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Ethnic Diversity and Trust: New Evidence from Australian Data

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ABSTRACT

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This paper investigates the relationship between neighbourhood ethnic and linguistic heterogeneity and the formation of an individual's local and general trust. A wide literature across economics and sociology has recognised the importance of trust in facilitating economic growth and development and it is therefore important to investigate elements of social organisation that encourage or inhibit the development of trust. We use fixed effects and instrumental variable regression and control for a wide set of individual and local area characteristics to identify the effect of heterogeneity on trust formation. Our results show that increasing neighbourhood ethnic and linguistic fractionalisation is associated with a decrease in local trust of about 12% of a standard deviation in the model with fixed effects, while we do not find any significant relationship between neighbourhood heterogeneity and general trust.

JEL Classification: J15, Z10

Keywords: trust, social capital, ethnic fractionalization, ethnic heterogeneity, HILDA

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1. Introduction

Successful functioning of modern society is predicated on the existence of a high degree of interpersonal trust among its members. When individuals trust one another they are more inclined to cooperate and engage in mutually beneficial exchanges, leading to higher levels of economic development (Arrow, 1972). Cross-country comparisons suggest a strong positive link between trust and economic growth rate (Knack and Keefer, 1997), per capita income (Algan and Cahuc, 2010, 2013) and absence of excessive government regulation (Aghion et al 2010, 2011). At a more aggregate level, absence of trust between groups of agents is considered to be one of the primary causes of the costly and persistent inter-group conflicts that punctuate human history (Acemoglu and Wolitzky, 2014).

Existing empirical evidence suggests that one of the important determinants of an individual's trust towards others is the level of ethnic heterogeneity of a community, city or country of residence (Alesina and La Ferrara, 2002; Putnam, 2007; Leigh, 2006). People living in racially or ethnically mixed areas tend to exhibit lower levels of trust compared to those residing in ethnically homogeneous communities. The literature has also documented a negative impact of ethnic and linguistic diversity on various measures of social capital, including trust, at the country level. (Wang and Steiner, 2015). If true, the negative relationship between heterogeneity and social capital has important implications for immigration and settlement policies in many countries that experience large inflows of migrants. It is generally agreed that the economic and social benefits of immigration outweigh the costs, but understanding the full extent of the effect of ethnic heterogeneity on trust (and social capital in general) is vital for formulating a well designed immigration policy.

This paper makes several contributions to this literature by studying the issue in the Australian context. First, it uses new datasets to update existing evidence. Second, it extends the analysis along several dimensions by testing the robustness of the results to different identifying assumptions and experimenting with new measures of localised and generalised trust. Our main results largely confirm the earlier set of findings reported in Leigh (2006). We find that in the Australian context ethnic and linguistic heterogeneity affects negatively local but not general trust. This result is robust to different identification assumptions and measures of trust that we use.

The rest of the paper is organised as follows. Section 2 discusses the recent trends on immigration in Australia and reviews existing evidence on the relationship between ethnic heterogeneity and trust. Section 3 describes the data used in the analysis. Section 4 describes econometric methodology, Section 5 presents our results and Section 6 provides concluding remarks.

2. Background and previous literature

After the official adoption of a multicultural immigration policy, Australia has implemented an expansive immigration policy, welcoming migrants from many diverse backgrounds (OECD 2006). Since the immediate aftermath of the Second World War, the percentage of the Australian population born overseas has increased from approximately 9.8% in 1947 to approximately 27.7% at June 30, 2013 (ABS 2013; Phillips, Klapdor & Simon-Davies 2010). Furthermore, the vast majority of overseas born Australian residents in 1947 were born in countries that were ethnically or culturally very similar to Australia, with 78.6% of the overseas born population hailing from the United Kingdom, Ireland, or New Zealand. In

2011, this figure had fallen to approximately 28.9%. Australia's ethnic diversity has thus increased not only as a result of a larger intake of migrants, but also as a result of a more diverse intake. The presence of second and third generation migrants with a greater range of cultural and ancestral backgrounds also contributes to Australia's vibrant diversity, notwithstanding the 'melting pot' effect of inter-cultural interaction. With a reduction in Australia's fertility rate over time (Barnes 2001) and the continued increase in immigration levels, this trend looks set to continue. This increase in ethnic diversity can and arguably has provided tremendous cultural and economic benefits, including productive gains from diversity and increased levels of aggregate demand.

What is the effect of this increasing ethnic diversity on social capital and, in particular, on interpersonal trust? Leigh (2006) was the first study to provide empirical evidence on this issue for Australia. Using data from the 1997-98 Australian Community Survey he studied the effect of ethnic and linguistic heterogeneity and income inequality on the generalized and localized trust and found that heterogeneity has a negative impact on both measures of trust. When instrumenting ethnic heterogeneity of the neighborhood with ethnic heterogeneity of a larger region in which it is contained he found that neighborhood level heterogeneity affects negatively only localized and not generalized trust.

This paper updates and extends Leigh (2006) results in several ways. It uses data coming from the 2006 and 2010 waves of the Household, Income and Labour Dynamics in Australia (HILDA) survey. The use of HILDA data enables us to analyse a more recent period during which Australia continued to experience large inflow of international migrants. More importantly, the longitudinal nature of the dataset allows us to control for individual fixed effects when estimating the effect of heterogeneity on trust and to compare these results to those obtained using cross-sectional methods such as OLS and IV. While the fixed effects

model itself is not completely free from threats to internal validity in this context, we believe that comparison of the results obtained under different identifying assumptions provides an important robustness check that increases our confidence in these results. Finally, we take advantage of a richer set of questions that can serve as proxies for generalized and localized trust available in HILDA to analyse a richer set of trust measures, compared to those typically used in the literature.

