Trust, Diversity, and Segregation*

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ABSTRACT

Generalized trust is a value that leads to many positive outcomes for a society–greater tolerance of minorities, greater levels of volunteering and giving to charity, better functioning government, less corruption, more open markets, and greater economic growth. Generalized trust is faith in people you don't know who are likely to be different from yourself. Yet, several people, most notably Robert Putnam, now argue that trust is lower when we are surrounded by people who are different from ourselves. This view is mistaken. Diversity (fractionalization) is not the culprit in lower levels of trust. Instead, it is residential segregation–which isolates people from those who may be of a different background. Segregation is one of the key reasons why contact with people who are different from ourselves does not lead to greater trust: Such contact may not be so frequent and it is not likely to take place frequently and in an atmosphere of equality, as argued by Allport, Forbes, and Pettigrew. I show that residential segregation does lower generalized trust cross-nationally–and that inequality seems to have a stronger effect when segregation is high. I also estimate a hierarchical model of trust cross-nationally and show that residential segregation drives down trust across nations. I also show that people who live in integrated neighborhoods *and who have diverse social networks* are more likely to be trusting, using the Social Capital Benchmark Survey and the Knight Community Indicators Survey. I argue that measures of diversity are surrogate measures for the shares of minorities living in a community: We know that minorities are less trusting so it is the racial and ethnic composition of a community, rather than the level of diversity, that seems to drive down trust.

Generalized trust, the belief that "most people can be trusted," is all about having faith in people who are different from yourself. Of course, we trust people like ourselves –especially people we know well. Such trust reflects our experiences, either directly or indirectly (through perceptions of group traits or stereotypes). Believing that "most people can be trusted" is a leap of faith, a moral decision that *we ought to trust others* (Uslaner, 2002, ch. 2).

Generalized trust matters because it helps connect us to people who are different from ourselves. Trusters are tolerant of immigrants and minorities and support equal rights for women and gays. They believe in a common core of values and hold that ethnic politicians should *not* represent only their own kind. People who trust others are more likely to give to charity and volunteer their time, especially for secular causes that help people unlike themselves. Trusting societies have more effective governments, higher growth rates, less corruption and crime, and are more likely to redistribute resources from the rich to the poor (LaPorta et al., 1999; Uslaner, 2002, chs.5 and 7).

Generalized trust is a form of "bridging" rather than "bonding" social capital (Putnam, 1993, 93). Trust should thus be a route to having a diverse set of friends and acquaintances. Yet, there is little evidence that this happens (Uslaner, in press). An even greater enigma is that some prominent papers show that in the United States, at least, people living in areas with diverse populations are *less* likely to trust others and to have heterogeneous social networks (Alesina and LaFerrara, 2000, 2002, 2004; Alesina et al., 2003; Knack and Keefer, 1997; Putnam, 2007).

The negative relationship between diversity and trust stems from the "racial threat" argument made in the 1940s by V.O. Key, Jr. (1949). Key argued when the share of minorities is

high in the American South, increased levels of racial discord, rather than greater tolerance, will

follow. The racial threat argument has shaped, directly or indirectly, the claims of social identity

theorists who claim that out-group trust is the exception, while in-group trust is the norm (Forbes,

1997, 35). Alesina and LaFerrara (2000, 850) argue:

> ...individuals prefer to interact with others who are similar to themselves in terms
>
> of income, race, or ethnicity...diffuse preferences for homogeneity may decrease
>
> total participation in a mixed group if fragmentation increases. However,
>
> individuals may prefer to sort into homogenous groups.

Consistent with Key, they find that people living in ethnically and racially diverse communities

are *less likely* to participate in voluntary associations in the United States–especially those

organizations in which face-to-face contact is most likely such as churches and youth groups.

Diversity, they argue, breeds aversion to interaction with people of different backgrounds and

people who are most averse to contact with out-groups participate the least: "...individuals who

choose to participate less in racially mixed communities are those who most vocally oppose racial

mixing" (Alesina and LaFerrara, 2000, 891). People living in ethnically heterogenous

communities are also less likely to trust other people (Alesina and LaFerrara, 2002) in the United

States, though not in Australia–where it is linguistic diversity that drives down trust (Leigh,

2006). These findings are part of a more general syndrome of negative effects for diversity that

Alesina and his colleagues have reported in cross-national analyses (Alesina et al., 2003; Alesina

and LaFerrara, 2004).

Putnam (2007, 142-143) cites a wide range of studies showing a negative relationship

between ethnic diversity and indicators of social cohesion, such as trust, investment in public

goods, voluntary activities, car-pooling, and desertion in the armed forces. His study (Putnam,

2007, 146-149), using the Social Capital Benchmark Survey (SCBS) in the United States, shows

that inter-racial trust, trust of neighbors, and even trust of one's own race is lower in more

ethnically diverse neighborhoods. Putnam's conclusions lead to great pessimism about the effects

of diversity:

> Diversity does not produce 'bad race relations' or ethnically-defined group
>
> hostility.... Rather, inhabitants of diverse communities tend to withdraw from
>
> collective life, to distrust their neighbours, regardless of the colour of their skin, to
>
> withdraw even from close friends, to expect the worst from their community and
>
> its leaders, to volunteer less, give less to charity and work on community projects
>
> less often, to register to vote less, to agitate for social reform more, but have less
>
> faith that they can actually make a difference, and to huddle unhappily in front of
>
> the television. Note that this pattern encompasses attitudes and behavior, bridging
>
> and bonding social capital, public and private connections. Diversity, at least in the
>
> short run, seems to bring out the turtle in all of us.

Is diversity really so destructive of trust? I shall argue that much of the debate over

diversity is misplaced. The culprit is not diversity *per se*, but rather social isolation. When people

of different backgrounds live apart from each other, they will not–indeed, cannot– develop the

sorts of ties–or the sorts of attitudes–that leads us to trust people who are different from ourselves.

