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Abstract

This paper examines the role of local housing supply conditions for social capital investment. Using an instrumental variables approach and data from the Social Capital Community Benchmark Survey, it is documented that the positive link between homeownership and individual social capital investment is largely confined to more built-up neighborhoods (with more inelastic supply of new housing). The empirical findings provide support for the proposition that in these localities house price capitalization provides additional incentives for homeowners to invest in social capital. The findings are also largely consistent with the proposition that built-up neighborhoods provide protection from inflows of newcomers that could upset a mutually beneficial equilibrium involving reciprocal cooperation. However, the results do not appear to be driven by selection based on inherent differences in social aptitudes or by Tiebout sorting.

JEL classification: D71, R21, R31.

Keywords: House price capitalization, social capital, homeownership, land and housing supply, reciprocal cooperation.

1. Introduction and background

The monitoring of one's property by friendly neighbors or watch groups, a neighbor holding one's spare key, BBQ-parties among close neighbors, or a pool of trusting parents that look after each other's children are all examples of club goods that are essentially the result of accumulated social capital among a group of involved neighbors. In this context, DiPasquale and Glaeser (1999) have argued that homeowners are "better citizens" because homeownership creates barriers to mobility and gives individuals an incentive to invest in local amenities and social capital since community quality is capitalized into property values.

Although several studies (e.g., DiPasquale and Glaeser, 1999; Rossi and Weber, 1996) have indeed documented a positive link between homeownership and measures of individual investment in social capital, stylized facts from the Social Capital Community Benchmark Survey (SCCBS, 2000) suggest that homeowners may not always be "better citizens". For example, while homeowners on average socially interact 30% more often than renters with immediate neighbors in essentially built-up neighborhoods (more than 85% developed), the difference between the two groups is only about 9% in an average neighborhood (45% to 55% developed) and there is virtually no difference between the two groups in little developed neighborhoods (less than 15% developed). These numbers change little when other factors – including the population density in the developed area – are controlled for. In a similar vein, homeowners are even less likely to socially interact with co-workers outside work. This result holds even when commuting distance and other factors are taken into account.

How can these stylized facts be explained? More generally, what are the underlying motives or incentive mechanisms that drive homeowners and renters to behave differently in some but not all instances? DiPasquale and Glaeser (1999) suggest that *house price capitalization* effects may explain the diverging behavior of homeowners and renters (Explanation 1). Consistent with this line of reasoning, one might also expect that the wedge in investment behavior between the two groups is comparably larger in more built-up places with more inelastic long-term supply of new housing, where house price induced incentives can be expected to be stronger (e.g., Hilber and Mayer, 2008).

However, there are other plausible explanations for why homeowners and renters behave differently and why such differences depend on the degree of physical development. The stylized facts could portray a mutually beneficial equilibrium involving *reciprocal cooperation* (Explanation 2). Homeowners may have stronger incentives to engage in reciprocal cooperation because high costs associated with housing sales make them less mobile and, therefore, increase the potential benefits from an equilibrium where people help each other. In more built-up places there are fewer potential newcomers that could upset such an equilibrium. The stylized facts could also be the outcome of a selection process or of Tiebout sorting. Inherently more sociable individuals may *select* more developed or more densely populated places and these sociable people could also have a comparably greater propensity to own in more urban settings (Explanation 3). Similarly, households may Tiebout sort based on their preferences for social interactions (Explanation 4).

The empirical findings presented in this paper provide strong support for the proposition that individual investment in social capital is facilitated by house price induced incentives (Explanation 1). The findings are also largely consistent with the proposition that social interactions at the neighborhood level are driven by benefits arising from reciprocal cooperation (Explanation 2). However, reciprocal behavior alone cannot explain all of the results. Moreover, the findings appear to be neither consistent with the outcome of a selection process nor with that of Tiebout sorting (Explanations 3 and 4).

The findings have important implications for the literature on the accumulation of social capital and the provision of social capital induced club goods. Previous studies suggest that house price capitalization may provide a mechanism to induce homeowners to take into account preferences of future homebuyers when voting on durable local public goods, even when residents are mobile (see e.g., Brueckner and Joo, 1991; Sonstelie and Portney, 1978; or Wildasin, 1979 for the theory and Hilber and Mayer, 2008, for evidence).[1] However, in the case of neighborhood specific social capital, investment decisions are not reached at the ballot. Instead they are individual verdicts, potentially encouraging free riding behavior. One countervailing argument is that free riding (by selling the house) may be an unattractive option if access to benefits from social capital induced club goods are partially excludable and transaction costs associated with the sale of a property exceed the benefits derived from the improved neighborhood quality. The empirical evidence in this paper implies that housing transaction costs may indeed prevent free riding and may, therefore, encourage the provision of neighborhood specific social capital. Moreover, housing transaction costs may also encourage reciprocal cooperation, further reinforcing social capital accumulation.

This paper provides additional support for the proposition by Hilber and Mayer (2008) that house price induced incentive effects may be confined mainly to places where the supply of land available for new development is scarce. This finding has important implications for a wide range of studies, for example, studies that conclude that homeowners are somehow

[1] House price capitalization may even provide an incentive mechanism in an inter-generational sense. See, for example, Glaeser (1996), Oates and Schwab (1996, 1998) and Rangel (2005).

"better citizens" because homeownership encourages civic engagement (e.g., Hoff and Sen, 2005; DiPasquale and Glaeser, 1999) or because homeowners are more motivated to control local government (e.g., Fischel, 2001; Dehring *et al.,* 2008).

2. Theoretical considerations and predictions

2.1. Definition and characteristics of neighborhood specific social capital

Neighborhood specific social capital is defined in this paper as a connection among neighbors, which enables them to cooperate and which subsequently facilitates the provision of a number of mutually beneficial club goods.[2] Neighborhood specific social capital can be accumulated, for example, by socially interacting with neighbors or by participating in neighborhood clubs. These activities enable individuals to (a) develop a common language with one another so that communication is easier and (b) establish relationships, for example, in the form of organized or spontaneous shared social activities, so that neighbors will trust and like each other more. While shared social activities can themselves be interpreted as utility-generating club goods, other club goods are the result of social capital induced trust and friendship. For example, trust and sympathy among neighbors enables them to provide club goods that are simply the product of shared private or common property (e.g., shared or communal gardens). Trust and sympathy can also encourage the provision of benefits in the form of mutually beneficial reciprocal behavior (e.g., monitoring of one's absent property, holding a neighbor's spare key, or informal child care arrangements).

Neighborhood specific social capital has some distinct economic characteristics. While the process of developing interpersonal links can itself offer utility to individuals, typically the generation of social capital involves an *investment/production* phase and a subsequent *maintenance/consumption* phase. A quite sizeable social capital investment is usually needed to initiate the process of generating trust and friendship among involved neighbors. This investment includes fixed costs associated with the set up of initial meetings and club structures and individual variable costs related to the time spent to establish relationships with the involved club members. Once trust and friendship is established, a maintenance effort is usually sufficient to ensure the provision of social capital induced club benefits in the longer run. The social capital induced consumption benefits typically increase at a decreasing rate

[2] Definitions of the term social capital differ across studies and across the social sciences. The origins of the term "social capital" are discussed, for example, in Manski (2000) or Durlauf (2002). For a discussion of the determinants of social capital and the role of social capital for economic outcomes and the well-being of people see, for example, Knack and Keefer (1997), Putnam et al. (1993) or Putnam (1995). See Glaeser, Laibson and Sacerdote (2002) for a description of the "economic approach" to social capital. Manski (2000) or Durlauf and Fafchamps (2004) provide survey articles on the economic analysis of social interactions.

with the number of club members. Take the example of childcare arrangements among trusting parents. Adding a mutually beneficial link to a small pool of parents substantially increases the likelihood of being able to make an arrangement when needed. Adding a link to a very large pool increases each member's benefit only marginally.

A second distinct feature of neighborhood specific social capital is that it is in practice *partially but not fully* excludable. Investors (club members) can largely[3] exclude initial non-investors (outsiders) from access to benefits derived from social capital, for example, by not inviting them to join a club event. However, exclusion is in practice incomplete in that it is often not feasible, considered unfair or in some cases irrational to exclude *newcomers* to a neighborhood who are willing to cooperate and maintain social capital. One consequence of this partial excludability is that net benefits derived from *aggregate*[4] neighborhood specific social capital, after an initial investment period, make the location not only more attractive to existing residents but also to potential newcomers, increasing the demand for properties in the neighborhood, and – assuming that housing supply is not perfectly elastic – also increasing house values.[5] This implies, in principle, that mobile property owners can *indirectly* free ride on other residents' investments by selling their property.

2.2. Theoretical explanations and predictions

Explanation 1: House price capitalization as an incentive mechanism

To examine the impact of house price capitalization consider first a simple formal framework developed by Hilber and Mayer (2008) that analyses the decision of voters whether to support a durable increase in local public school spending. The investment entails a commitment to increase school spending, financed via local taxes, over a number of periods. Hence, the

[3] Exclusion from certain benefits is not sensible. For example, monitoring a property may not only benefit the absent owner but also the monitor because occurrence of crime might reduce the monitor's own house value.

[4] To the extent that investors can exclude non-investors from access to social capital induced club good-benefits, the aggregate level of social capital (within a club) should only be determined by club members. Various aggregation technologies (i.e., the mapping of individual investments in aggregate social capital) are conceivable. A plausible assumption may be that an individual threshold-level of trust needs to be established among each contributing member to facilitate the provision of a number of mutually beneficial neighborhood-specific club goods. Increasing the individual investment beyond the threshold (that ensures membership) may add progressively less to the overall level of social capital. This implies a sort of weaker-link technology in which the least effort has the greatest marginal impact on the aggregate level of social capital and the strongest effort has the smallest marginal impact (Cornes, 1993). One implication of this technology is that social capital investments of club-members should be more or less similar in equilibrium (Sandler, 1998). As long as the presence of non-investors in the neighborhood does not undermine social capital accumulation, the precise aggregation technology is not crucial for the theoretical explanations discussed below.

[5] If neighborhood specific social capital were fully excludable and initiators chose to exclude newcomers, then nobody would have a social capital induced incentive to enter the neighborhood and the social capital induced house price premium would be zero. However, if initiators could not exclude free riders at all, not even initial ones, then – in the absence of any norms such as social pressure or reciprocal cooperation – everybody would have an incentive to free ride and social capital would not be provided in the first place.

benefit in form of better school quality and the tax cost accrue in the future, as well as in the present period. In this setting, whether the investment occurs depends on the payoff of the median voter. Consider the (plausible) case where the investment generates a positive net benefit for households with children in each period, where the marginal homebuyer has children, and where the extent of capitalization is positive. In this setting, all else equal, homeowners will always be more likely than renters to vote in favor of the investment. Moreover, existing homeowners without children support the investment, as long as their expected duration in the property is short enough. The model further predicts that these households should be sensitive to the extent of capitalization.

Yet, investments in local public schools differ fundamentally from those in neighborhood specific social capital. In the former setting the *public* vote is binding for all residents, direct benefits accrue only to a minority of residents (households with children), while all residents bear the direct tax costs. In the latter setting each resident makes an *individual* investment decision that merely has private cost implications. Hence, as long as investors can largely exclude initial non-investors from access to social capital induced benefits, there will be a link between investment and direct benefits. Despite this link, homeowners can in principle free ride on other neighbors' investments by not investing and selling their property. (In the case of local public schools, either nobody or all residents "invest".) This implies that in the case of neighborhood specific social capital, nobody may initially have an incentive to invest, unless some "mechanism" prevents free riding. One such mechanism is the existence of housing transaction costs, that is, selling a property *only* to free ride on other neighbors' investments is not an attractive option if the transaction costs exceed the benefits derived from social capital.[6] Transaction costs of selling a house (even when excluding any other relocation costs) are typically quite high. For example, Haurin and Gill (2002) estimate these transaction costs in the U.S. as the sum of 3% of the house value and 4% of total household earning.

In a world with high transaction costs the question then becomes whether the homeowner's long-term benefits derived from social capital exceed the costs. The answer to this question crucially depends on the elasticity of new local housing supply, which, as will be argued below, can be proxied by the share of developable land in the neighborhood.

Consider a neighborhood where renters are free to move but where transaction costs make existing homeowners immobile. In such a setting homeowners have greater incentives to invest in social capital compared to renters as long as the long-term net benefits exceed the

[6] In a previous version of this article (Hilber, 2007) I presented a formal model to illustrate this mechanism in more detail.

initial investment costs and investors can largely exclude non-investors from access to social capital induced club goods. This is because homeowners can internalize the long-term net benefits from their investments, while renters are (at least partially) deprived of those net benefits since landlords can (at least partially) pocket proceeds by increasing rents.[7] In this setting, the elasticity of new housing supply is critical for the likelihood of social capital investment because it affects, all else equal, the inflow of newcomers and thereby determines the homeowners' long-term net benefits from social capital. In a built-up neighborhood with more or less perfectly inelastic supply of developable land for new housing, initial investors in social capital are largely protected from inflows of newcomers that would dilute the net benefit from that social capital in the longer run (dilution can occur either as a consequence of an increase in social capital maintenance costs or due to congestion effects on the consumption side). In contrast, in a little developed neighborhood with elastic supply (i.e., low opportunity costs of conversion and lax land use regulations), newly accumulated social capital will steer landowners to develop new housing units as long as the price exceeds the marginal (opportunity) cost of conversion. In the long-run, the net benefit from social capital is diluted to an extent that the marginal newcomer's net benefit and the corresponding house price premium become very small. It is quite intuitive that in such a setting nobody has an incentive to make a sizeable investment in neighborhood specific social capital in the first place. The above theoretical considerations imply two empirically testable predictions:

> *Prediction 1:* The positive link between individual homeownership and individual neighborhood specific social capital investment should be stronger, all else equal, in more built-up neighborhoods (with more inelastic supply of new housing).
>
> *Prediction 2:* Newcomers should socially interact with other neighbors after a brief period (to get access to social capital induced club goods) and there should not be much increase in the intensity as the duration in the neighborhood increases.

The *expected* duration in the property can be predicted to have a positive effect on individual investment in neighborhood specific social capital, unlike in the case of a durable increase in local public school spending discussed above. This is because the accumulated benefits derived from social capital increase with the expected length of stay, while the large initial burden (in the form of efforts needed to generate trust and friendship among involved neighbors) accrues even if the residents only have a short duration. Moreover, the benefits

[7] This implies that investment in a neighborhood may induce renters to exit. Of course renters (and landlords) also face relocation costs. However, these costs are likely substantially lower than those of homeowners.

associated with the sale of a property at the time of exit accrue independent of whether or not a homeowner invests (i.e., bears the costs). Hence, the longer the expected duration, the more likely the investment has a positive payoff. The following should hold:

> *Prediction 3:* Individual investment in neighborhood-specific social capital should be positively related to the expected time until the next move.

Moreover, unlike in the case of local public schools, homeowners with a short expected duration in the property should not react sensitively to the extent of capitalization. They will always be better off not investing, independent of the extent of capitalization.

Explanation 2: Norms of reciprocity

Helsley and Strange (2004) have argued that many instances of knowledge transfers are deliberate and reciprocal. In their theoretical setting, the ability to sustain an equilibrium where agents help each other depends on the probability of encountering each other again. Adding new agents decreases this likelihood and possibly upsets the reciprocal cooperation equilibrium. In the context of their setting, the authors argue that the sustainable level of knowledge barter crucially depends on *city size*. This is because withholding knowledge and going unpunished is easier for an agent when the city size is large. Similar reasoning can be applied to the case of social capital accumulation at the *neighborhood level*, that is, the stylized facts presented at the outset could be due to the fact that homeownership and land scarcity encourage the existence of a mutually beneficial equilibrium involving reciprocal cooperation among neighbors. Consider two local residents who have similar preferences for reciprocity: one resident is a homeowner, the other one is a renter. The homeowner has a longer expected duration in the property because of high property transaction costs. In this setting, the homeowner can be expected to be more likely to interact and provide benefits to other neighbors because he or she is more likely to stay long enough to be compensated in the future, hence, is more likely to benefit from mutually beneficial reciprocal cooperation. Homeowners should also have stronger incentives to socially interact in order to generate trust and friendship and thereby facilitate reciprocal cooperation. In contrast, renters with shorter expected durations are more likely to insist on immediate payment or compensation and have fewer incentives to socially interact. In more built-up places there are fewer potential newcomers that could upset a reciprocal cooperation-equilibrium.

These theoretical considerations imply two predictions that are equivalent to the ones arising from Explanation 1. *Prediction 1* follows directly from the above considerations. A rejection of this prediction would cast serious doubt on Explanations 1 and 2. One would also expect *Prediction 3* to hold. The willingness of an individual with preferences for reciprocity to socially interact should increase with the expected time until the next move, even when controlling for individual homeownership.[8] Moreover, to the extent that the durations in the neighborhood and at the work place are closely related, Prediction 3 should also hold for social capital investments at the work place. Similarly, Explanation 2 is ambiguous about whether homeowners should be more likely to invest in work place-specific social capital.

In contrast, Prediction 2 appears to be only consistent with Explanation 1 but not with Explanation 2. That is, to the extent that investment in neighborhood specific social capital is driven by benefits arising from reciprocal cooperation, one would expect that reciprocal cooperation (and hence social interaction) increases with the number of years in the neighborhood, as neighbors get to know each other better and trust each other more over time. Hence, Prediction 2 may help disentangle which of the two "mechanisms" (Explanation 1 or 2) is more relevant in illuminating the stylized facts presented at the outset.

Explanation 3: Selection based on inherent differences in social aptitudes

The above explanations do not consider the possibility that households with different characteristics may select certain neighborhoods nor that they may Tiebout sort into neighborhoods that reflect their preferences. Consider first the *selection mechanism*. Suppose there are two types of individuals: party-people who like to socially interact and hermits who prefer solitude. The former group likely prefers – and is willing to pay more for – more developed and denser locations. Such a selection mechanism might explain a positive relationship between the share of developed land and individual investment in social capital. Suppose further that party-people prefer to own (e.g., because landlords would not be willing to tolerate loud parties), while hermits prefer to rent. To the extent this is indeed the case, selection could explain why homeowners are more socially interactive than renters. However, this mechanism would not explain why there is a wedge in social capital investment behavior between homeowners and renters in more developed locations but not in less developed ones. In order to arrive at such a prediction one would need to assume that party people are more likely to own in more developed places but not in less developed ones (e.g., because nobody cares about noise from distant neighbors in rural areas). With these rather restrictive

[8] The correlation coefficient for the variables individual homeownership status and "expect to stay for at least 5 more years" is +0.30 (for the full regression sample). The variable "expect to stay for at least 5 more years" is likely a less than perfect proxy for the expected length of stay and the homeownership variable likely captures additional information on the expected duration. This suggests that Explanation 2 is consistent with the finding that the coefficients on both variables are positive. A related issue is endogeneity. The expected duration in the property will likely affect the housing tenure decision. Hence, in the empirical work below an IV-strategy is applied to identify the causal effect of homeownership on different manifestations of social capital investment.

assumptions one can indeed get a prediction equivalent to Prediction 1. However, such a selection process would not be consistent with any of the other predictions. Moreover, if it were in fact the case that respondents who select more developed places and/or choose to own are *inherently* more socially interactive, one would expect that they are also inherently more socially interactive outside the neighborhood, for example at work (i.e., party-people at home are unlikely to be hermits at work and vice versa). Hence, if selection based on inherent differences in social aptitudes indeed explains the facts that homeowners are more socially interactive and that land scarcity has a positive effect on the link between homeownership and neighborhood specific forms of social capital, one would expect the following to hold:

Prediction 4: Land scarcity should have a positive effect on the link between homeownership and non-neighborhood specific forms of social capital.

