Changing Colours:
Spatial Assimilation Theory and New Racial Minority Immigrants

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ABSTRACT

For nations with little prior history of "racial" diversity, recent immigrant flows from non-European, non-white source countries raise the prospect of racialized urban cleavages along American lines. We assess recent challenges to the capacity of the conventional spatial assimilation model to account for patterns of residential settlement among racial minority immigrants to Canada with "locational attainment" models estimated with census micro-data. We conclude that the spatial assimilation process of both black and South Asian immigrants to Toronto, the only Canadian city with a large black population, conforms rather well to the *immigrant enclave* model associated with the conventional view. As anticipated by Logan, Alba and Zhang, however, early success in the housing market among Chinese immigrants is associated with the formation of more enduring *ethnic communities*.

The spatial assimilation model plays much the same role in analyses of the urban residential patterns of immigrants that human capital and status attainment models play in the study of labour markets. Though much critiqued, spatial assimilation theory continues to provide the "benchmark" model (or "ideal type" to use Weber's term) against which real world departures from expectations are identified and evaluated.

Spatial assimilation theory has theoretical roots in neo-classical economics and historical roots in the urban experience of earlier migrant waves (Fong and Gulia 1999; Massey and Denton 1985). The assumption of the standard model is that new migrants are young, with limited resources, who cluster together in low-income *immigrant enclaves* (Logan, Alba, and Zhang 2002) for both economic and social reasons. As they acquire greater economic resources, they convert these resources into higher quality housing and neighbourhoods with more and better amenities. Since the non-immigrant majority usually dominates such areas, the move to better housing is usually associated with exit from the ethnic neighbourhood, a transition facilitated by linguistic and other forms of acculturation. Housing markets are assumed to be blind to ethnic and racial differences and families are "free to choose." And, when they choose, migrants eventually begin to select neighbourhoods on the basis of economic rather than on ethno-cultural considerations. Immigrant neighbourhoods in this standard model are transitional neighbourhoods, "starting points" for new arrivals. These *immigrant enclaves* (Logan Alba and Zhang 2002:299), however, are left behind as long-term migrants acquire the requisite financial resources and cultural and social skills to navigate the larger society.

Critiques of spatial assimilation theory are typically associated with important historical changes that are thought to limit its applicability to more recent immigrant populations. Unlike earlier, mainly European, migrant waves, contemporary immigrants come mainly from Asia,

Africa, the Middle East, the Caribbean and Central and South America. For many receiving nations among the traditional "settler societies" (Australia, Canada) and now in Europe, the appearance of large numbers of "people of colour" (non-whites) on the urban landscape is an historical novelty dating from the 1960s or later.[1] The result is considerable scepticism that patterns of spatial assimilation familiar from the past will be reproduced among contemporary immigrants. Urban concentrations of poor Bangladeshis in Birmingham, Turks in Rotterdam and Berlin, Algerians in Paris and Blacks in Toronto readily invoke images of the enduring racialized black *ghettoes* characteristic of American cities (Musterd and Winter 1998) rather than the transitory immigrant enclaves associated with the spatial assimilation model. Fong and Wilkes (2001), for example, caution that the combination of differences in skin colour, important cultural differences and a different economic environment from that faced by earlier migrants may be creating a new urban "vertical mosaic" in Canadian cities.

A second historical shift points in a similar direction but for very different reasons. Whereas the old migrant waves were often selected from the most disadvantaged sectors of European society, present day immigrants from the developing world are often selected for their high levels of education and/or occupational skills. Logan, Alba and Zhang (2002) hypothesize that segregation by choice – and the formation of more enduring *ethnic communities* – will in fact be more prevalent among immigrant groups with high levels of human and financial capital who are able simultaneously to realize their preferences for higher quality neighbourhoods *and* a culturally homogeneous environment early in their immigrant history. Spatial assimilation theory

[1] Both Australia and Canada of course have long, and sad, experience with non-white aboriginal populations. Historically, however, aboriginals did not reside in large urban areas and were not part of the routine world of urban life.

assumes that the acquisition of both the requisite cultural capital (cultural assimilation) and the financial resources needed to move to better housing are highly correlated in time. When the correlation breaks down – that is, when the time trajectory of the housing careers of immigrant groups departs from that expected – very different outcomes may result. More saliently, such groups are likely to have more desirable "starting points" – better neighbourhoods with higher quality housing – that long-term, more successful, migrants will be less anxious to leave behind. By contrast, they argue, the areas of concentration established by less affluent migrant groups, such as Mexican immigrants to the U.S., are less likely to hold their more successful and more acculturated members; these areas, then, may look more like immigrant enclaves.

In a related analysis Borjas (1998) finds that the negative correlation between a person's skills (human capital) and ethnic residential segregation is considerably weakened for members of migrant groups with high levels of human capital. The incentives for more skilled, and successful, immigrants to exit from the ethnic neighbourhood are attenuated by the higher attainments of their co-ethnic neighbours.

TESTING SPATIAL ASSIMILATION THEORY

To test such claims, urban ecologists estimate "locational attainment" models in much the same way that human capital models in economics and status attainment models in sociology portray how individuals and groups convert their resources into earnings and position in the labour market (Alba, Logan, and Stults 2000; Rosenbaum and Friedman 2001). Locational attainment models take the form:

$$(1) \qquad Y_j = a + b_1 X_{1ij} + b_2 X_{2ij} + \ldots + e_{ij}$$

where Y is a neighbourhood (i.e. a census tract) characteristic and the Xs are individual or household level characteristics that are likely to condition household preferences for particular neighbourhoods. The subscript *j* indexes neighbourhoods and *i* the families who reside in them. As in earnings and status attainment models, the question is whether group differences in neighbourhood outcomes can be accounted for by compositional differences in economic resources, assimilation status and stages in the family and life course whose effects are anticipated by spatial assimilation theory.

The estimation of locational attainment models has traditionally been constrained by the fact that small area census data have only been available in aggregate form for reasons of data confidentiality. As a result, researchers have been compelled to rely on aggregate tabulations from which they are able to calculate "ecological correlations" with their associated problems of drawing inferences about individuals and families. During the past decade Alba, Logan and colleagues (see especially Alba and Logan 1992) launched a new wave of micro-level analyses with data for U.S. cities by splicing together covariances generated from tract-level data and from public use micro-data. Here, we estimate locational attainment models directly with micro-data from the full 20 percent sample of households asked to complete the long version of the 1996 Census of Canada, the first analysis of this sort to do so. Working directly with the underlying micro-data also provides us with considerably more latitude to experiment with alternative variable and model specifications than earlier studies in this genre.

Until recently, the vast majority of Canada's population was European in origin and few urban residents had much direct experience of "race," routine daily encounters with persons distinguished by their (non-white) skin colour. All this has changed since the 1970s when the source countries for immigration shifted from Europe to Asia, Africa, the Caribbean and Central

and South America, the result of changes to Canadian immigration law in 1967.[2] Whereas black minority immigrants to the U.S. are faced with well-institutionalized racial hierarchies inherited from the past (Portes and Zhou 1993; Freeman 2002), the social organization of Canada's new "visible minorities" in urban space has been created virtually *ex nihilo* since the seventies and is still evolving.[3]

We limit our attention to Toronto since it is the only Canadian metropolis with a large black population.[4] Blacks generally report higher levels of perceived discrimination than other minorities (Breton, Isajiw, Kalbach, and Reitz 1990; Dion 1989; Dion 2001) making Toronto a critical "test case" both for our analysis and for the future of race relations in Canada.

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[2] In 1981, the first year for which estimates are available, non-whites made up 14 percent of Toronto's population but grew to almost a third of the population by 1996.

