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Selection and Influence in the Assimilation Process of Immigrants

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# SELECTION AND INFLUENCE IN THE ASSIMILATION PROCESS OF IMMIGRANTS

Arnout van de Rijt

## ABSTRACT

*Purpose – Empirical studies show substantial variation across immigrants in the rate and direction of assimilation along various dimensions (e.g., cross-ethnic contact, language, identity). To explain this variation, past research has focused on identifying exogenous factors, such as discrimination, human capital, and settlement intention. In this chapter we argue that variation in immigrant outcomes emerges endogenously through positive interaction effects between dimensions of assimilation. We propose a new assimilation model in which processes of social influence and selection into congruent social environments give rise to multiple long-term equilibria. In this model, migrants who are already assimilated along many dimensions tend to also adapt along other dimensions, while less assimilated migrants become more strongly embedded in their ethnic group.*

*Design/methodology/approach – To test the assimilation model, we derive a number of hypotheses, which we evaluate using trend analysis and dynamic panel regression on data from the Longitudinal Survey of Immigrants to Canada.*

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Findings – *The data mostly confirm the hypotheses, providing overall support for the assimilation model.*

Research implications – *Our theory and findings suggest that immigrants would follow divergent assimilation trajectories even in the absence of a priori population heterogeneity in external factors.*

Social implications – *The positive interaction effects between cultural and structural dimensions of assimilation suggest that mixed policies that promote integration while seeking to prevent loss of identity go against the natural tendency for cultural and structural assimilation to go hand in hand.*

Originality/value – *The present chapter proposes a novel model of immigrant assimilation and an empirical test.*

**Keywords:** Assimilation; dissonance; selection; influence; homophily

## INTRODUCTION

A classic thesis in the immigration literature is that immigrants over time adapt to the cultural mainstream of the host country (Gans, 1973; Gordon, 1964; Park, 1950; Park & Burgess, 1921; Sandberg, 1973; Shibutani & Kwan, 1965; Warner & Srole, 1945). “Assimilation,” sometimes referred to as “incorporation,” “integration,” or “adaptation,” may involve a shift away from exclusive use of the mother tongue, decreasing ethnic identification, abandonment of homeland practices, and the diminishing of co-ethnic work, family, and friendship relations. While assimilation can take place over multiple generations (Alba & Nee, 2003; Brown & Bean, 2006; Perlmann & Waldinger, 1997; Portes & Zhou, 1993; Rumbaut & Portes, 2001), the focus of this chapter is on the dynamics of individual assimilation, whereby individual migrants incrementally adapt to the host culture along social and cultural dimensions over the course of their stay in the host country.

In contrast to the uniform trajectory of increasing assimilation from ethnic group to mainstream posited by “straight-line” immigration theory, empirical evidence suggests that immigrant cohorts exhibit great heterogeneity in the pace and even the direction of adaptive change. Large variation has been observed in official language proficiency

(Van Tubergen & Kalmijn, 2009a, 2009b) and job transitions from ethnic economies into multiethnic labor markets (Nee, Sanders, & Sernau, 1994; Sanders, Nee, & Sernau, 2002). Surprising levels of continuity have been found for ethnic church attendance (Hurh & Kim, 1990), civic participation (Fong & Ooka, 2006), and residential segregation of various ethnic communities (Alba, Logan, Stults, Marzan, & Zhang, 1999; White, Biddlecom, & Guo, 1993; Zhou & Logan, 1991). Some studies even find reverse trends, such as increasing lifetime fertility rates (Rose, 1942), growing levels of transnational engagement (Guarnizo, Portes, & Haller, 2003; Itzigsohn & Saucedo, 2002; Portes, Guarnizo, & Haller, 2002), and strengthening ethnic self-identification (Golash-Boza, 2006; Zhou, 2001, pp. 201–202).