Prediction 4 provides a falsification test. Prediction 4 is clearly inconsistent with the proposition that social capital investments are driven by homeowners – in contrast to renters – being able to internalize the net benefits from their investments (Explanation 1). Individual homeownership should not be linked with contributions to non-neighborhood specific forms of social capital as such contributions do not affect house values. Similarly, local land scarcity should not have a positive effect on the link between homeownership and non-neighborhood specific social capital investment. Prediction 4 is also inconsistent with Explanation 2. The behavior of individuals in non-neighborhood specific networks (e.g., at the work place) should not depend on the physical characteristics of the place of residence, as those characteristics have no effect on the likelihood of a reciprocal cooperation equilibrium outside the neighborhood.

Explanation 4: Tiebout sorting

Lastly, consider the case where households sort based on the sort of social relations they expect to enjoy. In an ideal Tiebout (1956) world, households with strong preferences for social interactions would sort into homogeneous communities and neighborhoods (and possibly even sub-networks within a neighborhood), where all households are similarly socially interactive.[9] In the resulting equilibrium in some neighborhoods (possibly more developed ones) all residents should be highly socially interactive, while in others, *nobody* should socially interact. Hence, if the observed local accumulation of social capital were indeed driven by Tiebout sorting, then even in highly developed locations homeowners and

[9] Geographical borders of neighborhoods may then be set so as to capture a club membership that is optimal for the largest required network.

renters should invest similarly in neighborhood specific social capital (inconsistent with Prediction 1). (In fact, there should not be any neighborhoods that consist of both homeowners and renters.) Moreover, the Tiebout sorting mechanism and the resulting equilibrium do not imply Predictions 2 and 3.

To sum up the above, evidence that favors Predictions 1 to 3 but rejects Prediction 4 provides support for the view that individual investment in social capital is at least in part driven by house price induced incentives (but not by Tiebout-sorting). If reciprocal behavior were the predominant mechanism explaining the stylized facts, Prediction 2 should be rejected. If results were driven by a selection process, Prediction 4 should hold.

2.3. Other determinants of social interactions

Social interactions are, of course, influenced by many factors besides the degree of development in the neighborhood, the individual homeownership status, or the expected duration in the property. For example, characteristics related to the life-cycle status (e.g., having children or not) or the job situation (employment status, distance to work etc.) can be expected to affect an individual's eagerness or willingness to socially interact. Moreover, it is quite conceivable that a number of location-specific factors affect individual social capital investments. For example, the population density in the developed area, which measures the average proximity of residents, likely affects an individual's readiness to socially interact. High residential proximity may facilitate social interactions amongst neighbors because of shorter distances; yet, it may also create an environment of anonymity making social interactions among immediate neighbors less likely, especially in high-rise building environments. The local homeownership rate may also matter. To the extent that social capital investments are determined by house price induced incentives, the expected sign of the homeownership rate variable is ambiguous. The homeowner propensity should be positively related to the number of investors. Adding new investors likely first increases and then decreases each investor's payoff (because of increased social capital maintenance costs or congestion effects). However, an increase in the share of homeowners also implies fewer renters who might want to leave the neighborhood, reducing, all else equal, the inflow of newcomers and thereby strengthening incentives to invest. In contrast, the norms-of-reciprocity-explanation predicts unambiguously that incentives to socially interact should be positively influenced by the homeownership rate in the area. This is because a higher ownership propensity increases the chances that neighbors encounter each other again. Another location factor that likely affects social capital is the homogeneity of the population.

For example, Alesina and LaFerrara (2000) demonstrate that linguistic- and ethnic-heterogeneity negatively affect measures of social capital.

Finally, the inflow of newcomers to a neighborhood is likely to be influenced by demand side factors. Glaeser and Gottlieb (2006) suggest that demand for city living has increased in recent decades due to benefits of consumer amenities and lower crime. Strong demand in urban areas may encourage greater development in urbanized neighborhoods and may – due to the inflow of newcomers – discourage social capital investment. Specifically, the demand side may be affected by variables that proxy for amenity availability (e.g., the size of the settlement to which the neighborhood belongs or the average household income in the area) or by the level of crime in the area, a proxy for a resident's ability to enjoy social amenities.

3. Empirical analysis

3.1. The data

The main data source is the *Restricted Use Data* version of the Social Capital Community Benchmark Survey (SCCBS) undertaken by the Saguaro Seminar at the John F. Kennedy School of Government, Harvard University between July 2000 and February 2001.[10] As the survey title implies, this is the first attempt at widespread systematic measurement of social capital, particularly within communities. The survey measures various manifestations of social capital as well as its suspected correlates in 41 U.S. "communities" (a metro area, a city, or one or several counties). The "communities" are listed in Appendix Table A2.

The empirical analysis that follows focuses on four measures of individual social capital investment that are particularly useful to explore the validity of the various theoretical explanations. These measures are the number of social interactions with immediate neighbors, participation in neighborhood associations, the number of social interactions with co-workers outside work, and participation in service and fraternal organizations. The suspected correlates include a number of *survey respondent specific* characteristics that are used in the empirical analysis as control variables. Specifically, the list of controls includes: the number of years lived in the local community, whether the respondent expects to stay in the community for at least 5 more years, commuter characteristics, race, gender, age, whether the respondent has children, household income category dummies, marital status, dummies for the highest education completed, and dummies for the current employment status.

[10] The data was provided through the Roper Center of the University of Connecticut. See the survey documentation (Roper Center for Public Opinion Research, 2001) for details on the survey design.

The *Restricted Use Data* version of the SCCBS (in contrast to the public use version) provides geographical information including Census tract identifiers for the survey respondents. The tract identifiers are subsequently used to merge the SCCBS with other data sources: the National Land Cover Data 1992 (NLCD), the Natural Amenity Scale Data (NASD), the NBER data repository, the 2000 U.S. Census, and the FBI's 2000 Uniform Crime Reporting Program Data (UCRPD).[11] Because the SCCBS Census tract information is based on 1990 boundary definitions, all data is geographically matched to 1990 boundaries.

The *NLCD* is a 21-class land cover classification scheme – derived from satellite data – mapped consistently over the contiguous area of the United States at a spatial resolution of 30-meter pixels. The Wharton GIS Lab geographically matched this data to the Census tract level. This tract level land use data set was then used to derive the preferred proxy measure for the inelasticity of new housing supply in a neighborhood: the share of developed land in a Census tract. The measure is defined as:

$$\%\text{-}Developed = \frac{Developed\ land\ (residential,\ commercial,\ industrial,\ transport)}{Developable\ land\ (all\ land\ except\ water,\ ice,\ barren,\ wetlands)}. \qquad (1)$$

The *NASD* provides detailed topography data at the U.S. county level. The data is derived from the Economic Research Service, United States Department of Agriculture and is used to instrument for the share of developed land in a Census tract. Similarly, the *NBER data repository* provides data on state level mortgage subsidy rates, which are used as an instrument to identify a survey respondent's homeownership status.[12]

The *Census* provides additional control variables including the homeownership rate, the share of housing units in multi-unit buildings, the share of housing units in single family detached homes, the size of the settlement to which the neighborhood belongs, the average household income, the income Gini-coefficient, and measures of linguistic and ethnic heterogeneity. Moreover, geographically matching the Census with the NLCD provides an additional measure: the population density in the developed area.

These location-specific control variables are with one exception – the population size of the place to which the tract belongs[13] – measured at the *county*-level. A previous version of this paper used tract-level variants instead. However, any variable at the neighborhood-level is open to the charge that its inclusion might introduce an endogeneity bias. For example, if

[11] ICPSR provided access to Census and FBI crime data.

[12] The NBER's TAXSIM program calculates federal and state income tax liabilities from survey data. As a "side product" state-level income tax rates and corresponding mortgage subsidy rates are reported. The URL is http://www.nber.org/~taxsim/state-rates (last accessed on July 24, 2007).

[13] Some tracts do not belong to any place. In this case, the average place size in the county is used instead.

ethnic homogeneity leads to greater social capital investment, then an individual who has a desire to build social capital may be more likely to choose an ethnically homogeneous neighborhood. Instrumenting for the neighborhood controls in addition to the focal variables of this study would be stretching the capacity of the data too far. Hence, as a compromise, the controls are measured at a larger geographical scale, thereby minimizing potential endogeneity bias. Reassuringly, whether the controls are measured at the tract- or county-level, has no significant effect on the main findings in this paper. Finally, the *UCRPD* provides information on the murder arrest-rate in the county.

While the total SCCBS communities-sample consists of 26,230 adults, the regression samples are somewhat smaller due to missing values.[14] Most importantly, for some Census tracts that belong to the forty-one community sample, no corresponding land use data could be matched. The full set of variables and corresponding summary statistics of the regression sample are described in more detail in Table 1.

3.2. Land availability and the elasticity of new housing supply

The choice of the share developed land in a Census tract as proxy for the local *in*elasticity of new housing supply is theoretically as well as empirically motivated. To begin with, the sheer impossibility of converting land in built-up localities explains why highly developed places have more inelastic supply of new housing than locations with plenty of open space.

The second argument is a purely mechanical one; mathematically, as long as the supply curve has a positive price intercept, even a linear supply curve generates a positive relationship between land scarcity and supply *in*elasticity. A positive price intercept merely implies that the present value of future land rents from farming is greater than zero.

The third line of reasoning is founded in the endogenous zoning literature that considers land use restrictions as political outcomes determined by voting and lobbying. While owners of developed land have an incentive to limit new housing supply to protect the value of their assets, owners of undeveloped land have an interest in keeping land use regulation flexible. Hence, to the extent that land use controls are the outcome of a political process, new housing supply should be more inelastic in more developed locations where owners of developed land (homeowners and landlords) are more numerous and politically influential than owners of undeveloped land (e.g., farmers) (Hilber and Robert-Nicoud, 2006). Consistent with this reasoning, Hilber and Robert-Nicoud (2006) provide empirical evidence that land scarcity has a causal positive effect on the local regulatory restrictiveness. Various other studies provide

[14] The survey was also conducted nationally. The national sample consists of 3,003 adults. The restriction to the "communities" sample permits the use of community sample fixed effects for all observations in the sample.

support for this finding. For example, Rudel (1989) demonstrates that municipalities in Connecticut adopted land use laws later if they (i) are at a greater distance to New York City and (ii) had a greater share of farmland. Moreover, increases in restrictiveness occurred in those places that experienced the largest declines in farming during the 1960s. Fischel (2004) documents that land use regulations typically originate in the centers of large cities and then spread to the surrounding suburbs and towns. Finally, Glaeser, Gyourko and Saks (2005) find a very high "regulatory tax" for Manhattan condominiums but much lower values for the entire metro area. Overall, these studies overwhelmingly support the view that undeveloped land can be more easily converted into housing in less regulated locations at the edge of cities, but that conversion is costly and involves large time lags in more developed locations.

The final argument is based on the real option literature, which assumes that land redevelopment is costly and developable open land therefore has an option value (Titman, 1985; Capozza and Helsley, 1990; Capozza and Li, 1994; Novy-Marx, 2005). In such a setting, when a neighborhood becomes built-up, the incremental opportunity cost of adding an extra housing unit increases exponentially, implying inelastic supply of new housing.

While the evidence discussed above is circumstantial, Hilber and Mayer (2008) directly estimate supply elasticities for locations with more and less developable land for future construction. Using a structural model and a well-identified strategy, their findings suggest that more developed communities indeed have more inelastic supply of new housing and a greater extent of house price capitalization of local public school spending and local amenities. In a similar vein, Brasington (2002) demonstrates, by splitting a sample into houses on the interior and the edge of the urban area, that capitalization is weaker towards the edge where housing supply elasticities and developer activity are greater. McDonald and McMillen (2000) show for Suburban Chicago that residential development is greater in areas with a large proportion of agricultural land. Finally, Saiz (2008) demonstrates that areas that are widely regarded as supply inelastic are also severely land-constrained by topography.

3.3. Empirical specifications, endogeneity issues, and identification strategies

The base specification (*Specification 1*) estimates – similar to previous studies such as DiPasquale and Glaeser (1999) – the effect of a survey respondent's homeownership status on particular measures of individual social capital investments. Two of these measures are neighborhood specific (social interactions with immediate neighbors[15] and participation in

[15] The survey only asks for the number of social interactions. It does not distinguish different interaction-types or intensities. To the extent that interactions are of a negative nature, there are likely also fewer of them. A log-transformation of the dependent variable was performed because tests revealed that a semi-log specification

neighborhood associations), the other two are non-neighborhood specific (social interactions with co-workers outside work and participation in service and fraternal organizations). Specification 1 can be expressed as:

$$\textit{Individual contribution to social capital} = \beta_0 + \beta_1\left(own\right) + \beta_2\left(\%\ developed\right) + \sum_{k=1}^{K}\beta_{k+2}\left(control\ k\right) + \varepsilon. \tag{2}$$

The respondent's homeownership status (*own*) – the focal variable in the base specification – is 1 if the respondent owns and 0 otherwise. All else equal, individual homeownership can be expected to be positively related to individual investments in *neighborhood* specific social capital $(\beta_1 > 0)$. However, unless the findings are driven by selection based on inherent differences in social aptitudes one would not expect individual homeownership and investments in *non-neighborhood specific* social capital to be positively related.

Besides the share developed land (*% developed*), the base specification consists of numerous location- and respondent-specific controls outlined in Section 3.1, including measures of the existing duration and expected length of stay in the neighborhood. The location controls also include *community sample fixed effects* (one dummy for each SCCBS-community) to control for location specific time-invariant unobservable characteristics.

Specification 2 differs from the base specification in that it additionally includes the interaction effect between the survey respondent's homeownership status (*own*) and the share of developed land in the tract *(% developed*):

$$\textit{Individual contribution to social capital} = \beta_0 + \beta_1\left(own\right) + \beta_2\left(\%\ developed\right) + \beta_3\left(own \times \%\ developed\right) + \sum_{k=1}^{K}\beta_{k+3}\left(control\ k\right) + \varepsilon. \tag{3}$$

As outlined in the theory section, individual homeownership can be expected to be more strongly positively related to individual contributions to *neighborhood* specific forms of social capital in more developed locations $(\beta_3 > 0)$ (Prediction 1). However, to the extent that social capital investments are driven by house price induced incentives and/or reciprocal behavior, one would not expect this prediction to hold for contributions to non-neighborhood specific forms of social capital (i.e., Prediction 4 should not hold).

The two specifications are first estimated using ordinary least squares (OLS)[16] and including urban and rural observations. One concern related to rural residents (outside of

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achieves a better fit. One interaction was added to the total number in order to avoid loosing observations with zero interactions. Estimates with an untransformed dependent variable yield similar qualitative results.

[16] A linear probability model is preferred because the interpretation of interaction effects in logit and probit models is not straightforward (see Ai and Norton, 2003).

metro areas) is that they may be qualitatively different from those who choose to settle in more urban localities. For example, rural dwellers may desire to interact less than those who live in an urban tract with a similar level of development. Hence, the results may be driven by innate characteristics of rural dwellers. In order to address this concern, the specifications are re-estimated using a sample that omits survey respondents who live in rural non-MSA locations. As will be demonstrated below, the substantive results still hold, in fact get marginally stronger, for the *MSA-only sample*. A related concern is that rural dwellers may fear development less than urban dwellers in similarly developed tracts. This is because demand for housing is also driven by demand for amenities other than neighborhood specific social capital (see Section 2.3). To capture these demand side influences, the following variables are included in the empirical analysis: the size of the settlement to which the tract belongs, the average income in the county, and the murder arrest-rate in the county.

An instrumental variables (IV) approach is used to address various endogeneity concerns. The first concern relates to the *land scarcity* variable: neighborhoods with more active (sociable) homeowners may enact more restrictive zoning laws and other regulations to preserve land and/or limit housing supply. This concern is somewhat alleviated by the fact that the land use data used in the empirical analysis was collected in 1992, whilst all other variables, including the homeownership status of the respondents and the social capital measures, are from 2000. Social capital investments in 2000 should not explain the share of developed land 8 years earlier. Secondly, if more active homeowners enact stricter zoning that preserves open land, one should find that the coefficient on the variable own $\times$ % developed has a negative sign. However, as is demonstrated below, the opposite is the case. Thus, the bias goes against the predicted results.[17] Nevertheless, to fully address the concern, instruments were sought that help identify local land scarcity. These instruments should be strongly related to the share developed land in the tract but unrelated to the error term. Specifically, I use the share wetlands in the tract and a number of county specific dummy variables for different topography types (flat plains, smooth plains, irregular plains, tablelands with moderate relief, and plains with hills). The share wetlands in a tract can be expected to be strongly positively related to the cost of converting the remaining developable land in the tract into housing and, hence, all else equal, should be negatively related to the

[17] One might also be concerned that land scarcity is related to household mobility and that the empirical specification might not sufficiently control for mobility. However land scarcity is positively related to intended mobility (i.e., households in urbanized areas are more mobile). Hence, if anything, omitting mobility would also bias against finding the proposed effect. Moreover, adding a variable for the interaction between individual homeownership and intended mobility has virtually no effect on the coefficients of the variables of interest.

share developed land in the tract. Similarly, the topography is expected to affect land conversion costs and hence, all else equal, the share developed land in an area. Plains and tablelands with moderate relief can be expected to have comparably low conversion costs and should therefore be more developed. As Wooldridge (2002) demonstrates, the product of an instrument for a given endogenous variable and an exogenous component of an interaction term is also a valid instrument. Consequently, the instruments used to identify the share developed land are also used to identify the interaction term own$\times$% developed.

The second endogeneity concern relates to the variable *population density in the developed area of the tract*. Note first that this measure is quite different from the "conventional" population density measure. In fact the "conventional" measure (i.e., total population in the tract divided by the tract's total land area including undeveloped and non-developable land) can be decomposed into two multiplicative components: the population density *in the developed area* of the tract and the share of developed land in the tract. This decomposition enables separate estimation of the effect of land scarcity (potential supply of new housing) and the physical proximity of neighbors. One endogeneity concern related to the density measure used in this paper is that more sociable people could enforce minimum lot size restrictions that, in turn, affect the population density in the developed area. To address this concern, I use the following instruments: the (log of the) population density in the developed area of the county[18] and a dummy variable that indicates whether the tract is located in a county with high mountains. The use of a measure of density at a more aggregated geographical level as instrument for tract-level density essentially follows an identification strategy proposed by Brueckner and Largey (2008), who use (conventional) density measures at the urbanized area- and at the MSA-level to identify (conventional) tract level density.[19] The identifying assumption is that "although people may self-select across tracts in endogenous fashion, choice of a [more aggregated geographic area] is unrelated to unobservable characteristics affecting social interaction" (Brueckner and Largey, 2008). In the context of the empirical analysis in this paper, the assumption is that a highly sociable person will not move from a low to a high density county solely due to differences in the level of social interaction. The validity of the second instrument relies on the assumption that

[18] The rationale for choosing the county- instead of the MSA-level is the fact that a significant fraction of survey respondents lives outside MSAs. While levels of social capital at the county-level may occasionally induce people to relocate, the identifying assumption implies that the county-area choice is influenced mostly by other factors such as employment related reasons. As an additional robustness check, I estimated specifications by limiting the sample size to the MSA-level and using the population density in the developed area of the *MSA* as an instrument for tract-level density. Results are very similar (see Appendix Table A9 for details).

