Journal of Agricultural and Applied Economics, 42,1(February 2010):143–159

Community Development and Local Social Capital

Jeffrey L. Jordan, Bulent Anil, and Abdul Munasib

While a substantial amount of research has been devoted to showing what social capital does, research explaining social capital itself lags behind. The literature has a long tradition of examining the effect of social capital on local economic growth and development. In this paper we examine whether local economic development can explain the variation in social capital across various geographical clusters in the state of Georgia. We begin by devising a measurement tool, a Human Development Index (HDI), to measure community development. Our social capital measure includes associational memberships, voluntary activities, and philanthropy obtained from the *Georgia Social Capital Survey.* The findings show that even after accounting for various demographic and economic characteristics, the HDI explains the variation in a number of social capital levels (especially those measured by associational involvement) across various geographical clusters in the state of Georgia.

Key Words: economic development, human development, social capital

JEL Classification: R00

One reason that the area of social capital has generated widespread interest is that researchers have been consistently documenting that social capital has real and significant consequences in all walks of life. The basic argument is that social capital promotes cooperation, collaboration, and coordination, and thereby has a variety of micro and macro level outcomes that are beneficial to economies. Macro level outcomes include political participation and good governance (DiPasquale and Glaeser, 1999; Putnam, 1995, 2000), as well as economic performance and regional variations in growth (Knack and Keefer, 1997; Serageldin and Grootaert, 2000). Micro level impacts include cooperative movements (Paldam and Svendsen, 2000), income (Narayan and Pritchett, 1999), children's school drop out rates (Coleman, 1988), and market outcomes (Putnam, 1995, 2000).

While a substantial amount of research has been devoted to showing what social capital does, research on explaining social capital itself lags behind. The literature has a long tradition of examining the effect of social capital on local economic growth and development. There is less however on the role development has on social capital. Just as rising incomes increase the ability of people to engage in leisure activities, rising economic development can increase the ability of people to engage in community and associational activities that lead to higher levels of social capital and, in the process, more economic development. We hypothesize that

Jeffrey L. Jordan, professor, Department of Agricultural and Applied Economics, University of Georgia, Griffin, GA. Bulent Anil, assistant professor, Department of Economics, University of Minnesota-Duluth, Duluth, MN. Abdul Munasib, assistant professor, Department of Economics and Legal Studies in Business, Oklahoma State University, Stillwater, OK.

This research was done when Abdul Munasib and Bulent Anil were post-doctoral research associates at the Department of Agricultural and Applied Economics, University of Georgia, Griffin Campus, Griffin, GA.

when people have solid jobs, higher levels of education, adequate housing, etc. they will in fact be more engaged in social programs, community governance, and other elements associated with community development. We acknowledge that the relationship between community development and social capital is two-way, although most research has focused on the role social capital plays in development. In this paper we examine whether local economic development can explain the variation in social capital across various geographical clusters in the state of Georgia.

We begin by devising a measurement tool, a Human Development Index (HDI). Patterned after work done at the United National Development Program, and modified by Estrada and Allen (2004), the HDI focuses on variables important to community development activities, including educational opportunity, economic opportunity (employment), and access to housing. Census data from 2000 were used to construct county-level HDIs. The use of an HDI broadens the standard income measurements of economic well-being. As shown in this study, issues of education and housing do not always align with the usual measures of income and employment. We capture these subtle but important aspects in our county HDI ranking.

Our social capital measures are obtained from the *Georgia Social Capital Survey*. We use a number of measures indicating involvement in various associational memberships, voluntary activities, and philanthropy. Our findings show that the HDI explains variations in a number of social capital measures (especially the ones derived from associational memberships) across various geographical clusters in the state of Georgia. This result stands even after accounting for various demographic and economic characteristics of the communities.

In section 2, we briefly discuss the literature on economic development and social capital. In section 3, we describe the data. In section 4, we discuss HDI. Section 5 presents the explanatory variables and the methodology, which is followed by the results and discussion in section 6.

Social Capital and Economic Development

Robert Putnam has inarguably provided the most influential work in social capital research. Two important claims that Putnam made regarding economic causality of community level social capital are, first—and it has been argued by many others as well—that social capital matters for societal cooperation, coordination, and collaboration. The second claim is that social capital may have significant political consequences. Social capital, defined as social networks and cultural norms, is believed to facilitate political participation and good governance. Helliwell and Putnam (1995) measure "civic community" by a composite index of newspaper readership, the density of sports and cultural associations, turnout for referenda, and the incidence of performance voting. They show that, holding initial income constant, regions of Italy with a more developed civic community had higher growth rates over the 1950–1990 period.

Fukuyama (1995, 2000) claimed that the differences between countries in their social capital (in his case, trust) can explain the differences in their ability to create new corporations and associations. Serageldin and Grootaert (2000) argued that social capital is the missing link in the explanation for the East Asian economic miracle. In this case, they defined social capital as institutional arrangements that facilitate the exchange of information and promote cooperation between government and industry (p. 4). Paldam and Svendsen (2000) claimed that social capital, defined as the density of trust, led to successful cooperative movements in Denmark between 1850 and 1900, in Tanzania during the colonial days, and in Bangladesh in recent years.

A recent study by Casey and Christ (2005) on U.S. states shows that, although social capital does not have a significant influence on aggregate measures of output and employment, it has a positive and significant impact on measures of economic equality and employment stability. They use Putnam's (2000) measures of social capital.

A major part of the social capital literature seeks to link social capital to economic

outcomes, in particular on local economic development. However, studies of the effect of economic development on social capital formation of the community are virtually nonexistent. Knack and Keefer (1997), using the World Values Surveys for a sample of 29 market economies, found evidence that trust and civic norms are stronger in nations with higher and more equal incomes, with institutions that restrain predatory actions of chief executives, and with better-educated and ethnically homogeneous populations.

A main link posited in the literature between social capital and economic development is in the connection between human capital and social capital. Higher levels of education, and thus higher levels of development, create higher levels of social capital. There can be a number of sources through which education can affect social capital investment. People with more education have access and skills that help them form higher levels of social capital (Buerkle and Guseva, 2002; Glaeser, Laibson, and Sacerdote, 2002). Munasib (2005) shows that as people increase their education they derive more benefits from their social capital thus encouraging them to acquire more social capital. Additionally, DiPasquale and Glaeser (1999)—showing that homeowners are more engaged in the community because of their stronger ties to it—establish a connection between housing situations and local social capital levels.

Finally, beyond the usual social capital to development links through individual behaviors, there are also possible supply side factors: locations with greater human capital, employment opportunity, income, and a more stable population would also have better resources and infrastructure required for associations to emerge and sustain.

Data

We use two data sources: the county-level data from the 2000 Census compiled by the Office of Planning and Budget of the State of Georgia, and the *Georgia Social Capital Survey*. The Georgia Social Capital Survey has two parts: a household survey, and a farm survey. We obtain all but the social capital variables from the census data. For the social capital variables we pool both the household and farm surveys that allow us to calculate social capital levels for each county in the state. However, even after pooling the two surveys, the number of observations per county is small given the 159 counties in Georgia. Therefore, we created 31 geographical clusters. The clusters combine contiguous rural counties into regional clusters and separate some metropolitan areas into geographic regions. We also use many of the micropolitan county arrangements as clusters.