While the majority of empirical work on immigrant assimilation attends to the movement of immigrants along distinct dimensions (language, contact, employment, identification) independently, the very factors that promote or prevent adaptive changes along one dimension are often themselves forms of assimilation along other dimensions. For example, cross-ethnic contact has been shown to facilitate language acquisition (Van Tubergen & Kalmijn, 2009b), and language skills in turn enable cross-ethnic contact (Kalmijn & Van Tubergen, 2010; Martinovic, Van Tubergen, & Maas, 2011). Language skills also promote national self-identification (De Vroome, Coenders, Van Tubergen, & Verkuyten, 2011), which stimulates cross-ethnic contact through shared traditions (Martinovic et al., 2011). This suggests that the combined whole of adaptive change is more than just the sum of its parts. Consequently, the interaction between dimensions of assimilation gives rise to important systemic features of the overall process that are missed when analyzing one component at a time.

We argue that these interaction effects may be particularly important for understanding the empirical diversity in adaptation trajectories that lead some immigrants to integration in the majority group while others remain in ethnic enclaves (Sanders & Nee, 1987; Wilson & Portes, 1980) or blend with a different minority group. While exogenous factors such as contexts of reception (Golash-Boza, 2006; Portes & Rumbaut, 1996; Rumbaut & Portes, 2001), forms of capital (Alba & Nee, 2003; Nee & Sanders, 2001), and settlement intention (Paul, 2011; Van Tubergen & Kalmijn, 2009b) have been demonstrated to affect immigrant outcomes, we suggest that the interaction across dimensions of immigrant assimilation can also, endogenously, steer these dynamics. In what follows, we propose a model of assimilation grounded in the notion that assimilation along one dimension reinforces assimilation along other dimensions. The model shows how heterogeneity in trajectories and outcomes across immigrants can emerge

from such endogenous features of the assimilation process, even when exogenous factors are held constant.

To do this, we study immigrant adaptation as a multidimensional process. Dimensions of assimilation, cultural and structural, tend to interact following principles of “selection” and “influence,” with important implications for the overall dynamics of immigrant assimilation. We test predictions derived from our model with data from the Longitudinal Survey of Immigrants to Canada (LSIC) on six parallel dimensions of adaptive change during the early settlement years of a recent immigrant cohort. The multidimensional model we propose complements previous efforts at understanding the variation in levels of assimilation among immigrant populations. We show that while exogenous factors can also be very important for understanding this process, assimilation outcomes can be highly varied even in the absence of such a priori structural heterogeneity in immigrant cohorts.

## LITERATURE

### *Intergenerational versus Individual Assimilation*

One way by which adaptive changes may occur is from one generation to the next, where the children of immigrants are more assimilated than their parents and less than their own children. Critics of *intergenerational assimilation* have argued that for many immigrant groups in the United States, the road to integration and adaptation remains blocked (e.g., Glazer & Moynihan, 1970), that more recent immigrants to the United States from non-European origin countries do not fit the traditional assimilation model (Portes & Zhou, 1993; Zhou, 1997) and that often ethnic identities remains strong in later generations even as workplace boundaries are penetrated and social networks become more ethnically diverse (Brown & Bean, 2006). Yet others argue using quantitative data on multiple generations that the overall trend nevertheless appears monotonic and progressive for many countries of origin (e.g., Alba & Nee, 2003; Pagnini & Morgan, 1990) and destination (e.g., Lee & Boyd, 2008).

The focus in this chapter is on a second form of assimilation, *individual assimilation*, where individual migrants over the course of their stay in the host country bit-by-bit adapt along behavioral dimensions and establish new relationships.