3. Data

This paper uses data from the Household, Income and Labour Dynamics of Australia (HILDA) survey. The survey is an unbalanced panel with annual waves tracking household income and labour force indicators over time for a representative sample of the Australian population. Changes in household composition, and a top-up sample added in the eleventh wave, have increased the number of participants over time. 19,914 individuals were included in the initial wave. As additional people joined households they were also included in the survey, until such time as they left the household. An additional top-up sample of 2,153 households was added to the 2011 wave. The 2011 wave included 29,489 individuals. We use information collected at wave 6 and 10 (years 2006 and 2010) of the HILDA survey, as questions relating to local or neighbourhood trust are only asked in those waves. Further, data on the proportion of people from different ethnic groups living in each postal code are collected from the Australian Census (see section b) and this restricts the investigation to those years in which the census takes place, or the years immediately before and after. Our final sample includes over 20,000 observations from both waves, after excluding all individuals missing information in one or more variables of interest.

3.1 Outcomes

Individual trust levels are based on two separate questions asked in the survey. Respondents are asked to nominate on a scale of 1 – 7 (Strongly Disagree to Strongly Agrees) the extent to which they agree with the following statements:

1. "Generally speaking, most people can be trusted"
2. "People in this neighbourhood can be trusted"

These measures of trust differ from those used in the literature in a number of key ways. Firstly, the HILDA questions allow for a differentiation between 'generalised' trust and 'localised' trust. Of the surveyed literature, only Leigh (2006), Sturgis et al (2011) and Putnam (2007) allow for this distinction, though other papers allude to the differences in generalised morality and closer, kinship-based morality (Tabellini 2010; Algan and Cahuc 2010). Secondly, the question relating to general trust is worded differently to that usually found in most studies. The World Value Survey and the US General Social Survey ask respondents "Generally speaking, would you say that most people can be trusted, or that you can't be too careful when dealing with others?" Responses are either "Most people can be trusted" or "Need to be very careful". Lastly, the format of the HILDA questions allows for trust to be measured on a continuum from 1 to 7, and the magnitude of the effect of certain individual and community characteristics can be more accurately ascertained.

We test our main findings by using some alternative measures of trust, based on different questions asked in HILDA, in order to consider various ways of assessing and expressing trust (see for example Glaeser et al., 2000 and Soroka et al., 2007 for a discussion of the

potential problems in measuring trust in surveys). The extent to which an individual agrees to the following statements will be used as an alternative measure for general trust:

1. "Most people would try to take advantage of you if they got a chance."
2. "Most people you meet keep their word."
3. "Most people you meet make agreements honestly."

The extent to which an individual agrees to the following statements will be used as an alternative measure for local trust:

1. "This is a close-knit neighbourhood."
2. "People in this neighbourhood generally do not get along."
3. "People in this neighbourhood generally do not share the same values."

Table 1 reports sample mean values and standard deviations for the different measures of trust. Each of these values falls within a range of 1 to 7. There is a consistent increase in levels of trust (or decrease in perception of untrustworthiness) between 2006 and 2010, though the magnitude is negligible in some cases. General trust levels are higher than local trust levels. Respondents are more likely to report that they trust other individuals in their local area than they are to report that they get along with, or share the same values, with other individuals in their local area.

Table 1 here

3.2 Ethnic diversity

In our study, we use community characteristics data from the Australian Census of Population and Housing (the 'Census'). The Census is a survey conducted every five years, the principal purpose of which is to determine the number and characteristics of people and

dwellings in Australia on census night. For every resident of every postcode there is a record of ethnicity based on country of birth and a record of ancestry based on country of parent's birth (ABS, 2006; 2011). An individual is considered to belong to an ancestral group where at least one of that individual's parents was born in that ancestral group's home country. For this reason, an individual can belong to two ancestral groups. The census similarly records a 'Language Spoken at Home' for every individual in every postcode. Following the literature, (Leigh 2006; Alesina and La Ferrara 2002) we construct Herfindahl indices of neighbourhood fractionalisation based on ethnicity, ancestry, and language spoken at home. These indices measure the probability that two randomly drawn individuals from the neighbourhood population will have different ethnicities, ancestral backgrounds, and language preferences respectively.

The indices are created according to the following formula:

$$Ethnic\ Fractionalisaion = 1 - \sum_{e=1}^{N} S_{ej}^2$$

Where S_{ej} = Share of ethnic group *e* in neighbourhood *j*

$$Linguistic\ Fractionalisation = 1 - \sum_{l=1}^{N} S_{lj}^2$$

Where S_{lj} = Share of linguistic group *l* in neighbourhood *j*

$$Ancestral\ Fractionalisation = 1 - \sum_{a=1}^{N} S_{aj}^2$$

Where S_{aj} = Share of ancestral group *a* in neighbourhood *j*

In each case, a fractionalisation index score of 0 would indicate a completely homogeneous population, with no ethnic, linguistic or ancestral diversity. An index score of 1 would

indicate a completely heterogeneous population where each individual member of the population belonged to a unique ethnic, linguistic or ancestral group.

The three indices are very highly correlated, as it would be expected. The indices for ethnic fractionalisation and ancestral fractionalisation have a correlation of 0.9566. However the ethnic fractionalisation index has a distribution that more closely approximates a normal distribution. Ethnic fractionalisation will therefore be used rather than ancestral fractionalisation. Separate regressions will use the linguistic fractionalisation index to verify the robustness of our main results. Both ethnic and linguistic indices have potential limitations. The ethnic fractionalisation index may overstate the level of diversity by applying the same weight of difference to individuals from separate but very similar ethnicities (such as individuals from the USA and Canada) to individuals from more markedly different backgrounds (such as individuals from Africa and China, for example). The index of linguistic fractionalisation may overcome this issue by effectively grouping similar ethnicities with common linguistic heritages. However, the linguistic fractionalisation index can be misleading insofar as it does not accurately reflect the average level of English proficiency in the neighbourhoods; it only reflects the language primarily spoken at home. Using both indices should provide the required robustness.

The average postcode level neighbourhood in Australia has a population of approximately 20,000 individuals. The probability of any two randomly selected individuals from the average Australian postcode level neighbourhood belonging to the same ethnic group is approximately 45%. The mean values and standard deviations remain stable for the ethnic fractionalisation and ancestral fractionalisation indices between the 2006 and 2010

samples, however the average level of linguistic diversity increases by 5.5 percentage points between 2006 and 2010, or approximately 20% of the 2006 sample mean.