For the variables other than the social capital variables, we use weighted county data to arrive at the cluster-level values. County population has been used as the weight. For instance, in constructing the social capital variables we first calculated average social capital values by county and then used county population weights to arrive at the cluster levels.

The household survey was conducted by the University of Georgia Survey Research Center between June 13 and July 1, 2003. The design of the study called for conducting a total of 500 telephone interviews. Random digit dialing (RDD) probability sampling was used to ensure all residents of Georgia a near-equal probability of selection. To achieve 500 interviews, 1,238 phone contacts were made, representing a 40.4% response rate. The nonresponse numbers included business numbers, respondents who were unavailable, nonworking numbers, answering machines, and no answer/busy, or strange noise. The 500 responses represent a statistically valid sample of the population of Georgia at the 95% confidence interval (with a sampling error of $\pm 4.3\%$). The survey was pretested by administering the instrument to 60 people outside of the Athens, Georgia local area. Additional pretesting was conducted statewide with revisions. The pretesting resulted in 61 survey questions, including demographic information.

The farm survey was conducted by the Georgia Agricultural Statistics Service in the winter of 2004. There were a total of 431 telephone interviews, representing a statistically significant sample of Georgia farmers at the 95% confidence interval. To achieve 431 interviews, 921 phone contacts were made,

representing a 46.8% response rate. The nonresponse rate included respondents who were unavailable, nonworking numbers, answering machines, no answer/busy, or strange noise.

All respondents were also asked a number of questions about associational activities. The questions were selected from the Social Capital Benchmark Survey 2000 conducted by the Roper Center for Public Opinion Research. The Benchmark survey was designed to measure people's civic engagements. Associational activities included 18 categories representing religious organizations, adult sports clubs, youth groups, parent/school groups, senior clubs, art clubs, hobby clubs, self-help clubs, internet groups, veterans groups, neighborhood associations, social welfare groups, unions, professional/trade groups, service clubs, and civil rights and political action organizations.

Associational activities can be divided into those groups that are personal in nature: religious organizations, adult sports, youth groups, parent/school groups, senior clubs, art clubs, hobby clubs, self-help clubs, and Internet groups. Associations that are more public in nature included veterans groups, neighborhood associations, social welfare groups, unions, professional/trade groups, service clubs, and civil rights and political action organizations. Also, six different types of volunteer activities were identified, including volunteering at place of worship, in health care programs, school or youth programs, in organizations for poor or elderly, in arts and cultural organizations, and in neighborhood or civic groups.

Table 1 describes the dependent variables used for the analysis. These variables are derived from the basic information obtained from the surveys about the associational involvements of the individuals. These dependent variables represent the above 18 different measures of social capital incorporating organizational memberships, church memberships, volunteer activities, and religious and nonreligious monetary contributions.

The results of the surveys show that 85% of all respondents belonged to at least one of these 18 associational groups. Participation in charitable or social welfare groups was noted by 42% of the respondents. For all other groups, involvement ranged from 4% (online groups) to 35% (parent organizations at schools). When contributing to a religious group, 57% of the respondents reported giving more than $500 a year while only 30% reported giving that amount to other groups. Volunteer work followed a different pattern, where 44% of the respondents did some volunteering at their place of worship, 58% volunteered for activities other than those at the church.

Table 1. Derived Social Capital Variables at the Cluster Level

Variable	Type	Label	Mean	Std
amem	Binary	PP with number of total membership ≥ average number of total memberships	0.41	0.13
tmem	Continuous	Per capita total number of memberships (in any organization)	3.41	0.64
avol	Binary	PP with number of voluntary activities ≥ average number of voluntary activities	0.39	0.13
tvol	Continuous	Per capita total number of volunteering	1.34	0.33
anynrd	Binary	PP done nonreligious donation of $100 or less	0.54	0.12
apersonalgr	Binary	PP with number of memberships in a personal group ≥ average number of memberships in personal groups	0.51	0.14
tpersonalgr	Continuous	Per capita total number of memberships in personal organizations	1.93	0.42
apublicgr	Binary	PP with number of memberships in a public group ≥ average number of memberships in public groups	0.42	0.12
tpublicgr	Continuous	Per capita total number of memberships in public organizations	1.48	0.33

PP is percent of respondents.

Human Development Index (HDI)

In 1990, the United Nations Development Programme (UNDP) compiled its first Human Development Report (UNDP, 2001) that proposed a new way to view human development that went beyond simply Gross Domestic Product. The UNDP report focused on three dimensions: longevity (life expectancy), knowledge (educational attainment), and decent living standards (income). An index of these measurements was created and nations were ranked with values from zero to one with higher values representing higher levels of development. Following the UNDP work, others have constructed HDIs at the subnational level including Agostini and Richardson (1997), Corrie (1994), Estrada and Allen (2004) and Hanham, Brehanu, and Loveridge (2002).

One of the goals of this paper is to contribute a measurement tool to be used in studying community development activities. In their study of the impact of rural empowerment zones in Texas, Estrada and Allen (2004) proposed a method to modify the UNDP index to better focus on the community development goals of education, employment, and housing. While the UNDP index includes data on life expectancy, such county-level information is not consistently available. Instead, the index developed here included characteristics of housing and residential value. Rather than using income levels alone as a proxy for standards of living, an employment index, including median income, poverty data, and unemployment rates, was used. Similar to the UNDP effort, educational variables were included in this study.

The county level values for each of the three components—education, employment, and housing—were identified for each of the counties in Georgia. Each of the components has three subcomponents. These values were indexed against the fixed minimum and maximum values for each variable in the state. Thus, for county i, the (k, j) -th component of the HDI is expressed as:

$$(1) \qquad I^i_{k,j} = \frac{x^i_{k,j} - \max(x_{k,j})}{\max(x_{k,j}) - \min(x_{k,j})},$$

where

$x^i_{k,j}$ = county i's value of the (k, j)-th component,
$\min(x_{k,j})$ = the lowest observed value among all counties of the (k, j)-th component,
$\max(x_{k,j})$ = the highest observed value among all counties of the (k, j)-th component.

The j subcomponents of k components of the Human Development Index are given below.

If k = Education,
j = {percent of population (age ≥ 25) with a high school degree,
percent of population over 25 with a Bachelor's degree or higher,
percent of total population enrolled in elementary through high school},
if, k = Employment,
j = {median household income (for 1999),
percent of families living below the poverty level (1999),
unemployment rate for those over 16},
if, k = Housing,
j = {total number of housing units,
number of owner-occupied housing units,
median value of owner-occupied housing units}.