[3] The concept of "visible minorities" is Canada's official designation for persons other than Aboriginals who are "non-Caucasian in race or non-white in colour" and originates with the Employment Equity Act of 1986. Prior to 1996, the visible minority status of respondents was derived from information from questions on ethnic origin and other ethno-cultural questions concerning place of birth, language and religion. Beginning in 1996, respondents were asked to self-identify their visible minority status from a list of 10 categories (and one write-in box) listed in order of the frequency of visible minority counts derived from the 1991 Census. Listed in order, the categories were White, Chinese, South Asian (e.g., East Indian, Pakistani, Punjabi ,Sri Lankan), Black (e.g., African, Haitian, Jamaican, Somali), Arab/West Asian (e.g. Armenian, Egyptian, Iranian, Lebanese, Moroccan), Filipino, South East Asian (e.g. Cambodian, Indonesian, Laotian, Vietnamese), Latin American, Japanese, Korean and Other. Although multiple responses were encouraged, only 1.7 percent provided multiple responses, mainly among those also identifying themselves as "white."

[4] In 1996, Blacks made up 6.5 percent of Toronto's population, 3.7 percent of the population of Montreal and less than 1 percent of Vancouver's population.

Previous Canadian studies, notably by Eric Fong and his colleagues, have concluded that the spatial assimilation process among new racial minorities is indeed different and departs significantly from the expectations of spatial assimilation theory. Notably, Fong and Wilkes (1999) estimate locational attainment models for Toronto and Vancouver with aggregate data from the 1991 census and conclude that neighbourhood attainments among Asians and especially Blacks are only weakly or even negatively associated with their income and educational attainments. Blacks and Asians with comparable incomes and education levels to those of white immigrants, they report, not only live in poorer neighbourhoods but also show no improvement in neighbourhood attainments as income, education and time since immigration increase. In the case of Asians, and especially the Chinese, they interpret their results as indicative of the formation of strong ethnic communities and, for Blacks, to discrimination in the housing market. [5]

In a similar vein, Fong and Wilke's (2001) analysis of ethnic segregation make them sceptical that declining residential segregation among previous waves of European migrants will be replicated between these older groups and the new visible minorities. Our analysis of the underlying census micro-data sheds new light on these issues and opens these conclusions from previous research to question.

Following the lead of Alba, Logan and Stults (2000) and Logan, Alba and Zhang (2002), we estimate models of the type specified in Equation 1 (above) for three neighbourhood outcomes: neighbourhood quality indexed by median neighbourhood income, the percentage of

[5] Evidence for housing discrimination against visible minorities in Toronto and in Canada generally is almost exclusively based on discrimination against low-income families seeking accommodation in the rental market. Little is known about discrimination in the retail home purchase or credit (i.e. mortgage) markets (Novac et al. 2002).

whites in the neighbourhood and group concentration, the group-specific share (percent own minority) of the neighbourhood population.

Our attention in the first case is focused on differences between white immigrants and Toronto's three largest racial minorities, Blacks, Chinese and South Asians who, together, account for about three-quarters of Toronto's "visible minority" population. Are more affluent and acculturated minority immigrants as likely to have more affluent neighbours as comparable white immigrants? Are there emergent differences *among* minorities comparable to the well-documented "colour hierarchy" in neighbourhood attainments found among blacks, Hispanics and Asians in U.S. cities (Alba Logan and Stults 2000)?

Our second question concerns differences among minorities in their propensity to form concentrated neighbourhoods, on the one hand, and to share neighbourhoods with whites, on the other. Do minority neighbourhoods have the characteristics of the immigrant enclave that the more successful and acculturated leave behind (or avoid) as spatial assimilation theory suggests? Or, are some minorities more likely than others to attract and hold on to their more successful and more acculturated members and, if so, for what reasons? In the discussion, we summarize parallel results for two earlier waves of (white) European immigrants (estimated with 1981 data) – the Italians and Portuguese – and highlight their implications for our findings.

To determine whether differences in neighbourhood outcomes fit the expectations of the spatial assimilation model our analysis proceeds in two steps. Following usual practise (see Fong and Wilkes, 1999, Logan Alba and Zhang, 2002), we begin by highlighting differences in the sign and size of the regression coefficients to identify correlates that depart from the expectations of spatial assimilation theory.

In the sequel, we go on to consider outcomes. The aim is to answer the usual *ceteris paribus* question: What are the expected neighbourhood outcomes for immigrants with *similar* characteristics? Do immigrants with similar levels of resources and at similar stages in their immigration history reach similar outcomes in terms of neighbourhood quality, spatial assimilation with majorities, or co-residence with families from their own minority group? To answer questions of this sort, we use our regression models to simulate predicted outcomes for families with standardised sets of characteristics (see Fong and Wilkes, 1999; Alba, Logan and Stults, 2000).

METHODOLOGICAL AND MEASUREMENT ISSUES

Units of Analysis

"Neighbourhoods" are defined at the level of the census tract. Census tracts (CTs) are small geographic units representing neighbourhood-like communities in census metropolitan areas (CMAs) and consist on average of approximately 4000 persons.

Our regression models are estimated with economic families (all persons related by blood or marriage residing in the same household) as the unit of analysis rather than individuals. Weighting the regression analysis by population (i.e. all individuals) would give greater weight to larger households and since households are the unit that "moves", this is a result we want to avoid.

Dependent Variables

Since median neighbourhood income is an aggregate of all incomes of the families who live in a neighbourhood, using family income (see below) to predict neighbourhood income might at first

glance appear to verge on tautology. Most neighbourhoods, however, are economically heterogeneous (Jargowsky 1996, 1997; Myles, Picot, and Pyper 2000). Many low-income families live in middle class neighbourhoods and vice versa. In effect, locational attainment models where median neighbourhood income is the outcome answers questions about who lives in neighbourhoods more or less affluent than expected based on family income alone.

The percent white and percent "own visible minority" in a neighbourhood, commonly referred to as "exposure" and "isolation" measures respectively, index the probability that majorities and minorities are likely to physically "confront" one another by virtue of sharing a common tract of residence (Massey and Denton 1987). Such measures are sensitive not only to levels of residential segregation but also to group size. Here we take advantage of the fact that Blacks, Chinese and South Asians represented approximately the same share of Toronto's population in 1996.[6] Consequently, as shown below, exposure and segregation measures yield identical conclusions.

The percent white in a neighbourhood is symmetric with percent visible minority (i.e. percent white = 100 - % visible minority) and hence simultaneously indexes the share of visible minority families in the neighbourhood. Measures of percent white and group concentration (e.g. percent black), in contrast, are not symmetric. Moving to a neighbourhood with more whites does not necessarily imply fewer members of one's own group but may simply reflect a reduction in the number of families from other minorities. Greater exposure to whites does imply lower exposure to *all* visible minorities but not necessarily to one's *own* minority.

[6] Our results are based on analysis of approximately 17,845 black, 18,052 Chinese, 16,349 South Asian and 216,630 white economic family units from the 20 percent sample of the Toronto CMA in 1996.

Model Estimation

Models predicting aggregate-level outcomes as a function of individual or family characteristics will generate autocorrelation and underestimation of standard errors since multiple cases (all families in the same neighbourhood) are assigned the same value on the dependent variables (Rosenbaum and Friedman, 2001: 342). To address this problem, we use feasible generalized least squares (Greene 1997) to generate standard errors that take account of correlated error terms within neighbourhoods. Standard errors estimated with FGLS are up to four times larger than those estimated with OLS. Given the large sample size, however, the two procedures yield identical results except in the case of very small, and substantively trivial, parameters.

Because of "floor" and "ceiling" effects, the use of percentages as dependent variables may violate the usual assumptions of the linear regression model. Accordingly, we also estimated models using a logit transformation of the dependent variable for percent white and percent of own minority group. Since the latter produced virtually identical substantive and statistical results, we present our results expressed in percentages for ease of interpretation.