[19] Largely consistent with the findings in this paper, Brueckner and Largey (2008) show that low-density living (urban sprawl) does not have a negative effect on social interactions.

in highly mountainous areas sprawl is less feasible. Hence, while population density – measured in a conventional way – can be expected to be low in highly mountainous localities (Brueckner and Largey, 2008, use a measure of the ruggedness of the MSA's terrain to identify (conventional) population density, relying on the assumption that feasible construction densities are lower in rugged terrain), all else equal, the population density in the *developed* pockets (valley-villages) can be expected to be comparably high.[20]

The third potential endogeneity issue relates to the respondent's *homeownership status*. Omitted variables that may explain the homeownership status may also be related to the four measures of social capital. In order to address this concern, additional instruments are used to identify the respondent's homeownership status and the variable's interaction with land scarcity. The identification strategy exploits three facts: (i) homeowners in the U.S. can deduct mortgage interest from their income taxes, (ii) this tax subsidy differs across U.S. states, and (iii) the sensitivity of a household's housing tenure decision with respect to tax subsidies is likely to vary by income category. Hence, the state-specific total maximum mortgage subsidy rate (related to both federal and state income tax) interacted with each income category dummy (allowing for a differential impact of the variable for different income groups) can be used to identify the survey respondent's homeownership status. The *total maximum* mortgage subsidy rate (rather than using the respondent's individual rate) has the advantage that it is independent of individual decisions as well as of the within state income distribution. The total maxim subsidy rate should explain a survey respondent's homeownership propensity but should not be a function of individual social capital contributions. Again following Wooldridge (2002), the instruments to identify the interaction term own × % developed are derived as the interactions of the instruments for the respondent's homeownership status and the instruments for the share developed land.

A few other control variables can also be argued to be endogenous. Specifically, an individual who is more concerned with social capital investment in the neighborhood or at work may be less likely to locate in an area that involves a long commute and reduced time for investments. The expected duration in the neighborhood may also be suspect. People embedded in social networks may be less tempted to leave. Instrumenting for these variables

[20] One might be concerned that high mountains proxy for beauty and this attracts environmentalists and other nature lovers who are simply "better people". However, simple correlation coefficients and using the variable as a control (rather than as an excluded instrument) in the regressions that estimate neighborhood-specific social capital, cast doubt on this assertion. The correlation coefficients are not statistically different from zero and the coefficient on the variable when included as control is also completely insignificant. Also note that the MSA-only sample does not include highly mountainous tracts and the instrument is consequently missing in MSA-only regressions. Moreover, the results reported below are qualitatively similar when the instrument is dropped.

– in addition to the focal variables – would be stretching the capacity of the data too far. Hence, as a robustness check, specifications are reported with and without these suspect controls. As will be demonstrated below, the results – particularly the coefficients of the focal variables – are virtually unaffected by the inclusion/exclusion of these variables.

Standard errors in all specifications are clustered by county as a set of instrumental variables used to identify the share developed land is county specific. Clustering corrects for within group autocorrelation and across group heteroskedasticity, implying robust standard errors. Finally, several instrument diagnostics and specification tests were carried out. One caveat with these diagnostics is that the relevant statistics can react sensitively to the model specification. The tests cannot prove that the chosen instruments are exogenous or valid. Nevertheless, they are useful to identify potential issues. The relevant results of the diagnostics are discussed below. Detailed results are reported in the regression tables.

3.4. Regression results

First-stage regression results

Full first stage regression results are reported in Table 2 for the base specification without interaction effects. (Full corresponding second-stage results are reported in Appendix Table A3. First- and second-stage-results for the identical specifications of the MSA-only sample are reported in Appendix Tables A4 and A5.) The first column in Table 2 reports first stage regression results for the land scarcity variable, assuming that the other two focal variables, population density *in the developed area* of the tract and individual homeownership, are exogenous. As expected, the share wetland is significantly negatively associated with land scarcity, while the topography measures that indicate land that is easy to build on are positively associated with land scarcity. Columns (2) and (3) report results for the land scarcity variable and the density variable, still assuming that the homeownership variable is exogenous. The results for the land scarcity variable are virtually unchanged. Moreover, the instruments used to identify the density variable have the expected signs and are strongly statistically significant, that is, tracts located in densely populated counties and tracts that are surrounded by high mountains have higher densities in the developed areas of the tract. Finally, columns (3) to (6) report results assuming that all three variables are endogenous. Again, results for the land scarcity variable and the density variable are virtually unchanged. Finally, as expected, the total mortgage subsidy rate is positively associated with the individual homeownership status. In fact, the results suggest that respondents at the bottom and top end of the income distribution react somewhat more sensitively to the subsidy rate compared to medium income households. This finding is quite plausible. While high-income households benefit most – in absolute terms – from mortgage interest rate tax deductions, they also have higher opportunity costs of time (e.g., hedge fund managers may prefer to outsource maintenance and repair issues to landlords) and often are quite mobile (i.e., have a relatively short expected duration in their property). Hence, renting is often a sensible option for them as long as the mortgage subsidy rate is not too large. Low-income households may react particularly sensitively to mortgage interest rate subsidies because high subsidies may enable them to overcome the liquidity constraints that prevent them from buying. Middle-income families (often with children) can reasonably be expected to react least sensitively as the relative net-benefit of owning is highest for this group.

Second-stage results: Neighborhood specific measures of social capital

Table 3 reports estimates for the total number of social interactions with immediate neighbors per year. Results are reported for 12 different specifications and for the *focal* explanatory variables. The results for the numerous control variables are only reported for the base specification (in Appendix Table A1) as coefficients and significance levels of these controls are quite similar across specifications.[21]

The first four columns in Table 3 (estimated with OLS) examine whether, all else equal, homeowners talk more often to their immediate neighbors. While column (1) reports results for the base specification with no controls except community fixed effects, column (2) adds all other controls except the variables that measure commuting habits and expected length of stay as these might be endogenous (see Section 3.3). Column (3) also adds these suspect controls. Finally, the specification in column (4) differs from that in column (3) in that it limits the sample size only to survey respondents who live in metro areas. The coefficient on the individual homeownership status variable in column (1) is quite large and highly statistically significant at the 1% level. Adding further controls (including the demand side variables discussed in Section 2.3) in columns (2) to (4) reduces the coefficient on the homeownership variable by over half (but the effect remains significant at the 1% level). It is worth noting that the change in the size of the coefficient is not at all driven by the inclusion of the demand variables. The coefficient on the homeownership variable is appreciably unchanged in columns (2) to (4), suggesting that the findings are robust to whether the suspect

[21] However, the effects of many controls vary depending on whether neighborhood- or non-neighborhood-specific measures of social capital are considered (see Table A1). For example, respondents with children are more socially interactive at the neighborhood level (where children-specific club goods are more relevant) but are significantly less socially interactive at work and in service/fraternity organizations, consistent with the view that time constrained households substitute less beneficial forms of social interactions for more beneficial ones.

controls and rural observations are included or not. In fact, the coefficient on the individual homeownership variable is slightly larger in the MSA-only specification. The effect of individual homeownership is economically meaningful. Based on the specification reported in column (3), all else equal and measured at the sample-mean, homeowners have about 14 additional social interactions with immediate neighbors (or: are 13.7% more socially interactive) compared to renters (other quantitative effects are reported in Table 7).

The first four columns provide strong support for the proposition that homeowners are more socially interactive. Columns (2) to (4) also indicate that the share developed land (positive coefficient) and the population density in the developed area of a tract (negative coefficient) are related with opposite signs to the number of social interactions with immediate neighbors. Yet, in the 2SLS-estimates reported below the effect of the density variable becomes statistically insignificant. Columns (3) and (4) provide support for Predictions 2 and 3. Respondents interact with each other after a brief period with not much evidence of further interaction as the duration in the neighborhood increases, lending support to Explanation 1. Respondents socially interact more if their *expected* duration in the neighborhood is longer, consistent with Explanations 1 and 2. Finally, Table A1 documents that the homeownership propensity in the county is not statistically significant. This finding is again consistent with Explanation 1 (see Section 3.3) but does not lend support to Explanation 2 (although it is plausible that the expected effects offset each other and/or only matter at a smaller geographical scale). Overall, these results suggest that house price capitalization provides a plausible explanation for the stylized facts presented at the outset. The findings are also largely consistent with norms of reciprocity. However, the latter explanation cannot exclusively explain all empirical findings.

The specifications in columns (5) to (8) of Table 3 (still estimated with OLS) mirror those of the first four columns except that an interaction term own×% developed is added. All four specifications provide strong support for Prediction 1: individual homeownership is more strongly positively linked to social interactions among immediate neighbors in more built-up neighborhoods. The coefficient on the variable own×% developed is positive and highly significant at the 1% level in all four cases. Adding controls in column (6) reduces the coefficient on the interaction term somewhat (from 0.45 to 0.36) but again this is not driven by the addition of the demand variables. (In fact adding the demand controls marginally increases the magnitude and statistical significance of the interaction term, consistent with expectations.) Adding suspect controls (column 7) or removing rural observations (column 8) has a quite limited effect on the size of the coefficient of the interaction term. The effect is reasonably meaningful in economic terms. The move from a neighborhood that is halfway developed to one that is 86% developed (plus one standard deviation), adds 4.1 social interactions to a homeowner's tally but reduces the renter's tally by 2.7 interactions.[22]

Interestingly, when adding controls, the independent (positive) effect of the respondent's homeownership status variable on the number of social interactions with neighbors becomes completely statistically insignificant. This implies that homeowners are not per se "better citizens" but rather that the divergent behavior of homeowners and renters is driven by local land scarcity. This is consistent with Explanation 1 as the homeownership status should not be relevant in the absence of house price capitalization effects. The finding also appears to be consistent with Explanation 2. Although homeownership (or better: the longer expected duration associated with homeownership) should facilitate reciprocal cooperation, in a neighborhood with many potential newcomers, a reciprocal cooperation-equilibrium may not be feasible independent of the respondent's homeownership status (or the homeownership propensity in the area). Note also that the independent effect of the share developed land variable now has a negative sign, although the effect is only marginally significant and in one case insignificant. The findings also provide further support for Predictions 2 and 3. Overall, the findings are again consistent with Explanation 1 and largely, but not entirely, with Explanation 2. The findings are not consistent with the outcome of a Tiebout sorting process.

The endogeneity issues related to the land scarcity and the density variable are addressed using a two stage least squares-estimator (2SLS). The results – which provide additional support for the above conclusions – are reported in the last four columns of Table 3. Column (9) reports results for a specification without any controls, while the remaining three columns include all controls. The density variable is considered to be exogenous in column (10) but endogenous in columns (11) and (12). The last column reports results for the MSA-only sample. The results again provide strong support for Prediction 1. The interaction effect own $\times$ % developed remains positive and significant at least at the 2% level in all four specifications. The coefficient increases in size; in line with the reasoning in Section 3.3 that endogeneity of the land scarcity variable creates a downward bias. However, the effect is also more imprecisely measured. The coefficient on the interaction variable is fairly stable across specifications and the quantitative effects are meaningful. A one standard deviation increase

[22] The negative sign of this effect is due to the negative coefficient on the share developed variable. The coefficient is not statistically significant and is used to calculate the effect for homeowners *and* renters. Hence, the gap of 5.9 interactions between the two groups is unchanged if the statistically insignificant effect is ignored. The finding of a negative effect for renters is consistent with theory. To the extent that other factors induce renters to invest, one would expect that rent adjustments negatively affect the renters' social capital investments.

of the land scarcity variable, measured at the sample mean, increases the difference in the number of social interactions between homeowners and renters by +13.1 and +12.8, respectively, compared to +6.9 in the OLS estimate reported in column (7). The independent effect of the respondent's homeownership status remains statistically insignificant.

Two diagnostic statistics are reported for all 2SLS estimates to assess potential weakness of instruments. The *first-stage F-statistics* documented in columns (9) to (12) of Table 3 either comfortably exceed the critical value or are close to it, indicating that the instruments may not be weak.[23] However, strictly speaking, when there are multiple endogenous regressors, individually satisfactory F-statistics are not sufficient. To assess whether a given group of instruments is weak in this case, Stock and Yogo (2005) suggest using the *Cragg-Donald F-statistic*. This statistic, again reported in columns (9) to (12) of Table 3, indicates that the group of instruments is not weak in any of the four specifications.[24] A number of additional diagnostics were carried out including Anderson canonical correlations likelihood-ratio tests (a test of model identification), Hansen-J statistics (a test of instrument validity). All specifications pass these tests. Finally, tests for endogeneity of the endogenous variables (Wu-Hausman F and Durbin-Wu-Hausman-χ^2) cannot reject the hypothesis that treatment as an exogenous variable would yield consistent estimates.

Table 4 reports linear probability estimates for the respondent's participation in neighborhood associations. The dependent variable is 1 if the household participates and 0 otherwise. Apart from the dependent variable, all specifications are identical to those in Table 3. Overall, results are very similar qualitatively to those in Table 3. The estimates of the base specification reported in columns (1) to (4) all suggest that individual homeownership is positively and statistically highly significantly related to participation in neighborhood associations. The quantitative effects are economically meaningful. All else equal, the probability that a homeowner participates is 11.1% points higher than that of a renter. As only 14.2% of all renters in the sample participate, homeowners are almost 80% more likely to join a neighborhood club compared to renters.

The remaining specifications reported in columns (4) to (12) provide strong support for Prediction 1. Individual homeownership is more strongly positively linked to participation in

[23] The first-stage F-statistic tests the hypothesis that the instruments do not enter the first stage regression of 2SLS. Staiger and Stock (1997) suggested a rule of thumb that instruments should be deemed weak (and 2SLS inference not considered fully reliable) if the first-stage F-statistic of an endogenous regressor is less than ten (see also Stock *et al.*, 2002). Stock and Yogo (2005) provide a more precise decision rule.

[24] The hypothesis that the desired maximal bias of the 2SLS-estimator relative to OLS exceeds 0.05 can be rejected with 95% confidence in all cases. See Stock and Yogo (2005) for a more in-depth discussion of the test and its interpretation as well as for tabulations of critical values.

neighborhood associations in more developed locations. Interestingly, in the OLS-specifications the coefficient on the variable own×% developed increases slightly when the controls are added. The coefficient on the interaction term is remarkably stable across the four 2SLS-specifications (ranging from 0.18 to 0.22). Again similar to the results reported in Table 3, the magnitude of the effect of the interaction term is substantially larger in the 2SLS-estimates than in the OLS-estimates. The effects are quantitatively very meaningful. According to the OLS-specification with controls reported in column (7), a one standard deviation increase in the share developed land increases the participation probability-gap between homeowners and renters by 3.5% points or, measured at the sample mean, by almost 14%. According to the corresponding 2SLS-estimates reported in column (11), a one standard deviation increase in the share developed land increases the participation probability gap by 6.3% points or, again measured at the sample mean, by roughly 25%. It is worth nothing that the independent effect of the homeownership status variable in columns (10) to (12) – the specifications with most or all controls – is completely statistically insignificant providing further support for the proposition that homeownership alone does not generate "good citizens" (consistent with Explanations 1 and 2). The results of the instrument diagnostics – reported in Table 4 – are very similar compared to those for Table 3.

Second-stage results: Non-neighborhood specific measures of social capital

Table 5 documents results for the two non-neighborhood specific measures of social capital. Panel A of Table 5 reports estimates for the number of social interactions with co-workers outside work per year. The sample size of 13,491 respondents is notably smaller compared to the previous estimates. This is because no data is available for non-working respondents. Panel B reports estimates for the likelihood that a respondent participates in a service or fraternal organization. The dependent variable is 1 if the respondent participates and 0 otherwise. Results are only reported for specifications with the full set of controls, for the full sample and the MSA-only sample respectively. (The tables that correspond to Tables 3 and 4 are available in Appendix Tables A6 and A7.) Again, OLS results are first reported for specifications without the interaction term own×% developed, then the interaction term is added, finally the full specification is re-estimated using 2SLS. The OLS estimates without interaction effects reported in columns (1a) and (2a) suggest that individual homeownership is negatively and statistically significantly related to social interactions with co-workers. This is consistent with the view that time constrained homeowners substitute less beneficial activities (e.g., meeting with co-workers after work) for more beneficial ones (e.g., carrying out home improvements or socially interacting with neighbors). Interestingly, in Panel A the variable "expect to stay for at least 5 more years" is positive and statistically significant in all specifications except column (5a) where the coefficient is not quite significant at the 10%-level. This finding is consistent with the reasoning in Section 2.2. and provides support for Explanation 2. Also consistent with that reasoning, the expected length of stay variable is insignificant in all specifications in Panel B. The interaction effects own×% developed in columns (3) to (6) are all completely insignificant, rejecting Prediction 4 and casting serious doubt on Explanation 3. In contrast, Table 5 provides additional support for Explanations 1 and 2 in the sense that the findings do not falsify these explanations. The instrument diagnostics documented in Table 5 are similar to those reported in Tables 3 and 4.

Results of specifications with endogenous homeownership

The results so far are based on the somewhat questionable assumption that individual homeownership is exogenous. In contrast, Table 6 reports 2SLS estimates that treat the individual homeownership variable as endogenous. Results are reported for Specification 2 and all four measures of social capital. Note in this context that, based on the estimated specifications, tests for endogeneity of individual homeownership (with the exception of the specification for social interactions with immediate neighbors) cannot reject the hypothesis that treatment as an exogenous variable would yield consistent estimates. This suggests that any endogeneity of the variable might not have a deleterious effect. In light of the difficulty to find valid and strong instruments that identify homeownership (see below) this casts some doubt on whether the variable should be treated as endogenous.