3.3 Other explanatory variables

We estimate several versions of our main model, progressively increasing the set of independent variables. The choice of independent variables follows the literature and includes: marital and employment status, education level, region of residence, family disposable income, and an index of socio-economic deprivation calculated in HILDA (Summerfield et al 2012). Table 2 lists the variables used in the analysis. Our set of control variables includes some important characteristics that have been omitted in previous studies (Leigh, 2006; Alesina & La Ferrara, 2002; Putnam, 2007), such as whether the individual lives in urban or rural area. This is an important control variable that can be related with trust and diversity. Urban neighbourhoods are much more likely than rural neighbourhoods to be ethnically or linguistically diverse. If it is the case that individuals from urban neighbourhoods are also systematically more or less trusting than individuals from rural neighbourhoods, then this will be an important source of omitted variable bias in previous studies. Lastly, we include information on residential tenure. A higher residential tenure should increase familiarity among the individual and the individual's neighbours, thereby increasing trust.

Table 3 reports some descriptive statistics for the estimation sample. The mean value of the variables remains consistent between 2006 and 2010. Approximately one-fifth of the sample was born outside of Australia. There is a notable increase in the average household

disposable income for the sample from 2006 to 2010 (approximately +26%). Further, the sample seems to be biased towards middle and upper income neighbourhood, as only 17% or respondents belong to the two lowest deciles of the socio-economic status distribution.

Table 2 here

Table 3 here

4. Methodology and Estimation

We start with a simple linear model relating trust to various fractionalisation measures at the neighborhood level:

$$Trust_{ij} = \alpha_0 + \beta_1 X_i + \beta_2 Y_j + \beta_3 F_j + u_{ij} \quad (1)$$

Where:

$Trust_{ij}$ is the extent to which individual i in neighbourhood j trusts others, either in a broad general sense or in a strict local sense.

X_i is a vector of the characteristics of individual i.

Y_j is a vector of the characteristics of neighbourhood j.

F_j is a measure of the ethno-linguistic fractionalisation of neighbourhood j.

The parameter of interest in the above model is β_3, which provides an estimate of the effect of neighbourhood heterogeneity on individual trust level. The neighbourhood is defined as the area represented by a single postal code in the Australian Census. A range of specifications will be presented so as to separately estimate the effect of neighbourhood

diversity on general trust and on local trust. Alternative measures of neighbourhood diversity will be used and the effect of ethnic fractionalisation will be compared to the effect of linguistic fractionalisation. The model will be estimated by OLS separately for the years 2006 and 2010.

Estimation by OLS could be biased if we are not controlling for variables that are jointly correlated with neighbourhood trust and neighbourhood heterogeneity. Following Leigh (2006) and Alesina & La Ferrara (2002), we include a number of individual and neighbourhood level control variables, such as gender, education levels, income levels, and neighbourhood socio-economic status, as well as some additional characteristics available in HILDA that might have an effect on trust, such as individual cultural background and status as a rural or urban resident. This strategy however cannot account for the unobservable individual characteristics that are jointly correlated with trust levels and neighbourhood diversity. These unobservable characteristics cannot be included as control variables in an OLS model and might bias the results.

One way to overcome the endogeneity bias in this context is to instrument neighbourhood level heterogeneity with that of a larger region (local statistical area) containing that neighbourhood, as was done in Leigh (2006). The validity of this instrument is based on the assumption that individuals can move between neighbourhoods but are constrained to remain within the larger region. It turns out that in our sample, IV results were quite similar to those obtained from the OLS estimation, thus we report them only briefly in the results section.

Finally, to account for individual unobserved traits and characteristics that do not vary over time, we can control for the individual fixed effects by estimating the following model:

$$Trust_{ij} = \alpha_0 + \beta_1 X_i + \beta_2 Y_j + \beta_3 F_j + u_{ij} + \gamma_i \quad (2)$$

where γ_i is an individual fixed effect that takes into account time-invariant unobserved heterogeneity. The parameter of interest in this model is identified by the changes in the diversity of that individual's neighbourhood. Thus there are two possible sources of identification in the model: (i) changes in the ethnic composition of a given neighbourhood over time, and (ii) moves of a given individual between different neighbourhoods. One reason to be concerned about this distinction is the possibility of endogenous mobility: decisions to move or stay in a given neighbourhood might be motivated by the preferences for ethnic heterogeneity. For example neighbourhood diversity might have a negative effect on trust for a relatively small portion of individuals in the population, but those individuals are more likely to change neighbourhoods. In this case, if the model is identified by movers, the estimates will be valid for that sub-population, but might overstate the average effect for the population. On the other hand, stayers might be comprised of individuals who are indifferent to the ethnic composition of neighbourhood. If the identifying variation comes from stayers we might expect that the estimates will understate the average effect. To further investigate this issue we will estimate the model separately on the sample of movers and stayers and compare the results to those obtained in the combined sample.

Another potential limitation of a fixed effects model in this context concerns time-specific shocks. Alesina & La Ferrara (2002) find that shocks or traumatic experiences, such as divorce or financial misfortune, negatively affect how trusting an individual is. Since a fixed effect model can only eliminate time-invariant characteristics, the presence of random time-varying shocks can produce biased estimates. If individuals experience trust affecting shocks between the two periods, and the shock coincides with or motivates changes in

neighbourhood diversity, the model may incorrectly attribute the change in trust to the change in neighbourhood diversity. For example a negative income shock might reduce an individual's trust and necessitate a move to a low-income neighbourhood. This might generate spurious correlation between trust and diversity if income and diversity are negatively correlated at the neighbourhood level. Even though diversity and income are not correlated in our sample, and we are able to control for the observable shocks, one might still be concerned about the role of unobservable time specific shocks. Mitigating this potential limitation to some degree, Alesina & La Ferrara (2002) find that the effects of such shocks typically endure for less than a year, so only shocks occurring close to either survey will be likely to have an effect on trust levels, and the chances of these shocks simultaneously affecting neighbourhood diversity levels are reasonably low.

5. Results

This section presents the main empirical findings of the investigation into the effect of neighbourhood heterogeneity on individual trust formation. Results will first be presented for the OLS model, followed by the IV and Fixed Effects model.