Independent Variables

Our models incorporate measures of economic resources, assimilation status and stages in the family and life course whose effects are anticipated by spatial assimilation theory. All measures are incorporated as dummy variables to capture important non-linearities in the relationships. The variable categories and their values are shown in Table 1 (below).

Socio-economic resources are expected to be positively associated with neighbourhood income and negatively associated with residence in an immigrant enclave. They include family income, education (for the highest earner in the family), and home ownership. We adjust family

income with an equivalence scale to reflect differences in family size and economies of scale providing a better indicator of a household's current budget constraint in their choice of housing.[7] Educational differences may produce differences in housing preferences but, more importantly, they index differences in expected income flows in the future that affect both decisions to purchase a home and credit-worthiness in the mortgage market.

We include home ownership as a determinant of neighbourhood outcomes since it indexes otherwise unmeasured differences in economic resources (Alba, Logan and Stults, 2000; Rosenbaum and Friedman, 2001). Variations in the "housing careers" of different migrant groups with otherwise similar characteristics, however, are part of the spatial assimilation process, not simply exogenous determinants of it, a point to which we return in the discussion.

Measures of *assimilation status* typically include measures of language assimilation and period of immigration. Canada has two official languages (English/French). Although English is the majority language in Toronto (less than one percent of families claim to speak French at home), our preliminary analyses indicated no differences in outcomes between those claiming either official language as their home language. All other families were divided into two groups: those who reported some "other" language spoken at home and bilingual families who reported using both an official language and some other language.

Following standard practise, we control for the number of years since the highest wage earner (the "household head") immigrated to Canada. However, differences among cohorts at a single point in time are the composite result of assimilation, cohort and period effects that cannot

[7] The equivalence scale is the "central variant" proposed by Wolfson and Evans 1990). The first person is assigned a weight of 1.0 and each additional adult a weight of 0.4. The first and each subsequent child is assigned a weight of 0.3 except in single parent families where the first child is assigned a weight of 0.4.

be interpreted as reflecting the experience of the same cohort as it moves through time. Our work in progress persuades us that cohort/period effects loom large both in our analyses and those of others. The most recent immigrant flows among Blacks and South Asians, for example, include large numbers of refugees from non-traditional source countries many of whom arrived during the deep recession of the early nineties. Hence, we interpret the results with appropriate caution.

Family and life course status includes measures of family composition and age of the highest wage earner. Young and single persons are likely to be less sensitive to neighbourhood context than families with children concerned with schooling, access to parks, and safe streets. The expected impact of the arrival of children on neighbourhood choice, however, is ambiguous. On the one hand, families might be expected to exit from a low-income immigrant enclave in search of better housing, schooling and other neighbourhood qualities. On the other hand, a desire to expose children to ethnic cultural and social institutions could produce a preference for living in an ethnic neighbourhood. Since family assets increase with age, age (measured by the age of the highest earner) is also a proxy for unmeasured differences in economic resources.[8]

We included the sex of the highest income earner (household "head") in our initial models but in all cases the coefficients were substantively trivial and statistically insignificant. This does not mean that there are not important differences between male and female-headed

[8] Our measures of family composition reflect the use of the economic family as the unit of analysis distinguishing between single adult and multi-adult families and between those with and without children less than 18 present. Thus a non-married "lone parent" is counted as living in a multi-adult family if s/he resides with one or more other adults related by blood or marriage (e.g. a parent, brother or sister).

households but rather those differences are captured by other compositional differences in the models.[9]

[Table 1About Here].

The compositional differences identified in Table 1 would lead us to anticipate substantial differences in neighbourhood outcomes. Given their family characteristics, Blacks are especially likely to be at a disadvantage in both the labour and housing markets. Black household heads are younger, more likely to be lone parents, have somewhat lower incomes and are much less well educated than South Asians and especially the Chinese. Black families also have very low levels of homeownership whereas Chinese families are exceptionally "house rich" (Balakrishnan and Wu 1992; Darden and Kamel 2000; Ray and Moore 1991; Skaburskis 1996).

However, black families also have characteristics that are likely to mitigate against high levels of residential concentration. On average, they have been in Canada longer than the Chinese and South Asians. The vast majority come from former British colonies and use English as their home language compared to a quarter of Chinese families and about half of South Asian families.

The high level of success of the Chinese in the housing market combined with high levels of education and low levels of language assimilation provide an opportunity to test Logan, Alba and Zhang's claim that segregation by choice – and the formation of more enduring *ethnic communities* – will be more prevalent among immigrant groups that are able to satisfy both their housing and cultural preferences early in their immigrant history. For the average Toronto

[9] For purposes of interpreting results, however, differences in sex composition among visible minority families are worth noting. Males are the majority of highest income earners in white (62 percent), Chinese (61 percent), and South Asian (71 percent) "families" but among Blacks, the majority of "heads" (54 percent) are women.

family, the transition from renter to owner is almost invariably associated with moving to a more affluent neighbourhood[10] and Chinese families make the transition from renting to owning remarkably early in their immigrant history. Approximately 70 percent of Chinese families who have been in Canada for less than ten years have become homeowners compared to a third of white and South Asian migrants and only 12 percent of black migrants. The empirical test is whether among the Chinese the relationships between individual and family characteristics, on the one had, and neighbourhood outcomes, on the other, depart in significant ways from those anticipated by spatial assimilation theory.

DESCRIPTIVE RESULTS

We begin in Table 2 by identifying the *explanandum* for our analysis, differences in neighbourhood outcomes with respect to neighbourhood quality, spatial assimilation with whites, and co-residence with families from the same minority group. Panel 1 shows the median neighbourhood income of the average minority family relative to the average white family. There are few surprises here. Fong and Gulia (1999) and Fong and Wilkes (1999) have shown that non-white minorities in Canadian municipalities live in lower quality neighbourhoods than whites and that Blacks tend to live in neighbourhoods surrounded by the worst social environments. As in the U.S., there is evidence of an emergent "colour hierarchy" with respect to neighbourhood income. Median neighbourhood income of the average black family is only 79

[10] This result reflects historical zoning practises that have created a high level of *de facto* economic segregation between neighbourhoods with high density rental accommodation and neighbourhoods of owner-occupied, single family, dwellings. In 1996, the correlation between the percentage of renters and median family income in Toronto census tracts (n=807) was -.57. A non-linear specification would provide an even better fit. Median neighbourhood income rises slowly over the bottom half (less than 50 percent) of the home-ownership distribution and more steeply thereafter. Median neighbourhood income in tracts with more than 90 percent homeowners is twice that of tracts with less than 10 percent homeowners.

percent that of the average white family compared to 85 and 91 percent for South Asian and Chinese families respectively.[11]

[Table 2 About Here].

Blacks, however, are less segregated from whites (Gini = .61) than the Chinese (Gini = .72) and South Asians (Gini = .66) and are somewhat more likely to have white neighbours (55 percent) than either Chinese (50 percent) or South Asians (52 percent).[12] The Chinese are the most segregated minority not only from whites but also from other visible minorities (Gini = .59). As a result, levels of neighbourhood concentration are much higher among the Chinese. The average Chinese family lives in a neighbourhood where 24 percent of the families are co-ethnics. In contrast, South Asians and especially Blacks live in neighbourhoods with fewer members of their own minority (16 percent and 13 percent respectively) but with more families from other minorities.

The implications of seemingly small differences in segregation levels for Toronto's urban landscape are striking (Table 3). The residential patterns of Toronto Blacks are those one would associate with the spatial assimilation model and the immigrant enclave. Most "black neighbourhoods" are poor but relatively few Blacks live in these neighbourhoods. Only 38

[11] In 1990, the average black family in the five high immigration cities analysed by Alba, Logan and Stults lived in neighbourhoods where the median income was only 63 percent that of the neighbourhoods of the average white family and the corresponding figures for Hispanics and Asians were 72 percent and 92 percent, respectively.

