthermore, the value distribution is positively skewed, and there is no evidence of possible subgroups that might suggest outlier behaviour that could ultimately lead to a bimodal distribution.

**Index verification**

In order to assess the relative weight of each variable \( ARR_k \) in the index, we conducted three separate procedures. First, for each variable, we checked the mean value of the index when that variable is true and when it is false, which showed in all cases that the mean value of the index changes significantly when that variable is true or false. In other words, all variables seem to make an independent contribution to the construction of the index.\(^1\)

Second, we fitted a multivariate linear regression model with the new index as the response variable, and the 16 components of the index as predictors (\( ARR_01 \) to \( ARR_{16} \)). Our aim here was to check for anomalies in the relationship between these variables. The results show that, because of its tautological nature, naturally \( R^2 \) is equal to 1, since \( C \) is a perfect combination of the 16 predictors. Moreover, all the regression coefficients for all 16 predictors have an identical value, exactly 1/16, and the intercept is 0.\(^2\) Having all that said, however, all the variables seem to contribute individually to the index. Therefore, we can conclude that all the variables considered have a relevant impact on the index.

Finally, a last check was carried out by conducting a multiple correspondence analysis (MCA) of the index components to determine whether they can be summarised in a very small number of latent variables (factors). The results show that the first two components account for almost 50% of the variance among the components (reaching almost 60% with the addition of the third one). Yet, given the nature of the MCA method, which is concerned with categorical variables and so ‘embeds data in a much higher-dimensional space’ (Greenacre, 2006), the relevance of the amount of explained inertia should not be overemphasised. MCA typically underestimates the measure of fit in terms of explained variance, compared with principal components analysis (Abdi and Valentin, 2007; Aşan and Greenacre, 2011; Greenacre, 2006), and therefore ‘the percentages of variance are misleading measures of information’ (Lebart, 2006).

Significantly, what MCA does show, though, is that the distribution of the component categories along the factor accounting for most of the variance captures the logic of our index: all component categories with value zero take negative coordinate values, while those with value 1 take positive coordinates.\(^3\)
Evidence

In order to explore the relationship between residential mobility and community engagement, we begin by testing our new index of community engagement (C) against the population growth strata upon which our data are based. To do so, we calculate the average value of the C index for each stratum or subgroup of cities according to the evolution of their national population. We then carry out an analysis of variance (ANOVA) to compare the differences between means.

Figure 1 shows the average value and confidence intervals of the C index for each stratum of population growth. We observe that the variable does not present highly pronounced variations between categories. Its mean values range from 0.357 to 0.413. Considering that the mean value for all the sample is 0.397 with 95% confidence intervals [0.389,0.406], then the cities that experience population growth higher than 30% present values significantly different from the mean for the whole sample. Moreover, the ANOVA results show significant differences of means.

This supports the argument that differences in community engagement may be in part explained by recent rates of population growth. Yet, this effect only seems to be significant for those cities with notable population gains (more than 30%).

Individual factors of community engagement

Yet, how is individual residential mobility related to community engagement? In our first hypothesis (H1) we seek to test whether individual residential mobility affects
community engagement. To do so, we fitted a linear model regressing the C index on the length of residence. Additionally, in order to test whether individual-level variables, such as length of residence, have a particular effect on any of the dimensions of civic engagement measured by the index, our empirical strategy below includes separate models for each dimension.

Figure 2 shows that, as expected, the length of residence is a relevant factor in explaining an individual’s level of community engagement. Specifically, the first set of coefficients shows that compared with those who have been living in the municipality for less than two years, average community engagement increases as individuals live longer in their local communities. The results show that significant increases in community engagement can occur on average after five years of residence. Moreover, results from the separate models indicate that the effect of time is especially relevant for the participatory dimension of community engagement, which presents significant increases with time compared to newcomers’ engagement. In other words, while length of residence does not seem to produce significant

<table>
<thead>
<tr>
<th>Length of residence</th>
<th>Coefficient</th>
<th>CI Lower</th>
<th>CI Upper</th>
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<tr>
<td>2–5 years</td>
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<td>Whole life</td>
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<td>10K−100K</td>
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<td>External efficacy</td>
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Figure 2. Coefficients and confidence intervals (90%) of the linear regression model of community engagement on length of residence.
differences in local identity and in the level of knowledge and information about local affairs, it is a strong predictor of the extent to which individuals participate in local activities and organisations. Although the goodness of fit was expected to be low (see discussion in section ‘Construction of the index’ above), the whole model presents a better fit than any of the three separate models.

