How are social ties formed? : Interaction of neighborhood and individual immobility

Yamamura, Eiji

26 June 2010

How are social ties formed? Interaction of neighborhood and individual immobility.

Abstract

Using individual data from Japan, this paper investigates how a neighbor's immobility is associated with individual investment in social capital. It is found that local homeownership has a positive effect on individual investment and that this effect for individual homeowners is about 2.5 times larger than for renters.

Keywords: Social ties, Social capital, homeownership, length of residence.

JEL classification: D71, R11, R23, Z13.

1. Introduction

Since the seminal work of Putnam (2000), social capital has been regarded as an influential social science concept, with the formation of social capital being a major issue for researchers. From an economics viewpoint, it is critical to analyze what gives individuals an incentive to invest in social capital (Glaeser et al. 2002). For instance, empirical works explore how social capital is accumulated based on individual decision making, indicating that a homeowner is more likely to invest in social capital because of the lower mobility rates of homeowners (DiPasquale and Glaeser 1999; Hilber 2007). On the other hand, a householder's social ties with neighbors, which can be regarded as a kind of social capital, generate benefit for residents (Putnam 2000). This household member cannot enjoy this benefit if the household leaves and begins residence in another place. As a consequence, local social ties lead to low residential mobility (Kan 2007). This indicates that individual decision making about investment in social capital is affected by the circumstances of where one resides[1].

Both individual features and neighbor characteristics are thought to be crucial determinants of individual investment in social capital. Moreover, assuming that the relationships among individuals and neighbors have a crucial role, the neighbor effect appears to vary according to individual characteristics. Thus it is important to examine the interaction effect between an individual's and a neighbor's characteristics. However, to date few researchers have attempted to do this. This paper uses individual level data from Japan to investigate how the effect of neighbor immobility on individual investment in social capital differs between homeowners and renters.

[1] It is found that people are less likely to cooperate to resolve collective action problems in more heterogeneous communities (Alesina & La Ferrara, 2000).

2. Data and Methods

The individual level data used in this paper cover information such as social capital index, years of living at the current address, homeownership, household income, marital and demographic (age and sex) status[2]. These data were constructed from the Social Policy and Social Consciousness (SPSC) survey conducted in all parts of Japan in 2000. The survey collected data on 3991 adults[3]. Sample points are divided into 11 areas. In each area, according to their population size, cities and towns are divided into 4 groups such as the 13 metropolitan cities, cities with 200 000 people or greater, cities with 100 000 people or greater, and towns and villages. Therefore, 4 population groups exist within each of the 11 areas. Hence, area-population groups can be divided into 44, which are defined as local groups in this paper. As shown later, variables to capture neighbor characteristics are calculated in accord with these local groupings.

According to Putnam (2000), the degree of civic engagement is considered as investment for social capital in this research. Thus social capital is measured using the question “Are you actively involved in the activity of a neighborhood association?” Responses run from 0 (not at all) to 3 (Yes, actively involved), which are used as the dependent variable. I can see from Figure1 that at an average local level, investment in social capital is positively related to average homeowner rates; which is consistent with existing reports (DiPasquale and Glaeser 1999; Hilber 2007). For a closer examination, I explore how local circumstances of individuals, captured by a neighbor’s homeownership and length of residence, are related to individuals’ investment in social

[2] The data for this secondary analysis, "Social Policy and Social Consciousness survey (SPSC), Shogo Takekawa," were provided by the Social Science Japan Data Archive, Information Center for Social Science Research on Japan, Institute of Social Science, The University of Tokyo.

[3] Respondents did not respond to all questions and therefore 3075 samples were used for regression estimations.

capital.

Variables used for the regression estimations are shown in Table 1; these include variable definitions and mean values of all samples, as well as those of split samples such as homeowners and renters. Homeownership is measured using the question "What is your type of residence?" The responses were "I own my home", "I reside in a home owned by a parent" and "others". I defined homeownership as being in a home owned by individuals or their parents. The local group average value, AVHOME, is incorporated as one of the independent variables. Furthermore, with a view to capture the effect of the length of residence, I include AVLIVE 20 representing the local average rates of persons who have lived at their current address for longer than 20 years. AVHOME and AVLIVE20 are thought to capture the degree of population immobility in a particular locality.