[12] The average black family in the five U.S. cities analysed by Alba, Logan and Stults lives in a neighbourhood that is only 33 percent white compared to Asians who live in neighbourhoods that are 55 percent white. Fong (1996) has shown that levels of segregation from whites in Canadian municipalities is quite similar across visible minority groups.

census tracts have a black population that exceeds 20 percent and these neighbourhoods account for only 17 percent of Toronto's black population. The Chinese, in contrast make up 20 percent or more of the population in 83 tracts, accounting for 51 percent of the Chinese population. Half of the black population lives in neighbourhoods with fewer than 10 percent Blacks while only a third of the Chinese live in tracts with fewer than 10 percent of their co-ethnics. Relative to black neighbourhoods, those with a substantial Chinese population are relatively affluent suggesting they are more likely to retain their more successful members. The South Asian distributions fall between these extremes.

[Table 3 About Here].

These gross differences in neighbourhood outcomes suggest that rather different processes may be at work but is it so? To answer this question we turn to the results of our regression models.

REGRESSION RESULTS

The full regression results are shown in Appendix tables 1-3. Unless otherwise indicated by the superscript, all coefficients are significant at the .001 level. Given the large sample size, the vast majority of coefficients are statistically significant and those that are not are also substantively trivial.

Difference in *socioeconomic resources* are at the heart of spatial assimilation theory. In Massey and Denton's (1985:94) summary statement the key claim of spatial assimilation theory is that "as social status rises … minorities attempt to convert their socioeconomic achievements into an improved spatial position, which usually implies assimilation with majority groups."

With few exceptions, the results are consistent with this expectation. The exceptions, however, prove to be important.

Neighbourhood Income

To make the presentation manageable, we summarize the regression results by presenting differences for selected values of the independent variables. Because the choice of contrasts is arbitrary, our discussion also pays attention to non-linearities where they prove to be important. In general, however, the choice of contrasts does not affect the qualitative conclusions.

As Alba, Logan and Stults (2000:604) point out, because of the inter-correlations among the measures of socio-economic resources (e.g. education, income), it is also useful to consider their combined effects on neighbourhood outcomes. To illustrate, among whites, a university degree, an annual (adjusted) family income between $40,000 and $49,000 plus ownership of a home are associated with an increase of $8200 in median neighbourhood income above the levels expected for a white family where the head has a high school education, a family income of less than $10, 000, and is renting (Table 4). Although starting from very different base values (intercept differences that we take account of in the following section), results for Blacks and South Asians are similar. The difference in neighbourhood income between more and less affluent black families is $9700 and, among South Asians, $9200.

[Table 4 About Here].

The gains in neighbourhood income for Chinese families are more modest ($6800) and, more importantly, the underlying components differ. Among Blacks and South Asians, higher family income leads to gains in neighbourhood income as large or larger than those of whites. Among the Chinese, in contrast, there is only a modest association between family and

neighbourhood income and the differences only become substantial for the highest ($50,000+) income families (Appendix Table 1) implying that economic segregation between more and less affluent Chinese is modest. Instead, differences in neighbourhood attainment among Chinese are almost entirely due to differences in educational attainment and homeownership.

Relative to whites, making the transition from renter to owner is especially important for all three minorities. For whites, homeownership is associated with a difference in neighbourhood income of $2800 compared to $4000 for the Chinese, $4300 for South Asians and $4800 for Blacks.

Differences among English and non-English speakers are decidedly larger among whites than among visible minorities, highlighting the fact (see below) that for white English-speaking migrants to Canada (mainly from the U.K. and the U.S.), neighbourhood assimilation is virtually instantaneous.

Whereas among whites, differences in socio-economic resources and other characteristics account for all of the differences in neighbourhood income between recent and long-terms immigrants (compare models with and without controls in Appendix Table 1), recent black and South Asian migrants (and Chinese immigrants who arrived 10-19 years ago) live in less affluent neighbourhoods net of other characteristics, a result we attribute to the large number of refugee claimants in these cohorts noted above.

The underlying coefficients also indicate that among whites and Chinese, but not among Blacks and South Asians, older households live in more affluent neighbourhoods than younger households. If we are correct in our assumption that age is in part a proxy for unmeasured differences in wealth, this suggests very different patterns of savings and accumulation between whites and Chinese, on the one hand, and Blacks and South Asians on the other.

Visible Minority Neighbourhoods

Is rising affluence associated with residence in majority-dominated neighbourhoods as spatial assimilation theory suggests? For Blacks the answer is clearly yes (Table 5).

[Table 5 About Here].

Among Blacks, the combined effects of higher income and education plus home-ownership are associated with a substantial increase (+ 10 percentage points) in the number of white neighbours that is more or less matched by a corresponding decline (-7 percentage points) in the number of black neighbours. The ethnic "trade-off" for affluent South Asians is more modest, an 8 percentage point increase in the number of white neighbours and a 3 percentage point decline in the number of South Asian neighbours.

Among the Chinese, in contrast, the effects of greater socio-economic resources are largely offsetting. High income is associated with having fewer Chinese and more white neighbours but the effect of education is modest. More importantly, homeownership is associated with having fewer white neighbours and substantially more Chinese neighbours (almost 5 percentage points). Whereas black homeownership is associated with *exit* from neighbourhoods with a substantial black population, for Chinese families purchasing a home is a pathway *into* the ethnic community.

Language and period of immigration play an important role in explaining the racial/ethnic composition of neighbourhoods for South Asians and among the Chinese they dominate the results. For the Chinese, language assimilation and period of immigration account for a difference of +12 percentage points (compared to 5 percentage points for Blacks) in the number of neighbours who are white that is almost matched by a corresponding decline (-10 percentage

points) in the number who are Chinese. Chinese families who use a mixture of Chinese and English at home are also less likely to live near Chinese neighbours (Appendix Table 3), the only instance in our analyses where dual language usage at home has a significant effect.

By conventional standards based on the size and signs of the coefficients, the spatial assimilation model does relatively well in accounting for residential patterns of minority immigrants although the mix of factors differs across groups. The story for Blacks is straightforward and is mainly driven by socio-economic factors. As economic resources increase, black families convert these resources into an improved spatial position (higher income neighbourhoods) that results in assimilation with majority groups (whites) and fewer black neighbours. Socio-economic factors also play a large role among South Asians but assimilation status, especially language assimilation, has large effects on their propensity to live near whites and other South Asians. Among the Chinese, home language and period of immigration dominate and socio-economic factors play only a modest role in accounting for residence in an ethnic neighbourhood and the propensity to have white neighbours.

The Chinese results, however, also pose several anomalies for the conventional view. First, the association between family income and neighbourhood income is negligible. Equally striking, homeownership has a negative effect on the propensity to live near whites and a strong positive effect on the percentage of Chinese neighbours. Contrary to the expectations of the spatial assimilation model, success in the housing market reinforces rather than weakens the formation of ethnic neighbourhoods. For the Chinese, it appears, the ethnic neighbourhood is a destination not just a starting point. For Blacks and South Asians, in contrast, the immigrant enclave is a place to be left behind as economic circumstances allow.

NEIGHBOURHOOD OUTCOMES

We illustrate the implications of these differences by calculating predicted outcomes from the regression models for families with standardised sets of characteristics. Regression simulations are useful for answering the *ceteris paribus* question: What are the expected neighbourhood outcomes for immigrants with *identical* characteristics? Do visible minority immigrants with similar levels of resources and at similar stages in their immigration history reach similar outcomes in terms of neighbourhood quality, spatial assimilation with whites, or co-residence with families from their own minority group?