With each of the components given equal weight, the HDI for county i is

$$(2) \qquad \text{HDI}^i = \sum_k \left(\frac{\sum_j I^i_{k,j}}{3} \right) \Big/ 3 = \frac{\sum_k \sum_j I^i_{k,j}}{9}.$$

The Georgia HDI, as with the UNDP effort, is designed to measure the relative attainments of counties beyond simply ranking by per capita income. Values for the HDI can range from a low of zero to a high of one. Table 2 shows the results of constructing an HDI for each county including the three component indexes. The same results alphabetized by county, as well as the rankings by education, employment, and housing can be seen at http://www.hosting.caes.uga.edu/saea/jordan/soccap.pdf.

The range of county-level HDIs for Georgia's 159 counties was from a high of 0.76 to a low of 0.23, with a mean of 0.32. For the 69 counties included in one of Georgia's Metropolitan Statistical Areas, the range was from 0.24 to 0.76 with a mean of 0.36. For the 90 non Metropolitan Statistical Area counties, the mean was 0.29 with a range of 0.23–0.39. The U.S. Census has also created a new measure, the Micropolitan

Table 2. Ranking of Counties by HDI

County	Index	HDI Ranking	Education	Employment	Housing
Fulton	0.763397	1	0.7977229	0.5014772	0.990991
Cobb	0.6276764	2	0.8464142	0.326199	0.7104159
DeKalb	0.6139536	3	0.7577903	0.3570542	0.7270163
Gwinnett	0.5894283	4	0.8042422	0.3192215	0.6448212
Fayette	0.5377304	5	0.9001767	0.3477011	0.3653135
Forsyth	0.5128172	6	0.7941389	0.3419498	0.402363
Oconee	0.484917	7	0.8719381	0.3091	0.2737129
Columbia	0.4504718	8	0.8062227	0.303314	0.2418786
Cherokee	0.4483995	9	0.7152051	0.3005527	0.3294408
Chatham	0.4285339	10	0.6228053	0.3492781	0.3135182
Richmond	0.4235778	11	0.5692	0.4633079	0.2382255
Glynn	0.4185566	12	0.6874642	0.3391393	0.2290664
Clarke	0.4111548	13	0.5468795	0.442805	0.2437799
Rockdale	0.4107587	14	0.6827628	0.3228906	0.2266226
Coweta	0.4062024	15	0.6545811	0.3133987	0.2506274
Bibb	0.4054009	16	0.5745504	0.4152001	0.2264522
Henry	0.4038758	17	0.660387	0.2790875	0.2721528
Muscogee	0.4007683	18	0.5894628	0.3681308	0.2447113
Clayton	0.3966851	19	0.583289	0.3191727	0.2875936
Dougherty	0.3923627	20	0.508211	0.5181823	0.1506948
Liberty	0.391988	21	0.6312174	0.414202	0.1305447
Houston	0.384092	22	0.6459141	0.3107868	0.1955751
Dawson	0.3804135	23	0.6336746	0.2602449	0.247321
Chattahoochee	0.378088	24	0.7275487	0.3481451	0.0585702
Peach	0.3775328	25	0.4632535	0.5660121	0.1033327
Bryan	0.3772786	26	0.6231459	0.3199562	0.1887338
Douglas	0.3718252	27	0.6177069	0.2880197	0.209749
Hall	0.3676379	28	0.533075	0.288959	0.2808796
Harris	0.3670848	29	0.6227768	0.2710331	0.2074445
Camden	0.3560257	30	0.6151494	0.3193591	0.1335687
Hancock	0.3535886	31	0.3810547	0.6448403	0.0348708
Lee	0.3523587	32	0.6207568	0.2766446	0.1596748
Paulding	0.3517509	33	0.6023254	0.245573	0.2073545
Effingham	0.3476327	34	0.5711509	0.2932672	0.1784799
Greene	0.344891	35	0.5248852	0.3915462	0.1182418
Bulloch	0.3424429	36	0.4480334	0.413107	0.1661884
Newton	0.3413523	37	0.5277494	0.3123651	0.1839423
Morgan	0.3405145	38	0.5743891	0.300226	0.1469286
Lowndes	0.3392405	39	0.5115287	0.3298443	0.1763485
Rabun	0.3383662	40	0.5924275	0.2417404	0.1809308
Burke	0.3382063	41	0.426421	0.5283632	0.0598346
Crisp	0.3369353	42	0.452556	0.4635823	0.0946676
Walton	0.3363464	43	0.5170073	0.2815989	0.2104332
Washington	0.3355428	44	0.4488163	0.4825897	0.0752225
Troup	0.3354159	45	0.5490459	0.313237	0.1439648
Jones	0.3350183	46	0.5834236	0.2880959	0.1335354
Thomas	0.3320412	47	0.5396996	0.3393177	0.1171063
Evans	0.3304404	48	0.4501686	0.4686685	0.0724839
Monroe	0.3286148	49	0.5680906	0.2573646	0.1603891

Table 2. Continued.

County	Index	HDI Ranking	Education	Employment	Housing
Long	0.3278195	50	0.4531642	0.4533145	0.0769798
Floyd	0.3265042	51	0.4717061	0.3394381	0.1683685
Early	0.3246438	52	0.4652065	0.458393	0.0503319
Bartow	0.324532	53	0.5206245	0.2620835	0.1908879
Sumter	0.3225334	54	0.4848377	0.3976111	0.0851514
Putnam	0.3209446	55	0.5427079	0.2612531	0.1588728
Spalding	0.3207728	56	0.4632986	0.3495625	0.1494572
Baker	0.3189268	57	0.4374395	0.4662986	0.0530423
Jenkins	0.3184388	58	0.4055081	0.523642	0.0261664
Terrell	0.3180494	59	0.4185167	0.4852459	0.0503857
McIntosh	0.3174114	60	0.4249016	0.2964326	0.0733632
Barrow	0.3170724	61	0.5019677	0.2718223	0.1774273
Pike	0.3167014	62	0.5439769	0.2534279	0.1526994
Jefferson	0.3164051	63	0.3683283	0.5309657	0.0499214
Tift	0.3157992	64	0.4401122	0.3822551	0.1250301
Decatur	0.3157613	65	0.4640296	0.3954696	0.0877847
Grady	0.314396	66	0.4581676	0.388305	0.0967156
Hart	0.3123348	67	0.5057839	0.2984592	0.1327613
Laurens	0.3114219	68	0.4999365	0.3220031	0.1123262
Carroll	0.3104887	69	0.4495185	0.2959442	0.1860032
McDuffie	0.3081114	70	0.476676	0.208963	0.1269105
Turner	0.3079657	71	0.4444272	0.4341228	0.045347
Screven	0.3078083	72	0.42179	0.4348433	0.0667915
Macon	0.3048998	73	0.4446266	0.3855767	0.0941311
Lincoln	0.3029584	74	0.4915531	0.315229	0.1020932
White	0.3022116	75	0.5213639	0.1998584	0.1854125
Catoosa	0.3007184	76	0.5303992	0.2148926	0.1568633
Jackson	0.3006339	77	0.4631965	0.2648164	0.1738889
Habersham	0.30035	78	0.4911671	0.2467838	0.1630992
Talbot	0.29917	79	0.4010318	0.4528359	0.0436425
Treutlen	0.2986226	80	0.3835059	0.4712735	0.0410884
Worth	0.2985997	81	0.4346309	0.3819787	0.0791896
Jasper	0.2984064	82	0.4823241	0.3118705	0.1010246
Clay	0.2977879	83	0.392948	0.4683908	0.032025
Mitchell	0.2970355	84	0.4087969	0.4114473	0.0708623
Ware	0.2962153	85	0.4761337	0.3473701	0.0651419
Pickens	0.2960858	86	0.5095589	0.1929038	0.1857948
Baldwin	0.2954565	87	0.4304564	0.3347882	0.121125
Towns	0.29513	88	0.4696985	0.2060202	0.2096712
Toombs	0.2946873	89	0.4633857	0.3411483	0.0795278
Union	0.2943878	90	0.5097376	0.1947828	0.178643
Schley	0.2943365	91	0.4918283	0.3505868	0.0405943
Tattnall	0.2940819	92	0.4108689	0.3953828	0.0759939
Wayne	0.2935332	93	0.4863654	0.3047155	0.0895187
Pulaski	0.2934609	94	0.4947176	0.2992024	0.0864628
Brooks	0.2931143	95	0.4573751	0.3469265	0.0750411
Warren	0.292655	96	0.3236731	0.5316464	0.0226455
Glascock	0.2913229	97	0.4113965	0.4431573	0.0194151
Dooly	0.2905981	98	0.4428925	0.3716455	0.0572564