The view of Kan (2007) is that people integrated into neighbor ties are thought to be inclined to invest in social capital since the return on investment is expected to be sufficiently large. This seems to hold under conditions in which the individual's barrier to moving is high and ties with neighbors are strong. Individual barriers to moving are captured by individual homeownership (DiPasquale and Glaeser 1999), while ties with neighbors can be achieved from AVHOME and AVLIVE20. Therefore, AVHOME and AVLIVE20 are predicted to take positive signs and their coefficients should become larger when individuals are homeowners. Therefore, when estimations are conducted I split samples into homeowners and renters. However, individuals who tend to invest in social capital appeared to become homeowners, resulting in selection bias. Therefore, to control for this bias, I also conducted Heckman's sample selection estimation. In the first stage of Heckman's estimation, I used the same variables used in the second stage

estimation, area dummies and metropolitan cities dummy as independent variables[4]. It seems appropriate to argue that that area dummies and city size capture the local housing market condition, leading me to assume that they are exogenous for an individual's decision on homeownership.

Following the model used by DiPasquale and Glaeser (1999), other independent variables, such as marital status, demographic character, education, and household's income are included in the estimation function.

3. Estimation Results

Table2 sets out the estimation results. Column (1) shows the results using all samples. For the purpose of comparing the effect on homeowners with that on renters, Columns (2) and (3) present results of homeowner and renter samples, respectively. Column (4) provides the results of Heckman's estimation. I now restricted the results of AVHOME and AVLIVE 20 to examine the argument as above.

In all estimations of AVHOME and AVLIVE20, as anticipated, all coefficient signs are positive. As for all estimation results of the samples in column (1), both of AVHOME and AVLIVE20 are statistically significant. Furthermore, the values of AVHOME and AVLIVE20 are 0.97 and 0.47, respectively. It is interesting to observe that the value of AVHOME in column (2), 0.90, is approximately 3 times larger than that in column (3), 0.34. Also, the value of AVLIVE20 in column (2), 0.50, is about 10 times larger than that in column (3), 0.05. Furthermore, AVHOME and AVLIVE20 are statistically significant in column (2), whereas they are insignificant in column (3). It follows from this that neighbor immobility has a greater effect on homeowners than on renters. Heckman's

[4] There were 13 metropolitan cities in Japan when the survey was conducted.

estimation results are shown in column (4); revealing that after controlling for selection bias, AVHOME and AVLIVE20 continue to take significant positive signs and the values of AVHOME and AVLIVE20 are 0.85 and 0.48, respectively. This suggests that the results of AVHOME and AVLIVE20 do not change, indicating that the estimation results are robust[5]. What comes out of the findings above strongly supports the view that the relationship between a neighbor's barriers and an individual's ones can be considered complementary.

4. Conclusion

The major findings of this analysis, which was based on the individual data, are as follows; Neighbor immobility significantly enhances individual investment of homeowners in social capital, whereas this neighbor effect on renters is not only smaller but also statistically insignificant when samples are restricted to renters. From this, I derived the argument that the neighbor immobility effect is increased by an individual's homeownership, and hence interaction between circumstances and an individual's characteristics has a critical role in social capital formation. Thus, I stress the importance of simultaneously considering circumstances and individual characteristics when analyzing incentives to invest in social capital.

There are no reports that have examined the relationship between neighbor immobility and individual investment in social capital in other countries. As the findings of this paper are naturally limited to the situation in Japan; it will, therefore, be worthwhile exploring the extent to which these findings are valid under the different

[5] In the first stage estimation, a dummy variable for metropolitan cities yielded a significant negative sign, implying that individuals are less likely to own a home in metropolitan cities. This might be because of the high cost of homes in densely populated metropolitan cities..

socioeconomic conditions found in other countries.

References

Alesina, A, La Ferrara, E. 2000. Participation in heterogeneous communities. Quarterly Journal of Economics 115(3), 847-904.

DiPasquale, D., Glaeser,E.L. 1999. Incentives and social capital: Are homeowners better citizens? Journal of Urban Economics 45(2), 354-384.

Glaeser, EL, Laibson,D., Sacerdote, B. 2002, An economic approach to social capital. Economic Journal 112, 437-458.

Hilber, C.A.L, 2007, New housing supply and the dilution of social capital. MPRA Paper 5134, (University Library of Munich, Germany).

Kan, K, 2007, Residential mobility and social capital. Journal of Urban Economics 61(3), 436-457.