The Comparison Groups

We estimate neighbourhood outcomes for three groups defined in terms of family economic resources and period of migration.

1. *Low income migrants who arrived less than 10 years ago* where "low income" is defined as:

    - Family income < $10,000
    - Rents accommodation
    - Education less than high school
    - Age 30-39

2. *Middle income migrants who arrived 10-19 years ago* where "middle income" is defined as:

    - Family income $30,000 - $39,000
    - Owns accommodation
    - High school education
    - Age 40-49
    -

3. *High income migrants who arrived 20+ years ago* where high income is defined as:

- Family income >$50,0000 (approximately the top quintile)
- Owns accommodation
- University Education
- Age 40-49

The choice of characteristics captures most of the important differences among groups identified in the full regression equations. We do not estimate values for differences in family composition but their inclusion does not change our conclusions in any significant way. Allowing age to vary between 30-39 and 40-49 captures *all* of the difference in "age effects" noted earlier between whites and Chinese, on the one hand, and Blacks and South Asians on the other.

To establish a common reference point for neighbourhood income, we estimate values for white, black, Chinese, and South Asian immigrants relative to those for native-born, English-speaking, whites.

To add realism, we also distinguish among those who do and do not use English as their home language. Among whites, for example there are large differences between English-speaking migrants, mainly from the U.K and the U.S., and non-English speaking migrants from Eastern and Southern Europe.[13] Among South Asians, the numbers using a language other than English is substantial. The majority of black immigrants are from English-speaking countries but among the youngest cohort there is an important minority who are not. Since there are virtually no long-term black immigrants who do not use English as their home language, however, results for non-English speakers are only presented for the most recent cohort. Few recent Chinese

[13] The largest source countries for European migration during the 1990s were Poland, the former Yugoslavia and countries of the former USSR. During the 1980s, Poland and Portugal were the largest European source countries (Canada. 2000).

migrants (about 11 percent) use English as their home language and estimates for those that do are included for reasons of completeness.

Neighbourhood Income

Do migrants with similar characteristics live in comparable neighbourhoods as indexed by median neighbourhood income? For *recent, low-income,* migrants (Table 6, column 1), the answer is no. Though considerably more muted than in the raw data (Table 1 above), the colour hierarchy among minority immigrants remains: Chinese immigrants live in the most advantaged neighbourhoods and Blacks, especially non-English speaking Blacks, live in the least advantaged neighbourhoods. The colour hierarchy largely disappears among middle-income, longer-term, migrants, however, unlike the pattern in U.S. cities (compare with Alba, Logan and Stults, 2000: Table 6). Middle-income Blacks make the largest gains in neighbourhood attainment relative to more recent arrivals and Chinese immigrants the least. If anything, middle class Chinese families lose ground relative to other immigrants. As Wilson (1987) highlights, where low and middle-income families share the *same* neighbourhoods, the average low-income family will live in a more affluent neighbourhood than otherwise. But the converse is also true: middle-income families will live in somewhat poorer neighbourhoods.

Does "whiteness" matter? The answer depends on the reference group. On average, there are negligible differences between non-English speaking whites (mainly from Eastern Europe) and visible minority families. In contrast, the neighbourhood attainments of white, English-speaking, immigrants are indistinguishable from those of native born whites.

[Table 6 About Here].

In short, *net* of compositional differences (e.g. there are more poor Blacks than poor Chinese, higher levels of home-ownership among the Chinese) the Black and South Asian disadvantage in neighbourhood attainment observed in the raw data is largely confined to the most recent cohort, a result we attribute, at least in part, to unmeasured cohort differences in the share of refugee claimants. Except for *English-speaking* whites, differences in neighbourhood attainment based on colour are relatively modest among longer term, more affluent migrants.

Visible Minority Neighbourhoods

The results in the raw data (Table 2 above) show only modest differences among visible minorities in the extent to which they share neighbourhoods with whites but substantial differences in their propensity to live in neighbourhoods with families from their own minority. Chinese families are the most concentrated and black families the least. The question is whether these differences persist among longer term, more affluent and assimilated migrants. The results shown in table 7 indicate the answer is yes.

If living with *whites* is our benchmark, there is no difference in levels of spatial assimilation among Blacks, Chinese and South Asians. Consistent with spatial assimilation theory, neighbourhood exposure to white families is higher among higher income, longer-term migrants and among those who have adopted English as their home language. Comparing down columns, however, indicates only modest differences among visible minority families with similar characteristics.

[Table 7 About Here].

In contrast, when we turn our attention to sharing neighbourhoods with families from the same minority, we find large and substantial differences. As spatial assimilation theory predicts, for Blacks and South Asians co-residence with members of one's own minority group is lower

among longer-term, more affluent migrants. Indeed, affluent Blacks and South Asians live in neighbourhoods where their population share scarcely differs from that in the population as a whole.

Among the Chinese, in contrast, large initial differences in starting points remain strong. Residential concentration among long-term, high-income Chinese families, even after adopting English as their home language, is higher than that of low-income, recent black and South Asian migrants. And long-term Chinese immigrants who retain Chinese as their home language are almost as likely to have Chinese neighbours as more recent arrivals.

On average, patterns of residential settlement among Blacks and South Asians display the expected outcomes associated with the spatial assimilation model. Initial settlement is in low-income, heterogeneous, immigrant enclaves shared with their own and other visible minority immigrants. Long-term, more affluent, Black and South Asian migrants, however, live in higher quality neighbourhoods dominated by whites and relatively few families from their own minority. Among the Chinese in contrast, initial settlement is in neighbourhoods that are more ethnically homogeneous (i.e. predominantly Chinese) but economically diverse. As the regression results imply (and as we show below) higher income and long-term Chinese immigrants tend to share neighbourhoods with comparatively large numbers of less affluent and more recent migrants with the result that the neighbourhood share of co-ethnics is high.

DISCUSSION: MAKING ETHNIC COMMUNITIES

We think that what is "new" in Logan, Alba and Zhang's discussion of the ethnic community is the claim that early success – the ability to satisfy one's housing and cultural preferences simultaneously early in one's immigrant history – may in fact retard or postpone spatial

assimilation. Contrary to the historical images associated with the spatial assimilation model, the creation and persistence of dense ethnic neighbourhoods may be the product of a group's early "success" in the housing market not to persistent poverty or to racial/ethnic discrimination.

We agree. Small differences in process combined with large differences in composition (early and high rates of homeownership) produce a settlement pattern among the Chinese characteristic of the ethnic community. Since renters tend to be "movers" and homeowners "stayers" (Skaburskis 1996), the high rates of homeownership that characterize the period of initial Chinese settlement also tend to produce more stable and enduring ethnic neighbourhoods. Residential patterns among Blacks and South Asians, in contrast, are consistent with the model of the immigrant enclave associated with spatial assimilation theory.

The implications of these differences are highlighted in Table 8. Economic segregation between lower and higher income Chinese families (and between recent and long-term migrants) is modest relative to South Asians and especially Blacks. Since more and less affluent (and recent and long term) Chinese migrants tend to share the *same* neighbourhoods, the result is the formation of dense ethnic neighbourhoods. High levels of homeownership also create an ethnic rental market (renting rooms to other group members) in Chinese neighbourhoods with the result that spatial segregation between renters and owners is also modest among the Chinese (Gini=.30) relative to Blacks (Gini= .50) and South Asians (Gini = .47).

[Table 8 About Here].

If early success in the housing market is a necessary condition for the creation of ethnic communities, it is hardly a sufficient one. We cannot assume that were Blacks and South Asians to achieve similar levels of homeownership that they would choose to purchase homes in the same neighbourhoods. The presence of large, resilient, ethnic neighbourhoods also assumes the

presence of a strong sorting mechanism, either externally imposed in the case of ghettoes or self-imposed in the case of ethnic communities. As our regression results indicate, language retention and assimilation provide such a mechanism. Among the Chinese, language assimilation, not higher income, is associated with exit from the ethnic neighbourhood.