Table 2. Continued.

County	Index	HDI Ranking	Education	Employment	Housing
Meriwether	0.2904544	99	0.4370917	0.3587412	0.0755302
Lumpkin	0.2892014	100	0.4259694	0.2626486	0.1789863
Taylor	0.2881789	101	0.3955376	0.4267557	0.0422433
Wilkinson	0.287752	102	0.4393771	0.3686038	0.0552751
Colquitt	0.2873164	103	0.4247064	0.3482495	0.0889932
Whitfield	0.2861044	104	0.4338026	0.247452	0.1770587
Oglethorpe	0.2852095	105	0.5156971	0.2226514	0.1172799
Gilmer	0.2848389	106	0.4623528	0.2452612	0.1469026
Twiggs	0.2839259	107	0.3773471	0.4186088	0.0558218
Coffee	0.2823654	108	0.3988976	0.3554435	0.0927551
Elbert	0.2803675	109	0.4492417	0.3159634	0.0758974
Ben Hill	0.2789997	110	0.4057475	0.3718192	0.0594324
Stewart	0.2783376	111	0.3776831	0.4463824	0.0109471
Upson	0.2781362	112	0.4308497	0.3236101	0.079949
Lanier	0.2770643	113	0.4375729	0.3393909	0.054229
Butts	0.2769616	114	0.452418	0.2594342	0.1190326
Irwin	0.2749176	115	0.4598824	0.3179274	0.046943
Candler	0.2743911	116	0.3478805	0.4182492	0.0570436
Taliaferro	0.2737581	117	0.325336	0.4959384	0
Crawford	0.2733085	118	0.4076204	0.3183117	0.0939935
Calhoun	0.2726979	119	0.4051839	0.3923545	0.0205553
Fannin	0.2717955	120	0.4741029	0.2178141	0.1234695
Bleckley	0.271722	121	0.4310671	0.3163066	0.0677921
Charlton	0.2709839	122	0.4114839	0.3338652	0.0676026
Webster	0.2708777	123	0.3986539	0.3931179	0.0208615
Madison	0.2708499	124	0.5123076	0.3363658	0.1035607
Seminole	0.2688574	125	0.4031225	0.3548569	0.0485928
Appling	0.2681769	126	0.4366317	0.3013848	0.0665143
Randolph	0.2653164	127	0.3466148	0.4258176	0.0235168
Marion	0.2648991	128	0.3977932	0.4764432	0.040463
Walker	0.2639297	129	0.4344978	0.2387672	0.1185242
Echols	0.2634302	130	0.372313	0.3347199	0.0832578
Brantley	0.2634103	131	0.4635756	0.2691346	0.0575207
Stephens	0.2627465	132	0.4420607	0.2328094	0.1133693
Pierce	0.2618343	133	0.449839	0.2695263	0.0661375
Banks	0.2617506	134	0.4158774	0.2398176	0.1295568
Gordon	0.2610085	135	0.4248035	0.2268737	0.1313484
Bacon	0.2601293	136	0.3986624	0.3379798	0.0437457
Heard	0.2601022	137	0.4087974	0.2896148	0.0818943
Jeff Davis	0.2597954	138	0.3942942	0.3288448	0.0562473
Wheeler	0.259655	139	0.4034301	0.3510964	0.0244385
Polk	0.2588399	140	0.3694062	0.3024211	0.1046923
Lamar	0.2586076	141	0.3941263	0.2803295	0.101367
Miller	0.2581144	142	0.4467693	0.2843124	0.0432615
Dodge	0.2579518	143	0.441721	0.2867723	0.0453621
Emanuel	0.2576567	144	0.3946375	0.3386191	0.0397135
Montgomery	0.2550448	145	0.409171	0.2868429	0.0691205
Clinch	0.2547043	146	0.3738271	0.353864	0.0364218
Telfair	0.2546471	147	0.3868714	0.35297	0.0240998

Table 2. Continued.

County	Index	HDI Ranking	Education	Employment	Housing
Wilcox	0.2541786	148	0.4228703	0.3098883	0.0297771
Berrien	0.2528919	149	0.3896274	0.2874461	0.0816022
Murray	0.2526999	150	0.3769482	0.2506652	0.1304861
Franklin	0.252255	151	0.3924045	0.2468436	0.1175169
Cook	0.2520984	152	0.3800312	0.3182141	0.05805
Johnson	0.248128	153	0.3666492	0.3551515	0.0225832
Wilkes	0.2477765	154	0.4306149	0.2480673	0.0646474
Haralson	0.2441597	155	0.3844209	0.2458778	0.1021804
Dade	0.241152	156	0.3661599	0.2575523	0.0997436
Atkinson	0.231726	157	0.348143	0.3283285	0.0187064
Quitman	0.2315244	158	0.3522763	0.3160428	0.026254
Chattooga	0.2313917	159	0.3495785	0.2810614	0.063535

Statistical Area. A micropolis is an area that includes a core area containing a substantial nucleus together with adjacent communities having a high degree of economic and social integration with that core. It is made up of one area with at least 10,000 people but less than 50,000 (when it becomes a Metropolitan Statistical Area). For the 30 counties in Georgia in a Micropolitan Statistical Area, the mean HDI was 0.31 with a range from 0.23 to 0.61. Further, eight of the 30 Micropolitan counties had HDIs above the 0.32 statewide mean.

Of Georgia's 159 counties, the HDI for 56 was above the statewide mean (0.32) Seven counties had HDIs above 0.47, or two standard deviations from the mean; 11 counties were between 0.40 and 0.46, or between one and two standard deviations; 38 counties were between 0.32 and 0.45, or one standard deviation from the mean. For those counties below the mean, 24 were between the mean and the median (0.299), 75 were between the mean and one standard deviation (0.244–0.298), and four were two standard deviations for the mean 0.23–0.241. The distribution of counties is skewed only slightly to the high end from a normal distribution (seven counties above two standard deviations and four below).