With this caveat in mind, first turn to the specifications for the two neighborhood-specific measures of social capital reported in columns (1) to (6). Apart from treating individual homeownership as endogenous, these specifications are identical to those in columns (10) to (12) of Tables 3 and 4. The key variable of interest is again the interaction effect own×% developed and, again, the coefficients on this variable are positive and highly significant in all cases (at least at the 2%-level). The coefficients on the interaction effects (and the corresponding standard errors) are stable across specifications and are about twice as large compared to those reported in Tables 3 and 4. Consequently, the implied quantitative effects are substantial. The coefficient in column (5) implies that a one standard deviation increase in the share developed land increases the participation probability gap between homeowners and renters by 17.4% points. This is a very meaningful effect given that, on average, only roughly 14% of renters and 30% of homeowners participate in neighborhood associations. The finding of a large increase in the coefficients is similar to that in DiPasquale and Glaeser (1999) who estimate a specification analogous to the base specification in this paper but use an alternative strategy to identify homeownership. They also see their coefficients and standard errors increase substantially – likely due to weakness of the instrument – and they conclude that their OLS estimates may be more accurate.[25]

To assess potential weakness of instruments, Table 6 reports both first-stage F-statistics and Cragg-Donald F-statistics. The latter statistics indicate a weak instrument problem in all specifications. One way to partially address this issue is to use a JIVE- instead of a 2SLS-estimator. The JIVE-estimator is designed to eliminate the correlation between the first-stage fitted values and structural error-term that causes the 2SLS-estimator to be biased. Angrist *et al.* (1999) show that JIVE-estimators perform much better than 2SLS-estimators in models with many weak instruments, that is, they generate much smaller bias. Hence, in an attempt to estimate the relevant coefficients with less bias, I re-estimated the specifications in Table 6 using a JIVE-estimator. The results (reported in Appendix Table A8) are quite similar to those in Table 6, both in terms of magnitude of the coefficients and statistical significance. Overall, the results suggest that the positive effect of homeownership on individual investment in neighborhood specific social capital may be *causal* and largely confined to built-up locations, providing further support for Prediction 1 (and Explanations 1 and 2). A few other results are worth noting. The estimates in columns (4) to (6) suggest that residents are more likely to participate in neighborhood organizations during the first few years after moving in and that participation decreases after 10 years. Moreover, the expected length of stay variable is now no longer consistently significant across specifications, although, when the specifications are estimated using a JIVE-estimator, the variable is significant at least at the 5%-level in all cases.

Finally, columns (7) to (12) of Table 6 report results for the two non-neighborhood specific social capital measures. Again, the results of the various specifications confirm the previously reported finding that the coefficient on the interaction term is not statistically significant for non-neighborhood specific measures of social capital (inconsistent with Explanation 3). Cragg-Donald F-statistics again indicate a weak instrument problem and, again, re-estimating the specifications using a JIVE-estimator leaves results qualitatively unchanged. One other finding is worth noting: the daily commuting time is not significantly related to participation in any associations. Yet, the variable is strongly negatively related to

[25] I also re-estimated the specifications in Table 6 using DiPasquale and Glaeser's (1999) identification strategy. The alternative instrument yields similar results but test-statistics imply weaker identification.

both measures capturing social interaction. Consistent with the proposition that more time-constraint individuals are less socially interactive, respondents with long commutes have significantly fewer social interactions with neighbors *and* co-workers outside work.

4. Conclusions

In this paper I present evidence suggesting that the (causal) positive effect of individual homeownership on individual investments in neighborhood specific social capital is mainly confined to more built-up places. Homeownership alone does not ensure the formation of social capital. A number of explanations are explored. Overall, the empirical findings provide strong support for the proposition that individual investment in social capital is facilitated by house price induced incentives. In built-up localities the social capital induced entry of newcomers increases house values more strongly, discouraging others from entering and thereby preventing (further) dilution of social capital. Hence, house price capitalization ensures that immobile homeowners – in contrast to renters – can internalize the benefits of their investments. In a similar vein, the social capital induced house price premium ensures that individuals only enter a neighborhood when they have a desire to engage (immediately) in the neighborhood's social network(s), ensuring the provision of social capital induced club goods in the longer run. In contrast, in less developed neighborhoods there appear to be few (additional) incentives for homeowners to invest in social capital.

The evidence is also largely consistent with the proposition that social interactions at the neighborhood level are driven by benefits arising from reciprocal cooperation. Inelastic housing supply may help sustain a reciprocal cooperation equilibrium. However, the reciprocal cooperation-mechanism alone cannot explain all findings. Finally, the proposition that the stylized facts presented at the outset are driven by selection based on inherent differences in social aptitudes or by Tiebout sorting can largely be discounted.

In a broader context, the findings imply that house price capitalization (and possibly reciprocal cooperation) may only provide a compelling mechanism for homeowners to make long-term investments in their neighborhoods and local communities (i.e., to take into account the preferences of future homebuyers and possibly future generations) if housing transaction costs are sufficiently high and potential new housing supply limited. Therefore, differences in local housing market conditions may provide an additional explanation – besides sorting and peer effects – why suburban locations in highly urbanized areas (i.e., locations with high homeownership rates and little developable land) not only tend to have better local public services (such as local public schools) but also greater accumulation of social capital.

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Summary Statistics and Regression Tables

TABLE 1: Variable list and descriptive statistics

(N=20,505 unless otherwise noted)

Variable	Mean	Standard Deviation	Minimum	Maximum
Social capital measures				
Number of social interactions (i.e., talk or visit) with immediate neighbors	114.0	112.4	0	312
Respondent participates in neighborhood association (N=20,424)	0.25	0.44	0	1
Number of times socialized with co-workers outside work (only workers) (N=13,491)	13.5	17.5	0	60
Respondent participates in service or fraternal organization	0.14	0.35	0	1
Respondent specific measures				
Respondent is homeowner	0.70	0.46	0	1
Number of years lived in local community (omitted category: Less than one year)				
One to five years	0.26	0.44	0	1
Six to ten years	0.15	0.36	0	1
Eleven to twenty years	0.17	0.38	0	1
More than twenty years	0.27	0.44	0	1
All life	0.084	0.28	0	1
Expect to stay in community for at least 5 more yrs.	0.76	0.43	0	1
Respondent is daily commuter	0.66	0.47	0	1
Daily commuting time in hours (no commute = 0)	0.28	0.41	0	4.92
Daily commuting time (only workers, N=13,491)	0.43	0.43	0.020	4.92
Race (omitted: White)				
Black	0.11	0.32	0	1
Asian	0.016	0.13	0	1
Hispanic	0.067	0.25	0	1
Other non-White	0.055	0.23	0	1
Respondent is male	0.41	0.49	0	1
Age of respondent	44.3	16.1	18	99
Respondent has children	0.40	0.49	0	1
Total household income, 1999 (omitted: Below $30,000)				
Between $30,000 and $49,999	0.25	0.43	0	1
Between $50,000 and $74, 999	0.20	0.40	0	1
Between $75,000 and $99, 999	0.11	0.31	0	1
Over $100,000	0.12	0.32	0	1
Over $30,000 unspecified	0.040	0.20	0	1
Marital status (omitted: Currently married)				
Marital status: Never married	0.25	0.43	0	1
Marital status: Widowed	0.070	0.26	0	1
Marital status: Divorced	0.13	0.34	0	1
Marital status: Separated	0.030	0.17	0	1

(Continued on next page)

TABLE 1 *(Continued)*

Variable	Mean	Standard Deviation	Minimum	Maximum
Highest education completed (omitted: Less than high school)				
High school diploma	0.24	0.43	0	1
Some college	0.22	0.41	0	1
Assoc. degree (2 y.) or specialized	0.11	0.31	0	1
Bachelor's degree	0.18	0.38	0	1
Some graduate training	0.036	0.19	0	1
Graduate or professional degree	0.14	0.34	0	1
Current employment status (omitted: Working)				
Temporarily laid off	0.016	0.13	0	1
Unemployed	0.023	0.15	0	1
Retired	0.15	0.35	0	1
Permanently disabled	0.032	0.18	0	1
Homemaker	0.065	0.25	0	1
Student	0.032	0.18	0	1
Census tract specific variables (from NLCD 1992)				
% Developed land in Census tract, 1992	0.52	0.36	0.000092	1
Only respondents in center city (N=10,749)	0.68	0.30	0.0005854	1
Only respondents outside MSA (N=2,480)	0.12	0.21	0.000092	0.98
Population density in developed area (in person per m^2)	0.0031	0.0033	0.0000016	0.20
Census county level controls (from Census 2000, matched to 1990 boundaries)				
Homeownership rate	0.65	0.10	0.20	0.88
Gini-coefficient of income distribution	0.41	0.026	0.30	0.48
Linguistic heterogeneity	0.27	0.15	0.050	0.68
Ethnic heterogeneity	0.33	0.19	0.0090	0.70
% Units in single-family detached homes	0.59	0.12	0.0029	0.90
% Units in multi-unit buildings	0.29	0.14	0.030	0.99
Proxy measures for availability of area-specific amenities				
Arrests for murder in county per 100,000 residents	5.6	7.4	0	60.0
Population size of place to which tract belongs	258787	515920	496	8008278
Average household income in county	56069	10565	31128	92406
Excluded instruments				
Share wetlands in Census tract	0.016	0.038	0	0.62
County topography (omitted: plains with mountains, open hills & mountains, hills & mount.)				
Flat plains	0.073	0.26	0	1
Smooth plains	0.048	0.21	0	1
Irregular plains	0.30	0.46	0	1
Tablelands, moderate relief	0.15	0.36	0	1
Plains with hills	0.057	0.23	0	1
High mountains	0.11	0.31	0	1
Population density in county to which tract belongs	0.0025	0.0014	0.00031	0.048
Population density in corresponding MSA (N=18,028)	0.0019	0.00062	0.0010	0.0080
Total maximum mortgage subsidy rate by state (federal plus state)	0.42	0.023	0.45	0.40

Notes: Summary statistics are reported for the regression sample used in Table 4 unless otherwise noted. The descriptive statistics for all other regression samples are very similar to the ones reported in this table.

TABLE 2: First-stage regressions: Full sample

	Dependent Variables (Endogenous variables in 2nd stage)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Share Developed	Share Developed	Log (Pop. Density)	Share Developed	Log (Pop. Density)	Own
Excluded Instruments						
Share wetlands in Census tract	**-1.77** **	**-1.77** **	-0.37	**-1.79** **	-0.38	0.20 (*)
	(0.37)	**(0.37)**	(0.47)	**(0.37)**	(0.47)	(0.20)
Topography: flat plains	**0.076** (*)	**0.086** *	-0.046	**0.091** *	-0.043	-0.010
	(0.039)	**(0.042)**	(0.047)	**(0.041)**	(0.047)	(0.029)
Topography: smooth plains	**0.10** **	**0.098** **	-0.12 *	**0.095** **	-0.12 *	0.018
	(0.038)	**(0.036)**	(0.050)	**(0.035)**	(0.050)	(0.028)
Topography: irregular plains	**0.069** *	**0.070** **	-0.010	**0.070** **	-0.0094	0.0056
	(0.028)	**(0.025)**	(0.028)	**(0.025)**	(0.028)	(0.013)
Topography: tablelands, moderate relief	**0.079** **	**0.089** **	0.039	**0.10** **	0.050	-0.0082
	(0.028)	**(0.026)**	(0.038)	**(0.025)**	(0.039)	(0.029)
Topography: plains with hills	**0.11** **	**0.10** **	0.030	**0.10** **	0.029	-0.0040
	(0.032)	**(0.030)**	(0.045)	**(0.032)**	(0.045)	(0.017)
Log (population density in developed area of county)		-0.13 **	**0.97** **	-0.13 **	**0.96** **	-0.0036
		(0.023)	**(0.035)**	(0.023)	**(0.036)**	(0.022)
Topography: high mountains		0.0042	**0.19** **	0.011	**0.19** **	-0.017
		(0.060)	**(0.068)**	(0.063)	**(0.068)**	(0.035)
Total mortgage subsidy rate (2000) × dummy (HH income < $20,000)				2.98 *	2.53	**1.86** *
				(1.32)	(1.73)	**(0.87)**
Total mortgage subsidy rate × dummy ($20,000 - $30,000)				2.94 *	2.45	**2.14** *
				(1.32)	(1.73)	**(0.87)**
Total mortgage subsidy rate × dummy (< $30,000, unspecified)				2.93 *	2.52	**2.19** *
				(1.32)	(1.72)	**(0.88)**
Total mortgage subsidy rate × dummy ($30,000 - $50,000)				3.10 *	2.89 (*)	**2.10** *
				(1.31)	(1.71)	**(0.80)**
Total mortgage subsidy rate × dummy ($50,000 - $75,000)				2.89 *	2.89 (*)	**1.34**
				(1.32)	(1.72)	**(0.82)**
Total mortgage subsidy rate × dummy ($75,000 - $100,000)				2.57 (*)	3.18 (*)	**2.13** *
				(1.35)	(1.76)	**(0.83)**
Total mortgage subsidy rate × dummy (> $100,000)				3.46 *	2.76	**2.34** *
				(1.34)	(1.79)	**(0.99)**
Total mortgage subsidy rate × dummy (> $30,000, unspecified)				3.09 *	4.90 **	**2.10** *
				(1.41)	(1.88)	**(1.01)**
Included Instruments						
Log (population density in developed area of tract)	-0.024					
	(0.020)					
Respondent is homeowner	-0.059 **	-0.059 **	-0.025 (*)			
	(0.0094)	(0.0094)	(0.015)			
Lived in local community 1-5 years (omitted: less than 1 y.)	0.0090	0.0076	0.035 (*)	0.00055	0.032 (*)	0.11 **
	(0.0068)	(0.0068)	(0.018)	(0.0070)	(0.018)	(0.014)
Lived in local community 6-10 years	0.016 *	0.014 *	0.032	0.0023	0.027	0.20 **
	(0.0067)	(0.0067)	(0.019)	(0.0066)	(0.019)	(0.014)
Lived in local community 11-20 years	0.034 **	0.032 **	0.035 *	0.017 *	0.030 (*)	0.27 **
	(0.0074)	(0.0074)	(0.018)	(0.0069)	(0.017)	(0.018)
Lived in local community more than 20 years	0.039 **	0.037 **	0.016	0.020 **	0.0094	0.29 **
	(0.0074)	(0.0075)	(0.019)	(0.0071)	(0.018)	(0.019)
Lived in local community all life	0.044 **	0.042 **	0.0071	0.027 *	0.0015	0.27 **
	(0.012)	(0.013)	(0.023)	(0.012)	(0.021)	(0.016)

(Continued on next page)

TABLE 2 *(Continued)*

	Dependent Variables (Endogenous variables in 2nd stage)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Share Developed	Share Developed	Log (Pop. Density)	Share Developed	Log (Pop. Density)	Own
Expect to stay in community for at least 5 more years	-0.012 **	-0.012 **	-0.013	-0.021 **	-0.017 (*)	0.15 **
	(0.0040)	(0.0040)	(0.0090)	(0.0044)	(0.009)	(0.010)
Respondent is commuting	0.020 **	0.020 **	-0.0024	0.020 **	-0.0027	-0.0045
	(0.0067)	(0.0066)	(0.016)	(0.0067)	(0.016)	(0.013)
Daily commuting time in hours (no commute = 0)	-0.031 **	-0.031 **	0.047 **	-0.032 **	0.047 **	0.0076
	(0.0052)	(0.0052)	(0.014)	(0.0053)	(0.014)	(0.0086)
Homeownership rate in county	0.59 (*)	0.48	2.05 **	0.41	2.00 **	0.50 *
	(0.32)	(0.32)	(0.41)	(0.30)	(0.39)	(0.21)
Gini-coefficient of income distribution in county	0.81	0.27	0.55	0.29	0.57	0.13
	(0.66)	(0.66)	(0.54)	(0.64)	(0.53)	(0.36)
Linguistic heterogeneity in county	0.14	0.17	0.14	0.22	0.18	-0.061
	(0.17)	(0.16)	(0.21)	(0.15)	(0.20)	(0.14)
Ethnic heterogeneity in county	0.075	0.032	0.027	0.072	0.072	0.13
	(0.12)	(0.12)	(0.12)	(0.11)	(0.12)	(0.086)
Share of units that are single-family detached homes in county	0.36 *	0.14	0.043	0.14	0.032	-0.11
	(0.18)	(0.18)	(0.26)	(0.19)	(0.26)	(0.17)
Share of units that are in multi-unit buildings in county	1.21 **	1.18 **	0.33	1.09 **	0.25	-0.13
	(0.29)	(0.28)	(0.33)	(0.28)	(0.34)	(0.18)
Arrests for murder in county per 100,000 residents	0.0015	0.0019	-0.0033 **	0.0016	-0.0036 **	0.00055
	(0.0013)	(0.0012)	(0.0013)	(0.0012)	(0.0013)	(0.00065)
Log(population size of place to which tract belongs)	0.049 **	0.047 **	0.097 **	0.048 **	0.097 **	-0.0080 **
	(0.0067)	(0.0063)	(0.013)	(0.0063)	(0.013)	(0.0024)
Average household income in county in 1,000$	0.0013	0.0018	-0.011 **	0.0017	-0.011 **	-0.00022
	(0.0018)	(0.0017)	(0.00017)	(0.0017)	(0.0017)	(0.0011)
Demographic controls: race, sex, age, age^2, marital status, children	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Socioeconomic controls (dummies): income, education, employment	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	-1.45 **	-1.66 **	-2.41 **	-2.90 **	-3.45 **	-1.17 *
	(0.37)	(0.37)	(0.51)	(0.61)	(0.86)	(0.49)
Adjusted R-squared	0.57	0.57	0.48	0.56	0.48	0.34

Notes: Sample size based on specifications reported in Table 4. N=20,505. Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=393). ** Significant at 1%; * significant at 5%; (*) significant at 10%. **Bold** coefficients are excluded instruments used to specifically identify the (endogenous) dependent variables.