I first consider how contacts might–or might not–be expected to increase trust. Simply

having friends of different backgrounds is not sufficient to lead to greater trust. However,

isolation from diverse communities will lead to a reinforcement of in-group trust at the expense of

out-group trust. I present evidence for this–both in aggregate models using the more common measures of ethnic diversity and a less well-known indicator of residential segregation at the national level. Then I show why residential segregation leads to less trust. In Uslaner (2002, chs. 6, 8) I present evidence that the strongest predictor of generalized trust over time in the United States and across countries (without a legacy of Communism) is the level of economic inequality. Another measure of marginalization is the size of the informal economy in a country. People in the informal economy are mostly poor with few legal rights and weaker connections to the larger society. Where residential segregation is greater, inequality and the size of the informal economy are much stronger determinants of trust. Residential segregation marginalizes the poor–who are likely to be minorities. And it is likely to be greater in poorer nations, with large scale refugee migrations. Next, in a cross-national hierarchical model of trust at the individual level, residential segregation leads to lower trust, while the conventional measure of diversity does not.

Finally, I turn to data from American cities–the SCBS and the Knight Community Indicators Survey (KCIS)– and a new set of measures of diversity and residential segregation in American cities. In multi-level models, I show that people are indeed somewhat *less* trusting in diverse cities. More critically, people living in well integrated cities who have diverse social networks–and who see crime as less of a problem–are much more likely to be trusting than people who live in segregated cities with homogenous social networks or who fear crime. Segregation seems far more important than diversity and: (1) segregation and diversity are *not* the same thing; and (2) diversity is largely a proxy for large non-white populations rather than an "intermingling" of different ethnic and racial groups.

Fractionalization measures such as those used by Putnam and others cannot distinguish between simple population diversity and residential segregation. A city/state/nation /neighborhood with a highly diverse population–and thus a high fractionalization index–may be marked by either high or low residential segregation. Figures 1 and 2 present alternative scenarios on residential segregation. They represent hypothetical neighborhoods of blue and red ethnicities. Each neighborhood has equal shares of blue and red residents. In Figure 1, the two ethnic groups live apart from each other, divided by a highway, so there is less of an opportunity to interact. In Figure 2, the neighborhood is mixed. Each blue (red) resident has at least one red (blue) neighbor. Yet the fractionalization indices are identical.

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Figures 1 and 2 about here

If people of different backgrounds don't live near each other, the chances that there will be sufficient interaction, among either adults or especially among children (who don't have the resources to travel to meet people unlike themselves), are small. We are less likely to trust people of different backgrounds if we don't have the opportunity to interact with them and to understand their cultures.

In November, 2005, immigrants from Islamic countries rioted in cities across France to protest their lack of economic opportunities–and also their isolation. A young man born in the Paris suburb of La Courneuve of a Malian father say, "We're French, but we also feel like foreigners compared to the real French." Many young people in the town identify themselves as "Nine Three," the first two digits of the postal code of their segregated region (Bennhold, 2005). Housing for immigrants is located outside the main urban areas, creating a sense of isolation from

mainstream French society, in contrast to the integration of immigrants in the center cities of Anglo-Saxon nations.

Newcomers to France are segregated in large apartment complexes away from the major cities, creaging a "a great sea of brutal architecture sitting on a vast car park for people who can't afford cars" (Heathcote, 2005). Many of these isolated newcomers are unemployed, but would face bus rides of up to 90 minutes each way if they could find jobs in Paris. So they remain behind in their ghettos where up to a third don't even speak French and there are few resources for finding employment or even for recreation (Sciolino and Bernard, 2006). France is a low trust society, with just 25 percent agreeing that "most people can be trusted" in the 1981 World Values Survey and 23 percent in 1990. The segregation of immigrants, especially in contrast to the more trusting United Kingdom (43 percent and 44 percent, respectively, in 1981 and 1990), may reflect the low levels of trust–but may also contribute to fostering even lower levels of confidence in strangers.

Contact and Trust

We are predisposed to trust our own kind more than out-groups (Brewer, 1979). Messick and Brewer (1983, 27-28, italics in original) review experiments on cooperation and find that "members of an in-group tend to perceive other in-group members in generally favorable terms, particularly as being *trustworthy, honest, and cooperative*." Social identity theorists such as Brewer see generalized trust as the exception rather than the norm. Cross-national data suggest that trust is not the norm. In each of its four waves, the World Values Survey has asked the generalized trust question: "Generally speaking, do you believe that most people can be trusted, or can't you be too careful in dealing with people?" In each wave, only a minority–and seemingly a

shrinking one–trusts fellow citizens. Across 24 countries and regions in 1981, 38.5 percent believed that "most people can be trusted." with only the four Nordic nations (Denmark, Finland, Norway, and Sweden) having a majority of trusting respondents. As the number of countries rose to 44 in 1990, the trusting share shrunk to 34.6 percent, with the United States, Canada, and China showing a majority of trusting citizens.[1] The addition of more countries in 1995 led to a decline in the overall trust level to 25.1 percent, with only Norway, Sweden, and China having a majority of trusting citizens.

Putnam (2000, 137) argues that interaction with others leads to trust: "...people who trust others are all-around good citizens, and those more engaged in community life are both more trusting and more trustworthy....the critically disengaged believe themselves to be surrounded by miscreants and feel less constrained to be honest themselves. The causal arrows among civic involvement, reciprocity, honesty, and social trust are as tangled as well-tossed spaghetti." While there are many claims that contact, such as joining civic groups or socializing with people, can lead people to trust each other, the evidence for such arguments is rather sparse. Stolle (2000, 233) argues that civic groups amount to "private social capital," providing benefits only to members that "are not universal and cannot be generalized to other settings."

Most forms of civic engagement, I argue in Uslaner (2002, chs. 2, 4), do *not* lead us to interact, directly or indirectly (as with charity) with people who are different from ourselves. Rather, we join groups *in order to have more contact with people like ourselves*–if not demographically (racial, gender, income) then in terms of interests (bowling, singing in choral societies, birdwatching, political values, among others). When people join civic groups–and have social interactions such as going on picnics or having dinner parties–they *are not likely to*

encounter people who are different from themselves. The entire point of such activities is to bond with people whom we can easily trust.

Most people don't seek to segregate themselves from people who are different from each other. Rather, socializing with people like yourself is a perfectly natural activity: Our social networks are composed of people very much like ourselves (McPherson, Smith-Lovin, and Cook, 2001). However, some venues are more hospitable to breaking out of your shell than are others. If you live in a diverse community, you are more likely to encounter many different types of people–in schools, in business, at work. Contact, then, has the capacity to broaden our horizons. But simply living in a heterogenous community–or even having friends or acquaintances of different backgrounds –is not sufficient to develop trust.