To check the HDI rankings in this study, the results were compared with a study completed in 2003 conducted by the Carl Vinson Institute of Government (2003) at the University of Georgia entitled *It's a Matter of Wealth: Dismantling Persistent Poverty in the Southeastern United States*. In it, Georgia was divided into 31 counties defined as "prosperous" and 91 counties that were characterized as those with persistent poverty. Thirty-seven north Georgia counties that are in the Appalachian Regional Commission area were not included in the study. Of the 31 prosperous counties, 29 are in metropolitan areas. Poverty was defined in the study as a single person living alone with income less than $8,667 in 1999 or a family of four with income less than $17,029. Counties were then ranked and characterized as having a high percentage of residents living in poverty if they were in the top two quartiles. Persistent poverty counties were those that were in the top two quartiles in 2000 and during 1980 and/or the 1990 census.

Of the 56 counties with HDIs that we calculated that were above the mean, 27 were the prosperous counties. Only four counties counted as prosperous did not have HDIs above the mean. Nineteen persistent poverty counties had HDIs above the mean and 13 of those were adjacent to prosperous counties.

Looking at the impact of each component index, the education and housing variables contribute significantly to the ranking, while the employment index appears much less correlated to the overall HDI. Ranked by the education index (Table 3), nine of the top 10 counties are also in the top 10 by HDI. In the housing index (Table 4), nine of the top 11 by HDI are in the top 11 in housing. On the other hand, employment ranking (Table 5), which

Table 3. Ranking of Counties by Education Index—Top 10

County	HDI	HDI Index	Education
Fayette	0.5377304	5	0.9001767
Oconee	0.484917	7	0.8719381
Cobb	0.6276764	2	0.8464142
Columbia	0.4504718	8	0.8062227
Gwinnett	0.5894283	4	0.8042422
Fulton	0.763397	1	0.7977229
Forsyth	0.5128172	6	0.7941389
DeKalb	0.6139536	3	0.7577903
Chattahoochee	0.378088	24	0.7275487
Cherokee	0.4483995	9	0.7152051

Table 5. Ranking of Counties by Employment Index—Top 10

County	Index	HDI Rank	Employment
Hancock	0.3535886	31	0.6448403
Peach	0.3775328	25	0.5660121
Warren	0.292655	96	0.5316464
Jefferson	0.3164051	63	0.5309657
Burke	0.3382063	41	0.5283632
Jenkins	0.3184388	58	0.523642
Dougherty	0.3923627	20	0.5181823
Fulton	0.763397	1	0.5014772
Taliaferro	0.2737581	117	0.4959384
Terrell	0.3180494	59	0.4852459

includes income, unemployment, and poverty rates, does not appear to be related to HDI ranking. The use of an HDI broadens the standard income measurements of economics well-being. We suggest that issues of education and housing have more of an impact in a county's HDI ranking than do usual measures of income and employment.

Model and Methodology

Although the social capital literature has been growing extensively in recent years, the vast majority of research treats social capital as a factor of production similar to human capital and physical capital. The economic theory of these approaches is that social capital reduces transaction and information cost, increasing the amount of exchange and contributing to economic development. Similarly, an increase in collective behavior would reduce inefficiency, mostly caused by externalities, creating an increase in the supply of public goods (Rupasingha, Goetz, and Freshwater, 2000). An empirical model where social capital is an explanatory factor to explain economic development is seen in the following equation:

$$Y_i = \beta_1 X_i + \beta_2 SK_i + u_i,$$

where Y represents an economic measure for economic development, X is a vector of all other composite factors, and SK is the measure for social capital.

Another line of research focuses on the social capital production function and possible measures for social capital. Here the social capital investment decision is based on the economic principle such that individuals invest only if the marginal benefit from social capital investment is greater than the marginal cost of social capital. Higher cost of social capital increases the opportunity cost of investing in social capital and reduces the investment decisions (Glaeser, 2001; Rupasingha, Goetz, and Freshwater, 2006).

While discussing the determinants of social capital, Glaeser (2001) discusses the relationship between individual and community social capital investments. Glaeser claims that it is possible to have a higher return from social capital if collective investment is high in those communities. This raises the issue then of the determinants of community social capital investment. In this paper, we explore how

Table 4. Ranking of Counties by Housing Index—Top 11

County	Index	HDI Rank	Housing
Fulton	0.763397	1	0.990991
DeKalb	0.6139536	3	0.7270163
Cobb	0.6276764	2	0.7104159
Gwinnett	0.5894283	4	0.6448212
Forsyth	0.5128172	6	0.402363
Fayette	0.5377304	5	0.3653135
Cherokee	0.4483995	9	0.3294408
Chatham	0.4285339	10	0.3135182
Clayton	0.3966851	19	0.2875936
Hall	0.3676379	28	0.2808796
Oconee	0.484917	7	0.2737129

economic indicators explain community social capital investment. Our empirical model uses HDI as an economic indicator to explain the communities' social capital:

$$SK_i = \beta_1 X_i + \beta_2 HDI_i + u_i,$$

where *SK* and *X* are as above.

Social capital is a lifecycle phenomenon. As proxies to these lifecycle features we include the family size and average age of the cluster population. Munasib (2005) formally models lifecycle social capital and estimates the structural parameters of the model. Because labor supply decisions and family compositions vary over the lifecycle, the cost of investment varies over the life of an individual. Similarly, because mobility rates vary with age the rate at which social networks depreciate also varies over the lifecycle.

Larger families with a number of young children may be encouraged to join parents and school groups whereas families without children (young couples or older couples who no longer have children living with them) may not join such groups. At the same time, the position of the individual on the lifecycle influences her social capital investment behavior (Munasib, 2005). During working age (18 through 65) people have less time for activities that take time away from work. There is contradiction when it comes to lifecycle patterns of social capital depending on which proxy is being used. Both Putnam (2000) and Glaeser, Laibson, and Sacerdote (2002), using the membership measure of social capital, find that the life path of the stock of social capital has an inverted U-shape peaking during middle age. In contrast, if social capital is measured with friends the life-path of stock has a "tilted-S" shape rather than an inverted U-shape. The inverted U-shape contradicts the lifecycle cost of investment, which is supposed to be high during the middle age. Figure 1 is reproduced from Murphy and Welch (1992) and indicates that the opportunity cost of time varies over the lifecycle, peaking between age 40 and 60.

Figure 1 also shows that the wage profile of the college graduates is strictly higher than those of the noncollege groups. This brings up the issue of whether human capital has any bearing on lifetime social capital accumulation.