*Mixed Evidence for Individual Assimilation*

The body of evidence for individual assimilation is rather mixed. The magnitude and direction of assimilation varies heavily across and within studies. Some find support for classic predictions of forward movement. Massey, Alarcón, Durand, and González (1987) and Martinovic, Van Tubergen, and Maas (2009a) report an average trend of increasingly cross-ethnic friendship networks among immigrants to respectively the United States and the Netherlands. Support has also been found for job transitions out of the ethnic economy (Nee et al., 1994; Roth, Seidel, Ma, & Lo, 2012), increased national attachment (Waldinger, 2007), and civic participation (Stoll & Wong, 2007) in the Los Angeles area. Trilla, Esteve, and Domingo (2008) found changing intermarriage rates of immigrants to Spain in accordance with classic assimilation theory. However, while proficiency in the official language generally increases, rates vary greatly within and across ethnic groups and destination countries (Akresh, 2007; Bean & Stevens, 2003; Carliner, 2000; Dávila & Mora, 2000; Espenshade & Fu, 1997; Massey & Espinosa, 1997; Grenier, 1984; Massey et al., 1987; McConnell & LeClere, 2002; Medvedeva, 2012; Stevens, 1992, 1999; Van Tubergen & Kalmijn, 2005, 2009a, 2009b). Furthermore, findings regarding weakening identification with various origin countries are equivocal, with many studies failing to find any average trend (Ajrouch & Jamal, 2007; Berry, 2006; Diehl & Schnell, 2006; Ersanilli & Saharso, 2011; Matute-Bianchi, 1986; Sears et al., 2003; Zimmerman, Zimmermann, & Constant, 2007). Also, employment trajectories in Canada have been found to vary greatly within migrant cohorts, with some quickly integrating into cross-ethnic workplaces while others remain excluded (Fuller & Martin, 2012). And while some immigrant groups show an average trend toward residential integration, members of other groups appear to remain spatially segregated (Alba et al., 1999; White et al., 1993; Zhou & Logan, 1991). Hurh and Kim (1990) found persistent attendance of the Korean ethnic church among Korean immigrants long after arrival. While Anderson and Milligan (2010) find a positive duration effect for voluntary association membership, Fong and Ooka (2006) find no effect of duration on civic participation in Canada. Some scholars even find reverse tendencies. Rose (1942) observed climbing, not falling lifetime fertility rates among Italian immigrants in the United States – away from the national average. Colombian, Dominican, and Salvadorian immigrants to the United States have been observed to increase, not reduce their engagement in political, social, and business

activities involving the country of origin (Guarnizo et al., 2003; Itzigsohn & Saucedo, 2002; Portes et al., 2002). And discriminatory experiences have been found to strengthen ethnic identity (Golash-Boza, 2006). Finally, some find diverging trends even within relatively homogeneous groups. Esser (1987) observes polarization in the friendship networks of Yugoslavian and Turkish immigrants to Germany, with some integrating while others segregate. Zhou (2001) finds a similar divergence in the ethnic self-identification of Vietnamese immigrants, with mixed identities becoming less common over time (pp. 201–202).

### *Antecedents of Assimilation*

This high degree of variation in the magnitude and direction of individual assimilation within and across groups has led scholars to search for initial conditions under which adaptive changes occur and factors that inhibit assimilation or even lead to movement away from integration and acculturation. Among these antecedents are contexts of reception and family structure (Portes & Rumbaut, 1996) as well as forms of capital (Nee & Sanders, 2001) which “shape the trajectory of their incorporation into the host society” (p. 386).<sup>1</sup> Discrimination differentiates ethnic groups in terms of their job market success and as a consequence leads some to exhibit strengthened ethnic self-identification (De Vroome et al., 2011; Golash-Boza, 2006; Portes & Rumbaut, 1996; Zhou, 2001). Family ties and acquaintances (social capital) and foreign education (human capital) condition workplace integration (Nee & Sanders, 2001; Nee et al., 1994; Portes & Sensenbrenner, 1993; Roth et al., 2012) while at the same time increasing political and economic involvement in the country of origin (Guarnizo et al., 2003; Portes et al., 2002). Other a priori determinants of assimilation are migration motive and settlement intention, both of which affect language skills and use (Van Tubergen & Kalmijn, 2009a, 2009b), and immigrant group size which is inversely related to intermarriage (Blau & Schwartz, 1984; Kalmijn & Van Tubergen, 2010).