I find, using data from the Social Capital Benchmark Survey (Uslaner, in press) that "there is no evidence that having a friend of an opposite race makes a person more trusting in general." Marschall and Stolle (2004) argue that contact will only increase trust if it occurs in a diverse community. Pettigrew (1998, 66) holds that we assume too much from simple contact because we have not followed the complex argument on contact originated by Gordon W. Allport: Contact, Allport held, must be accompanied by "equal group status within the situation, common goals; intergroup cooperation; and the support of authorities, law, or custom." These are rather demanding conditions. Simply knowing someone of a different background, even having them as a casual friend, is not sufficient to shape more fundamental beliefs such as trust (or tolerance).

Forbes (1997, 19) argues that contact must involve "intimate" knowledge of the other person–and that such relationships are more likely to be developed among children than adults.

Forbes (1997, 167) argues:

If the groups in question differ in language or culture, increasing contact between

the groups will mean increasing competition between incompatible ways of life.

Friendship with outsiders will generally mean defection from the beliefs and

practices of the in-group...

The group members must have some non-negligible probability of interacting. Forbes (1997, 144)

holds that "[t]he more frequent and the more intimate the contacts among individuals belonging to

different tribes or nations, the more these groups come to resemble each other culturally or

linguistically... Different languages, religions, customs, laws, and moralities–in short, different

cultures–impede economic integration, with all its benefits." He adds (Forbes, 1997, 150):

"Isolation and subordination, not gore and destruction, seem to be the main themes in linguistic

conflict."

The culprit is not diversity *per se*, but rather social isolation. When people of different

backgrounds live apart from each other, they will not–indeed, cannot– develop the sorts of ties–or

the sorts of attitudes–that leads us to trust people who are different from ourselves.

Concentrated minorities are more likely to develop a strong identity that supercedes a

national sense of identification (trust in people who are different from oneself) and to build local

institutions and political bodies that enhance this sense of separateness. Geographical isolation

may breed in-group identity at the expense of the larger society. Segregation may also lead to

greater political organization by minority groups, which can establish their own power bases in

opposition to the political organizations dominated by the majority group as their share of the

citizenry grows. Bowles, Loury, and Sethi (2009, 11) argue that "...when segregation is

sufficiently great, group equality cannot be attained even asymptotically, no matter what the initial

conditions may be." Equality is the objective condition that is the strongest determinant of trust, over time in the United States, across the American states, and across nations without a legacy of communism (Uslaner, 2002, 186-189, 230-237; Uslaner and Brown, 2005).[2]

If trust means faith in people who are unlike ourselves–and I have demonstrated that this is indeed how people interpret the question (Uslaner, 2002, ch. 3)–then it is discomfiting to find that a diverse environment leads to less trust. Diversity has been linked to many positive outcomes, from increased wages and higher prices for rental housing (Ottaviano and Peri, 2005), greater profits and market share for firms that have more diverse work forces (Herring, 2006), and greater problem-solving capacities (Gurin, Nagda, and Lopez, 2004). The The link between segregation and low trust is more straightforward. If anything, we would expect diversity to *increase* the prospects for trust since faith in people who are different from yourself makes little sense if you never encounter them. Segregation isolates people, especially the poor and minorities who do not have access to the same networks for finding jobs as the majority white population (Loury, 1977). The link between segregation and distrust seems much more straightforward.

Hooghe et al. (2009) estimated a hierarchical linear model of trust in the European Union (using the European Social Survey) and found no significant impact of fractionalization. Collier, Honohan, and Moene (2001) find that ethnic group dominance, but *not* simple ethnic diversity, leads to a greater likelihood of civil conflict. Alesina and Zhuravskaya (2009) find that ethnically and linguistically segregated neighborhoods, but *not* fractionalization, lead to a lower quality of government.

Testing the Linkages

Isolation rather than diversity *per se* that should lead to lower trust. I examine trust at the

aggregate level in countries with high and low levels of segregation. Then I consider the factors

that lead to minority group concentration–and finally, I return to trust, estimating an hierarchical

linear model across 30 countries with full data employing both individual-level determinants of

trust and aggregrate measures including group concentration, fractionalization, and inequality.

In Uslaner (in press), I examine the relationship between trust and a wide range of

measures of population diversity, both across nations and across the American states. My trust

measure is based upon aggregate responses to the 1995 survey supplemented with: (1) measures

from 1990 when 1995 data are not available; and (2) imputed scores for 13 other countries.[3]   The

cross-national heterogeneity indicators span ethnic, linguistic, religious, and cultural diversity.

They are the Easterly-Levine (1997) measure of ethnic and linguistic fractionalization based upon

data from the 1960s; measures of fractionalization from Alesina et al. (2003) and Fearon (2003);

and polarization measures from Garcia-Montalvo and Reynal-Querol (2005). At the state level in

the United States, I examined the share of minorities in a state's population and a measure of

fractionalization.[4] Across 13 measures, the relationship between diversity and trust was minimal,

with only one r^2 (state minority share of population) exceeding .10 (Uslaner, in press). Across

nations and states, then, diversity does *not* lead to less trust.

The level of residential segregation in a country is the one aspect of diversity that does

drive down generalized trust:. Using data from the Minorities at Risk (MAR) project of the

Center for International Development and Conflict Management at University of Maryland, I

estimated the geographical isolation of major minority groups within a wide range of countries.[5]

The MAR project created a trichotomous index for each major minority group in a country and I

aggregated the scores across countries. This is an approximation, to be sure, but it is the best

available measure of geographical separation. Countries where minorities are most

geographically isolated have the lowest levels of generalized trust, a relationship that is

considerably strengthened when I eliminate countries with a legacy of Communism (Figure 3).[6]

The r^2 values are .182 and .342, respectively, substantially higher than for any of the measures of

diversity. *The negative relationship between residential segregation and generalized trust*

remains significant in a multivariate analysis.