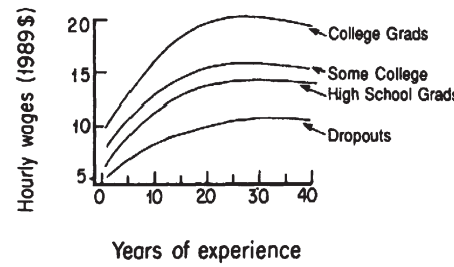

Figure 1. Cross Sectional Wage Profile, 1963–1989 (Source: Figure I of Murphy and Welch (1992))

Neoclassical investment theory has been used extensively to address the lifecycle issues of physical and human capital (Ben-Porath, 1967; Heckman, 1976; Lucas, 1978). Studying social capital using the same framework is a natural extension, which has been adopted in Glaeser, Laibson, and Sacerdote (2002) and Munasib (2005). Glaeser, Laibson, and Sacerdote (2002) in their theoretical model predict that people with more education, because of their higher opportunity cost of time (Murphy and Welch, 1992), will invest less in social capital. However, in their empirical exploration, Glaeser, Laibson, and Sacerdote (2002) find that education has a strong positive effect on organization membership, their social capital measure. Munasib (2005) uses friendship networks as a social capital measure, which also exhibits the same feature: a positive relationship between social capital and human capital. In the theoretical model, however, Munasib (2005) shows that, although people with more education have a higher cost of investment in social capital, they also receive higher levels of benefits from social capital. The college educated people, therefore, invest more in social capital because their net benefits are higher.

We use ordinary least squares (OLS) regression analysis in this study. To measure the impact of the HDI on local social capital levels we control for the following variables: average family size, total net migration, net international migration, natural (nonimmigration) population increase due to birth, natural (nonimmigration) population decrease due to death, proportion of population in rural, proportion of population in urban, proportion of black population, and

average age of the population. We also control for the effect of Atlanta on the overall population. Using each of these controls as independent variables, we estimate OLS regressions using the nine social capital measures from Table 1 as dependent variables. Table 6 shows the expected relationships between the dependent social capital measures and independent variables.

We also control for proportion of population residing in urban and rural areas (with the reference category being areas that are neither urban nor rural). Subramanian, Lochner, and Kawachi (2002), using trust perception as the social capital variable, show that there is significant variation of social capital across neighborhoods. Residents of big cities and individuals who live in apartment buildings are more likely to socialize with their neighbors and go out to dinner (Glaeser and Sacerdote, 1999). This finding suggests the importance of physical proximity on social connectedness. The critique of urban sprawl also emphasizes this point. Urban sprawl is an overexpansion that drives spatial growth away from the optimum level of residential concentration (Brueckner, 2000). One of the negative effects of this is likely to be a decline in social interactions (Putnam, 2000). On the other hand, Hofferth and Iceland (1998) show that social capital is more common among families in rural communities than in families in urban communities. One caveat is that they find that families living in rural areas are more likely to exchange exclusively with relatives. This bonding social capital may be high at the expense of bridging social capital. There could also be a *population composition effect* whereby lower income inequality and higher ethnic homogeneity is associated with higher levels of social capital (membership in particular) (Alesina and LaFerrara, 2000; Costa and Kahn, 2003). To control for the population characteristics we include total net migration, net international migration, natural (nonimmigration) population increase due to birth, natural (nonimmigration) population decrease due to death, and proportion of black population. Note that average age of population would also pick up some of the population composition effects.

Table 6. Expected Relationships of Dependent and Independent Variables

Independent Variable	Expected Relationship
Human Development Index	positive
Average family size	positive
Total net migration	positive
Net international migration	positive
Natural population increase	negative
Natural population decrease	positive
Population proportion rural	negative
Population proportion urban	positive
Population proportion black	indeterminate
Average age	negative
Whether in Atlanta MSA	positive

It is argued in the literature that race is an important determinant of social capital formation (Smith, 2003). Whether race matters or not is obviously important but what is a more important question is the underlying social and economic factors that race embodies. Using trust as a social capital proxy, researchers have found that blacks are more likely to report mistrust (Subramanian, Lochner, and Kawachi, 2002). A symmetric result may or may not hold while using associational involvement as a measure of social capital. Dominguez and Watkins (2003) study minority low income mothers and document how they use social capital for "support" and "leverage". There is a general notion that minorities have stronger intracommunity ties that may remain even after controlling for income or education. There may be a tendency to "stick together" as a reaction against the general disadvantages of being minorities in a stratified society.

It is generally argued that mobility and distance from previous social capital stocks would negatively affect investment in social capital (Glaeser and Sacerdote, 1999). Immigrants, by this notion, would have a natural disadvantage in social capital investment; they have moved to a place where most things are unfamiliar and their previous social connections are at a prohibitive physical distance. Furthermore, immigrants may be subject to discrimination and alienation that could hinder their social capital investments.

On the other hand, Stanton-Salazar and Dornbusch (1995), studying Mexican-origin students, argue that bilingual students may have unique advantages in acquiring the institutional support that is needed for success in school and in upward social mobility. In other words, there could be certain advantages of being an alien in acquiring social capital. This validates the popular notion that immigrants have stronger intra community ties (Woolcock, 1998). These ties arise partly form cultural familiarities and partly from insurance motives.

Our final control is an indicator variable for clusters that are in the Atlanta Metropolitan Statistical Area (MSA). The Atlanta MSA accounts for 51% of the Georgia population. Table 7 demonstrates that the clusters that belong to the Atlanta MSA are quite different in almost all the observed characteristics that we used as controls. It is, therefore, quite likely that these clusters are also different in some unobserved characteristics. The "Atlanta dummy" will likely account for that.

Results and Discussion

The OLS results are given in Table 8. The first observation that we make is that the R^2 values are high across-the-board (greater than 0.5) with the exception of religious donations (regression 5; $R^2 = 0.47$).

We find that in the seven of nine regressions where the human development index has a statistically significant effect, this effect is positive on the social capital variables. The results show, for instance, a one point increase in the HDI accounts for approximately 2% of the population increasing its memberships (regression 1). Also a one point increase in the HDI leads to six more associational memberships per capita (regression 2). The HDI also matters in above average and total voluntary activities, nonreligious donation (of any amount), and in above average and total public groups. HDI is insignificant in the two regressions regarding memberships in personal groups. For both personal group social capital measures (regressions 6 and 7) the only significant (and negative) coefficient was for average age. For associational memberships above average (regression 1) and nonreligious contributions (regression 5) the HDI was the only significant variable.

The HDI is a significant explanatory variable for total associational memberships (regression 2), total number of associations in which people do volunteer work (regression 4), and total memberships in public associations (regression 9). The HDI is also significant for the three measures when participation is above the average (regressions 1, 3, and 8). HDI also helps explain any nonreligious monetary contributions (below $100) where HDI is the lone explanatory variable (regression 5). In social capital measures where HDI and other variables are significant, changes in population (both positive and negative) are most usually also significant. This indicates that in communities with higher levels of HDI, population effects are also important.