The coefficients, however, are robust to the other predictors of local attachment, including age, education, city size and the rest of the controls, which present some interesting patterns. First, controlling for everything else, age has no significant effect on community engagement, but it does present a significant positive effect on the separate dimension of local identity. Second, while length of residence does not seem to affect the level of knowledge and information about local politics, city size and gender do, and in the direction identified in the previous literature (e.g. Oliver, 2000): individuals (especially women) in larger cities present lower levels of knowledge and information about local politics than those in smaller communities. In fact, even if we maintain the length of residence constant, two of the three categories of city size present significant negative effects on community engagement compared with the effect of smaller cities. In turn, neither city size nor gender presents a marked effect on the other dimensions of community engagement. Finally, as expected, not having children in the household reduces community engagement, especially participation in local organisations.

Varying engagement according to community types

Our second hypothesis tests whether the level of mobility experienced by a community affects the level of community engagement of its intermunicipal migrants. Note that the variable indicating the different levels of population growth experienced by the communities excludes growth produced by foreign immigrants and only accounts for the increase or loss of national population. Besides, in our data set, this variable is endogenously related to length of residence. Specifically, the sample includes no respondents whose length of residence is less than two years in a city that suffered a decline in population (except the city of Barcelona). In contrast, most of the population that claims to have lived in the same town all their lives have lived in cities with negative growth (including Barcelona).

To deal with this, we produce a new variable that distinguishes between those who have migrated to other cities from those who have not. To this end, we recode the length of residence so that it can take just one of two values: 1 for those who we consider to be native – i.e. who have lived in the same town for at least 20 years, and 0 for migrants – i.e. who have lived in the same town for less than 20 years. Our aim is to test, first, whether these two groups present significantly different levels of community engagement, and second, whether the volume of population growth experienced by their respective communities has a differential effect on their levels of community engagement.

Differences do exist between the two groups in terms of the respective distribution of their community engagement. Specifically, those that have have moved to other cities present lower average (0.33) levels of community engagement (and in all of the index’s dimensions) than those who have not (0.42). An OLS regression model with interactions was then fitted to test whether the type of community has a differential effect on the community engagement of natives and inter-municipal migrants.

The results in Figure 3 support our hypothesis concerning the effect of the
interaction between migration and population growth on community engagement. Here again, the whole model provides a better fit than the three separate models. The constitutive term for migrants points to a significant negative effect when the municipality has experienced an increase in population greater than 30% (which is the reference category for population growth). Moreover, the coefficients of the interaction terms indicate that people living in municipalities that have experienced negative growth present higher levels of community engagement, suggesting a different effect of the level of municipal population growth for migrants and for natives.

Differentiated marginal effects for both groups of citizens are better observed in Figure 4, which plots the average values of community engagement for each group of citizens and type of community. Notice how the model predicts lower levels of community engagement for migrants everywhere, but especially for those communities with higher levels of population growth. First, it should be noted that the effect of the type of community on natives is almost absent, with only those cities that have experienced a 10–
20% growth rate presenting levels of community engagement significantly higher than that of those living in the city of Barcelona. These are mostly medium-sized cities within the metropolitan region and they systematically present higher levels of participation and turnout than in the central city.

We observe a different picture for those who have migrated. Compared with the average levels of community engagement that migrants achieve when they live in municipalities that have lost population, communities that have experienced higher levels of population growth seem to reduce migrants’ chances of engaging with their communities. The differential, moreover, increases with the rate at which these communities have gained population, with differences outside the 95% confidence interval for those municipalities that have increased over 30%.