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Figure 3 about here

Does Diversity Drive Down Trust? A Cross-National Analysis

What drives trust across countries? I first estimate a cross-national model for trust and

then estimate results for two groups of countries, those with low and high segregation (see Table

1) based upon Uslaner (2002, 229-237). For the full model, the level of ethnic segregation is the

key variable of concern. The low segregation countries have scores from zero to one on the 0-3

scale; the high segregation countries score between 2 and 3.   Trust across nations without a

legacy of Communism (as in these models) depends most strongly on the level of economic

inequality in a country, but also on the level of conflict between groups within a society reflecting

strong in-group and weak out-group ties.

I include two measures of equality, the average Gini index of inequality from 1950 to 1999

from You and Khagram (2005) and the rate of completion of primary education by women from

UNESCO.[7] Women have lagged behind men in educational attainment throughout most of the

world and the education level of women is a good measure of educational inequality.

Strong in-group ties also lead to greater corruption and a greater reliance on the informal

sector (Uslaner, 2008, chs.3 and 4). The effect of intercommunal conflict should be greater in countries with high levels of ethnic segregation since segregation breeds conflict. Internal conflict may be started by small numbers of people in each contending group, but can spill over to the rest of society and reduce trust.

I also include an estimate of the size of the informal economy in 2006 from business leaders' estimates from the World Economic Forum's Executive Opinion Survey. Where minorities are segregated from the majority population, they will have fewer opportunities to participate in the country's economy–and thus may be forced into the informal economy. Being outside the formal economy will make people more vulnerable with fewer legal rights. This vulnerability will likely lead to lower trust in others. The size of the informal economy is another (indirect) measure of economic inequality beyond the standard Gini index as well as corruption, which leads to lower levels of trust in a society (Uslaner, 2008, chs. 2 and 3; You and Khagram, 2005). The effects of the informal sector and intercommunal conflict should be more pronounced in countries with higher levels of residential segregation.

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Table 1 about here

The estimates are based upon small samples, especially for countries with low levels of minority segregation, since the minority segregation variable is only defined for countries with "minorities at risk" and countries with a legacy of Communism are excluded. However, the results in Table 1 are clear: For the full set of countries, residential segregation *does* lead to significantly lower levels of trust. Countries with the highest levels of segregation will have populations that are 12 percent less likely to trust others compared with nations with the least

segregation. The effect of residential segregation is almost as great as that for economic inequality–where the difference in trust between the most unequal and most equal countries is 13 percent. It is slightly less than the impact of the size of the informal sector, where there is a difference in trust of 15 percent. Intercommunal conflict is barely significant (at $p < .10$) for the full cross-national model; the most conflictual society has a trust level that is six percent lower than nations with the lowest level of group tensions. Women's educational level is not significant for the full sample.

Inequality and conflict have different effects in the more and less segregated societies. Economic inequality matters about equally in both samples. However, the impact is marginally greater in the more segregated countries, with a difference of 11 percent compared to nine percent. The effect of the informal economy is far greater in the more segregated nations, 12 percent compared to 7.8 percent. So the isolation of the informal economy has a greater effect on trust when minority groups are isolated from the majority. Intergroup conflict matters only in the more segregated countries, where it drives down trust by six percent. Women's education levels are only significant for the less segregated countries, where the impact is huge (41 percent).

Higher levels of segregation mean that inequality and group conflict matter more for trust. Residential isolation matters substantially in its own right–but it also compounds the effect of the informal sector and intercommunal conflict on trust. When there is little opportunity for different groups in a society to interact with each other, each will burrow into its own world. People who work in the informal sector will be among the most isolated and where there is little opportunity for interaction with other groups, trust will be especially low. Group conflict will further drive down trust in segregated societies. The effect may be relatively small because conflict may occur

primarily in low-trusting societies in the first place. The larger message of the impacts of

economic inequality and the informal sector are: *In highly segregated countries, inequality*

matters more for trust than in countries where people have greater opportunities to interact with

the ethnic majority. The inequality-trust nexus becomes more critical when there are few

opportunities to establish contacts with people of different backgrounds. Minority group

members not only have little opportunity to interact with the majority; their segregation is

enforced by inequality.

Segregation and Trust across Nations

I turn now to the hierarchical linear model of trust using data from waves 2 and 3 (1990

and 1995) of the World Values Survey.[8] The model of trust is truncated from what an ideal

specification might be. Yet, many key variables are available and support the more fully specified

models I have estimated using data from the United States (see Uslaner, 2002, ch. 4). The key

determinants of trust in these (and other models) are a sense of optimism for the future, high

levels of education, a secular (as opposed to a religious) outlook, and age. Optimism and a sense

of control makes trust less risky: Here I employ three variables in the World Values Survey

(WVS): thinking about the future, postmaterial values (worrying less about one's economic

security), and personal happiness. Highly religious people are more likely to trust people like

themselves to the exclusion of out-groups (Uslaner, 2002, ch. 4): Here I use the WVS questions

on religiosity (from atheist to religious) and believing in hell, which captures both religiosity and a

sense of pessimism. Postmaterialism, Inglehart (1999) argues, reflects a concern for others, a

lack of selfishness, that should lead to greater generalized trust.

Rothstein (2000) has argued that a strong legal system will lead people to believe that the

state is fair–and thus that other people are also fair, so I include confidence in the legal system.

The demographic variables are level of education,[9] age (older people should be more trusting),

and a dummy variable for Muslim (Muslims are less likely to believe that strangers can be trusted;

cf. Uslaner, 2002, 231-233).

In addition to the individual-level variables, I include two country-level measures. One is

a measure of uneven economic development across groups in a country from the Failed States

project. This indicator encompasses both economic inequality and the social strains that lead to

high in-group trust and low out-group faith in others. Across a series of models–only one of

which I report here–are measures of diversity, including minority ethnic group segregation and the

ethnic, religious, and religious fractionalization measures of Alesina (2003) and Fearon's (2003)

measures.

The estimates in Table 2 support my claims. The key individual variables are thinking

about the future (with the highest z-ratio), confidence in the legal system, postmaterialism,

religiosity, education, and happiness. All of the variables included in the model are significant, so

there is also efvidence that older people are more trusting and Muslims and people who believe in

hell are less trusting.

Table 2 about here

Uneven economic development leads to less trust in a country–and the impact is massive.