How novel is the Chinese pattern? As our research proceeded, we were struck by the similarities between Chinese settlement patterns and historical-descriptive accounts (Murdie and Teixeira 2001) of the settlement histories of the large Italian and Portuguese immigrant waves that arrived between the 50s and the 70s. To test this assumption we compared the residential settlement patterns of the Italians and Portuguese at roughly the same stage in their immigration history (1981) with those of the Chinese in 1996. In 1981, the average Italian and Portuguese family lived in a neighbourhood with slightly more co-ethnics (27 percent in both groups) than the average Chinese family (24 percent) in 1996. And like the Chinese, both groups were characterised by early and high rates of home ownership (see Appendix Table 4) and high levels of language retention (Appendix Table 5). Our regression results (not shown here) for the Italian community in 1981, though not for the Portuguese, produce models and simulated values for residential concentration (percent Italian) and median neighbourhood income that are virtually identical to those reported here for the Chinese community in 1996. As among the Chinese, homeownership among Italians in 1981 was associated with living in a neighbourhood with more, rather than fewer, families of their own ethnic group and, strikingly, spatial segregation by income class and period of immigration among Italians in 1981 was somewhat lower than among the Chinese in 1996 (Appendix Table 6).

How then can we account for early success in the housing market? Logan, Alba and Zhang emphasize the arrival of new immigrant waves with high levels of individual (human and

financial) capital. The Chinese have high levels of education by historical standards (see Table 1) and anecdotal accounts highlight the fact that many among the Hong Kong Chinese arrive with substantial amounts of financial capital. We suspect, however, that the family and ethnic economy (social capital) also play an important role. As Murdie and Teixeira (2001) highlight, high levels of home ownership among the Italian and Portuguese migrants were facilitated by private financing among family members and co-ethnics, multiple family co-residence, and renting rooms to other group members, patterns that anecdotal accounts suggest are also common among recent Chinese immigrants.

CONCLUSION

Unlike previous locational attainment models estimated for Canada's new racial minorities with aggregate data, our micro-data estimates provide rather strong support for the conventional view. For low income South Asians and especially Blacks, initial settlement is in disadvantaged immigrant enclaves while longer-term, more successful, migrants purchase homes in more affluent, predominantly white, neighbourhoods. The settlement patterns of the Chinese and of the Italians who preceded them, however, do depart from expectations and indicate that Logan, Alba and Zhang's distinction between immigrant enclaves and ethnic communities captures important and substantive differences in the immigrant experience.

To what extent do these differences among groups pose a challenge to spatial assimilation theory? Although the time trajectory of spatial assimilation among the Chinese, like the Italians before them, has been delayed, it is not clear that it has been indefinitely postponed. The high level of language retention in the first generation is unlikely to be reproduced in the second. Whether or not ethnic identities are strong enough to survive this transition requires

both the passage of time and data on the second generation, information that will be available for the first time with the Canadian Census of 2001.

Nevertheless, the fact that the residential experience of the first generation is not homogeneous suggests the spatial assimilation model is in need of some tweaking. Most importantly, the Chinese and Italian experiences confound the conventional expectation that success in the housing market accelerates the spatial assimilation process. Some migrant groups are able to realize their preferences for higher quality housing and neighbourhoods early on in their immigration history and at relatively modest income levels. These accelerated "housing careers" erode the implicit correlation between "success" in the housing market and cultural assimilation, producing instead relatively stable and economically heterogeneous ethnic communities quite different from the low-income immigrant enclaves anticipated by spatial assimilation theory.

Does "race" matter? Although analogies are often drawn between Toronto's poor black neighbourhoods and the black ghettoes characteristic of U.S. inner cities, such analogies appear overdrawn in light of these results. Black-white segregation in Toronto is low by U.S. standards (Fong 1996) and somewhat lower than those of Toronto's other racial minorities. "Black neighbourhoods" are relatively few in number and widely dispersed. [14] More importantly, most Blacks do not live in "black neighbourhoods". Recent, low-income black and South Asian immigrants start out in poor immigrant enclaves but the economically successful select more

[14] In this respect, Toronto housing patterns are closer to the French strategy for dispersing low-income Paris families in the periphery (Wacquant 1995) than to the U.S. practise of concentrating low-income rental units and public housing in the central city (Dreier and Hulchanski 1993; Murdie 1994).

affluent neighbourhoods where their population share scarcely differs from that of the city as a whole.

Whereas levels of black residential segregation are unexceptional, the profound disadvantage experienced by Blacks in the housing market calls for careful scrutiny. Accounting for the substantial differences observed in homeownership rates is undoubtedly the most important analytical challenge emerging from these results. Conventionally, residential settlement patterns consistent with spatial assimilation theory have been read as a sign of immigrant "success" among long term migrants rather than the failure of recent migrants to satisfy their needs for "comfortable neighbourhoods and appropriate housing" (Murdie and Teixeira, 2001). Black disadvantage in the housing market may reflect unmeasured differences in wealth, savings behaviour, consumption preferences, family structure, labour supply, and many other factors. The reasons, however, may also lie on the supply side if Blacks are more likely to face discrimination either in the retail housing market and/or in the credit (mortgage) market than others. Results from Skaburski's (1996) sophisticated analysis of the black homeownership deficit in Toronto with 1991 census data indicates the explanation does not lie in readily observable "compositional" differences between Blacks and other migrants. Among the factors Skaburski's study is able to exclude are differences in income, education, household composition, age, marital status, and housing expenditures relative to income. As Novac et al. (2002) point out, however, Canadian scholarship has so far generated little or no research on racial discrimination in the retail housing and mortgage markets.

Differences in housing careers are an important issue for policy as well as for analytical reasons. Making the transition from renter to homeowner plays a critical role not only in moving from poorer to better quality neighbourhoods but may also affect the economic well-being of

families. As Hulchanski (2001) points out, while inflation in housing prices adds to the wealth of those who have made the transition, inflation in rental costs reduces the disposable income of those who have not.

Finally, much remains to be learned about the sources of internal differentiation and ethnic fragmentation among Toronto's visible minorities. Skin colour alone does not produce shared identities. The "average" experience of Chinese, South Asian and black families potentially conceals important differences among immigrant populations that are internally divided by national origin, religion, and other characteristics. The substantial differences in residential patterns among English and non-English speaking migrants identified here are illustrative but provide only a starting point for such analysis.

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TABLE 1. VALUES FOR INDEPENDENT VARIABLES (PERCENTAGES), TORONTO, 1996

	All Groups	Whites	Blacks	Chinese	South Asian
1. Family Income					
Less than $10,000	10.7	7.3	25.7	19.5	18.3
$10,000 - $19,000	20.2	18.1	25.9	24.3	27.3
$20,000 - $29,000	19.1	18.5	20.3	19.4	22.2
$30,000 - $39,000	17.2	18.2	13.7	14.5	14.6
$40,000 - $49,000	12.2	13.6	7.6	9.5	8.2
$50,000 +	20.5	24.4	6.8	12.8	9.4
2. Education					
Less than high school	25.3	26.1	23.7	25.0	22.6
High school	12.0	12.0	12.8	11.9	11.8
Some post-secondary	39.3	38.7	53.3	30.8	38.0
University	23.5	23.2	10.2	32.3	27.6
3. Homeownership					
Renter	40.9	37.0	70.9	25.5	49.1
Owner	59.2	63.0	29.1	74.5	50.9
4. Immigration Status					
0 - 10 years	15.6	5.4	34.1	48.6	50.1
11-20 years	8.6	3.9	20.4	23.8	20.0
20 + years	25.7	25.5	35.4	21.4	27.6
Canadian born	50.1	65.2	10.1	6.2	2.2
5. Home Language					
Non-official language	20.4	12.3	9.3	74.1	43.3
English/French	76.6	85.8	88.6	21.6	47.5
English/French and other	3.1	1.9	2.1	4.3	9.2
6. Family Composition					
One adult, children present	4.9	4.0	17.4	2.4	3.5
One adult, no children	26.8	29.6	28.0	15.1	11.8
Two or more adults, no children	36.3	38.7	23.4	36.2	28.7
Two or more adults, children present	32.0	27.8	31.2	46.2	56.0
7. Age					
Less than 30	12.6	11.6	19.9	11.3	14.3
30 – 39	27.7	25.6	32.3	32.7	33.8
40 – 49	24.0	22.8	23.1	31.4	28.5
50 – 59	14.6	15.0	15.3	11.7	14.6
60 & +	21.2	25.0	9.4	12.8	8.9