Table 4 presents the results from the OLS regression with general trust as a dependent variable and Table 5 presents the results for local trust. In both tables, columns 1, 2 and 3 refer to the 2006 sample, while columns 4, 5 and 6 refer to the 2010 sample. Column 1 and column 4 show the results with ethnic fractionalisation included as an explanatory variable along with only basic individual characteristics. Columns 2 and 5 add variables controlling for an individual's educational attainment and residential tenure, along with binary variables capturing the relative level of socio-economic disadvantage of the individual's neighbourhood, and the population of the neighbourhood. Columns 3 and 6 repeat this

specification, but include linguistic diversity as the explanatory variable of interest in place of ethnic diversity. The coefficient estimates for the socio-economic disadvantage and educational attainment variables are not presented in the tables for reasons of parsimony, but are available on request. In both tables and in all specifications, the fractionalisation indices are normalised so that their coefficients represent the marginal effect of a one standard deviation increase. Robust standard errors are clustered at the household level.

Using the 'benchmark' specification including a more comprehensive set of control variables, the coefficients on both fractionalisation indices are significant at the 1% level for local trust for both samples and at the 5% level for general trust when using the 2010 sample. The coefficient on the fractionalisation indices is not statistically significant for general trust using the 2006 sample. The magnitude of the relationship is much greater for local trust than for general trust. Even when statistically significant, the relationship between fractionalisation and general trust might be considered economically trivial. A one standard deviation increase in ethnic fractionalisation is associated with a decrease in general trust of 0.033 or approximately 2.6% of a standard deviation for the 2010 sample. The results for linguistic fractionalisation are similar. By contrast, a one standard deviation increase in ethnic fractionalisation decreases local trust by almost 9% of a standard deviation for the 2006 sample, and by 8% of a standard deviation for the 2010 sample. Moving from a neighbourhood of complete ethnic homogeneity to a neighbourhood of complete ethnic heterogeneity – from an index score of 0 to an index score of 1 – would reduce local trust by 58% of a standard deviation for the 2006 sample and by 51% of a standard deviation for the 2010 sample. A one standard deviation increase in linguistic heterogeneity decreases local trust by 0.127 for the 2006 sample and by 0.096 for the 2010

sample, or by 9% and 7% of a standard deviation for the 2006 and 2010 samples respectively.

Considering some of the other variables of interest, women are shown to have higher levels of general trust, though this effect diminishes somewhat in the 2010 sample. The relative socio-economic status of an individual's neighbourhood plays a large role in determining how trusting an individual is and individuals from the least disadvantaged decile have higher levels of general and local trust than individuals from the most disadvantaged decile. Urban residents have significantly higher levels of general and local trust than people living in rural areas. These findings would plausibly be explained by the enduring effect of culture on trust levels.

Indigenous Australians trust on average 4.6% less than the sample mean in 2006 and 6% less than the sample mean in 2010. A similar effect is observed for migrants. Migrants have less general trust than non-migrants. Being a migrant also decreases local trust, although the effect is weaker in the 2006 sample and loses statistical significance in 2010 sample. These findings could plausibly be explained by the enduring effect of culture on trust levels.

Algan and Cahuc (2010) and Tabellini (2008) find that trust levels among migrants are highly correlated with the migrant's country of birth. Similarly, the endurance of cultural 'shocks' such as those described by Nunn and Wantchekon (2011) might explain the reduced disposition to trust among an Indigenous population subjected to widespread trauma and injustice in recent history. It is perhaps not surprising that this effect is more pronounced for general trust levels than local trust levels. Repeated interaction and familiarity at the local level might promote trust within local communities, but overarching cultural norms might prevent the formation of higher levels of general trust.

Table 4 here

Table 5 here

The preferred specification of the model includes many observable variables that might be a determinant of trust levels such as, for example, the urban binary variable, household income, and educational attainment. However it is possible that the effect of neighbourhood diversity on levels of trust is introduced by individuals from low trust cultural backgrounds. Since migrants are shown to partially retain the cultural norms of their home countries (Algan & Cahuc 2010), it's possible that migrants from certain cultural backgrounds will have higher or lower levels of trust than the existing population. Migrants are more likely to be found in high diversity areas. This might mean that the correlation between diversity and trust might not be interpreted causally because the binary indicator variable of 'migrant' might not be precise or powerful enough to properly control for this phenomenon.

For this reason, a sensitivity test has been run, where the OLS model is respecified, first to include a binary variable for the country of birth of each respondent and then to include an indicator of the 'region' of birth which allows for greater precision in the estimates where some countries are represented by very few respondents. The complete results are available on request and are very similar to the ones reported above and do not seem to be driven by the presence of individuals from particular backgrounds in more diverse neighbourhoods.

Table 6, 7 and 8 report the results for the IV model. The underlying identification assumption in this specification is that individuals are more or less constrained within larger

regions by work, family and social ties and therefore the ethnic fractionalisation of a larger region can be used as an instrument for the ethnic or linguistic fractionalisation of smaller regions.

The dependent variable for Table 7 is general trust, and for Table 8 it is local trust. Columns 1, 2 and 3 cover the 2006 sample while columns 4, 5 and 6 cover the 2010 sample. Columns 3 and 6 include linguistic diversity as the explanatory variable of interest; all other columns include ethnic diversity as the explanatory variable of interest. Table 6 reports the coefficient of the chosen instrument in the first stage regressions. The F-statistic is also presented. The columns match those reported for the second stage regressions. In all cases, the instrument – ethnic heterogeneity of the larger region – is shown to be relevant and significant.

Table 6 here

Table 7 here

Table 8 here

The coefficients of interest in the IV model are comparable to those in the OLS model, in terms of the direction and significance of the effect on both local and general trust. Relative to the OLS results for general trust, the magnitude of the effect is larger for the 2010 sample. The effect is smaller for the 2006 sample and remains insignificant. For the more comprehensive specifications, the effect on local trust is larger in the OLS than in the IV model for both ethnic and linguistic fractionalisation in the 2010 sample, however the effect of ethnic fractionalisation in the 2006 sample is smaller, while the effect of linguistic fractionalisation is larger. The results tentatively support the intuition behind the use of the

instrumental variable regression as argued by Dustmann and Preston (2001): the endogeneity of neighbourhood choice possibly results in individuals with a larger aversion to heterogeneity systematically sorting themselves into lower-diversity neighbourhoods, thereby potentially biasing the OLS regression estimators toward zero, relative to a sample in which all individuals are allocated across neighbourhoods on a purely random basis.