The difference bewteen the predicted level of trust in the country with the most even level of

economic development in the sample (Japan) and the least (Bangladesh) is *greater than the full*

range of the trust variable! Ethnic group concentration is also a strong predictor of generalized trust: The difference in expected trust between the countries with the least segregation (Australia and Latvia) and the most (Dominican Republic) is .67–greater than the observed distribution of trust in this sample (from .40 in Australia to .04 in Brazil). *Inequality and ethnic segregation both contribute powerfully to low levels of trust.*

It is minority group concentration rather than diversity that leads to less trust. Models estimated with the Alesina or Fearon fractionalization measures led to insigificant coefficients for these variables. Only the group concentration measure had a significant coefficient. Models employing both the group concentration measure and one of the Alesina/Fearon indicators did not converge. When I estimate ordered probit models (with standard errors clustered by country), the minority segregation variable was always significant and the fractionalization measures never achieved significance.

Segregation and Trust: Evidence from the United States

Putnam's (2007) evidence for his claim that diversity drives down trust (and other aspects of social capital) is based upon his examination of American municipalities using the SCBS.. So any test of the claim that segregation is far more important in driving down trust than diversity should address his evidence head-on. Many of the claims Putnam makes come from proprietary data, but a new data base on both diversity and residential segregation in American cities allows me to examine how each shapes trust. I use the SCBS (2000) and the KCIS (2002): Both surveys are distinctive in that they cover communities as well as national samples. Here I focus on the community samples only–and just a subsample of each set of communities that are also covered in data on community residential segregation and diversity devised for the Bureau of the Census by

Iceland (2004).[10] Iceland's diversity and segregation measures for standard metropolitan

statistical areas (SMSAs) are based upon Theil's entropy index. The diversity index is similar to

the traditional heterogeneity meaure: it "measures the extent to which several groups are present

in a metropolitan area, regardless of their distribution across census tracts." The segregation

measure "varies between 0, when all areas have the same composition as the entire metropolitan

area (i.e., maximum integration), to a high of 1, when all areas contain one group only (maximum

segregation)" (Iceland, 2004, 3, 8).

Diversity and segregation are *not* the same thing. Across 325 communities, the simple

correlation for the two measures in 2000 is just .297 (and .231 for 1990 and .270 for 1980).

Both the SCBS and the KCIS ask the generalized trust question–and I estimate multilevel

models of trust below using probit analysis with clustered standard errors (the hierarchical linear

models did not converge) in Tables 3 and 4. In both surveys, I am limited by the available

variables and the communities that were surveyed and that had matching diversity and segregation

indices (see n. 10).

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Tables 3 and 4 about here

Following Marschall and Stolle (2004) and Forbes (1997), I argue that residential

segregation by itself is not as critical as the interaction between segregation and patterns of

interaction between people. The aggregate analysis and the WVS cross-national model do not

permit a test of these claims. However, the SCBS asked people about the racial diversity of the

civic groups they have joined and of their friendship circles.[11] Previous research indicates that

African-Americans are less trusting and that older people and especially more highly educated

people are more trusting (Uslaner, 2002, ch. 4). So I include race, age, education, and the share of African-Americans and the mean level of education in a city. I also include a measure of whether people treat you as dishonest, since negative treatment may lead to distrust. I present the probit model for the SCBS in Table 3 (with standard errors clustered by city), with the "effect" (the change in the probability of trusting obtained by setting each variable first at its minimum and then at its maximum while leaving all of the other variables at their "natural" values) in the final column. The results largely confirm what we know: Race, age, and especially education matter mightily (both at the individual and city level). If people treat you as if you were dishonest, you will be less likely to trust them.

Living in the most diverse city (Los Angeles) will reduce your probability of trusting others by 15 percent, as compared to living in the least diverse city (Bismark, ND). Yet there is a puzzling *positive* coefficient on residential segregation. More critically–and supporting my general argument are the interaction results: If you live in the most integrated city and belong to groups with very diverse memberships, you will be 15 percent more likely to be trusting – offsetting any effects of diversity *by itself.* If you live in well-integrated city *and have a diverse friendship network, you will be almost 30 percent more likely to trust others.*[12] This effect is almost as large as the change in trust that is attributable to a graduate education (compared to only attending grade school). Integration matters–but only if people take the initiative to interact with people of different backgrounds, much as Pettigrew (1998), Forbes (1997), and Marschall and Stolle have argued, following Allport. Kumlin and Rothstein (2008) find that informal contacts with neighbors lead minorities in Sweden to become more trusting. The effect of integration more than "compensates" for any negative impact on trust attributable to diversity.

While diversity is more of a surrogate for the minority share of the population and segregation is not, there is at least a moderate relationship between residential segregation and the non-white share of a city's population. The least segregated cities in the data set–Portsmouth, NH and two cities each in Washington (Spokane and Yakima) and Oregon (Eugene and Medford)– also have low shares of minorities. I interacted the segregation and diversity measures to produce an indicator of residential integration in diverse cities. I added this measure to the model in Table 3 and substituted the new measure for segregation in the interaction terms. The interaction of segregation and diversity led to a sharp *decrease* in trust (effect = .420), but the new measure interacted with group diversity led to an almost identical effect (-.152) to that for segregation and group heterogeneity. And the interaction with friendship diversity had a slightly greater effect (-.321) than the measure of segregation * friendship heterogeneity. So the hypothesized interaction of segregation and the diversity of social networks is *not* an artifact of "artificial" integration.

The same pattern emerges from the KCIS survey (Table 4), even though the available predictors are not as rich as those in the SCBS. The KCIS survey has no measure of the diversity of friendship networks. The best proxy for one's attachment to the community is the perception that crime is a big problem in the neighborhood. Perceptions of crime should reduce trust, especially in a segregated neigbhorhood where people have less opportunity to interact with others of different backgrounds. It is hardly the same as social networks, but it is the best available measure in the survey. Again, age and especially education lead to greater trust, while African-Americans are less trusting. People who see racial tension and/or crime as big problems are also less likely to be trusting. Diversity leads to less trust–living in the most heterogenous city (San

Jose, CA) leads to a 17 percent drop in trust compared to residing in the least diverse place

(Duluth, MN). Again, the coefficient on segregation is positive. People living in a highly

integrated neighborhood with little fear of crime are 47 percent more likely to trust others–a shift

greater than the difference in trust between Gary, IN or Philadelphia, on the one hand, and

Aberdeen, SD or Boulder, CO on the other. And the effect is more powerful than the difference

between a grade school and a grad school education.