This lower level of engagement with the new city of residence has some implications that, while obvious, are clearly relevant to our discussion. First, it points to the fact that length of residence is a key factor in providing opportunities for weaving the social networks required to build what Kasarda and Janowitz (1974) called ‘the social fabric of communities’. In this sense, our data also show that the higher the number of years people spend living in a local community, the greater the chances are that their social relationships will be conducted mainly in that place. In effect, Table 2 shows that only 11% of those who have lived in a municipality for less than two years conduct their main social relations there, while almost three out of four of those who have lived there for more than 20 years do so. Similar patterns hold for variables regarding people’s knowledge of local political life, such as being able to name the party governing the municipal council and the mayor.

Finally, the level of community engagement proves to be quite a good predictor of
participation in local elections, even controlling for the usual factors, including city size. To test this, we fitted a logistic regression model where the binary response variable indicates whether a respondent voted in the elections in their municipality (value of 1 if she did so, and 0 otherwise). Recall that, as pointed out earlier, the southern European model of local government is characterised by a strong political structure and a low functional autonomy, which helps explain why citizens tend to present fairly high (albeit lower than at upper-tier elections) levels of political turnout at the local level. Therefore, higher rates of turnout are expected with higher levels of community engagement, even controlling for city size or individual factors. As for model selection, the Akaike information criterion (AIC) indicates that the model including only the Knowledge dimension and the model with the complete index of community engagement present the best fit.

Results for the whole index indicate that for each unit increase in the $C$ index the odds of voting in local elections rise by about 20%. Figure 5 plots the predicted probabilities of voting in local elections according to the level of community engagement.

Results also show that, as usual, the odds of voting increase with age and education. In general, community engagement and turnout tend to be higher among people living in small towns than those in larger cities, although aggregate data have produced conflicting results (Kelleher and Lowery, 2004; Magre et al., 2011). At the individual level, a number of explanations for this phenomenon have been offered (Dahl and Tufte, 1973; Kelleher and Lowery, 2004; Oliver, 2000), including the arguments that the density of social networks is higher in smaller communities (Kasarda and Janowitz, 1974; Sampson, 1988), that people in smaller communities perceive their vote as being more decisive (Dahl and Tufte, 1973), and even that smaller cities, which naturally have lower numbers of citizens and voters, are easier scenarios for parties to mobilise voters (Blais, 2000). Our data, though, show that when community engagement is taken into account, the effect of city size on individual-level voting dissipates (being only significant for Barcelona), supporting Kelleher and Lowery’s (2004) claim that ‘municipal size per se does not seem to matter’. In fact, our results show that most of the effect of community engagement on voting is attributable to its Participation and Knowledge dimensions, each of which presents separate strong and significant effects on the chances of voting in municipal elections.

Table 2. Percentage of people who conduct their main social relationships in their current municipality, by length of residence.

<table>
<thead>
<tr>
<th>Length of residence</th>
<th>Social relationships in municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2 years</td>
<td>11.17</td>
</tr>
<tr>
<td>2 to 5 years</td>
<td>35.38</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>42.22</td>
</tr>
<tr>
<td>11 to 15 years</td>
<td>50.86</td>
</tr>
<tr>
<td>16 to 20 years</td>
<td>51.07</td>
</tr>
<tr>
<td>&gt;20 years</td>
<td>73.53</td>
</tr>
<tr>
<td>Whole life</td>
<td>79.78</td>
</tr>
</tbody>
</table>
Discussion and conclusions

This paper has sought to explain the interaction between individual and contextual factors that account for different levels of community and political engagement at the local level. The literature on this question has proved relatively inconclusive in its identification of the contextual factors that affect individual attitudes and behaviour, yielding a number of different models that provide contradictory conclusions. Furthermore, this paper reports results for the southern European model of local government, which to date has been largely overlooked by the literature on the topic.

The study has addressed the question of how residential mobility affects citizens’ ability to strengthen their ties to the local community, both at the social and political levels. In order to measure citizen engagement we have built and presented a composite index of community engagement at the individual level. A recent claim regarding the difficulties of dealing with the interaction between contextual and individual variables when studying political behaviour at the local level is that ‘even the most elaborate national or cross-national surveys rarely sample on sufficiently detailed contextual factors to enable these to be tested in relation to individual attributes, as well as to each other’ (Sellers et al., 2013a). We use survey data specifically designed to respond to these needs, with a sample built from census-based data capturing aggregate volume of residential movements in each municipality.