The results from the Fixed Effects model are presented in Table 9. Columns 1, 2 and 3 report the results from the fixed effects model using general trust as the dependent variable. The distinction between columns is the same as previously reported, with columns 1 and 2 using ethnic fractionalisation and column 3 using linguistic fractionalisation as the explanatory variable of interest. Columns 4, 5 and 6 repeat the specifications from the previous three columns, using local trust as the dependent variable. Standard errors are clustered at the individual level.

Since the fixed effects model relies on changes in variables from one time period to the next as a source of identifying variation, all variables that are both time-invariant and entity-invariant, such as gender and migrant status, are omitted from the model. Similarly, controlling for time fixed effects by including a binary variable for year 2006 means that the 'age' variable is dropped from the model, as the variation in age from one time period to the next is perfectly correlated with the variation in time between 2006 and 2010.

Table 9 here

Using fixed effects to control for unobservable time and individual characteristics, the effect of ethnic or linguistic diversity on general trust loses significance. The coefficients on the diversity indicators for the three specifications which include general trust as the dependent

variable fall to practically zero. However, even after accounting for the unobservable individual characteristics, the effect of neighbourhood ethno-linguistic fractionalisation on local trust levels is negative and highly significant. The effect of ethno-linguistic fractionalisation on local trust in the fixed effect model is approximately consistent with the effect reported in the OLS model. One standard deviation increase in ethnic diversity leads to a decrease in local trust by 12% of a standard deviation. The effect is reduced to 10.4% of a standard deviation where linguistic fractionalisation is the chosen measure of neighbourhood heterogeneity.

In interpreting the results of the fixed effects model, it is important to first consider what drives the results, and what provides the source of identifying variation. In this case, changes in the neighbourhood diversity variable are the result of either an evolution of a neighbourhood's ethnic composition over time, or the result of an individual moving between neighbourhoods between the two time periods. To investigate the relative importance of the two sources of identification we will run separate regressions on two sub-samples; the movers and the stayers. If the effect of diversity on trust is systematically different for movers relative to stayers, the coefficients estimated for the two distinct subsamples should be significantly different. Table 10 presents the results of this analysis. Column 1 shows the results for the same fixed effect model estimated in Table 9 (column 5), for ease of comparison. Column 2 repeats the estimation using only the subsample of stayers. This has the effect of dropping certain variables from the regression such as the urban dummy since the source of identifying variation is lost. Column 3 performs the same regression on the subsample of movers only.

Table 10 here

The interpretation of the table above is that the fixed effects results are not substantially different for those individuals who changed neighbourhoods between the two waves and those who did not. The magnitude and direction of the effect of ethnic fractionalisation is consistent with the other estimations. The lower level of significance can be attributed the relatively slow evolution of a neighbourhood's ethnic fractionalisation in such a short period of time which results in a relatively small variation in the fractionalisation index between the two censuses. The results are largely mirrored for the effect of linguistic fractionalisation, though the estimator in column 2 drops to practically zero. This can again be attributed to a lack of precision and estimation power in the data. Unlike the effect of ethnic fractionalisation on local trust, the coefficients for linguistic fractionalisation differ between the movers and the stayers. The effect is larger for the subsample of movers relative to the whole-of-sample effect. This implies that the effect of linguistic diversity effect is driven primarily by movers. The magnitude of the effect is as high as 15% of a standard deviation.

5.1 Alternative measures of trust

Glaeser et al (2000) has underlined that one of the limitations of survey data is the difficulty of getting reliable measures of how trusting individuals are. For this reason, the fixed effects model is re-specified with alternative measures or proxies for general and local used as the dependent variable. Results are reported in Table 11. A coefficient is reported for both ethnic and linguistic fractionalisation for each measure of trust. Each column represents a different dependent variable as follows. Whether the question is intended as an alternative to general or local trust is reported in parentheses:

1. "Most people would try to take advantage of you if they got a chance." (General)
2. "Most people you meet keep their word." (General)

3. “Most people you meet make agreements honestly.” (General)
4. “This is a close-knit neighbourhood.” (Local)
5. “People in this neighbourhood generally do not get along.” (Local)
6. “People in this neighbourhood generally do not share the same values.” (Local)

Table 11 here

The results reported in table 11 generally support the conclusions drawn from the previous models that used the more direct questions regarding trust as the dependent variables. The effect of neighbourhood ethnic or linguistic heterogeneity on the general trust proxies is not significantly different from zero. Ethnic fractionalisation has a significant and consistently negative relationship with perceptions of local community togetherness, noting questions five and six are framed such that a positive coefficient is indicative of a negative perception of the neighbourhood. The effect for questions 5 and 6 are consistent with or slightly larger than the reported effect on local trust, though the effect reported under column 4 is noticeably larger. When linguistic fractionalisation is considered as the explanatory variable of interest, a broadly similar story emerges, though the effect is lessened by approximately one to one and half percentage points across the three local trust proxies.