TABLE 2. MEDIAN NEIGHBOURHOOD INCOME RELATIVE TO WHITES AND SUMMARY STATISTICS OF SEGREGATION AND EXPOSURE BY VISIBLE MINORITY STATUS, TORONTO 1996

1. Median Neighbourhood Income Relative to Whites

Blacks	.79
Chinese	.91
South Asians	.85

2. Exposure

	To Whites	To Own Visible Minority
Blacks	.55	.13
Chinese	.50	.24
South Asians	.52	.16

3. Segregation (Gini)

	From All Others	From Whites	From Other Visible Minorities
Blacks	.53	.61	.32
Chinese	.68	.72	.59
South Asians	.58	.66	.36

TABLE 3. THE NEIGHBOURHOOD DISTRIBUTION OF BLACKS, CHINESE AND SOUTH ASIANS BY PERCENT OWN MINORITY, TORONTO, 1996

Percent Black	Number of Census Tracts	% of Black Population	Neighbourhood Income (1,000s)
<10%	675	51%	32.9
10-19%	98	31%	22.6
20-29%	26	12%	18.9
30-39%	7	6%	17.1
40-49%	1	1%	12.5
50%+	0	0%	--

Percent Chinese	Number of Census Tracts	% of Chinese Population	Neighbourhood Income (1,000s)
<10%	645	31%	31.6
10-19%	79	18%	29.7
20-29%	35	14%	31.4
30-39%	24	13%	26.8
40-49%	12	9%	28.3
50%+	12	15%	26.2

Percent South Asian	Number of Census Tracts	% of South Asian Population	Neighbourhood Income (1,000s)
<10%	628	34%	32.6
10-19%	118	32%	27.3
20-29%	41	19%	23.2
30-39%	16	12%	23.2
40-49%	4	3%	22.6
50%+	0	0%	--

TABLE 4. ILLUSTRATIVE EFFECTS OF SPATIAL ASSIMILATION VARIABLES ON NEIGHBOURHOOD INCOME

	Whites	Blacks	Chinese	South Asian
Economic Resources				
$40-$49K vs. <$10K	2860	3350	838[a]	3127
University vs High School	2543	1597[a]	2013[a]	1798
Homeowner vs. renter	2813	4765	3968	4289
Total	8216	9712	6819	9214
Assimilation Status				
Home Language English/French vs. Other	3447	2220	1841	1241
Immigrated > 20 years vs. < 10 years	50[c]	1352[a]	457[c]	1705[c]
Family and Life Course				
2+ adults with children vs. 2+ adults without children	1861	824	949	1028
Age 50-49 vs. Age <30	1538	-410[c]	1489	173[c]

Note: p<.001 unless otherwise indicated. *a*, p <.01; *b*, p < .05, *c*, p = n.s;

TABLE 5. ILLUSTRATIVE EFFECTS OF SPATIAL ASSIMILATION VARIABLES ON PROXIMITY TO WHITES AND OWN VISIBLE MINORITY

	Proximity to Whites ("Exposure")				Proximity to Own Minority ("Isolation")		
	Whites	**Blacks**	**Chinese**	**South Asian**	**Blacks**	**Chinese**	**South Asian**
Economic Resources							
$40-$49K vs. < $10K	3.2	3.5	3.1	3.2	-2.9	-3.7	-1.9
University vs High School	2.5[a]	4.2[a]	2.1[c]	3.7[b]	-2.1[a]	-0.4[c]	-2.1[a]
Homeowner vs. renter	4.0	2.8	-2.4	0.7	-2.3	4.7	.9
Total	9.7	10.5	2.8	7.6	-7.3	0.0	-3.1
Assimilation Status							
Home Language English/French vs. Other	3.7	3.5	6.5	5.2	-2.7	-6.0	-4.1
Immigrated > 20 years vs. < 10 years	0.2[c]	1.2[c]	5.4[b]	3.7[c]	-1.4[b]	-4.2[b]	-1.9[c]
Family and Life Course							
2+ adults with children vs. 2+adults without children	1.7	-1.1[b]	0.7[c]	0.5[c]	0.7	-0.4[c]	-0.4
Age 50-49 vs. Age <30	0.9[b]	-1.4[c]	1.9[b]	0.6[c]	-0.1[c]	-0.9[c]	-1.4

Note: p<.001 unless otherwise indicated. *a*, p <.01; *b*, p < .05, *c*, p = n.s.

TABLE 6. PREDICTED NEIGHBOURHOOD INCOME OF IMMIGRANTS RELATIVE TO NATIVE BORN WHITES BY HOME LANGUAGE, ECONOMIC CLASS, AND PERIOD OF IMMIGRATION

	Low Income <10 years	Middle Income 10-19 years	High Income 20+ years
1. Whites			
English	.98	.99	.99
Other	.85	.89	.90
2. Blacks			
English	.80	.90	.87
Other	.72	--	--
3. Chinese			
English	.94	.91	.94
Other	.87	.85	.89
4. South Asian			
English	.84	.88	.91
Other	.80	.85	.88

TABLE 7. PREDICTED PERCENT WHITE AND PERCENT OWN MINORITY FOR VISIBLE MINORITY MIGRANTS BY HOME LANGUAGE, ECONOMIC CLASS, AND PERIOD OF IMMIGRATION

	Percent White			Percent Own Minority		
	Low Income	Middle Income	High Income	Low Income	Middle Income	High Income
	<10 years	10-19 years	20+ years	<10 years	10-19 years	20+ years
1. Blacks						
English	50	55	62	14	9	6
Other	47	--	--	17	--	--
2. Chinese						
English	51	54	64	20	18	17
Other	44	48	57	26	24	23
3. South Asian						
English	49	54	65	16	15	8
Other	44	48	59	21	19	13

TABLE 8: SPATIAL SEGREGATION (GINI) WITHIN VISIBLE MINORITY GROUPS BY INCOME CLASS, PERIOD OF IMMIGRATION, AND HOUSING TENURE

1.By Income Class*

	Low vs. Middle Income	Low vs. High Income	Middle vs. High Income
Blacks	.38	.58	.23
South Asians	.26	.56	.27
Chinese	.17	.27	.16

2. By Period of Immigration

	<10 years vs. 10-19 years	<10 years vs. 20+ years	10-19 years vs. 20+ years
Blacks	.28	.41	.20
South Asians	.25	.44	.29
Chinese	.24	.28	.18

3. By Housing Tenure	Owners vs. Renters
Blacks	.50
South Asians	.47
Chinese	.30

*Low Income = <$20,000; Middle Income = $20,000-$39,999; High Income = $40,000+.