TABLE 3: Estimates of the determinants of social interactions with neighbors

	OLS, no interaction: own ×% developed				*OLS*, with interaction: own ×% developed				*2SLS*, with interaction: own ×% developed			
	(1)	(2)	(3)	(4) MSA	(5)	(6)	(7)	(8) MSA	(9)	(10)	(11)	(12) MSA
Respondent is homeowner	0.65 **	0.29 **	0.25 **	0.28 **	0.37 **	0.072	0.050	0.077	0.051	-0.18	-0.18	-0.27
	(0.039)	(0.039)	(0.040)	(0.042)	(0.068)	(0.069)	(0.069)	(0.082)	(0.17)	(0.16)	(0.16)	(0.23)
Own × share developed					0.45 **	0.36 **	0.34 **	0.31 **	**0.96** **	**0.72** **	**0.71** **	**0.85** *
					(0.093)	(0.086)	(0.086)	(0.097)	**(0.27)**	**(0.25)**	**(0.25)**	**(0.35)**
Share developed	-0.0046	0.095 *	0.095 *	0.097 *	-0.34 **	-0.18 *	-0.16 (*)	-0.135	**-0.86** **	**-0.56** *	**-0.56** *	**-0.59** (*)
	(0.045)	(0.044)	(0.044)	(0.045)	(0.087)	(0.083)	(0.084)	(0.092)	**(0.24)**	**(0.28)**	**(0.28)**	**(0.34)**
Log (pop. density in		-0.051 *	-0.046 *	-0.024		-0.039 (*)	-0.035 (*)	-0.014		-0.025	**-0.071**	**0.12**
developed area)		(0.022)	(0.022)	(0.025)		(0.021)	(0.021)	(0.023)		(0.024)	**(0.062)**	**(0.11)**
Lived in community		0.41 **	0.40 **	0.33 **		0.41 **	0.40 **	0.335 **		0.41 **	0.41 **	0.34 **
1-5 years		(0.060)	(0.060)	(0.056)		(0.060)	(0.060)	(0.056)		(0.059)	(0.059)	(0.057)
Lived in community		0.54 **	0.51 **	0.46 **		0.55 **	0.51 **	0.463 **		0.52 **	0.52 **	0.47 **
6-10 years		(0.067)	(0.067)	(0.062)		(0.067)	(0.067)	(0.063)		(0.067)	(0.067)	(0.064)
Lived in community		0.54 **	0.50 **	0.44 **		0.54 **	0.50 **	0.439 **		0.51 **	0.51 **	0.44 **
11-20 years		(0.066)	(0.067)	(0.062)		(0.066)	(0.066)	(0.062)		(0.067)	(0.067)	(0.063)
Lived in community		0.51 **	0.47 **	0.42 **		0.51 **	0.47 **	0.423 **		0.47 **	0.47 **	0.43 **
more than 20 years		(0.062)	(0.063)	(0.064)		(0.062)	(0.063)	(0.064)		(0.064)	(0.064)	(0.064)
Lived in community		0.52 **	0.48 **	0.42 **		0.53 **	0.48 **	0.419 **		0.49 **	0.49 **	0.43 **
all life		(0.065)	(0.065)	(0.064)		(0.065)	(0.065)	(0.064)		(0.066)	(0.066)	(0.065)
Expect to stay for at least 5			0.23 **	0.24 **			0.23 **	0.239 **		0.22 **	0.22 **	0.24 **
more years			(0.035)	(0.037)			(0.035)	(0.037)		(0.034)	(0.033)	(0.036)
Daily commuting time			-0.10 **	-0.082 *			-0.098 **	-0.079 *		-0.098 *	-0.096 *	-0.081 (*)
			(0.038)	(0.040)			(0.038)	(0.040)		(0.040)	(0.040)	(0.042)
Individual-, county-level, and demand controls [a)]	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	3.51 **	1.50	1.56	2.13 (*)	3.73 **	1.64 (*)	1.69 (*)	2.285 (*)	4.11 **	1.68 (*)	1.46	3.24 (*)
	(0.071)	(0.97)	(0.96)	(1.27)	(0.089)	(0.98)	(0.97)	(1.288)	(0.19)	(0.95)	(1.03)	(1.80)
Adjusted R-squared	0.036	0.078	0.081	0.087	0.037	0.079	0.082	0.087				
F: Share developed									17.1	8.5	8.5	11.4
Own × share developed									22.7	18.2	17.6	21.0
Log (pop. dens.)											83.9	45.9
Cragg-Donald *F*-stat									198.5	99.5	84.2	55.4

Notes: Dependent variable in log-form. N=20,424 (full sample) and 17,963 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=391/230). ** / * / (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. Excluded instruments are documented in Table 2. All specifications reported in columns (9) to (12) comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test. [a)] Appendix Table A1 reports the full set of coefficients for specification (11).

TABLE 4: Estimates of the determinants of participation in neighborhood associations

	OLS, no interaction: own ×% developed				*OLS*, with interaction: own ×% developed				*2SLS*, with interaction: own ×% developed			
	(1)	(2)	(3)	(4) MSA	(5)	(6)	(7)	(8) MSA	(9)	(10)	(11)	(12) MSA
Respondent is homeowner	0.18 **	0.12 **	0.11 **	0.12 **	0.12 **	0.057 **	0.054 **	0.071 **	0.076 (*)	0.0049	0.0065	-0.023
	(0.014)	(0.012)	(0.012)	(0.012)	(0.019)	(0.018)	(0.018)	(0.023)	(0.042)	(0.045)	(0.045)	(0.063)
Own × share developed					0.096 **	0.098 **	0.096 **	0.071 *	**0.20 ***	**0.18 ***	**0.18 ***	**0.22 ***
					(0.030)	(0.029)	(0.029)	(0.034)	**(0.078)**	**(0.081)**	**(0.081)**	**(0.10)**
Share developed	0.074 **	0.021	0.022	0.029 (*)	0.0024	-0.053 *	-0.050 *	-0.025	**0.045**	**-0.098**	**-0.095**	**-0.090**
	(0.016)	(0.016)	(0.016)	(0.016)	(0.025)	(0.024)	(0.024)	(0.026)	**(0.050)**	**(0.067)**	**(0.064)**	**(0.074)**
Log (pop. density in developed area)		0.0088	0.0090	0.0062		0.012	0.012	0.0087		0.015	**-0.010**	**0.0045**
		(0.0079)	(0.0079)	(0.0081)		(0.0079)	(0.0079)	(0.0081)		(0.0092)	**(0.022)**	**(0.035)**
Lived in community 1-5 years		0.043 **	0.042 **	0.038 **		0.044 **	0.043 **	0.040 **		0.044 **	0.044 **	0.042 **
		(0.010)	(0.010)	(0.010)		(0.010)	(0.010)	(0.010)		(0.010)	(0.010)	(0.011)
Lived in community 6-10 years		0.064 **	0.060 **	0.054 **		0.065 **	0.061 **	0.056 **		0.061 **	0.062 **	0.058 **
		(0.012)	(0.012)	(0.013)		(0.012)	(0.012)	(0.013)		(0.012)	(0.013)	(0.013)
Lived in community 11-20 years		0.039 **	0.035 **	0.033 **		0.039 **	0.035 **	0.033 **		0.035 **	0.036 **	0.033 **
		(0.011)	(0.011)	(0.012)		(0.011)	(0.011)	(0.012)		(0.011)	(0.011)	(0.012)
Lived in community more than 20 years		0.026 *	0.021	0.022		0.026 *	0.021 (*)	0.023		0.021 (*)	0.021 (*)	0.022
		(0.013)	(0.013)	(0.014)		(0.013)	(0.013)	(0.014)		(0.012)	(0.012)	(0.014)
Lived in community all life		0.012	0.0058	0.0070		0.012	0.0063	0.0077		0.0060	0.0059	0.0068
		(0.013)	(0.013)	(0.014)		(0.013)	(0.013)	(0.014)		(0.014)	(0.013)	(0.015)
Expect to stay for at least 5 more years			0.031 **	0.028 **			0.030 **	0.027 **		0.029 **	0.029 **	0.027 **
			(0.0058)	(0.0062)			(0.0059)	(0.0063)		(0.0060)	(0.0060)	(0.0065)
Daily commuting time			0.0043	-0.00053			0.0052	0.000011		0.0064	0.0078	0.0032
			(0.0076)	(0.0079)			(0.0075)	(0.0079)		(0.0076)	(0.0078)	(0.0080)
Individual-, county-level, and demand controls [a)]	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	0.19 **	-0.70 (*)	-0.69 (*)	-0.41	0.24 **	-0.67 (*)	-0.65 (*)	-0.37	0.17 **	-0.60	-0.72 (*)	-0.28
	(0.044)	(0.37)	(0.37)	(0.43)	(0.049)	(0.37)	(0.37)	(0.43)	(0.060)	(0.42)	(0.42)	(0.50)
Adjusted R-squared	0.060	0.10	0.10	0.11	0.062	0.10	0.11	0.11				
F: Share developed									17.1	8.4	8.5	11.3
Own × share developed									22.5	18.0	17.3	20.7
Log (pop. dens.)											84.9	46.3
Cragg-Donald *F*-stat									199.3	100.0	84.4	55.7

Notes: N=20,505 (full sample) and 18,028 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=393/230). **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. Excluded instruments are documented in Table 2. All specifications reported in columns (9) to (12) comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test. [a)] Appendix Table A1 reports the full set of coefficients for specification (11).

TABLE 5: Estimates of the determinants of measures of non-neighborhood specific social capital

	Panel A: Social interactions with co-workers outside work						**Panel B**: Participation in service or fraternal organizations					
	OLS, no interaction		*OLS*, with interaction		*2SLS*, with interaction		*OLS*, no interaction		*OLS*, with interaction		*2SLS*, with interaction	
	(1a)	(2a) MSA	(3a)	(4a) MSA	(5a)	(6a) MSA	(1b)	(2b) MSA	(3b)	(4b) MSA	(5b)	(6b) MSA
Respondent is homeowner	-0.13 **	-0.13 **	-0.099 (*)	-0.078	-0.21 (*)	-0.20	0.00045	-0.0018	0.011	0.0017	-0.019	-0.042
	(0.027)	(0.028)	(0.051)	(0.062)	(0.12)	(0.18)	(0.0062)	(0.0067)	(0.011)	(0.013)	(0.023)	(0.033)
Own × share developed			-0.059	-0.089	**0.13**	**0.11**			-0.017	-0.0055	**0.034**	**0.061**
			(0.060)	(0.071)	**(0.18)**	**(0.26)**			(0.014)	(0.016)	**(0.036)**	**(0.048)**
Share developed	-0.042	-0.031	0.0014	0.035	**-0.22**	**-0.24**	-0.0028	0.00026	0.010	0.0042	**-0.027**	**-0.058**
	(0.034)	(0.035)	(0.059)	(0.070)	**(0.20)**	**(0.26)**	(0.011)	(0.011)	(0.014)	(0.015)	**(0.048)**	**(0.051)**
Log (pop. density in developed area)	0.037 (*)	0.027	0.035	0.024	**0.21 ****	**0.23 ***	-0.018 **	-0.019 **	-0.018 **	-0.019 **	**-0.012**	**-0.010**
	(0.022)	(0.025)	(0.023)	(0.025)	**(0.067)**	**(0.11)**	(0.0047)	(0.0050)	(0.0046)	(0.0049)	**(0.018)**	**(0.028)**
Lived in community 1-5 years	0.011	-0.0085	0.010	-0.010	0.0093	-0.011	-0.00028	0.0041	-0.00051	0.0040	0.000044	0.0050
	(0.041)	(0.043)	(0.041)	(0.042)	(0.041)	(0.042)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Lived in community 6-10 years	0.10 *	0.10 *	0.10 *	0.10 *	0.11 *	0.11 *	0.0087	0.0085	0.0085	0.0084	0.0090	0.010
	(0.044)	(0.046)	(0.044)	(0.046)	(0.046)	(0.049)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Lived in community 11-20 years	0.078 *	0.066 (*)	0.078 *	0.066 (*)	0.079 *	0.069 (*)	0.019 (*)	0.020 (*)	0.019 (*)	0.020 (*)	0.019 (*)	0.021 (*)
	(0.037)	(0.038)	(0.037)	(0.038)	(0.038)	(0.040)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Lived in community more than 20 years	0.10 **	0.086 *	0.10 **	0.085 *	0.11 **	0.092 *	0.035 **	0.038 **	0.035 **	0.038 **	0.035 **	0.039 **
	(0.037)	(0.038)	(0.037)	(0.037)	(0.038)	(0.039)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)
Lived in community all life	0.11 *	0.091 (*)	0.11 *	0.091 (*)	0.12 *	0.10 *	0.031 **	0.031 **	0.031 **	0.031 **	0.031 **	0.032 **
	(0.049)	(0.049)	(0.048)	(0.049)	(0.049)	(0.051)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Expect to stay for at least 5 more years	0.044 (*)	0.055 *	0.045 (*)	0.055 *	0.043	0.056 *	-0.000071	0.00073	0.00012	0.00077	-0.00038	0.00023
	(0.026)	(0.027)	(0.026)	(0.027)	(0.027)	(0.028)	(0.0066)	(0.0070)	(0.0066)	(0.0070)	(0.0066)	(0.0071)
Daily commuting time	-0.080 **	-0.078 **	-0.080 **	-0.079 **	-0.090 **	-0.089 **	0.0048	0.0077	0.0046	0.0076	0.0049	0.0074
	(0.026)	(0.028)	(0.026)	(0.028)	(0.026)	(0.028)	(0.0057)	(0.0060)	(0.0057)	(0.0060)	(0.0056)	(0.0059)
Controls [a)]	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	2.33 *	1.90	2.30 *	1.85	3.10 **	3.12 *	0.069	0.083	0.062	0.080	0.10	0.14
	(0.95)	(1.28)	(0.95)	(1.28)	(0.92)	(1.33)	(0.23)	(0.29)	(0.23)	(0.29)	(0.25)	(0.35)
Adjusted R-squared	0.11	0.12	0.11	0.12			0.053	0.055	0.053	0.055		
F: Share developed					6.9	9.4					8.5	11.3
Own × share developed					13.1	16.2					17.3	20.7
Log (pop. dens.)					70.3	46.4					84.9	46.3
Cragg-Donald *F*-stat					55.6	39.4					84.4	55.7

Notes: Panel A: Dependent variable in log-form. N=13,491 (full sample) and 12,021 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size= 333/203). *Panel B:* N=20,505 (full sample) and 18,031 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=393/230). *General notes:* **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. Excluded instruments are documented in Table 2. All specifications reported in columns (5) and (6) comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test. [a)] Appendix Table A1 reports the full set of coefficients for the respective columns (5).

TABLE 6: *2SLS*-Estimates with endogenous homeownership variable

	Log (# Social Interactions w. Neighbors)			Participation in Neighborhood Groups			Log (# Social Inter. with Co-Workers)			Participation in Fraternal/Service Ass.		
	(1)	(2)	(3) MSA	(4)	(5)	(6) MSA	(7)	(8)	(9) MSA	(10)	(11)	(12) MSA
Respondent is homeowner	**-1.62 ***	**-1.51 ***	**-1.44 ***	**-0.15**	**-0.18**	**-0.23 (*)**	**0.12**	**0.035**	**-0.21**	**-0.028**	**-0.030**	**-0.045**
	(0.67)	**(0.66)**	**(0.65)**	**(0.16)**	**(0.16)**	**(0.14)**	**(0.48)**	**(0.48)**	**(0.57)**	**(0.14)**	**(0.14)**	**(0.15)**
Own × share developed	**1.86 ****	**1.71 ****	**1.89 ****	**0.48 ***	**0.51 ****	**0.61 ****	**0.17**	**0.33**	**0.56**	**0.18**	**0.18**	**0.16**
	(0.62)	**(0.60)**	**(0.63)**	**(0.19)**	**(0.19)**	**(0.16)**	**(0.50)**	**(0.50)**	**(0.58)**	**(0.15)**	**(0.15)**	**(0.17)**
Share developed	**-1.62 ****	**-1.49 ****	**-1.50 ****	**-0.31 ***	**-0.33 ***	**-0.38 ****	**-0.12**	**-0.29**	**-0.45**	**-0.13**	**-0.13**	**-0.12**
	(0.53)	**(0.51)**	**(0.55)**	**(0.13)**	**(0.13)**	**(0.11)**	**(0.41)**	**(0.41)**	**(0.50)**	**(0.12)**	**(0.12)**	**(0.14)**
Log (pop. density in developed area)	-0.0049	**-0.067**	**0.13**	0.025 *	**-0.0022**	**0.023**	0.052 (*)	**0.20 ****	**0.24 ***	-0.011 (*)	**-0.0095**	**0.00093**
	(0.028)	**(0.066)**	**(0.11)**	(0.011)	**(0.021)**	**(0.034)**	(0.027)	**(0.065)**	**(0.10)**	(0.0058)	**(0.018)**	**(0.027)**
Lived in community 1-5 years	0.51 **	0.51 **	0.41 **	0.045 **	0.048 **	0.043 **	-0.028	-0.029	-0.037	-0.0065	-0.0065	-0.00057
	(0.063)	(0.064)	(0.060)	(0.015)	(0.015)	(0.015)	(0.047)	(0.047)	(0.050)	(0.013)	(0.013)	(0.013)
Lived in community 6-10 years	0.69 **	0.68 **	0.59 **	0.059 **	0.064 **	0.055 **	0.031	0.031	0.053	-0.0048	-0.0046	-0.0014
	(0.094)	(0.094)	(0.087)	(0.022)	(0.022)	(0.021)	(0.071)	(0.072)	(0.079)	(0.017)	(0.017)	(0.017)
Lived in community 11-20 years	0.72 **	0.72 **	0.60 **	0.029	0.034	0.025	-0.017	-0.019	-0.0087	-0.00094	-0.00085	0.0042
	(0.10)	(0.10)	(0.096)	(0.026)	(0.026)	(0.026)	(0.086)	(0.087)	(0.097)	(0.022)	(0.022)	(0.023)
Lived in community more than 20 years	0.71 **	0.70 **	0.60 **	0.014	0.018	0.012	0.0061	0.0088	0.013	0.013	0.013	0.021
	(0.11)	(0.11)	(0.10)	(0.029)	(0.029)	(0.029)	(0.084)	(0.085)	(0.095)	(0.023)	(0.023)	(0.024)
Lived in community all life	0.70 **	0.69 **	0.58 **	-0.00026	0.0038	-0.0020	0.017	0.021	0.023	0.011	0.011	0.016
	(0.10)	(0.10)	(0.095)	(0.028)	(0.028)	(0.028)	(0.085)	(0.086)	(0.096)	(0.022)	(0.022)	(0.022)
Expect to stay for at least 5 more years	0.32 **	0.32 **	0.30 **	0.022	0.024 (*)	0.017	-0.014	-0.015	0.010	-0.013	-0.013	-0.0094
	(0.071)	(0.071)	(0.070)	(0.014)	(0.014)	(0.014)	(0.049)	(0.048)	(0.051)	(0.012)	(0.012)	(0.012)
Daily commuting time	-0.087 *	-0.085 *	-0.073 (*)	0.0094	0.011	0.0058	-0.081 **	-0.089 **	-0.083 **	0.0058	0.0059	0.0080
	(0.041)	(0.042)	(0.043)	(0.0075)	(0.0076)	(0.0079)	(0.028)	(0.028)	(0.029)	(0.0058)	(0.0059)	(0.0061)
Individual-, county-level, and demand controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	1.56	1.26	3.32 (*)	-0.46	-0.58	-0.038	2.56 *	3.26 **	3.59 *	0.17	0.181	0.27
	(1.04)	(1.12)	(1.81)	(0.43)	(0.41)	(0.49)	(1.04)	(0.97)	(1.40)	(0.24)	(0.258)	(0.36)
Observations	20424	20424	17963	20505	20505	18028	13491	13491	12021	20505	20505	18031
F: Share developed	13.5	15.4	31.2	13.7	15.4	32.9	15.6	22.3	57.8	13.8	15.5	32.9
Own × developed	18.9	17.8	26.2	20.1	19.0	25.7	39.4	46.9	54.7	20.2	19.1	25.8
Own	23.0	22.5	63.1	21.8	21.3	62.2	33.1	31.9	75.7	21.8	21.3	62.0
Log (pop. dens.)		31.7	38.3		32.2	38.2		41.4	42.2		32.1	38.1
Cragg-Donald *F*-statistic	2.6	2.5	2.8	2.6	2.5	2.8	1.8	1.8	1.8	2.6	2.5	2.8

Notes: Robust standard errors (in parenthesis) are clustered by Census counties. **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. The sets of instruments used to identify the endogenous variables are documented in Table 2. All specifications comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test.