Integration matters–mightily. Its effects are most clearly seen among people with diverse

social networks. And integration is not simply an "alternative" to diversity. The diversity

measure is still very crude–it doesn't tell us much about residential patterns. It is really a proxy

for the share of a city's population that is white. The correlation between the diversity index and

the percent of a city's population that is white is -.917 for the 20 SCBS cities with comparable

measures from Iceland (2004).[13] The correlation between percent white and the segregation index

is only -.305. The SCBS data have a measure of diversity (fractionalization) for the 41

"communities" (including some states and regions). It is a surrogate for the share of the

population that is white (r = -.959) and to a lesser extent for the Hispanic and African-American

shares (r = .678 and .508, respectively). Since minority populations are less trusting than whites

(Uslaner, 2002, ch. 4),[14] the diversity index may simply show low levels of trust in communities

with large non-white populations rather than a reluctance of people to interact with people of

different backgrounds. Alesina, Baqir, and Easterly (1999, 1271) admit that their measure of

ethnic diversity is strongly correlated with the percent African-American in a community (r = .80)

and worry that their diversity measure "...could just be proxying for black majorities versus white

majorities." They show that ethnic diversity matters even in majority white communities, but this

does not resolve the issue of whether diversity is another name for the share of the minority

population. Segregation is *not* as strongly correlated with the share of African-Americans in a

community (r = .542) or the share of minorities–African-Americans, Hispanics, and Asians–

more generally (r = .150, both N = 237). Similarly, in the SCBS, the aggregate data show a

strong negative correlation between trust and diversity (r = -.662, N = 41). When I add the shares

of population in a community who are African American and Hispanic to a regression, diversity is

no longer significant (t = -.032), while the African-American and Hispanic population shares are

significant at p < .001 and p < .10, respectively (t = -3.41 and -1.62, one-tailed tests).

Reprise

The aggregate and survey results I have presented point to a common theme: Residential

segregation drives down trust. Diversity either has no effects on trust or far more modest impacts,

largely attributable to the fact that "diversity" is a surrogate for a large non-white population.

Simply because a country or a city is diverse does not mean that we have ready opportunities to

interact with people who are different from ourselves–or that we take the opportunity. Diversity

alone will not drive down trust. Segregation does drive down trust in the cross-national analysis.

Yet the cross-national measures cannot readily measure the opportunities for people to interact

with each other at the neighorhood level. The city data come closer to this and they show that

integrated neighborhoods alone won't drive up trust. Integration provides the opportunity–but

people must take it seriously and interact with people of different backgrounds for trust to

flourish.

The cross-national analyses offer strong support for the direct effect of segregation on

lower trust. They also point to an interactive role for both economic inequality and social

isolation where segregation is highest. The city level data for the United States support a more

nuanced view of segregation: Integration by itself does not lead to generalized trust. Integration

must be accompanied by social interactions with a diverse group of friends and group members

(the SCBS survey) or at least a sense of security in your community (the KCIS survey). The

common foundation here is equality: More integrated communities in the United States are

marked by lower economic disparities between majority and minority groups (data not shown).

Putnam fears that diversity brings out the "turtle" in all of us. Stephen Hawking recounted

a confrontation between Bertrand Russell and an old woman who claimed that we all live on the

back of a giant turtle, which stood on the back of another turtle, and so on indefinitely. The entire

foundation of our planet and thus our society was a myth, and so is believing that diversity is

inimical to trust and that we must wait until we find a way to socialize minorities better. We need

to recognize that segregation may be the problem itself. Otherwise, in the words of the old

woman, "It's turtles all the way down."[15]

TABLE 1

Models of Trust Across Nations by Level of Minority Segregation

Variable	All Countries			Low Minority Segregation Countries			High Minority Segregation Countries		
	Coefficient	Standard Error	t Ratio	Coefficient	Standard Error	t Ratio	Coefficient	Standard Error	t Ratio
Residential segregation	-.039**	.022	-1.77						
Economic inequality	-.004***	.002	-3.00	-.004**	.002	-2.03	-.005***	.002	-2.36
Size of informal economy	-.036***	.013	-2.79	-.028*	.021	-1.33	-.040**	.020	-2.04
Intercommunal conflict	-.059*	.049	-1.52	.010	.067	.15	-.061*	.041	-1.47
Women's education	.001	.001	1.01	.010***	.003	2.89	.0004	.001	.39
Constant	.563****	.133	4.24	-.378	.320	-1.18	.594***	.163	3.64

R^2 = .526, S.E.E. = .081, N = 38 R^2 = .576, S.E.E. = .092, N = 14 R^2 = .400, S.E.E. = .080, N = 24

* p < .10 ** p < .05 *** p < .01 **** p < .0001 (all tests one tailed except for constants)

Models estimated using robust standard errors

TABLE 2

Hierarchical Linear Model of Trust: World Values Survey

Variable	Coefficient	Std. Error	z Ratio
Think about future	.517****	.036	14.20
Postmaterialism	.180****	.027	6.58
Happiness	.103****	.024	4.27
Religiosity	-.202****	.033	-6.21
Believe in hell	-.076**	.038	-2.01
Confidence in legal system	.153****	.019	7.85
Education (age left school)	.035****	.005	6.49
Age	.004****	.001	3.69
Muslim	-.237***	.097	-2.45
Constant	-.726**	.235	-3.09
Random Effects Parameters			
Ethnic minority segregation	-.224***	.075	-2.98
Uneven economic development	-.170****	.034	-5.05

Number of countries: 30, Number of observations: 23,812

Wald Chi Square: 549.75, Log restricted likelihood = -11870.842

* p < .10 ** p < .05 *** p < .01 **** p < .0001 (all tests one tailed except for constants)

TABLE 3

Probit Model of Trust, Ethnic Segretation, and Diversity:

Social Capital Benchmark Survey 2000

Variable	Coefficient	Std. Error	z Ratio	Effect
Residential segregation	1.457	.334	4.36	.229
Ethnic/racial diversity	-.347***	.096	-3.62	-.150
Percent African-American in city	-.785****	.198	-3.97	-.154
Average level of education in city	.247***	.085	2.90	.123
Residential segregation * group diversity	-.174***	.036	-4.89	-.148
Residential segregation * friendship diversity	-.142****	.024	-5.91	-.288
People act as if you are dishonest	-.388****	.037	-10.55	-.140
Education	.157****	.008	19.32	.335
Age+	.006****	.001	6.76	.117
African-American	-.580****	.042	-13.82	-.212
Constant	-1.042****	.233	-4.47	

+   Effect calculated between 18 and 75 years old.