Table 7. Differences in Observed Characteristics in Atlanta and nonAtlanta Clusters

	Atlanta Clusters	NonAtlanta Clusters
Number of clusters	10	21
Human Development Index	0.46	0.35
Average family size	3.17	3.10
Total net migration (10,000)	−0.05	0.11
Net international migration (10,000)	0.21	0.04
Natural population increase (10,000)	0.43	0.13
Natural population decrease (10,000)	0.17	0.05
Proportion of population in rural areas	0.26	0.44
Proportion of population in urban areas	0.66	0.44
Proportion of black population	0.27	0.25
Average age	48.80	50.21

Table 8. OLS Regression Results

	(1) amem	(2) tmem	(3) avol	(4) tvol	(5) anynrd	(6) apersonalgr	(7) tpersonalgr	(8) apublicgr	(9) tpublicgr
Human Development Index	1.6929	6.3455	0.935	2.6403	0.957	0.4102	2.7166	1.2541	3.6289
	(3.47)***	(2.69)**	(1.73)*	(1.88)*	(1.79)*	(0.67)	(1.62)	(2.69)**	(2.65)**
Average family size	0.03	0.28	(0.49)	(0.41)	(0.13)	(0.18)	(0.69)	0.32	0.97
	(0.08)	(0.18)	(1.39)	(0.45)	(0.37)	(0.45)	(0.64)	(1.06)	(1.10)
Total net migration	0.04	0.77	(0.16)	(0.37)	(0.03)	0.13	(0.00)	0.26	0.78
	(0.36)	(1.64)	(1.46)	(1.31)	(0.31)	(1.03)	(0.01)	(2.76)**	(2.84)**
Net international migration	0.5288	2.3513	−0.118	−0.206	0.0292	0.8044	0.3069	1.1467	2.0444
	(1.23)	(1.13)	(0.25)	(0.17)	(0.06)	(1.48)	(0.21)	(2.78)**	(1.69)
Natural population increase	−0.8024	−5.7041	0.675	1.1246	−0.379	−1.0693	−0.7625	−1.9256	−4.9416
	(1.54)	(2.27)**	(1.17)	(0.75)	(0.66)	(1.62)	(0.42)	(3.86)***	(3.38)***
Natural population decrease	0.4168	8.0604	−2.171	−4.4064	0.6024	1.4937	−0.1279	2.8975	8.1884
	(0.46)	(1.84)*	(2.16)**	(1.69)	(0.61)	(1.31)	(0.04)	(3.34)***	(3.22)***
Population proportion rural	0.3472	0.9541	0.653	1.2186	−0.1995	0.2514	0.641	0.1259	0.3131
	(1.31)	(0.75)	(2.23)**	(1.60)	(0.69)	(0.75)	(0.70)	(0.50)	(0.42)
Population proportion urban	0.2301	0.8586	0.393	0.9476	−0.0832	0.285	0.7797	0.0269	0.0789
	(1.35)	(1.04)	(2.08)*	(1.93)*	(0.45)	(1.32)	(1.33)	(0.16)	(0.16)
Population proportion black	−0.1069	−0.1478	−0.078	−0.3027	−0.2555	−0.0501	−0.3221	−0.1668	0.1743
	(0.68)	(0.19)	(0.45)	(0.67)	(1.48)	(0.25)	(0.59)	(1.11)	(0.39)
Average age	−0.007	−0.0461	−0.011	−0.0197	−0.0027	−0.0126	−0.0336	−0.0066	−0.0125
	(1.50)	(2.05)*	(2.13)**	(1.47)	(0.53)	(2.14)**	(2.09)*	(1.47)	(0.95)
Whether in Atlanta MSA	−0.0271	−0.1011	0.029	−0.0405	−0.0659	−0.042	−0.0171	−0.066	−0.084
	(0.54)	(0.42)	(0.53)	(0.28)	(1.20)	(0.66)	(0.10)	(1.37)	(0.59)
Constant	−0.0952	1.9404	1.713	1.9076	0.9443	1.3347	4.3176	−0.6863	−2.3772
	(0.08)	(0.35)	(1.36)	(0.58)	(0.76)	(0.93)	(1.10)	(0.63)	(0.75)
Observations	31	31	31	31	31	31	31	31	31
R-squared	0.62	0.65	0.54	0.54	0.47	0.51	0.58	0.60	0.56

Note: t-statistic in parentheses.

*, **, and *** represent significant at the 10%, 5%, 1% significance levels respectively.

HDI is not significant for the two social capital measures that capture associations that benefit people in a personal manner rather than a community manner. Higher levels of HDI do not affect participation in sports groups, youth and school groups, senior clubs, or art, hobby and self-help clubs as well as internet groups. Thus, rising HDI moves people from what can be thought of as bonding social capital activities that reinforce personal interests, to bridging social capital activities that benefit the community in a more public manner.

The results indicate that the aggregate effects on associational memberships come not from the personal groups but from the public groups. This suggests that as community development increases, people become more involved in public groups that contribute to sociopolitical and neighborhood related activities.

We must acknowledge that our results might be susceptible to an argument based on the simultaneity of social capital and economic development. Prior research focuses on this relationship in one direction, from social capital to economic development. Most of the research, including that by Putnam (1995, 2000), treats social capital as an exogenous effect. That argument seems acceptable if social capital is community social capital. One might argue that a person's social capital could be affected from other factors and therefore could change easily, while community social capital is more durable and is not easily affected by other changes.

When we look at the opposite direction, simultaneity might become a relatively serious issue since the argument based on durability of economic development is weaker than social capital. We address this problem by running simultaneous regression in which we allow the relationship between economic development and social capital. Our results suggest that our human development index significantly increases two of our social capital variables (voluntary activities and total number of memberships in public organizations) even when simultaneity is allowed.

The control variables also explain the other determinants of the social capital variables. Total net migration, as well as net international migration, increases involvement in public groups. An increase in population due to increased births lowers public group involvement and, thereby, lowers total memberships. This is so because the percentage of population that is not capable of associational activities (namely, newborns) increases in the cluster. On the other hand, a fall in the population due to increased deaths leads to a decrease in voluntary activities but an increase in public group involvements (and, thereby, an increase in total memberships). The probable explanation for this is that the elderly and the retired volunteer more while younger and middle-aged people are more involved in associational activities. Both rural and urban populations have positive effects on volunteering. However, the proportion of rural population only matters for above average volunteering while the proportion of urban population affects all the three volunteering variables. Average family size, total net migration, population proportion black, and Atlanta Standard Metropolitan Statistical Area (SMSA) all had no significant effect on any social capital measure.

The age effect needs some qualifications. The average cluster age has a negative effect on total membership, volunteering, and involvement in personal groups. Since the variable represents the mean age of the cluster, it does not capture the entire lifecycle aspects. The range of the variable is from 37 to 62 and, therefore, what we see is the variation over this range only. It, however, is consistent with the findings of Munasib (2005), which shows that during the period between late 30s and early 60s, individuals decrease social capital investments because that is the period of increasing opportunity cost of time of the individual's lifecycle.

Conclusion

A great deal of interest has been accorded social capital. The main reason for this high interest is that social capital has the capacity to play a major role in all aspects of life. Recent researchers have found remarkable effects of social capital on various outcomes: namely, economic well-being, political participation, good governance, health, and education. A vast majority of research has been dedicated to explain the outcomes of social capital, while the research on factors that generates social capital

is limited. Examining the role of economic environment on the generation of social capital is rarer, even though the relationship between social capital and community development is a two-way relationship.