Putnam, RD., 2000, Bowling alone: The collapse and revival of American community. (A Touchstone Book: New York).

Table 1

Variable definitions and descriptive statistics

Variables	Definition	Full sample	Owners	Renters
SC	Degree of involvement in the activities of a neighborhood association from 0 (not at all) to 3 (actively involved).	1.40	1.51	1.06
AVHOME	Local average rates of homeownership	0.76	0.77	0.70
AVLIVE20	Local average rates of persons who have lived at their current address for longer than 20 years	0.61	0.62	0.58
CHILD	1 if the person has child, otherwise 0.	0.81	0.84	0.70
MARRI	1 if the person has a spouse, otherwise 0.	0.79	0.82	0.70
DIV	1 if the person has been divorced, otherwise 0.	0.03	0.01	0.07
AGE	Ages	50	52	43
UNIV	1 if the person graduated from a university, otherwise 0.	0.16	0.16	0.15
MALE	1 if male, otherwise 0.	0.49	0.50	0.46
INCOME	Household income [a]	0.65	0.69	0.49
Samples		3075	2349	726

Note: [a] in 10 Million yen increments

Table 2

Determinants of investment for social capital.

Variables	(1) OLS All samples	(2) OLS Homeowner	(3) OLS Renter	(4) HECKMAN
AVHOME	0.97**	0.90**	0.34	0.85**
	(5.08)	(3.93)	(0.92)	(2.68)
AVLIVE20	0.47*	0.49*	0.05	0.48*
	(2.15)	(1.92)	(0.13)	(1.84)
CHILD	0.32**	0.29**	0.32**	0.29**
	(5.83)	(4.34)	(3.54)	(4.17)
MARRI	0.16**	0.16**	0.20*	0.17**
	(3.14)	(2.62)	(2.05)	(2.63)
DIV	-0.15	-0.16	-0.009	-0.14
	(-1.51)	(-1.16)	(-0.07)	(-0.87)
AGE	0.01**	0.01**	0.006**	0.01**
	(9.32)	(7.42)	(2.73)	(4.36)
UNIV	-0.09*	-0.10*	-0.09	-0.10*
	(-2.06)	(-1.95)	(-0.96)	(-1.96)
MALE	-0.004	-0.003	-0.008	-0.003
	(-0.14)	(-0.09)	(-0.13)	(-0.09)
INCOME	0.02	-0.009	0.13	-0.001
	(0.73)	(-0.02)	(-1.25)	(-0.19)
Adj R- square	0.12	0.10	0.07	
Wald chi- square				574
Sample size	3075	2349	726	3075
Uncensored sample				2349

Notes: Numbers in parentheses are t-statistics. * and ** indicate significance at 5 and 1 per cent levels respectively (one-sided tests). A constant term is included when an estimation was conducted but its result is not reported to save space.

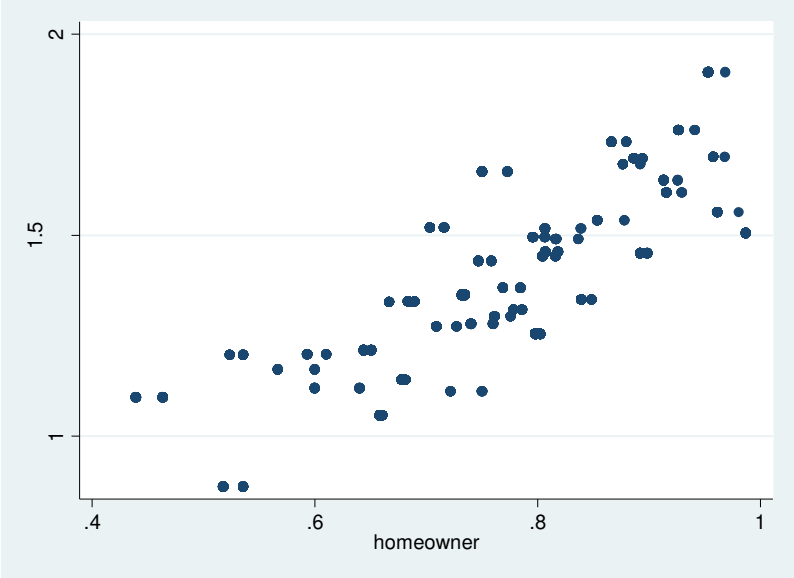

Fig.1. Local average social capital investments and local average homeowner rates