6. Conclusion

This paper has studied the determinants of general and local trust in Australia using a variety of econometric techniques and identifying assumptions. The results are uniform across practically all specifications and indicate that neighbourhood level diversity affects local trust but has no effect on general trust. These results are consistent with the findings reported in Leigh (2006) who used data from the 1990s. In all specifications, an increase in

neighbourhood diversity is associated with a decrease in local trust, for both ethnic and linguistic diversity. The estimated effect remains consistent when the IV and fixed effects models are used. Neighbourhood ethnic or linguistic heterogeneity is among the most important determinants of trust identified in the models. There is no consistent evidence of the effect of neighbourhood diversity on general trust. The relationship appears to be significant in some of the OLS specifications; however the fixed effects model, using the combined longitudinal sample, produces coefficient estimates that are not significantly different to zero. As such, the more credible identification strategies, IV and fixed effects, tend to suggest that neighbourhood diversity does not in fact have any significant effect on general trust levels. Overall our results indicate that while the negative effects of ethnic diversity on trust in Australia are relatively limited there might exist a scope for government policy aimed at lowering cultural barriers in ethnically diverse areas

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Tables

Table 1 – Trust variables

Variable	2006 Mean	2006 Std. Dev.	2010 Mean	2010 Std. Dev.
General Trust	4.8616	1.3320	4.9149	1.2669
Local Trust	4.6807	1.4060	4.7177	1.3791
"Most people would take advantage of you"	3.3243	1.7452	3.2549	1.6816
"Most people you meet keep their word"	4.6732	1.4092	4.7267	1.3397
"Most people make agreements honestly"	4.9798	1.2859	4.9994	1.2395
"This is a close-knit neighbourhood"	3.8898	1.4809	3.9329	1.4836
"People in this neighbourhood generally don't get along"	2.6882	1.4336	2.6745	1.4132
"People in this neighbourhood generally don't share the same values"	3.1792	1.4286	3.1373	1.4004

Table 2 – Variables used in the analysis

Individual characteristics	Description
Post code	Individual's postcode
Neighbourhood section of state	Urban or Non-Urban (omitted)
Indigenous Australian Status	Indigenous Australian or Non Indigenous (omitted)
Age	Individual's age in years at interview
Gender	Female or Male (omitted)
Employment status	Unemployed, Not in the Labour force, Employed (omitted)
Parental status	Parent or never had children (omitted)
Weekly commuting hours	Average hours per week usually commuting (range 0-30)
Weekly working hours	Average hours per week usually worked (range 0-112)
Highest educational attainment	Postgraduate qualification; Graduate Diploma or Certificate; Bachelor; Diploma; Certificate III or IV, Year 12, Year 11 or lower (omitted)
Country of birth	Binary variable
Length of residential tenure	Number of years living at current address
Relative Neighbourhood disadvantage	Decile of index of relative socio-economic disadvantage
Household income	Household financial year disposable income ($10,000 units)

Table 3 – Descriptive statistics

	2006		2010	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Age	43.9804	18.2135	44.1425	18.5340
Female	0.5334	0.4989	0.5223	0.4995
Aboriginal/Torres Strait Islander	0.0197	0.1389	0.0226	0.1488
Migrant	0.2041	0.4031	0.1939	0.3954
Unemployed	0.0332	0.1791	0.0372	0.1892
Not in Labour Force	0.3235	0.4678	0.3289	0.4698
Household Income ($)	66,933.94	50,075.57	84,460.05	63,659.50
Parent	0.6520	0.4764	0.6448	0.4786
Hours Commuted per Week	2.3240	3.6455	2.5087	3.8367
Hours Worked per Week	23.4735	21.4474	22.9908	21.0477
Years at Current Address	9.9678	11.3737	9.9286	11.2380
Urban Resident	0.6080	0.4882	0.6073	0.4884

Table 4 - OLS Estimation - Dependent Variable: *Generally speaking, most people can be trusted.*

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2006	2006	2006	2010	2010	2010
Ethnic Fractionalisation	-0.021	-0.002		-0.033**	-0.043**	
	(0.014)	(0.019)		(0.015)	(0.018)	
Linguistic Fractionalisation			-0.008			-0.031*
			(0.017)			(0.017)
Female	0.098***	0.076***	0.076***	0.058**	0.042*	0.042*
	(0.025)	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)
Age	-0.005	-0.008*	-0.008*	-0.005	-0.011**	-0.011**
	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Age^2	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indigenous Australian	-0.292***	-0.225**	-0.225**	-0.400***	-0.294***	-0.292***
	(0.108)	(0.107)	(0.107)	(0.105)	(0.102)	(0.102)
Migrant	-0.205***	-0.209***	-0.207***	-0.107***	-0.116***	-0.121***
	(0.035)	(0.034)	(0.034)	(0.033)	(0.033)	(0.032)
Unemployed	-0.412***	-0.354***	-0.354***	-0.449***	-0.399***	-0.400***
	(0.090)	(0.090)	(0.090)	(0.086)	(0.085)	(0.085)
Not in Labour Force	-0.235***	-0.195***	-0.194***	-0.252***	-0.196***	-0.196***
	(0.050)	(0.049)	(0.049)	(0.050)	(0.049)	(0.049)
Parent	-0.035	0.015	0.014	-0.054	-0.005	-0.004
	(0.037)	(0.037)	(0.037)	(0.036)	(0.036)	(0.036)
Household Income (10000)	0.027***	0.017***	0.017***	0.017***	0.008***	0.008***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
Hours Worked per Week	-0.001	-0.001	-0.001	-0.003**	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Hours Commute per Week	-0.010**	-0.009**	-0.009**	-0.007*	-0.007*	-0.007*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Residential Tenure (Years)		0.005***	0.005***		0.001	0.002

		(0.001)	(0.001)		(0.001)	(0.001)
Population (1000)		-0.002***	-0.002***		-0.003***	-0.003***
		(0.001)	(0.001)		(0.001)	(0.001)
Urban		-0.130***	-0.123***		-0.050	-0.068**
		(0.038)	(0.036)		(0.035)	(0.033)
Constant	4.523***	4.353***	4.358***	4.759***	4.691***	4.636***
	(0.102)	(0.118)	(0.113)	(0.100)	(0.114)	(0.110)
Observations	10,876	10,876	10,876	10,379	10,379	10,379
R-squared	0.073	0.091	0.091	0.060	0.087	0.087
Education Controls	NO	YES	YES	NO	YES	YES
SES Controls	NO	YES	YES	NO	YES	YES
Dependent Variable Mean	4.8616	4.8616	4.8616	4.9149	4.9149	4.9149

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5 - OLS Estimation - Dependent Variable: *People in this neighbourhood can be trusted*