Using a broad-based measure of community development—the HDI—a specific question that we ask in this paper is: does community development affect social capital formation? We find that community development, in general, has a positive effect on local social capital measured by associational memberships. In particular, the aggregate effects on associational memberships come not from the personal groups but from the public groups. This suggests that as community development increases, people become more involved in public groups that contribute to sociopolitical and neighborhood related activities.

Our results extend the prior literature by introducing a reverse relationship between social capital and community development. This is an important extension because, first, it contributes to the literature on social capital formation, and secondly, it establishes a benefit of community development that deserves increased attention from policymakers both at the local and federal levels. Our results are also consistent with the argument that social capital in the form of participation in associations might not be enough to explain community development because the measure does not show the power of the organization. DeFilippis (2001) states that an organization without social capital and power might not create enough development in community, as can be seen in poor neighborhoods most of which have organizations and therefore members. On the other hand, community development might form a social capital network that would possess both power and capital. Our results also provide important implications for policymakers that investment in community can create social capital that would bring additional investment.

[Received November 2008; Accepted July 2009.]

References

Agostini, S.J., and S.J. Richardson. "A Human Development Index for U.S. Cities: Methodological Issues and Preliminary Findings." *Real Estate Economics* 25,1(1997):13–41.

Alesina, A., and E. LaFerrara. "Participation in Heterogeneous Communities." *The Quarterly Journal of Economics* 115,3(2000):847–904.

Ben-Porath, Y. "The Production of Human Capital and the Life Cycle of Earnings." *The Journal of Political Economy* 75(1967):352–65.

Brueckner, J.K. "Urban Sprawl: Diagnosis and Remedies." *International Regional Science Review* 23,2(2000):160–71.

Buerkle, K., and A. Guseva. "What Do You Know, Who Do You Know? School as a Site for the Production of Social Capital and its Effects on Income Attainment in Poland and the Czech Republic." *American Journal of Economics and Sociology* 61,3(2002):657–80.

Carl Vinson Institute of Government. *It's a Matter of Wealth: Dismantling Persistent Poverty in the Southeastern United States*. Athens, GA: University of Georgia, 2003.

Casey, T., and K. Christ. "Social Capital and Economic Performance in the American States." *Social Science Quarterly* 86,4:(2005):826–45.

Coleman, J.S. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94(1988):S95–S121.

Corrie, B.P. "A Human Development Index for the Black Child in the United States." *Challenge* 37,1(1994):53–55.

Costa, D., and M. Kahn. "Understanding the Decline in Social Capital, 1952–1998." *Kyklos* 56, 1(2003):17–46.

DeFilippis, J. "The Myth of Social Capital in Community Development." *Housing Policy Debate* 12,4(2001):781–805.

DiPasquale, D., and E. Glaeser. "Incentives and Social Capital: Are Homeowners Better Citizens?" *Journal of Urban Economics* 45(1999): 354–84.

Dominguez, S., and C. Watkins. "Creating Networks for Survival and Mobility: Social Capital Among African-American and Latin-American Low-Income Mothers." *Social Problems* 50,1 (2003):111–35.

Estrada, J.K., and A.J. Allen. "The Assessment of the Impact of the Rural Empowerment Zone and Enterprise Community Program in Texas' Rio Grande Valley." Paper presented at the 2004 meeting of the Southern Agricultural Economics Association, Tulsa, OK, 2004.

Fukuyama, F. *Trust*. New York: Free Press, 1995.

——. "Social Capital and Civil Society." International Monetary Fund Working Paper WP/ 00/74, April, 2000.

Glaeser, E. "The Formation of Social Capital." *Canadian Journal of Policy Research* 2,1(2001): 34–40.

Glaeser, E., and B. Sacerdote. "Why Is There More Crime in Cities? Part 2." *Journal of Political Economy.* 107,6(1999):225–58.

Glaeser, E.L., D. Laibson, and B. Sacerdote. "An Economic Approach to Social Capital." *The Economic Journal*, 112(2002):F437–F458.

Hanham, A.C., S. Brehanu, and S. Loveridge. "A Human Development Index for West Virginia Counties." Research Paper 2005. Center for Community, Economic and Workforce Development. West Virginia University Extension Service, 2002.

Heckman, J.J. "A Life-Cycle Model of Earnings, Learning, and Consumption." *The Journal of Political Economy* 84(1976):S11–S44.

Helliwell, J., and R. Putnam. "Economic Growth and Social Capital in Italy." *Eastern Economic Journal* 21,3(1995):295–307.

Hofferth, S., and J. Iceland. "Social Capital in Rural and Urban Communities." *Rural Sociology* 63,4(1998):574–98.

Knack, S., and P. Keefer. "Does Social Capital Have an Economic Impact? A Cross-Country Investigation." *The Quarterly Journal of Economics* 112(1997):1252–88.

Lucas, R.E., Jr. "Asset Pricing in an Exchange Economy." *Econometrica* 46(1978):1429–45.

Munasib, A. "Lifecycle of Social Networks: A Dynamic Analysis of Social Capital Formation, the Relationship between Human Capital and Social Capital, and the Importance of City Size." Ohio State University Dissertation Series, OhioLINK. Internet site: http://www.ohiolink.edu/etd/view.cgi?osu1121441394. (Accessed December 2009).

Murphy, K., and F. Welch. "The Structure of Wages." *The Quarterly Journal of Economics* 107,1(1992):285–326.

Narayan, D., and L. Pritchett. "Cents and Sociability: Household Income and Social Capital in Rural Tanzania." *Economic Development and Cultural Change* 47,4(1999):871–97.

Paldam, M., and G. Svendsen. "An Essay on Social Capital: Looking for Smoke behind the Fire." *European Journal of Political Economy* 16(2000):339–66.

Putnam, R.D. "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America." *PS: Political Science & Politics* 28, December(1995) 664–83.

———. *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon and Schuster, 2000.

Rupasingha, A., S.J. Goetz, and D. Freshwater. "Social Capital and Economic Growth: A County-Level Analysis." *Journal of Agricultural and Applied Economics* 32,3(2000): 565–72.

———. "The Production of Social Capital in the United States." *Journal of Socio-Economics* 35(2006):83–101.

Smith, S. "Exploring the Efficacy of African-Americans' Job Referral Networks: A Study of the Obligations of Exchange around Job Information and Influence." *Ethnic and Racial Studies* 26,6(2003):1029–45.

Stanton-Salazar, R.D., and S.M. Dornbusch. "Social Capital and the Reproduction of Inequality: Information Networks among Mexican-Origin High School Students." *Sociology of Education* 68,2(1995):116–35.

Subramanian, S.V., K. Lochner, and I. Kawachi. "Neighborhood Differences in Social Capital: A Compositional Artifact or a Contextual Construct?" *Health & Place* 9(2002):33–44.

United Nations Development Programme. *Human Development Reports: Measuring Development and Influencing Policy.* New York: Oxford University Press, 2001.

Woolcock, M. "Social Capital and Economic Development: Toward a Synthesis and Policy Framework." *Theory and Society* 27(1998): 151–208.