APPENDIX TABLE 1. REGRESSION OF MEDIAN NEIGHBOURHOOD INCOME ON MEASURES OF ECONOMIC RESOURCES, ASSIMILATION AND LIFE COURSE STATUS, 1996

	Whites		Blacks		Chinese		South Asian	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	32276	23292	26460	21163	30379	22826	28519	23010
<10 years	-4443	-620[a]	-4004	-2241	-1884	461[c]	-3909	-1753
10-19 years	-1805	-421[a]	-1360	-1430	-3309	-1370	-918[c]	-1091[b]
20+ years	-1503	-570	457[c]	-889	176c	4[c]	1569[a]	-48[c]
$10,000 - $19,999		662		660		-739		645
$20,000 - $29,999		1548		1830		-641[a]		1241
$30,000 - $39,999		2204		2803		283[c]		2183
$40,000 - $49,999		2860		3350		838[a]		3127
$50,000 +		5020		4556		3121		5161
High school		1382		636[a]		1810		518[b]
Some post-secondary		2016		1143		2294		979
University		3925		2233		3823		2316
Owner		2813		4765		3968		4289
English/French		3447		2220		1841		1241
English/French and other		717		617[c]		139[c]		477[b]
Single Adult		-2272		-1057		-1089[a]		-1281
Lone Parent		-697		-781		-383[c]		-446[c]
Two or more adults, no children		-1861		-824		-949		-1028
30 – 39		-32[c]		313[c]		44[c]		22[c]
40 – 49		737		179[c]		1303		-190[c]
50 – 59		1538		-410[c]		1489		173[c]
60 & +		1982		-468[c]		1392		-69[c]
N	216630	216630	17845	17845	18052	18052	16439	16439
R-square	.016	.173	.060	.233	.023	.171	.093	.268

Note: Unless otherwise indicated, p<.001; a, p <.01; b, p < .05, c, p = n.s

APPENDIX TABLE 2. REGRESSION OF PERCENT WHITE ON MEASURES OF ECONOMIC RESOURCES, ASSIMILATION AND LIFE COURSE STATUS, 1996

	Whites		Blacks		Chinese		South Asian	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	75.8	65.4	60.2	51.5	64.0	55.8	59.5	48.0
<10 years	-6.2	-2.0	-8.3	-5.7	-18.2	-10.9	-10.6	-5.1
10-19 years	-4.1	-2.6	-6.0	-5.2	-14.1	-8.2	-7.0	-3.9[a]
20+ years	-2.5	-1.8	-4.2[b]	-4.5	-8.4	-5.3	-2.5[c]	-1.4[c]
$10,000 - $19,999		2.1		0.9[c]		0.6[c]		1.3[b]
$20,000 - $29,999		2.9		2.1[a]		0.8[c]		1.7[b]
$30,000 - $39,999		3.1		3.1		1.2[c]		3.0
$40,000 - $49,999		3.2		3.5		3.1		3.2
$50,000 +		4.7		5.3		6.0		7.9
High school		0.4[c]		0.1[c]		0.3[c]		0.4[c]
Some post-secondary		1.5		0.9[c]		-0.7[c]		1.7[a]
University		2.9		4.2		2.1[b]		4.1
Owner		4.0		2.8		-2.4[b]		0.7[c]
English/French		3.7		3.5[a]		6.5		5.2
English/French and other		-0.1[c]		-0.8[c]		2.6[a]		0.4[c]
Single Adult		-1.7		4.3		2.7[a]		2.4[b]
Lone Parent		-0.9		-1.0[c]		2.3[c]		0.6[c]
Two or more adults, no children		-1.7		1.1[b]		-0.7[c]		-0.5[c]
30 – 39		0.5[c]		0.9[b]		-0.4[c]		1.3[b]
40 – 49		0.8[b]		-0.6[c]		1.0[c]		0.2[c]
50 – 59		0.9[b]		-1.4[c]		1.9[b]		0.6[c]
60 & +		2.3		0.0[c]		2.1[c]		1.7[c]
N	216630	216630	17845	17845	18052	18052	16439	16439
R-square	.009	.044	.016	.049	.054	.084	.031	.074

Note: Unless otherwise indicated, p<.001; a, p <.01; b, p < .05, c, p = n.s

APPENDIX TABLE 3. REGRESSION OF PERCENT OWN ETHNIC GROUP ON MEASURES OF ECONOMIC RESOURCES, ASSIMILATION AND LIFE COURSE STATUS, 1996

	Blacks		Chinese		South Asian	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	10.4	17.2	14.5	19.9	11.3	18.8
<10 years	4.6	2.8	12.9	6.5	6.2	2.5
10-19 years	2.3	2.0	7.6	2.5[b]	4.6	2.1
20+ years	0.5[b]	1.4	6.1	2.3	1.5[b]	0.6[c]
$10,000 - $19,999		-1.2		-1.3		-0.3[c]
$20,000 - $29,999		-2.0		-3.0		-0.3[c]
$30,000 - $39,999		-2.7		-3.1		-1.4
$40,000 - $49,999		-2.9		-3.7		-1.9
$50,000 +		-3.5		-4.0		-4.1
High school		-0.8[b]		0.1[c]		-0.3[c]
Some post-secondary		-1.4		1.5[c]		-1.2
University		-2.9		0.5[c]		-2.4
Owner		-2.3		4.7		0.9[c]
English/French		-2.7		-6.0		-4.1
English/French and other		-0.4[c]		-3.6		-0.6[c]
Single Adult		-1.7		-2.8[a]		-2.2
Lone Parent		0.6[c]		-3.5		-1.5[a]
Two or more adults, no children		-0.7[a]		0.4[c]		-0.4
30 – 39		-0.3[c]		-0.7[c]		-0.7[c]
40 – 49		-0.1[c]		-0.1[c]		-1.2
50 – 59		-0.1[c]		-0.9[c]		-1.4
60 & +		-0.4[c]		-0.2[c]		1.7[b]
N	17845	17845	18052	18052	16439	16439
R-square	.043	.117	.040	.077	.039	.112

Note: Unless otherwise indicated, p<.001; a, p <.01; b, p < .05, c, p = n.s

APPENDIX TABLE 4: HOME OWNERSHIP AMONG CHINESE (1996), ITALIAN (1981), AND PORTUGUESE (1981) FAMILIES BY IMMIGRATION STATUS AND BY FAMILY INCOME, TORONTO

	Chinese (1996)	Italians (1981)	Portuguese (1981)
		%	
Immigration status			
Native Born	60	66	-- *
All Migrants	75	85	70
> 20 years	85	91	82
10-19 years	75	88	78
< 10 years	71	67	59
Family Income			
Less than $10,000	61	68	46
$10,000 - $19,000	64	81	64
$20,000 - $29,000	78	88	71
$30,000 - $39,000	82	88	78
$40,000 - $49,000	89	87	80
$50,000 +	89	87	78

* N less than 100

APPENDIX TABLE 5: PERCENT USING A HOME LANGUAGE OTHER THAN ENGLISH OR FRENCH BY IMMIGRATION STATUS

	Chinese (1996)	Italians (1981)	Portuguese (1981)
Immigration status			
Native Born	10	10	--*
20 + Years	55	63	59
10-19 Years	77	75	69
>10 Years	89	78	85

* N less than 100

APPENDIX TABLE 6: SPATIAL SEGREGATION (GINI) WITHIN GROUPS BY INCOME CLASS AND PERIOD OF IMMIGRATION

1. By Income Class

	Low vs. Middle Income	Low vs. High Income	Middle vs. High Income
Chinese (1996)	.17	.27	.16
Italians (1981)	.12	.25	.14
Portuguese (1981)	.21	.43	.26

2. By Period of Immigration

	<10 years vs. 10-19 years	<10 years vs. 20+ years	10-19 years vs. 20+ years
Chinese (1996)	.24	.28	.18
Italians (1981)	.12	.25	.15
Portuguese (1981)	.20	.39	.22

Note: Low Income = <$20,000; Middle Income = $20,000-$39,999; High Income = $40,000+.