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2006	2006	2006	2010	2010	2010
Ethnic Fractionalisation	-0.195***	-0.126***		-0.157***	-0.109***	
	(0.017)	(0.021)		(0.016)	(0.020)	
Linguistic Fractionalisation			-0.127***			-0.096***
			(0.020)			(0.019)
Female	-0.017	-0.037	-0.036	0.029	0.021	0.022
	(0.025)	(0.025)	(0.025)	(0.026)	(0.025)	(0.025)
Age	0.003	0.003	0.003	0.004	-0.000	-0.000
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.000***	0.000**	0.000**	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indigenous Australian	-0.304**	-0.166	-0.166	-0.380***	-0.172	-0.166
	(0.126)	(0.124)	(0.124)	(0.107)	(0.107)	(0.108)
Migrant	-0.137***	-0.112***	-0.123***	-0.060*	-0.036	-0.043
	(0.036)	(0.035)	(0.035)	(0.036)	(0.035)	(0.035)
Unemployed	-0.436***	-0.347***	-0.346***	-0.176*	-0.089	-0.089
	(0.097)	(0.093)	(0.093)	(0.094)	(0.090)	(0.090)
Not in Labour Force	-0.079	-0.013	-0.013	-0.146***	-0.066	-0.065
	(0.051)	(0.049)	(0.049)	(0.054)	(0.052)	(0.052)
Parent	0.039	0.095**	0.094**	0.029	0.090**	0.091**
	(0.038)	(0.037)	(0.037)	(0.038)	(0.037)	(0.037)
Household Income (10000)	0.029***	0.012***	0.012***	0.023***	0.007***	0.007***
	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
Hours Worked per Week	-0.001	-0.001	-0.001	-0.003**	-0.002*	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Hours Commute per Week	-0.003	0.000	-0.001	-0.005	-0.003	-0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Residential Tenure (Years)		0.008***	0.009***		0.007***	0.008***
		(0.001)	(0.001)		(0.001)	(0.001)
Population (1000)		-0.003***	-0.003***		-0.005***	-0.005***
		(0.001)	(0.001)		(0.001)	(0.001)
Urban		-0.302***	-0.313***		-0.262***	-0.291***
		(0.041)	(0.039)		(0.040)	(0.038)
Constant	4.651***	4.142***	4.036***	4.584***	4.181***	4.057***
	(0.114)	(0.129)	(0.122)	(0.110)	(0.122)	(0.117)

Observations	10,876	10,876	10,876	10,379	10,379	10,379
R-squared	0.084	0.138	0.139	0.074	0.140	0.139
Education Controls	NO	YES	YES	NO	YES	YES
SES Controls	NO	YES	YES	NO	YES	YES
Dependent Variable Mean	4.6807	4.6807	4.6807	4.7177	4.7177	4.7177

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6 – First Stage Regression Coefficients

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Ethnic Frac (SD)	0.765***	0.617***	0.403***			
(std. err.)	(0.007)	(0.010)	(0.011)			
Ethnic Frac (SA4)				0.824***	0.728***	0.635***
(std. err.)				(0.006)	(0.009)	(0.011)
F-stat	1253.85	627.58	363.85	1619.42	874.21	404.62
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000

Table 7 - IV Estimation - Dependent Variable: *Generally speaking, most people can be trusted.*

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2006	2006	2006	2010	2010	2010
Ethnic Fractionalisation	0.005	0.019		-0.031*	-0.088***	
	(0.019)	(0.034)		(0.017)	(0.025)	
Linguistic Fractionalisation			0.029			-0.101***
			(0.052)			(0.029)
Female	0.095***	0.074***	0.073***	0.058**	0.043*	0.045*
	(0.025)	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)
Age	-0.003	-0.006	-0.006	-0.005	-0.011**	-0.011**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Age^2	0.0002***	0.0002***	0.0002***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indigenous Australian	-0.232**	-0.164	-0.163	-0.400***	-0.298***	-0.294***
	(0.108)	(0.106)	(0.106)	(0.105)	(0.102)	(0.102)
Migrant	-0.223***	-0.218***	-0.218***	-0.108***	-0.099***	-0.097***
	(0.036)	(0.036)	(0.0371)	(0.034)	(0.033)	(0.033)
Unemployed	-0.407***	-0.345***	-0.345***	-0.449***	-0.398***	-0.398***
	(0.093)	(0.093)	(0.0931)	(0.086)	(0.084)	(0.084)
Not in Labour Force	-0.215***	-0.172***	-0.172***	-0.252***	-0.193***	-0.189***
	(0.050)	(0.050)	(0.050)	(0.050)	(0.049)	(0.050)
Parent	-0.042	0.006	0.008	-0.054	-0.012	-0.015
	(0.038)	(0.038)	(0.039)	(0.036)	(0.036)	(0.036)
Household Income (10000)	0.027***	0.018***	0.018***	0.017***	0.009***	0.009***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
Hours Worked per Week	-0.000726	-0.0009	-0.000970	-0.003**	-0.003***	-0.003**
	(0.00108)	(0.0011)	(0.00106)	(0.001)	(0.001)	(0.001)
Hours Commute per Week	-0.009**	-0.008**	-0.00795**	-0.007*	-0.006*	-0.007*
	(0.004)	(0.004)	(0.00390)	(0.004)	(0.004)	(0.004)

Residential Tenure		0.004***	0.00457***		0.001	0.002
(Years)		(0.001)	(0.00134)		(0.001)	(0.001)
Population (1000)		-0.002***	-0.00259***		-0.003***	-0.003***
		(0.001)	(0.000870)		(0.001)	(0.001)
Urban		-0.157***	-0.168**		0.003	0.004
		(0.053)	(0.0701)		(0.041)	(0.041)
Constant	4.398***	4.251***	4.254***	4.754***	4.779***	4.699***
	(0.108)	(0.133)	(0.129)	(0.102)	(0.118)	(0.112)
Observations	10,388	10,388	10,388	10,379	10,379	10,379
R-squared	0.074	0.093	0.093	0.060	0.087	0.085
Education Controls	NO	YES	YES	NO	YES	YES
SES Controls	NO	YES	YES	NO	YES	YES

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8 - IV Estimation - Dependent Variable: *People in this neighbourhood can be trusted*