TABLE 7: Quantitative effects

	Specification	Renter	Owner	Δ Own versus Rent
Change in # of Social Interactions with Immediate Neighbors				Additional # of Interactions
Effect of homeownership status on number of social interactions	Table 3 (3)	Baseline	13.6	13.6
	Table 3 (7)	Baseline	12.4 [a)] 2.8 [b)]	12.4 [a)] 2.8 [b)]
Interaction effect: % Developed land increases by 1 std. dev. (+36.0%)	Table 3 (7)	-2.7	4.1	+6.9
	Table 3 (10)	-9.4	3.7	+13.1
	Table 3 (11)	-9.4	3.4	+12.8
	Table 6 (1)	-46.2	5.1	+51.3
	Table 6 (2)	-42.1	4.5	+46.6
Change in Prob. that Respondent Participates in Neigh. Association				Add. Change in Probability
Effect of homeownership status on probability of participation in neighborhood associations	Table 4 (3)	Baseline	11.1% points	11.1% points
	Table 4 (7)	Baseline	10.4% points [a)] 5.4% points [b)]	10.4% points [a)] 5.4% points [b)]
% Developed land increases by 1 std. dev. (+36.0%)	Table 4 (7)	-1.8% points	1.7% points	+3.5% points
	Table 4 (10)	-3.5% points	2.9% points	+6.5% points
	Table 4 (11)	-3.4% points	2.9% points	+6.3% points
	Table 6 (4)	-11.1% points	6.3% points	+17.4% points
	Table 6 (5)	-11.8% points	6.7% points	+18.5% points

Notes: All effects are measured at the sample mean of each variable. The probability of participation in neighborhood associations at the sample mean is 25.3%. The average participation probability of renters is much lower than that of homeowners: 14.2% versus 30.2%. The number of social interactions with immediate neighbors at the sample mean is 114.0. Homeowners (renters) have on average 119.2 (102.1) social interactions. Quantitative effects are computed using all coefficients independent of statistical significance levels. [a)] Effects are total effects including both independent effects and interaction effects. [b)] Effects are based on independent effects of homeownership only.

Appendix

TABLE A1: Base specifications (*OLS*) with full set of controls

	Table 3 (3) Interaction w. neighbors	*Table 4 (3)* Participation in neighborhood org.	*Table 5 (3)* Interaction w. co-workers	*Table 6 (3)* Participation in service/frat. org.
Reported (key) variables:				
Respondent is homeowner	0.25 **	0.11 **	-0.13 **	0.00045
	(0.040)	(0.012)	(0.027)	(0.0062)
% Developed land in Census tract, 1992	0.095 *	0.022	-0.042	-0.0028
	(0.044)	(0.016)	(0.034)	(0.011)
Log (population density in developed area of Census tract)	-0.046 *	0.0090	0.037 (*)	-0.018 **
	(0.022)	(0.0079)	(0.022)	(0.0047)
Number of years lived in local community: Less than one year	*Reference*	*Reference*	*Reference*	*Reference*
1-5 years	0.40 **	0.042 **	0.011	-0.00028
	(0.060)	(0.010)	(0.041)	(0.010)
6-10 years	0.51 **	0.060 **	0.10 *	0.0087
	(0.067)	(0.012)	(0.044)	(0.010)
11-20 years	0.50 **	0.035 **	0.078 *	0.019 (*)
	(0.067)	(0.011)	(0.037)	(0.011)
More than 20 years	0.47 **	0.021	0.10 **	0.035 **
	(0.063)	(0.013)	(0.037)	(0.011)
All life	0.48 **	0.0058	0.11 *	0.031 **
	(0.065)	(0.013)	(0.049)	(0.011)
Expect to stay in community for at least 5 more years	0.23 **	0.031 **	0.044 (*)	-0.000071
	(0.035)	(0.0058)	(0.026)	(0.0066)
Respondent is commuting	-0.0055	-0.019		-0.0023
	(0.049)	(0.013)		(0.012)
Daily commuting time in hours (no commute = 0)	-0.10 **	0.0043	-0.080 **	0.0048
	(0.038)	(0.0076)	(0.026)	(0.0057)
County level and demand controls:				
Homeownership rate	-0.21	0.45	0.44	0.098
	(0.75)	(0.29)	(0.70)	(0.17)
Gini-coefficient of income distribution	0.31	-0.64	0.085	-0.29
	(1.21)	(0.46)	(1.16)	(0.30)
Linguistic heterogeneity	0.15	-0.088	-0.94 *	-0.013
	(0.44)	(0.17)	(0.42)	(0.087)
Ethnic heterogeneity	-0.11	0.16 (*)	0.35	0.073
	(0.24)	(0.091)	(0.24)	(0.053)
Share of housing units that are single-family detached homes	1.16 *	0.037	0.23	0.12
	(0.51)	(0.14)	(0.42)	(0.099)
Share of housing units that are in multi-unit buildings	0.88	0.55 **	0.59	0.099
	(0.68)	(0.21)	(0.55)	(0.16)
Arrest for murder per 100,000 residents in county of residence	-0.0050 *	0.0013 *	-0.0024	-0.00021
	(0.0020)	(0.00064)	(0.0018)	(0.00046)
Log (population size of place to which resident belongs)	0.010	0.013 **	0.0049	-0.0035
	(0.011)	(0.0033)	(0.010)	(0.0027)
Average household income in county in 1,000$	-0.0035	0.0030 **	-0.0039	-0.0017 *
	(0.0031)	(0.00097)	(0.0029)	(0.00079)
Other survey respondent specific controls:				
Race: White	*Reference*	*Reference*	*Reference*	*Reference*
Black	-0.38 **	0.066 **	-0.29 **	0.039 **
	(0.048)	(0.015)	(0.039)	(0.0086)
Asian	-0.43 **	-0.017	-0.33 **	-0.017
	(0.11)	(0.020)	(0.065)	(0.018)
Hispanic	-0.59 **	-0.026 (*)	-0.27 **	0.018 (*)
	(0.081)	(0.014)	(0.064)	(0.011)
Any other non-white	-0.035	0.0093	0.028	-0.0013
	(0.077)	(0.018)	(0.060)	(0.011)
Respondent is male	0.072 **	-0.0027	0.13 **	-0.012 *
	(0.026)	(0.0059)	(0.022)	(0.005)

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TABLE A1 *(Continued)*

	Interaction with neighbors	Participation in neighborhood org.	Interaction w. co-workers	Participation in service/frat. org.
Age of respondent	0.0040 (0.0059)	0.0084 ** (0.0016)	-0.036 ** (0.0058)	-0.0055 ** (0.00099)
Age of respondent squared (in ‘000)	0.000025 (0.000061)	-0.000059 ** (0.000016)	0.00015 * (0.000069)	0.000067 ** (0.000011)
Respondent has children	0.22 ** (0.032)	0.022 ** (0.0066)	-0.13 ** (0.021)	-0.027 ** (0.0059)
Total household income: Below $30,000	*Reference*	*Reference*	*Reference*	*Reference*
$30,000-49,999	0.083 * (0.032)	0.022 * (0.0092)	0.24 ** (0.036)	0.024 ** (0.0074)
$50,000-74,999	0.084 * (0.043)	0.027 ** (0.010)	0.34 ** (0.040)	0.042 ** (0.0083)
$75,000-99,999	0.13 ** (0.041)	0.065 ** (0.012)	0.44 ** (0.045)	0.061 ** (0.010)
Over $100,000	0.13 ** (0.048)	0.11 ** (0.015)	0.54 ** (0.052)	0.082 ** (0.012)
Over $30,000 unspecified	0.10 (*) (0.057)	0.060 ** (0.017)	0.37 ** (0.059)	0.057 ** (0.016)
Marital status: Currently married	*Reference*	*Reference*	*Reference*	*Reference*
Never married	-0.17 ** (0.038)	-0.0057 (0.0088)	0.20 ** (0.031)	0.0023 (0.0067)
Widowed	0.11 (*) (0.057)	-0.016 (0.016)	0.33 ** (0.080)	0.0034 (0.012)
Marital status: Divorced	-0.064 (*) (0.035)	0.010 (0.0086)	0.33 ** (0.033)	0.016 * (0.0072)
Marital status: Separated	-0.33 ** (0.071)	-0.010 (0.016)	0.15 * (0.065)	0.036 * (0.014)
Highest education completed: Less than high school	*Reference*	*Reference*	*Reference*	*Reference*
High school diploma	0.21 ** (0.066)	0.022 * (0.0094)	0.25 ** (0.068)	0.020 * (0.0083)
Some college	0.29 ** (0.066)	0.066 ** (0.011)	0.39 ** (0.067)	0.067 ** (0.010)
Associate degree (2 y.) or specialized	0.32 ** (0.075)	0.080 ** (0.015)	0.38 ** (0.073)	0.071 ** (0.012)
Bachelor’s degree	0.32 ** (0.067)	0.12 ** (0.015)	0.44 ** (0.069)	0.13 ** (0.012)
Some graduate training	0.33 ** (0.10)	0.091 ** (0.020)	0.45 ** (0.084)	0.17 ** (0.017)
Graduate or professional degree	0.25 ** (0.074)	0.12 ** (0.013)	0.48 ** (0.068)	0.15 ** (0.015)
Current employment status: Working	*Reference*	*Reference*		*Reference*
Temporarily laid off	-0.17 (*) (0.095)	0.0056 (0.026)		-0.041 * (0.019)
Unemployed	-0.054 (0.095)	-0.053 ** (0.020)		-0.012 (0.017)
Retired	0.20 ** (0.067)	0.013 (0.019)		0.010 (0.017)
Permanently disabled	0.13 (*) (0.076)	-0.00039 (0.022)		0.0087 (0.019)
Homemaker	0.097 (0.067)	-0.00091 (0.017)	-0.76 ** (0.14)	-0.013 (0.014)
Student	-0.16 * (0.081)	0.0041 (0.017)	0.017 (0.086)	0.097 ** (0.018)
Community sample fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
Constant	1.56 (0.96)	-0.69 (*) (0.37)	2.33 * (0.95)	0.069 (0.23)
Number of observations	20,424	20,505	13,491	20,505
Adjusted R-squared	0.081	0.10	0.11	0.053

TABLE A2: SCCBS communities included in regression sample

Community	*Total Sample Size*	*In %*	*Regression Sample Size*	*In %*
Atlanta Metro	510	1.94	384	1.87
Baton Rouge	500	1.91	387	1.89
Birmingham Metro	500	1.91	376	1.83
Bismarck (ND)	506	1.93	408	1.99
Boston (City)	604	2.3	431	2.10
Boulder (CO)	500	1.91	393	1.92
Central Oregon	500	1.91	402	1.96
Charlotte Region/14 County	1,500	5.72	1187	5.79
Chicago Metro	750	2.86	549	2.68
Cincinnati Metro	1,001	3.82	820	4.00
Cleveland/Cuyahoga County	1,100	4.19	867	4.23
Delaware	1,383	5.27	1105	5.39
Denver (City/County)	501	1.91	414	2.02
Detroit Metro/7-County	501	1.91	404	1.97
East Tennessee	500	1.91	375	1.83
Fremont/Newaygo County (MI)	753	2.87	614	2.99
Grand Rapids (City)	502	1.91	436	2.13
Greensboro/Guilford County	752	2.87	631	3.08
Houston/Harris County	500	1.91	367	1.79
Indiana	1,001	3.82	779	3.80
Kalamazoo County	500	1.91	419	2.04
Kanawha Valley (WV)	500	1.91	394	1.92
Lewiston-Auburn (ME)	523	1.99	421	2.05
Los Angeles County	515	1.96	395	1.93
Minneapolis	501	1.91	407	1.98
Montana	502	1.91	396	1.93
New Hampshire	711	2.71	541	2.64
North Minneapolis	452	1.72	352	1.72
Peninsula-Silicon Valley	1,505	5.74	1206	5.88
Phoenix/Maricopa County	501	1.91	370	1.80
Rochester Metro (NY)	988	3.77	798	3.89
Rural South East Dakota	368	1.4	0	0
San Diego County	504	1.92	414	2.02
San Francisco (City)	500	1.91	416	2.03
Seattle	502	1.91	394	1.92
St. Paul Metro	503	1.92	405	1.98
Syracuse/Onondaga County	541	2.06	428	2.09
Winston-Salem/Forsyth County	750	2.86	623	3.04
Yakima (WA)	500	1.91	395	1.93
York (PA)	500	1.91	402	1.96
Total	26,230	100	20,505	100

TABLE A3: Second-stage regressions: Full sample (no interactions)

	Dependent variable: Participation in neighborhood associations (N=20,505)			
Corresponding first-stage regressions:	Table 2 Column (1)	Table 2 Columns (2)-(3)	Table 2 Columns (4)-(6)	Table 2 Columns (4)-(6)
Estimator:	*2SLS*	*2SLS*	*2SLS*	*JIVE1*
Reported (key) variables:				
Respondent is homeowner	0.11 **	0.11 **	**0.27 ****	**0.19 ***
	(0.013)	(0.013)	**(0.087)**	**(0.094)**
% Developed land in Census tract, 1992	**-0.011**	**-0.010**	**0.031**	**0.019**
	(0.079)	**(0.073)**	**(0.077)**	**(0.053)**
Log (population density in developed area of Census tract)	0.0083	**-0.017**	**-0.0051**	**-0.0082**
	(0.0081)	**(0.023)**	**(0.023)**	**(0.021)**
Number of years lived in local community:				
1-5 years	0.042 **	0.043 **	0.024 (*)	0.033 (*)
	(0.010)	(0.010)	(0.013)	(0.017)
6-10 years	0.060 **	0.061 **	0.028	0.043 (*)
	(0.012)	(0.013)	(0.022)	(0.024)
11-20 years	0.036 **	0.037 **	-0.0073	0.013
	(0.012)	(0.012)	(0.026)	(0.030)
More than 20 years	0.022 (*)	0.022*	-0.025	-0.0037
	(0.013)	(0.013)	(0.028)	(0.032)
All life	0.0073	0.0072	-0.036	-0.016
	(0.014)	(0.013)	(0.027)	(0.030)
Expect to stay in community for at least 5 more years	0.031 **	0.030 **	0.0077	0.018
	(0.0059)	(0.0060)	(0.014)	(0.016)
Respondent is commuting	-0.019	-0.019	-0.019	-0.019
	(0.014)	(0.014)	(0.014)	(0.013)
Daily commuting time in hours (no commute = 0)	0.0032	0.0047	0.0040	0.0044
	(0.0075)	(0.0077)	(0.0080)	(0.0088)
County level and demand controls:				
Homeownership rate	0.47	0.49 (*)	0.37	0.42 (*)
	(0.30)	(0.29)	(0.29)	(0.24)
Gini-coefficient of income distribution	-0.63	-0.74	-0.72	-0.72 (*)
	(0.48)	(0.47)	(0.46)	(0.40)
Linguistic heterogeneity	-0.085	-0.075	-0.071	-0.074
	(0.17)	(0.17)	(0.16)	(0.12)
Ethnic heterogeneity	0.16 (*)	0.15 (*)	0.13	0.14 (*)
	(0.091)	(0.087)	(0.087)	(0.077)
Share of housing units that are single-family detached homes	0.047	-0.0022	0.020	0.012
	(0.14)	(0.15)	(0.14)	(0.14)
Share of housing units that are in multi-unit buildings	0.59 *	0.59 *	0.55 *	0.56 **
	(0.25)	(0.24)	(0.23)	(0.20)
Arrest for murder per 100,000 residents in county of residence	0.0014 *	0.0015 *	0.0013 (*)	0.0014 (*)
	(0.00066)	(0.00066)	(0.00069)	(0.00080)
Log (population size of place to which resident belongs)	0.015 **	0.017 **	0.016 **	0.016 **
	(0.0053)	(0.0059)	(0.0060)	(0.0045)
Average household income in county in 1,000$	0.0030 **	0.0029 **	0.0029 **	0.0029 **
	(0.00097)	(0.00097)	(0.00093)	(0.00098)
Other survey respondent specific controls:				
Race:				
Black	0.069 **	0.069 **	0.077 **	0.073 **
	(0.016)	(0.016)	(0.016)	(0.013)
Asian	-0.024 (*)	-0.023	-0.015	-0.020
	(0.015)	(0.015)	(0.016)	(0.016)
Hispanic	-0.016	-0.015	-0.018	-0.017
	(0.020)	(0.020)	(0.020)	(0.026)
Any other non-white	0.0093	0.010	0.014	0.012
	(0.018)	(0.018)	(0.018)	(0.015)
Respondent is male	-0.0027	-0.0025	0.00058	-0.00086
	(0.0059)	(0.0059)	(0.0062)	(0.0066)

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TABLE A3 *(Continued)*

	Dependent variable: Participation in neighborhood associations (N=20,505)			
Corresponding first-stage regressions:	Table 2 Column (1)	Table 2 Columns (2)-(3)	Table 2 Columns (4)-(6)	Table 2 Columns (4)-(6)
Estimator:	*2SLS*	*2SLS*	*2SLS*	*JIVE1*
Age of respondent	0.0083 **	0.0084 **	0.0066 **	0.0074 **
	(0.0016)	(0.0016)	(0.0018)	(0.0017)
Age of respondent squared (in '000)	-0.059 **	-0.060 **	-0.046 **	-0.052 **
	(0.016)	(0.016)	(0.017)	(0.015)
Respondent has children	0.022 **	0.022 **	0.012	0.016 (*)
	(0.0066)	(0.0065)	(0.0079)	(0.0094)
Total household income:				
$30,000-49,999	0.021 *	0.021 *	-0.0014	0.0092
	(0.0092)	(0.0092)	(0.013)	(0.016)
$50,000-74,999	0.026 *	0.025 *	-0.0086	0.0074
	(0.010)	(0.010)	(0.018)	(0.023)
$75,000-99,999	0.064 **	0.062 **	0.021	0.040
	(0.012)	(0.012)	(0.024)	(0.028)
Over $100,000	0.11 **	0.11 **	0.060 *	0.082 **
	(0.015)	(0.015)	(0.028)	(0.031)
Over $30,000 unspecified	0.059 **	0.058 **	0.020	0.038
	(0.017)	(0.017)	(0.024)	(0.029)
Marital status:				
Never married	-0.0041	-0.0034	0.013	0.0048
	(0.010)	(0.0096)	(0.014)	(0.014)
Widowed	-0.016	-0.016	-0.0076	-0.012
	(0.016)	(0.016)	(0.017)	(0.015)
Marital status: Divorced	0.011	0.011	0.026 *	0.019
	(0.0090)	(0.0090)	(0.011)	(0.013)
Marital status: Separated	-0.010	-0.010	0.014	0.0025
	(0.016)	(0.016)	(0.020)	(0.023)
Highest education completed:				
High school diploma	0.021 *	0.021 *	0.014	0.018
	(0.010)	(0.0095)	(0.010)	(0.014)
Some college	0.066 **	0.065 **	0.060 **	0.062 **
	(0.011)	(0.011)	(0.011)	(0.014)
Associate degree (2 y.) or specialized	0.080 **	0.080 **	0.071 **	0.075 **
	(0.015)	(0.015)	(0.016)	(0.016)
Bachelor's degree	0.12 **	0.12 **	0.11 **	0.11 **
	(0.015)	(0.015)	(0.016)	(0.015)
Some graduate training	0.091 **	0.091 **	0.089 **	0.090 **
	(0.020)	(0.020)	(0.020)	(0.020)
Graduate or professional degree	0.12 **	0.12 **	0.11 **	0.12 **
	(0.013)	(0.013)	(0.014)	(0.016)
Current employment status:				
Temporarily laid off	0.0063	0.0060	0.010	0.0080
	(0.026)	(0.026)	(0.027)	(0.027)
Unemployed	-0.052 **	-0.052 *	-0.055 **	-0.054 *
	(0.020)	(0.020)	(0.020)	(0.023)
Retired	0.014	0.014	0.0042	0.0087
	(0.019)	(0.019)	(0.020)	(0.018)
Permanently disabled	0.000091	-0.00022	0.010	0.0052
	(0.022)	(0.022)	(0.024)	(0.022)
Homemaker	-0.00072	-0.00046	-0.0028	-0.0018
	(0.017)	(0.017)	(0.017)	(0.017)
Student	0.0039	0.0054	-0.0065	-0.0011
	(0.016)	(0.017)	(0.018)	(0.021)
Community sample fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
Constant	-0.73 (*)	-0.84 *	-0.69 (*)	-0.74 *
	(0.42)	(0.41)	(0.42)	(0.32)
F: Share developed	11.5	11.5	8.6	
Own			10.7	
Log (pop. dens.)		139.5	77.9	
Cragg-Donald *F*-statistic	180.4	135.1	9.2	