Number of cities: 20, Number of observations: 8,986

Wald Chi Square: 653.24, Log restricted likelihood = -5551.916

* $p < .10$ ** $p < .05$ *** $p < .01$ **** $p < .0001$ (all tests one tailed except for constants)

Standard errors clustered by city

Cities included in model: Baton Rouge, LA; Birmingham, AL; Bismark, ND; Boston, MA; Charlotte, NC; Cincinnati, OH; Cleveland, OH; Denver, CO; Detroit, MI; Greensboro, NC; Houston, TX; Kalamazoo, MI; Lewiston, ME; Los Angeles, CA; Rochester, NY; San Diego, CA; San Francisco, CA; Seattle, WA; Yakima, WA; York, PA.

TABLE 4

Probit Model of Trust, Ethnic Segretation, and Diversity:

Knight Community Indicators Survey 2002

Variable	Coefficient	Std. Error	z Ratio	Effect
Residential Segregation	.865	.349	2.48	.134
Ethnic/racial diversity	-.408**	.204	-2.00	-.173
Residential segregation * neighborhood crime	-.836****	.098	-8.51	-.474
Racial tension big problem	-.090****	.022	-4.04	-.062
Crime big problem	-.094****	.024	-3.94	-.065
Education	.193****	.009	21.49	.401
Age+	.081****	.009	8.87	.158
African-American	-.487****	-.944	-10.97	-.172
Constant	-.242	.167	-1.46	

+ Effect calculated between 18 and 75 years old.

Number of cities: 19, Number of observations: 10,225

Wald Chi Square: 1338.32, Log restricted likelihood = -6168.288

* p < .10 ** p < .05 *** p < .01 **** p < .0001 (all tests one tailed except for constants)

Standard errors clustered by city

Cities included in model: Akron, OH; Biloxi, MS; Boulder, CO; Charlotte, NC; Columbia, SC; Columbus, OH; Detroit, MI; Duluth, MN; Fort Wayne, IN; Gary, IN; Grand Forks, ND; Lexingon, KY; Macon, GA; Miami, FL; Philadelphia, PA; San Jose, CA; St, Paul, MN; Tallahasse, FL; Wichita, KS.

FIGURES 1 & 2

FIGURE 1   FIGURE 2
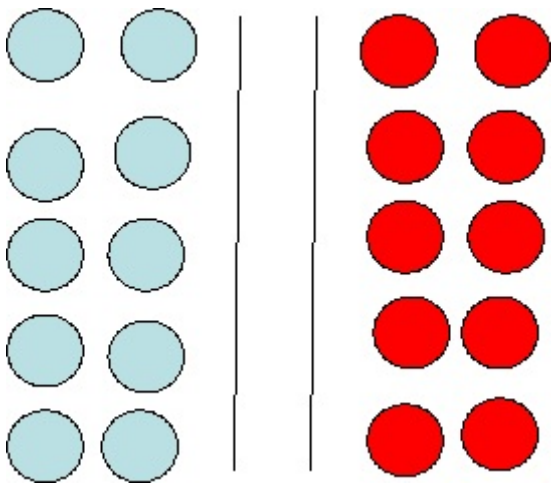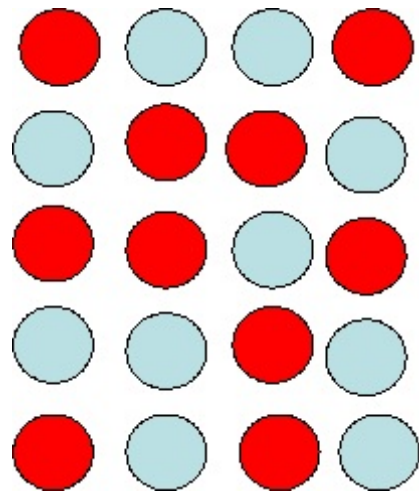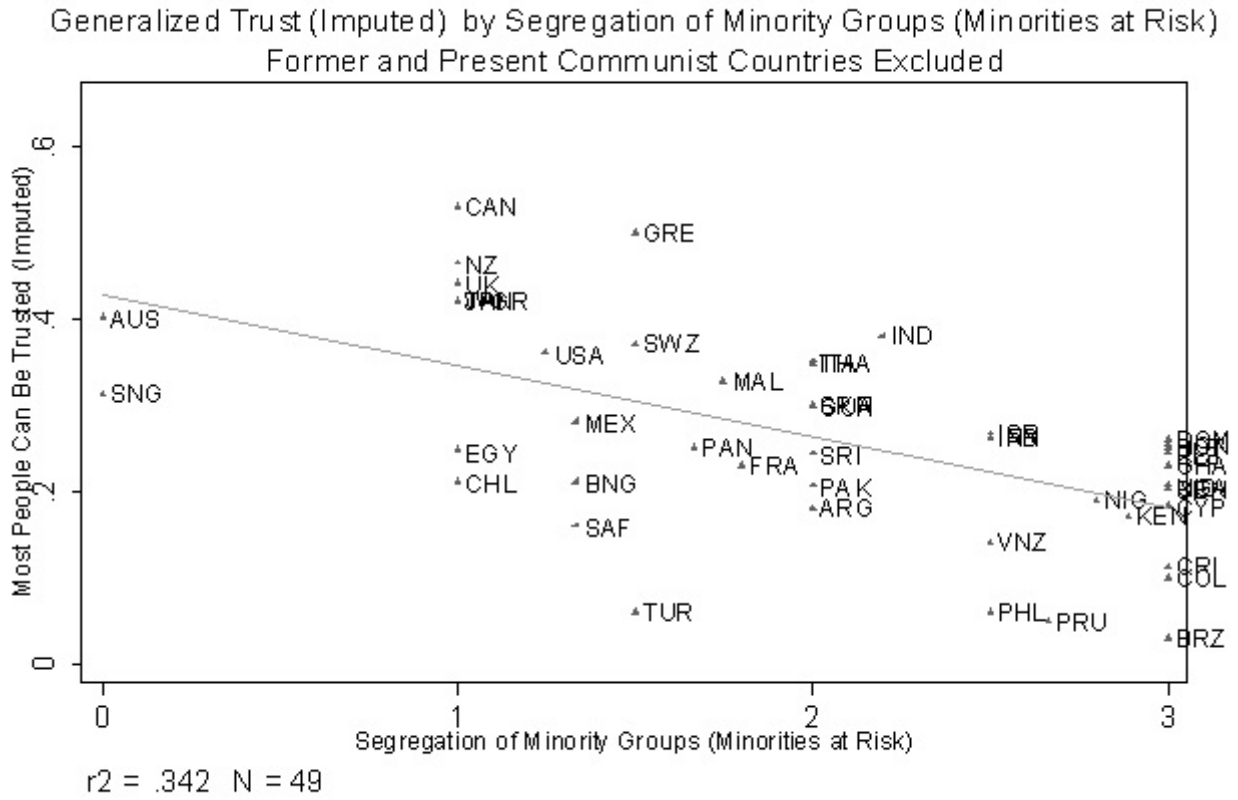
High Fractionalization, High Segregation   High Fractionalization, Low