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2006	2006	2006	2010	2010	2010
Ethnic Fractionalisation	-0.158***	-0.112***		-0.138***	-0.153***	
	(0.022)	(0.036)		(0.020)	(0.027)	
Linguistic			-0.172***			-0.176***
Fractionalisation			(0.056)			(0.032)
Female	-0.027	-0.046*	-0.043	0.028	0.022	0.025
	(0.026)	(0.026)	(0.026)	(0.026)	(0.025)	(0.025)
Age	0.005	0.005	0.005	0.004	-0.000	0.000
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.000***	0.000*	0.000*	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indigenous Australian	-0.285**	-0.146	-0.151	-0.378***	-0.175	-0.168
	(0.127)	(0.125)	(0.125)	(0.107)	(0.107)	(0.107)
Migrant	-0.148***	-0.100***	-0.096***	-0.071**	-0.020	-0.015
	(0.038)	(0.037)	(0.037)	(0.036)	(0.035)	(0.036)
Unemployed	-0.445***	-0.347***	-0.348***	-0.176*	-0.087	-0.087
	(0.101)	(0.097)	(0.097)	(0.094)	(0.090)	(0.090)
Not in Labour Force	-0.084	-0.015	-0.015	-0.147***	-0.062	-0.057
	(0.052)	(0.050)	(0.050)	(0.054)	(0.052)	(0.052)
Parent	0.031	0.080**	0.068*	0.035	0.084**	0.079**
	(0.040)	(0.039)	(0.039)	(0.038)	(0.037)	(0.037)
Household Income	0.029***	0.012***	0.012***	0.023***	0.008***	0.008***
(10000)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
Hours Worked per	-0.001	-0.001	-0.001	-0.003**	-0.002*	-0.002*
Week	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Hours Commute per	-0.003	0.001	0.000	-0.006	-0.003	-0.003
Week	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Residential Tenure		0.008***	0.008***		0.007***	0.008***
(Years)		(0.001)	(0.001)		(0.001)	(0.001)
Population (1000)		-0.003***	-0.003***		-0.005***	-0.004***
		(0.001)	(0.001)		(0.001)	(0.001)
Urban		-0.327***	-0.262***		-0.209***	-0.207***
		(0.056)	(0.075)		(0.045)	(0.046)
Constant	4.539***	4.091***	4.068***	4.535***	4.267***	4.129***
	(0.122)	(0.144)	(0.140)	(0.114)	(0.127)	(0.119)

Observations	10,388	10,388	10,388	10,379	10,379	10,379
R-squared	0.082	0.139	0.139	0.073	0.139	0.137
Education Controls	NO	YES	YES	NO	YES	YES
SES Controls	NO	YES	YES	NO	YES	YES

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9 - Fixed effects estimates – Effect of fractionalisation on local and general trust

VARIABLES	(1) General Trust	(2) General Trust	(3) General Trust	(4) Local Trust	(5) Local Trust	(6) Local Trust
Ethnic Fractionalisation	0.004	-0.001		-0.242***	-0.162***	
	(0.030)	(0.033)		(0.034)	(0.038)	
Linguistic Fractionalisation			-0.010			-0.143***
			(0.028)			(0.033)
Unemployed	-0.131	-0.138	-0.138	-0.171*	-0.161	-0.158
	(0.086)	(0.087)	(0.087)	(0.102)	(0.100)	(0.100)
Not in Labour Force	0.007	0.003	0.004	0.061	0.042	0.045
	(0.054)	(0.055)	(0.055)	(0.061)	(0.060)	(0.060)
Parent	0.089	0.083	0.081	0.176**	0.168**	0.166**
	(0.062)	(0.062)	(0.062)	(0.076)	(0.076)	(0.076)
Household Income (10000)	0.005*	0.006**	0.006**	0.001	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Hours Worked per Week	-0.002*	-0.003*	-0.003*	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Hours Commute per Week	0.002	0.002	0.002	0.002	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Residential Tenure (Years)		-0.007***	-0.007***		0.005*	0.005*
		(0.002)	(0.002)		(0.003)	(0.003)
Population (1000)		-0.001	-0.001		-0.003*	-0.003*
		(0.001)	(0.001)		(0.002)	(0.002)
Urban		0.027	0.035		-0.280***	-0.304***
		(0.067)	(0.064)		(0.086)	(0.082)
Wave 6	-0.083***	-0.090***	-0.087***	-0.071***	-0.096***	-0.047**
	(0.016)	(0.017)	(0.020)	(0.018)	(0.019)	(0.022)
Constant	4.913***	5.003***	5.012***	5.312***	4.831***	4.598***
	(0.114)	(0.154)	(0.133)	(0.129)	(0.178)	(0.156)
Observations	15,086	15,086	15,086	15,086		
R-squared	0.007	0.010	0.010	0.014		
Number of Individuals	7,543	7,543	7,543	7,543	7,543	7,543
Education Controls	NO	YES	YES	NO	YES	YES
SES Controls	NO	YES	YES	NO	YES	YES
Dependent Variable Mean	4.9305	4.9305	4.9305	4.7482	4.7482	4.7482

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 10– Fixed effects estimates - Dependent Variable: *People in this neighbourhood can be trusted*

	(1) Combined	(2) Stayers	(3) Movers
Ethnic Frac	-0.162***	-0.150*	-0.153***
(std. err.)	(0.0038)	(0.092)	(0.042)
Linguistic Frac	-0.143***	0.0133	-0.199***
(std. err.)	(0.033)	(0.063)	(0.039)

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11 - Fixed Effects Using Alternative Dependent Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Ethnic Frac	-0.010	-0.010	-0.032	-0.282***	0.111**	0.144***
(std. err.)	(0.044)	(0.037)	(0.034)	(0.044)	(0.047)	(0.046)
% stand. dev.	0.8%	0.8%	2.3%	20.4%	8%	10.4%
Linguistic Frac	-0.012	-0.016	-0.035	-0.240***	0.069*	0.103***
(std. err.)	(0.036)	(0.032)	(0.029)	(0.035)	(0.039)	(0.038)
% stand. dev.	0.9%	1.2%	2.5%	17.4%	5%	7.5%

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1