TABLE A4: First-stage regressions: MSA-only sample

	Dependent Variables (Endogenous variables in 2nd stage)					
	Share Developed	Share Developed	Log (Pop. Density)	Share Developed	Log (Pop. Density)	Own
Excluded Instruments						
Share wetlands in Census tract	**-2.24** **	**-2.24** **	-0.038	**-2.28** **	-0.044	0.27
	(0.35)	**(0.35)**	(0.46)	**(0.35)**	(0.46)	(0.17)
Topography: flat plains	**0.10** *	**0.15** **	-0.039	**0.15** **	-0.041	-0.056 (*)
	(0.044)	**(0.045)**	(0.060)	**(0.044)**	(0.061)	(0.031)
Topography: smooth plains	**0.15** **	**0.14** **	-0.16 **	**0.13** **	-0.17 **	0.026
	(0.044)	**(0.038)**	(0.062)	**(0.037)**	(0.062)	(0.026)
Topography: irregular plains	**0.082** *	**0.093** **	-0.061 *	**0.091** **	-0.061 *	-0.021
	(0.034)	**(0.027)**	(0.028)	**(0.027)**	(0.028)	(0.016)
Topography: tablelands, moderate relief	**0.089** **	**0.11** **	0.022	**0.12** **	0.027	-0.021
	(0.029)	**(0.028)**	(0.038)	**(0.028)**	(0.039)	(0.026)
Topography: plains with hills	**0.073** **	**0.050** *	-0.012	**0.049** *	-0.012	-0.014
	(0.025)	**(0.022)**	(0.065)	**(0.024)**	(0.065)	(0.042)
Log (population density in developed area of county)		-0.19 **	**0.94** **	-0.19 **	**0.94** **	0.045 *
		(0.032)	**(0.050)**	(0.033)	**(0.050)**	(0.018)
Total mortgage subsidy rate (2000) × dummy (HH income < $20,000)				3.91 **	1.12	**2.28** *
				(1.35)	(1.80)	**(1.03)**
Total mortgage subsidy rate × dummy ($20,000 - $30,000)				3.87 **	1.00	**2.57** *
				(1.35)	(1.80)	**(1.02)**
Total mortgage subsidy rate × dummy (< $30,000, unspecified)				3.87 **	1.05	**2.60** *
				(1.36)	(1.79)	**(1.05)**
Total mortgage subsidy rate × dummy ($30,000 - $50,000)				4.01 **	1.19	**2.48** *
				(1.34)	(1.75)	**(0.93)**
Total mortgage subsidy rate × dummy ($50,000 - $75,000)				3.82 **	1.49	**1.57**
				(1.35)	(1.78)	**(0.96)**
Total mortgage subsidy rate × dummy ($75,000 - $100,000)				3.62 **	1.42	**2.37** *
				(1.38)	(1.85)	**(0.94)**
Total mortgage subsidy rate × dummy (> $100,000)				4.58 **	1.19	**2.63** *
				(1.34)	(1.86)	**(1.08)**
Total mortgage subsidy rate × dummy (> $30,000, unspecified)				4.02 **	3.36 (*)	**2.07** (*)
				(1.43)	(2.00)	**(1.15)**
Included Instruments						
Log (population density in developed area of tract)	-0.0068					
	(0.023)					
Respondent is homeowner	-0.059 **	-0.059 **	-0.031 *			
	(0.010)	(0.010)	(0.015)			
Lived in local community 1-5 years (omitted: less than 1 y.)	0.011	0.0098	0.038 (*)	0.0031	0.035 (*)	0.11 **
	(0.0072)	(0.0072)	(0.020)	(0.0074)	(0.019)	(0.014)
Lived in local community 6-10 years	0.019 *	0.017 *	0.032	0.0055	0.027	0.20 **
	(0.0074)	(0.0074)	(0.021)	(0.0073)	(0.020)	(0.015)
Lived in local community 11-20 years	0.039 **	0.037 **	0.037 (*)	0.022 **	0.030	0.28 **
	(0.0078)	(0.0077)	(0.019)	(0.0072)	(0.018)	(0.019)
Lived in local community more than 20 years	0.043 **	0.042 **	0.026	0.024 **	0.017	0.31 **
	(0.0080)	(0.0080)	(0.019)	(0.0076)	(0.018)	(0.018)
Lived in local community all life	0.051 **	0.048 **	0.013	0.033 *	0.0072	0.27 **
	(0.014)	(0.014)	(0.022)	(0.013)	(0.021)	(0.016)
Expect to stay in community for at least 5 more years	-0.014 **	-0.014 **	-0.018 *	-0.022 **	-0.022 *	0.15 **
	(0.0042)	(0.0042)	(0.0093)	(0.0047)	(0.0094)	(0.011)

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TABLE A4 *(Continued)*

	Dependent Variables (Endogenous variables in 2nd stage)					
	Share Developed	Share Developed	Log (Pop. Density)	Share Developed	Log (Pop. Density)	Own
Respondent is commuting	0.018 *	0.017 *	0.0094	0.018 *	0.0094	-0.0062
	(0.0074)	(0.0073)	(0.016)	(0.0073)	(0.016)	(0.015)
Daily commuting time in hours (no commute = 0)	-0.031 **	-0.030 **	0.034 **	-0.031 **	0.033 **	0.0044
	(0.0058)	(0.0058)	(0.012)	(0.0058)	(0.012)	(0.0095)
Homeownership rate in county	0.58	0.68 (*)	2.87 **	0.54	2.84 **	0.31
	(0.43)	(0.37)	(0.51)	(0.34)	(0.51)	(0.31)
Gini-coefficient of income distribution in county	1.03	0.022	1.74 *	-0.016	1.73 *	0.32
	(0.87)	(0.86)	(0.69)	(0.79)	(0.68)	(0.43)
Linguistic heterogeneity in county	0.016	0.12	0.30	0.19	0.33	-0.22
	(0.21)	(0.18)	(0.21)	(0.17)	(0.21)	(0.17)
Ethnic heterogeneity in county	0.19	0.091	-0.14	0.18	-0.10	0.23 (*)
	(0.16)	(0.15)	(0.15)	(0.13)	(0.16)	(0.12)
Share of units that are single-family detached homes in county	0.35	0.014	0.41	-0.024	0.39	-0.028
	(0.23)	(0.24)	(0.35)	(0.24)	(0.36)	(0.21)
Share of units that are in multi-unit buildings in county	1.02 **	1.22 **	1.04 *	1.02 **	0.98 *	-0.33
	(0.34)	(0.31)	(0.41)	(0.31)	(0.44)	(0.22)
Arrests for murder per 100,000 residents	0.00024	0.00094	-0.0041 **	0.00037	-0.0043 **	0.000019
	(0.0020)	(0.0013)	(0.0015)	(0.0012)	(0.0015)	(0.00055)
Log (population size of place to which tract belongs)	0.042 **	0.042 **	0.10 **	0.042 **	0.10 **	-0.0086 **
	(0.0064)	(0.0061)	(0.013)	(0.0061)	(0.013)	(0.0022)
Average household income in county in 1,000$	0.00024	0.00063	-0.012 **	0.00042	-0.012 **	-0.00058
	(0.0020)	(0.0018)	(0.0019)	(0.0017)	(0.0018)	(0.0012)
Demographic controls: race, sex, age, age^2, marital status, children	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Socioeconomic controls (dummies): income, education, employment	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	-1.21 *	-1.86 **	-3.91 **	-3.36 **	-4.32 **	-0.94 (*)
	(0.58)	(0.49)	(0.71)	(0.61)	(0.89)	(0.53)
Adjusted R-squared	0.51	0.51	0.48	0.51	0.48	0.34

Notes: Sample size based on MSA-only specifications reported in Table 4. N=18,028. Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=393). ** Significant at 1%; * significant at 5%; (*) significant at 10%. **Bold** coefficients are excluded instruments used to specifically identify the (endogenous) dependent variables.

TABLE A5: Second-stage regressions: MSA-only sample (no interactions)

	Dependent variable: Participation in neighborhood associations (N=18,028)			
Corresponding first-stage regressions:	Table A5 Column (1)	Table A5 Columns (2)-(3)	Table A5 Columns (4)-(6)	Table A5 Columns (4)-(6)
Estimator:	*2SLS*	*2SLS*	*2SLS*	*JIVE1*
Reported (key) variables:				
Respondent is homeowner	0.12 **	0.12 **	**0.29 ****	**0.20 ***
	(0.013)	(0.013)	**(0.086)**	**(0.095)**
%-Developed land in Census tract, 1992	**0.049**	**0.036**	**0.081**	**0.066**
	(0.044)	**(0.045)**	**(0.051)**	**(0.050)**
Log (population density in developed area of Census tract)	0.0063	**-0.026**	**-0.012**	**-0.017**
	(0.0080)	**(0.034)**	**(0.033)**	**(0.032)**
Number of years lived in local community:				
1-5 years	0.038 **	0.039 **	0.020	0.029
	(0.010)	(0.010)	(0.013)	(0.018)
6-10 years	0.054 **	0.055 **	0.020	0.037
	(0.013)	(0.013)	(0.022)	(0.025)
11-20 years	0.032 **	0.033 **	-0.015	0.0081
	(0.012)	(0.012)	(0.026)	(0.031)
More than 20 years	0.021	0.022	-0.031	-0.0055
	(0.014)	(0.015)	(0.029)	(0.033)
All life	0.0060	0.0067	-0.042	-0.019
	(0.014)	(0.014)	(0.027)	(0.032)
Expect to stay in community for at least 5 more years	0.028 **	0.028 **	0.0033	0.015
	(0.0062)	(0.0064)	(0.014)	(0.016)
Respondent is commuting	-0.020	-0.019	-0.019	-0.019
	(0.015)	(0.015)	(0.015)	(0.014)
Daily commuting time in hours (no commute = 0)	0.00016	0.00099	0.00096	0.0012
	(0.0079)	(0.0079)	(0.0083)	(0.0094)
County level and demand controls:				
Homeownership rate	0.26	0.36	0.21	0.27
	(0.32)	(0.33)	(0.32)	(0.32)
Gini-coefficient of income distribution	-1.34 **	-1.45 **	-1.46 **	-1.46 **
	(0.51)	(0.53)	(0.49)	(0.51)
Linguistic heterogeneity	-0.096	-0.073	-0.054	-0.065
	(0.19)	(0.18)	(0.17)	(0.14)
Ethnic heterogeneity	0.20 (*)	0.18 (*)	0.15	0.16 (*)
	(0.10)	(0.10)	(0.10)	(0.096)
Share of housing units that are single-family detached homes	0.080	0.048	0.064	0.055
	(0.17)	(0.17)	(0.16)	(0.18)
Share of housing units that are in multi-unit buildings	0.53 *	0.61 *	0.55 *	0.56 *
	(0.26)	(0.27)	(0.25)	(0.24)
Arrest for murder per 100,000 residents in county of residence	0.0015 *	0.0016 *	0.0015 *	0.0015 (*)
	(0.00068)	(0.00069)	(0.00071)	(0.00085)
Log (population size of place to which resident belongs)	0.014 **	0.017 **	0.016 **	0.016 **
	(0.0041)	(0.0057)	(0.0057)	(0.0052)
Average household income in county in 1,000$	0.0031 **	0.0028 **	0.0029 **	0.0029 *
	(0.00098)	(0.0010)	(0.0010)	(0.0011)
Other survey respondent specific controls:				
Race:				
Black	0.067 **	0.067 **	0.076 **	0.071 **
	(0.016)	(0.016)	(0.016)	(0.013)
Asian	-0.021	-0.018	-0.012	-0.016
	(0.015)	(0.015)	(0.016)	(0.016)
Hispanic	-0.013	-0.012	-0.015	-0.014
	(0.020)	(0.020)	(0.020)	(0.026)
Any other non-white	0.0049	0.0056	0.010	0.0080
	(0.019)	(0.019)	(0.018)	(0.016)
Respondent is male	-0.0035	-0.0034	0.0010	-0.0011
	(0.0065)	(0.0065)	(0.0070)	(0.0072)

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TABLE A5 *(Continued)*

	Dependent variable: Participation in neighborhood associations (N=18,028)			
Corresponding first-stage regressions:	Table A5 Column (1)	Table A5 Columns (2)-(3)	Table A5 Columns (4)-(6)	Table A5 Columns (4)-(6)
Estimator:	*2SLS*	*2SLS*	*2SLS*	*JIVE1*
Age of respondent	0.0091 **	0.0092 **	0.0073 **	0.0082 **
	(0.0016)	(0.0016)	(0.0018)	(0.0017)
Age of respondent squared (in '000)	-0.065 **	-0.066 **	-0.052 **	-0.059 **
	(0.016)	(0.016)	(0.017)	(0.016)
Respondent has children	0.023 **	0.023 **	0.011	0.017 (*)
	(0.0067)	(0.0067)	(0.0082)	(0.010)
Total household income:				
$30,000-49,999	0.021 *	0.021 *	-0.0042	0.0081
	(0.010)	(0.010)	(0.014)	(0.017)
$50,000-74,999	0.032 **	0.031 **	-0.0066	0.012
	(0.011)	(0.011)	(0.018)	(0.024)
$75,000-99,999	0.070 **	0.068 **	0.022	0.045
	(0.013)	(0.013)	(0.025)	(0.030)
Over $100,000	0.11 **	0.11 **	0.061 *	0.087 **
	(0.016)	(0.016)	(0.029)	(0.033)
Over $30,000 unspecified	0.063 **	0.062 **	0.019	0.040
	(0.018)	(0.018)	(0.024)	(0.031)
Marital status:				
Never married	-0.010	-0.0088	0.0079	-0.00058
	(0.0093)	(0.0096)	(0.013)	(0.014)
Widowed	-0.012	-0.012	-0.0034	-0.0079
	(0.017)	(0.017)	(0.019)	(0.016)
Marital status: Divorced	0.0090	0.010	0.026 *	0.018
	(0.0098)	(0.010)	(0.012)	(0.014)
Marital status: Separated	-0.016	-0.016	0.0080	-0.0038
	(0.017)	(0.017)	(0.020)	(0.024)
Highest education completed:				
High school diploma	0.025 *	0.025 *	0.017	0.021
	(0.011)	(0.011)	(0.012)	(0.015)
Some college	0.069 **	0.068 **	0.062 **	0.065 **
	(0.012)	(0.012)	(0.013)	(0.015)
Associate degree (2 y.) or specialized	0.084 **	0.084 **	0.074 **	0.079 **
	(0.016)	(0.016)	(0.018)	(0.017)
Bachelor's degree	0.12 **	0.12 **	0.11 **	0.12 **
	(0.016)	(0.016)	(0.017)	(0.016)
Some graduate training	0.085 **	0.084 **	0.082 **	0.083 **
	(0.022)	(0.022)	(0.021)	(0.021)
Graduate or professional degree	0.12 **	0.12 **	0.11 **	0.12 **
	(0.014)	(0.014)	(0.016)	(0.017)
Current employment status:				
Temporarily laid off	-0.0045	-0.0047	-0.00049	-0.0026
	(0.028)	(0.028)	(0.028)	(0.028)
Unemployed	-0.067 **	-0.065 **	-0.068 **	-0.067 **
	(0.021)	(0.021)	(0.021)	(0.025)
Retired	0.0027	0.0036	-0.0073	-0.0022
	(0.021)	(0.021)	(0.021)	(0.020)
Permanently disabled	-0.0073	-0.0068	0.0046	-0.0010
	(0.025)	(0.025)	(0.027)	(0.024)
Homemaker	-0.010	-0.0094	-0.011	-0.010
	(0.019)	(0.019)	(0.019)	(0.018)
Student	0.0038	0.0053	-0.0077	-0.0014
	(0.017)	(0.017)	(0.018)	(0.021)
Community sample fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
Constant	-0.38	-0.62	-0.43	-0.50
	(0.44)	(0.48)	(0.46)	(0.45)
F: Share developed	15.6	19.3	12.1	
Own			12.1	
Log (pop. dens.)		78.7	39.2	
Cragg-Donald *F*-statistic	217.5	99.0	9.4	

TABLE A6: Estimates of the determinants of social interactions with co-workers outside work

	OLS, no interaction: own ×% developed				*OLS*, with interaction: own ×% developed				*2SLS*, with interaction: own ×% developed			
	(1)	(2)	(3)	(4) MSA	(5)	(6)	(7)	(8) MSA	(9)	(10)	(11)	(12) MSA
Respondent is homeowner	-0.18 **	-0.13 **	-0.13 **	-0.13 **	-0.16 **	-0.098 (*)	-0.099 (*)	-0.078	-0.29 *	-0.18	-0.21 (*)	-0.20
	(0.025)	(0.027)	(0.027)	(0.028)	(0.049)	(0.051)	(0.051)	(0.062)	(0.13)	(0.12)	(0.12)	(0.18)
Own × share developed					-0.041	-0.050	-0.059	-0.089	**0.19**	**0.075**	**0.13**	**0.11**
					(0.063)	(0.059)	(0.060)	(0.071)	**(0.20)**	**(0.18)**	**(0.18)**	**(0.26)**
Share developed	-0.038	-0.035	-0.042	-0.031	-0.0074	0.0018	0.0014	0.035	**-0.18**	**-0.14**	**-0.22**	**-0.24**
	(0.037)	(0.034)	(0.034)	(0.035)	(0.063)	(0.058)	(0.059)	(0.070)	**(0.19)**	**(0.21)**	**(0.20)**	**(0.26)**
Log (pop. density in developed area)		0.034	0.037 (*)	0.027		0.032	0.035	0.024		0.039 (*)	**0.21** **	**0.23** *
		(0.023)	(0.022)	(0.025)		(0.023)	(0.023)	(0.025)		(0.023)	**(0.067)**	**(0.11)**
Lived in community 1-5 years		0.013	0.011	-0.0085		0.013	0.010	-0.010		0.012	0.0093	-0.011
		(0.041)	(0.041)	(0.043)		(0.041)	(0.041)	(0.042)		(0.041)	(0.041)	(0.042)
Lived in community 6-10 years		0.11 *	0.10 *	0.10 *		0.11 *	0.10 *	0.10 *		0.11 *	0.11 *	0.11 *
		(0.044)	(0.044)	(0.046)		(0.044)	(0.044)	(0.046)		(0.044)	(0.046)	(0.049)
Lived in community 11-20 years		0.088 *	0.078 *	0.066 (*)		0.087 *	0.078 *	0.066 (*)		0.080 *	0.079 *	0.069 (*)
		(0.036)	(0.037)	(0.038)		(0.036)	(0.037)	(0.038)		(0.037)	(0.038)	(0.040)
Lived in community more than 20 years		0.12 **	0.10 **	0.086 *		0.12 **	0.10 **	0.085 *		0.10 **	0.11 **	0.092 *
		(0.037)	(0.037)	(0.038)		(0.037)	(0.037)	(0.037)		(0.037)	(0.038)	(0.039)
Lived in community all life		0.12 *	0.11 *	0.091 (*)		0.12 *	0.11 *	0.091 (*)		0.11 *	0.12 *	0.10 *
		(0.049)	(0.049)	(0.049)		(0.049)	(0.048)	(0.049)		(0.049)	(0.049)	(0.051)
Expect to stay for at least 5 more years			0.044 (*)	0.055 *			0.045 (*)	0.055 *		0.043	0.043	0.056 *
			(0.026)	(0.027)			(0.026)	(0.027)		(0.026)	(0.027)	(0.028)
Daily commuting time			-0.080 **	-0.078 **			-0.080 **	-0.079 **		-0.080 **	-0.090 **	-0.089 **
			(0.026)	(0.028)			(0.026)	(0.028)		(0.026)	(0.026)	(0.028)
Individual-, county-level, and demand controls [a)]	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	2.07 **	2.26 *	2.33 *	1.90	2.05 **	2.24 *	2.30 *	1.85	2.2 **	2.31 *	3.10 **	3.12 *
	(0.068)	(0.95)	(0.95)	(1.28)	(0.083)	(0.95)	(0.95)	(1.28)	(0.17)	(0.96)	(0.92)	(1.33)
Adjusted R-squared	0.016	0.11	0.11	0.12	0.016	0.11	0.11	0.12				
F: Share developed									14.7	6.9	6.9	9.4
Own × share developed									18.4	14.1	13.1	16.2
Log (pop. dens.)											70.3	46.4
Cragg-Donald *F*-stat									131.5	65.9	55.6	39.4

Notes: Dependent variable in log-form. N=13,491 (full sample) and 12,021 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=333/203). **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. Excluded instruments are documented in Table 2. All specifications reported in columns (9) to (12) comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test. [a)] Appendix Table A1 reports the full set of coefficients for specification (11).