                                                Segregation

Figure 3

Generalized Trust (Imputed) by Segregation of Minority Groups (Minorities at Risk)
Former and Present Communist Countries Excluded

r2 = .342 N = 49

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NOTES

1.   See Uslaner (2002, 220, n. 1) for a discussion of why the Chinese results in this and other

       waves should be discounted.

2.   In work in progress, I have found that diversity is *not* related to economic inequality in

       cities, but residential segregation is strongly related to inequality.

3.   In addition to the Nordic countries, the fourth wave had majority trusters in the

       Netherlands, China, Iran, and Indonesia. The latter three countries seem questionable to

       me and others and the entire fourth wave of the World Values Survey has many unusual

results, including a sharp decline in trust for Canada, even though three other surveys

taken at the same time--the Canadian National Election Study, the Quebec referendum

survey, and the Ethnic Diversity (ESC) of the University of British Columbia–all show no

change in trust since 1995. The variables used to impute trust are: gross national product

per capital; the value of imports of goods and services; legislative effectiveness; head of

state type; tenure of executive (all from the State Failure Data Set); distance from the

equator (from Jong-sung You of Harvard University); and openness of the economy

(from Sachs and Warner, 1997; data available at

http://www.cid.harvard.edu/ciddata/ciddata.html). The R^2 = .657, standard error of the

estimate = .087, N = 63.

4. The minority share data were provided by Rodney Hero of the University of Notre Dame

and the fractionalization data were provided by Richard F. Winters of Dartmouth College.

5. The data are available for download at http://www.cidcm.umd.edu/inscr/mar/data.htm,

accessed May 10, 2004. The Alesina and Zhuravskaya (2009) measures respresent a

major advance over the ordinal MAR measure, but they are not yet publicly available.

6. See Uslaner (2002, 226-231) for a discussion of why countries with a legacy of

Communism are excluded (inequality is artificially low and the survey measures of trust

may not be reliable). I only use waves 2 and 3 of the World Values Survey for the

individual analyses because of concerns about the validity of wave 4 (details on request).

The aggregate measure of trust is based primarily on wave 3 (1995) but also includes

measures from waves 1 and 2 (1980 and 1990) when no other measures are available. In

addition, I imputed trust from some countries not included in the WVS. See Uslaner

(2008, 52, esp. notes 20 and 21).

7.   This measure is from the UNESCO Environmental Stability Index for 2005 at

       http://www.ciesin.columbia.edu, accessed January 24, 2006.

8.   The models were estimated using xtmelogit in Stata 10. The countries included in the

       estimation are: Argentina, Australia , Azerbaijan, Bangladesh, Belarus, Bosnia, Brazil,

       Bulgaria, Chile, Croatia, Dominican Republic, Estonia, Georgia, India, Japan, Latvia,

       Lithuania, Macedonia, Mexico, Moldova, Nigeria, Peru, Philippines, Russia, Serbia,

       Spain, Turkey, Ukraine, Venezuela, West Germany.

9.   The WVS does not have a question on education level that is comparable across

       countries, so I use the age at which the respondent left school.

10.   The Social Capital Community Benchmark Survey is available from the Roper Center at

       the University of Connecticut (www.ropercenter.uconn.edu). The Knight data were made

       available to me as an integrated file by the Foundation–details are available at:

       http://www.knightfoundation.org/research_publications/community_indicators/communit

       y_indicators.dot, accessed October 30, 2008. The segregation/diversity data are available

       at http://www.census.gov/hhes/www/housing/housing_patterns/housing_patterns.html,

       accessed October 28, 2008. The Social Capital Community Benchmark Survey was

       conducted in 40 jurisdictions, but eight were either states or areas (such as "Rural

       Southeast South Dakota") that could not easily be linked to any city. Of the remaining 32

       cities, only 20 had matching data from the residential segregation data. The Knight

       surveys covered 25 cities and 11 metropolitan areas that surrounded many of the cities; 19

       of the 25 cities had matching data from the segregation data. The ethnic groups used in

the indices are non-Hispanic whites, non-Hispanic African Americans, non-Hispanic
Asians and Pacific Islanders, Non-Hispanic American Indians and Alaska Natives, non-
Hispanics of other races, and Hispanics (Iceland, 2004, 3).

11.   Ordinarily the measures of group and friendship diversity should be included in a model
with interaction terms. However, including the simple measures induces strong
collinearity in the model. Brambor, Clark, and Golder (2006) argue that it is not
necessary to include both measures in an interaction term when either has a natural zero
point–as both the social network measures and the segregation and heterogeneity indices
do.

12.   In this and the following estimation, the segregation measures are coded so that a
negative sign indicates higher integration (less segregation) with more social interaction
or a lower perception of crime.

13.   The SCBS has a Herfindahl measure for each "community." The zero-order correlation
for the 41 "communities" between fractionalization and percent white for the aggregated
data is -.959.

14.   In the General Social Survey from 2000 to 2006, 16 percent of African-Americans and 21
percent of Hispanics agreed that "most people can be trusted," compared to 41 percent of
whites.

15.   http://renaud.waldura.org/turtles.txt .