Figure 5. Predicted probability of voting in local elections according to the level of community engagement. Grey area represents 95% confidence interval.
Our first hypothesis concerning the relationship between length of residence and community engagement finds support in the data both at the individual and aggregate levels. On the one hand, our data show lower average levels of community engagement in local communities that present a higher volume of residential mobility than in those that have gained less population or which have even lost inhabitants. On the other hand, individual mobility also proves relevant in predicting the level of community engagement. In particular, community engagement tends to grow significantly with length of residence. Our second hypothesis sought to take this analysis one step further. According to past research, length of residence alone is not sufficient to explain the variation in social and community engagement at the local level, and other features of the host communities also need to be taken into account.

Our second hypothesis, therefore, tested whether a municipality’s aggregate volume of residential mobility has a differentiating effect on levels of community engagement. In particular, we sought to test whether newcomers settling in communities that have experienced extraordinary rates of population growth present lower levels of integration than those settling in more stable communities.

Our findings indicate precisely that: while the community’s population growth rate does not seem to have a clear effect on the patterns of engagement of those that have always lived in that municipality (or for at least 20 years), migrants settling in cities with high levels of growth present significantly lower levels of community engagement than those settling in communities with recent population loss.

It might be argued that the effects of length of residence and population growth are in fact confounded by a self-selection bias, and that the relationship between length/place of residence, and community engagement suffers from endogeneity. It is argued that people who move to other municipalities might have been less engaged at the civic level with their original local communities in the first place, making them more likely to move and less likely to engage in the new communities. Theoretically, the argument for endogeneity has two main drawbacks.

On the one hand, if a self-selection process were in play, we would observe no effect whatsoever of the type of municipality on the level of community engagement of intermunicipal migrants, unless we accept the somewhat implausible idea that self-selection takes place both at the individual level and at the level of the type of municipality – i.e. that those who are less engaged in the first place are more likely (1) to move to a different municipality and (2) to choose a municipality with lower aggregate levels of community engagement.

On the other hand, the indirect assessment of the degree of likelihood of intermunicipal migrants being less engaged in their previous communities seems to point in the opposite direction. If we compare the distribution of relevant predictors of community engagement and participation, including age and education, inter-municipal migrants are slightly better educated and more likely to fall in the 45–60 age interval (when participation and engagement should be at their peak) than non-migrants.

Our findings provide support for the systemic models built in earlier studies of the complex relationship between contextual factors and individual attitudes and behaviour, inasmuch as city size per se is not sufficient to explain the determinants of political behaviour (Kelleher and Lowery, 2004) and that length of residence needs to be taken into account.

The results presented in this paper have a number of important policy implications.
Large-scale processes of residential mobility are not only the result of specific financial or market conditions, they are also shaped by urban planning decisions (or the lack thereof) that result in complex models of multi-tier governance that include local, metropolitan, regional and national levels. Our results underscore the need for a better understanding of the dynamic elements that impact the determinants of social and political behaviour, especially if we consider the critical demographic, urban, economic and social changes produced by suburbanisation as big cities sprawl into even larger metropolitan regions.

Clearly, therefore, gathering additional data regarding the various forms that suburbanisation can take at the local level, together with a more exhaustive examination of such notions as density, concentration and fragmentation, constitute essential steps in pursuing this and other lines of future research on the matter.

Acknowledgements
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Notes
1. Data not shown here, but available upon request.
2. Additional checks on the tolerance of the variables reveal no striking results; however, the last two variables, concerned with interest in the public affairs of the neighbourhood and municipality, are the ones that add least information to the model.
3. MCA gives too much weight to the components concerned with political interest because of their low marginal frequency in the data (Hoffman and de Leeuw, 1992), which is the case of the last four components in Table 1, as discussed above.
4. Results not shown, but available on request.
5. Complete tables with regression results for the index and the separate models can be obtained at https://github.com/pepvallbe/MovingToSuburbia.
6. Complete tabulated results of the regression model can be downloaded from https://github.com/pepvallbe/MovingToSuburbia.

References