TABLE A7: Estimates of the determinants of participation in service or fraternal organizations

	OLS, no interaction: own ×% developed				*OLS*, with interaction: own ×% developed				*2SLS*, with interaction: own ×% developed			
	(1)	(2)	(3)	(4) MSA	(5)	(6)	(7)	(8) MSA	(9)	(10)	(11)	(12) MSA
Respondent is homeowner	0.037 **	0.00046	0.00045	-0.0018	0.035 **	0.011	0.011	0.0017	0.0050	-0.018	-0.019	-0.042
	(0.0045)	(0.0056)	(0.0062)	(0.0067)	(0.010)	(0.010)	(0.011)	(0.013)	(0.023)	(0.023)	(0.023)	(0.033)
Own × share developed					0.0025	-0.017	-0.017	-0.0055	**0.057**	**0.031**	**0.034**	**0.061**
					(0.014)	(0.014)	(0.014)	(0.016)	**(0.037)**	**(0.036)**	**(0.036)**	**(0.048)**
Share developed	0.001	-0.0031	-0.0028	0.00026	-0.00072	0.010	0.010	0.0042	**-0.019**	**-0.026**	**-0.027**	**-0.058**
	(0.011)	(0.011)	(0.011)	(0.011)	(0.014)	(0.014)	(0.014)	(0.015)	**(0.036)**	**(0.050)**	**(0.048)**	**(0.051)**
Log (pop. density in developed area)		-0.017 **	-0.018 **	-0.019 **		-0.018 **	-0.018 **	-0.019 **		-0.017 **	**-0.012**	**-0.010**
		(0.0047)	(0.0047)	(0.0050)		(0.0046)	(0.0046)	(0.0049)		(0.0047)	**(0.018)**	**(0.028)**
Lived in community 1-5 years		-0.00033	-0.00028	0.0041		-0.00055	-0.00051	0.0040		0.00014	0.000044	0.0050
		(0.010)	(0.010)	(0.010)		(0.010)	(0.010)	(0.010)		(0.0099)	(0.010)	(0.010)
Lived in community 6-10 years		0.0086	0.0087	0.0085		0.0084	0.0085	0.0084		0.0091	0.0090	0.010
		(0.010)	(0.010)	(0.010)		(0.010)	(0.010)	(0.010)		(0.010)	(0.010)	(0.010)
Lived in community 11-20 years		0.019 (*)	0.019 (*)	0.020 (*)		0.019 (*)	0.019 (*)	0.020 (*)		0.019 (*)	0.019 (*)	0.021 (*)
		(0.011)	(0.011)	(0.011)		(0.011)	(0.011)	(0.011)		(0.011)	(0.011)	(0.012)
Lived in community more than 20 years		0.035 **	0.035 **	0.038 **		0.035 **	0.035 **	0.038 **		0.035 **	0.035 **	0.039 **
		(0.011)	(0.011)	(0.011)		(0.011)	(0.011)	(0.011)		(0.012)	(0.012)	(0.012)
Lived in community all life		0.031 **	0.031 **	0.031 **		0.031 **	0.031 **	0.031 **		0.031 **	0.031 **	0.032 **
		(0.010)	(0.011)	(0.011)		(0.010)	(0.011)	(0.011)		(0.011)	(0.011)	(0.012)
Expect to stay for at least 5 more years			-0.000071	0.00073			0.00012	0.00077		-0.00042	-0.00038	0.00023
			(0.0066)	(0.0070)			(0.0066)	(0.0070)		(0.0066)	(0.0066)	(0.0071)
Daily commuting time			0.0048	0.0077			0.0046	0.0076		0.0051	0.0049	0.0074
			(0.0057)	(0.0060)			(0.0057)	(0.0060)		(0.0056)	(0.0056)	(0.0059)
Individual-, county-level, and demand controls [a)]	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	0.092 **	0.070	0.069	0.083	0.094 **	0.063	0.062	0.080	0.099 **	0.081	0.10	0.14
	(0.012)	(0.23)	(0.23)	(0.29)	(0.013)	(0.23)	(0.23)	(0.29)	(0.030)	(0.24)	(0.25)	(0.35)
Adjusted R-squared	0.0089	0.052	0.053	0.055	0.0089	0.053	0.053	0.055				
F: Share developed									17.0	8.4	8.5	11.3
Own × share developed									22.5	18.0	17.3	20.7
Log (pop. dens.)											84.9	46.3
Cragg-Donald *F*-stat									199.3	100.0	84.4	55.7

Notes: N=20,505 (full sample) and 18,031 (MSA only). Robust standard errors (in parenthesis) are clustered by Census counties (cluster size=393/230). **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. Excluded instruments are documented in Table 2. All specifications reported in columns (9) to (12) comfortably pass the Anderson canonical correlations likelihood-ratio-test and the Hansen J-overidentification test. [a)] Appendix Table A1 reports the full set of coefficients for specification (11).

TABLE A8: *JIVE1*-Estimates with endogenous homeownership variable

	Social Interactions with Neighbors			Participation in Neighborhood Groups			Social Interactions with Co-Workers			Participation in Fraternal/Service Ass.		
	(1)	(2)	(3) MSA	(4)	(5)	(6) MSA	(7)	(8)	(9) MSA	(10)	(11)	(12) MSA
Respondent is homeowner	**-1.72** **	**-1.60** **	**-1.41** *	**-0.24**	**-0.27** (*)	**-0.37** *	**0.28**	**0.35**	**0.22**	**-0.014**	**-0.017**	**0.059**
	(0.60)	**(0.59)**	**(0.64)**	**(0.15)**	**(0.15)**	**(0.16)**	**(0.25)**	**(0.27)**	**(0.47)**	**(0.12)**	**(0.12)**	**(0.13)**
Own × share developed	**1.84** **	**1.69** **	**1.76** *	**0.51** **	**0.54** **	**0.68** **	**0.28**	**0.27**	**0.28**	**0.17**	**0.18**	**0.078**
	(0.64)	**(0.63)**	**(0.73)**	**(0.16)**	**(0.16)**	**(0.18)**	**(0.28)**	**(0.29)**	**(0.47)**	**(0.13)**	**(0.13)**	**(0.15)**
Share developed	**-1.63** **	**-1.50** **	**-1.43** *	**-0.34** **	**-0.36** **	**-0.45** **	**-0.15**	**-0.17**	**-0.23**	**-0.12**	**-0.12**	**-0.050**
	(0.52)	**(0.50)**	**(0.58)**	**(0.13)**	**(0.13)**	**(0.14)**	**(0.26)**	**(0.27)**	**(0.39)**	**(0.11)**	**(0.10)**	**(0.12)**
Log (pop. density in	-0.0076	**-0.069**	**0.11**	0.025 **	**-0.0049**	**0.023**	0.058 *	**0.18** *	**0.21** (*)	-0.011 (*)	**-0.0083**	**-0.0035**
developed area)	(0.031)	**(0.082)**	**(0.13)**	(0.0077)	**(0.020)**	**(0.032)**	(0.026)	**(0.082)**	**(0.11)**	(0.0063)	**(0.016)**	**(0.026)**
Lived in community 1-5 years	0.52 **	0.52 **	0.42 **	0.053 **	0.056 **	0.055 **	-0.052	-0.062	-0.068	-0.0080	-0.0079	-0.0074
	(0.068)	(0.068)	(0.071)	(0.017)	(0.017)	(0.017)	(0.055)	(0.057)	(0.061)	(0.014)	(0.014)	(0.014)
Lived in community 6-10 years	0.71 **	0.70 **	0.60 **	0.074 **	0.078 **	0.076 **	-0.014	-0.028	-0.0040	-0.0074	-0.0071	-0.013
	(0.092)	(0.092)	(0.094)	(0.023)	(0.023)	(0.023)	(0.074)	(0.077)	(0.085)	(0.019)	(0.019)	(0.019)
Lived in community 11-20 years	0.75 **	0.75 **	0.61 **	0.048 (*)	0.053 *	0.053 (*)	-0.076	-0.095	-0.078	-0.0044	-0.0041	-0.010
	(0.11)	(0.11)	(0.11)	(0.027)	(0.027)	(0.027)	(0.086)	(0.089)	(0.098)	(0.022)	(0.022)	(0.022)
Lived in community more than 20 years	0.74 **	0.73 **	0.61 **	0.035	0.040	0.043	-0.054	-0.069	-0.060	0.0092	0.0095	0.0044
	(0.12)	(0.11)	(0.12)	(0.028)	(0.029)	(0.029)	(0.086)	(0.089)	(0.10)	(0.023)	(0.023)	(0.024)
Lived in community all life	0.73 **	0.72 **	0.59 **	0.019	0.023	0.026	-0.041	-0.054	-0.044	0.0078	0.0081	0.00091
	(0.11)	(0.11)	(0.12)	(0.028)	(0.028)	(0.029)	(0.089)	(0.093)	(0.10)	(0.023)	(0.023)	(0.023)
Expect to stay for at least 5 more years	0.33 **	0.33 **	0.31 **	0.032 *	0.034 *	0.031 *	-0.048	-0.058	-0.029	-0.015	-0.015	-0.016
	(0.056)	(0.056)	(0.057)	(0.014)	(0.014)	(0.014)	(0.050)	(0.052)	(0.056)	(0.011)	(0.011)	(0.011)
Daily commuting time	-0.087 *	-0.085 *	-0.074 (*)	0.010	0.012	0.0064	-0.082 **	-0.091 **	-0.086 **	0.0057	0.0058	0.0074
	(0.036)	(0.036)	(0.039)	(0.0089)	(0.0090)	(0.0095)	(0.028)	(0.029)	(0.030)	(0.0073)	(0.0073)	(0.0077)
Individual-, county-level, and demand controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	1.48	1.18	3.14 (*)	-0.49	-0.62 (*)	-0.057	3.48 **	4.16 **	3.38 *	0.18	0.19	0.23
	(1.24)	(1.28)	(1.88)	(0.30)	(0.32)	(0.46)	(1.13)	(1.26)	(1.63)	(0.25)	(0.26)	(0.37)
Observations	20424	20424	17963	20505	20505	18028	13491	13491	12021	20505	20505	18031

Notes: **/ */ (*) Significant at 1%, 5%, 10%. **Bold** coefficients are instrumented. The sets of instruments used to identify the endogenous variables are documented in Table 2. Quantitative effects and statistical significance levels are very similar if a JIVE2-estimator is used instead of the JIVE1-estimator.

TABLE A9: MSA-only sample results using MSA-level population density in developed area to identify tract-level density

	Social Interactions with Neighbors			Participation in Neigh. Groups			Social Interactions with Co-Workers			Participation in Fraternal/Service Ass.		
	(1) *2SLS*	(2) *2SLS*	(3) *JIVE1*	(4) *2SLS*	(5) *2SLS*	(6) *JIVE1*	(7) *2SLS*	(8) *2SLS*	(9) *JIVE1*	(10) *2SLS*	(11) *2SLS*	(12) *JIVE1*
Respondent is homeowner	-0.25	**-1.48** *	**-1.46** *	-0.038	**-0.23** (*)	**-0.38** *	-0.20	**-0.21**	**0.22**	-0.049	**-0.025**	**0.079**
	(0.24)	**(0.65)**	**(0.62)**	(0.073)	**(0.13)**	**(0.16)**	(0.19)	**(0.57)**	**(0.47)**	(0.039)	**(0.15)**	**(0.13)**
Own × share developed	**0.81** *	**1.83** **	**1.67** *	**0.24** *	**0.59** **	**0.65** **	**0.11**	**0.62**	**0.29**	**0.074**	**0.20**	**0.11**
	(0.37)	**(0.65)**	**(0.72)**	**(0.12)**	**(0.16)**	**(0.18)**	**(0.29)**	**(0.60)**	**(0.47)**	**(0.060)**	**(0.17)**	**(0.16)**
Share developed	**-0.55** (*)	**-1.46** **	**-1.37** *	**-0.14** (*)	**-0.40** **	**-0.47** **	**-0.20**	**-0.48**	**-0.22**	**-0.063**	**-0.13**	**-0.064**
	(0.33)	**(0.55)**	**(0.57)**	**(0.086)**	**(0.12)**	**(0.14)**	**(0.26)**	**(0.51)**	**(0.39)**	**(0.054)**	**(0.14)**	**(0.12)**
Log (pop. density in	**0.032**	**-0.0021**	**-0.082**	**0.047**	**-0.010**	**-0.026**	**0.24**	**0.33**	**0.21**	**0.022**	**0.077**	**0.070**
developed area)	**(0.28)**	**(0.22)**	**(0.25)**	**(0.10)**	**(0.075)**	**(0.064)**	**(0.25)**	**(0.21)**	**(0.19)**	**(0.070)**	**(0.056)**	**(0.054)**
Lived in community	0.34 **	0.43 **	0.44 **	0.041 **	0.045 **	0.059 **	-0.011	-0.042	-0.068	0.0041	-0.0071	-0.014
1-5 years	(0.057)	(0.062)	(0.072)	(0.011)	(0.015)	(0.018)	(0.043)	(0.054)	(0.062)	(0.010)	(0.015)	(0.015)
Lived in community	0.47 **	0.61 **	0.62 **	0.058 **	0.059 **	0.082 **	0.11 *	0.046	-0.0044	0.0090	-0.011	-0.022
6-10 years	(0.064)	(0.093)	(0.096)	(0.013)	(0.021)	(0.024)	(0.049)	(0.082)	(0.086)	(0.010)	(0.017)	(0.021)
Lived in community	0.45 **	0.62 **	0.64 **	0.034 **	0.030	0.061 *	0.067 (*)	-0.020	-0.079	0.020 (*)	-0.0092	-0.024
11-20 years	(0.065)	(0.10)	(0.12)	(0.012)	(0.027)	(0.029)	(0.040)	(0.10)	(0.10)	(0.012)	(0.024)	(0.025)
Lived in community	0.43 **	0.62 **	0.65 **	0.023 (*)	0.018	0.052 (*)	0.090 *	0.0039	-0.060	0.038 **	0.0066	-0.0094
more than 20 years	(0.065)	(0.11)	(0.12)	(0.014)	(0.029)	(0.031)	(0.039)	(0.097)	(0.10)	(0.012)	(0.025)	(0.027)
Lived in community	0.43 **	0.60 **	0.62 **	0.0088	0.0030	0.034	0.098 (*)	0.015	-0.045	0.032 **	0.0042	-0.010
all life	(0.065)	(0.10)	(0.12)	(0.015)	(0.029)	(0.030)	(0.050)	(0.10)	(0.10)	(0.011)	(0.023)	(0.026)
Expect to stay for at least 5	0.24 **	0.31 **	0.32 **	0.027 **	0.018	0.033 *	0.057 *	0.0065	-0.029	0.00083	-0.014	-0.021 (*)
more years	(0.037)	(0.071)	(0.058)	(0.0067)	(0.014)	(0.015)	(0.028)	(0.051)	(0.056)	(0.0074)	(0.013)	(0.012)
Daily commuting time	-0.078 (*)	-0.068 (*)	-0.067 (*)	0.00048	0.0057	0.0069	-0.088 **	-0.085 **	-0.085 **	0.0065	0.0060	0.0050
	(0.040)	(0.041)	(0.039)	(0.0088)	(0.0082)	(0.010)	(0.029)	(0.029)	(0.030)	(0.0062)	(0.0067)	(0.0083)
Individual-, county-level, and demand controls [a)]	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Community sample FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Constant	2.67	2.38	1.75	-0.047	-0.33	-0.46	3.28 (*)	4.26 *	3.45 (*)	0.37	0.83	0.77
	(2.56)	(2.10)	(2.43)	(0.78)	(0.66)	(0.61)	(1.95)	(1.80)	(1.98)	(0.57)	(0.51)	(0.52)
F: Share developed	10.7	26.3		10.6	27.4		8.5	75.4		10.6	27.4	
Own × share developed	21.2	29.6		21.1	28.0		16.2	45.2		21.1	28.1	
Own		65.8			65.4			63.5			65.2	
Log (pop. dens.)	3.5	18.8		3.5	18.9		2.6	17.3		3.5	18.9	
Cragg-Donald *F*-stat	10.3	2.2		10.3	2.2		7.0	1.6		10.3	2.2	

Notes: **Bold** coefficients are instrumented. N = 17,963 (columns 1-3), N = 18,028 (columns 4-6), N = 12,021 (columns 7-9), N = 18,031 (columns 10-12).