These theoretical strategies provide exogenous explanations for how alternative conditions differentiate immigrant cohorts into distinct assimilation trajectories and outcomes. However, many of the conditions that studies have identified as exogenous precursors of assimilation are themselves forms of assimilation. For example, “ethnicity of spouse” and “ethnic composition of social networks” are both assimilation dimensions as well as important determinants of adaptive changes in language use



and proficiency (Van Tubergen & Kalmijn, 2009a, 2009b). Language skills and practice, in turn, fuel cross-ethnic contact (Kalmijn & Van Tubergen, 2010; Martinovic, Van Tubergen, & Maas, 2009b; Roth et al., 2012) and national self-identification (De Vroome et al., 2011). First- and second-generation immigrants are more likely to marry someone outside their ethnic group if they are linguistically more proximate to other groups (Kalmijn & Van Tubergen, 2010). And migrants more readily form interethnic friendships if they already have an interethnic partner and embrace the traditions of the host country (Martinovic et al., 2011).

Each of the above examples represents a positive cross-dimensional effect; one type of adaptive change reinforces another, while lack of change in one dimension inhibits assimilation along another dimension. Below we develop a model of how these reinforcing factors may lead to diverging trajectories of either increasing or decreasing levels of overall assimilation. (For a simple formalization of this model see the appendix).

## A MODEL OF INDIVIDUAL ASSIMILATION

The various positive cross-dimension effects, we argue, can be brought back to two governing processes in the dynamics of social networks: “selection” and “influence” (Aral, Muchnik, & Sundararajan, 2009; Christakis & Fowler, 2007; Crandall, Cosley, Huttenlocher, Kleinberg, & Suri, 2008; Kandel, 1978; Lazarsfeld & Merton, 1954; McPherson, Smith-Lovin, & Cook, 2001; Steglich, Snijders, & Pearson, 2010; Wasserman & Faust, 1994). *Selection* occurs when an individual has a tendency to disproportionately initiate and strengthen relationships with those who are similar to them in the cultural beliefs they hold and the behavior they display, while limiting or eliminating contact with dissimilar others. *Influence* occurs when an individual comes to hold beliefs and exhibit behavior that is similar to the beliefs and behavior present in their immediate social environment. A variety of basic social-psychological mechanisms underpin these dual processes, such as the tendency to reduce discomfort stemming from conflicting cultural beliefs and behavioral expectations (Festinger, 1957; Heider, 1946; Tazelaar, 1980), the tendency to adopt the identity and behaviors from one’s immediate social environment (Akers, 1985; Bandura, 1977), and the tendency to seek interaction with members of one’s in-group (Alba, 1990; Huston & Levinger, 1978; Tajfel & Turner, 1979). Selection and influence are further driven by exposure effects from initially foreign beliefs, words, and behaviors in interaction with dissimilar others and the

greater practicality of contact between individuals who share a language and belief system. The end result of selection and influence processes is *homophily*, the disproportionate similarity of individuals to their social contacts (Centola, 2011; Lazarsfeld & Merton, 1954; McPherson et al., 2001; Newman, 2002; Watts, Dodds, & Newman, 2002).

If for the sake of theoretical parsimony we assume a simplistic binary reality with only two groups<sup>2,3</sup> – the migrant's ethnic group and a relatively homogeneous mainstream – then homophily in assimilation is maximal in two circumstances. Homophily is maximal when interacting with members of the mainstream while simultaneously adhering to mainstream values and culturally prescribed behaviors. But maximal homophily also occurs at the other extreme, when the migrant is immersed in co-ethnic neighborhoods and workplaces and at the same time identifies, speaks the language of, holds a system of beliefs, and behaves all in accordance with the ethnic group of origin. In mixed situations between these two extremes, incongruities exist between the migrant's own beliefs and behaviors and those prevalent in the migrant's immediate social environment.<sup>4</sup> Two types of changes can resolve these incongruities. First, migrants can seek changes in their social environment that produce a better match with their own behavior and beliefs (selection). Alternatively, migrants may adapt their behavior and beliefs to those of their social environment (influence). Following a common convention in the immigration literature we will distinguish between changes to the social environment of the migrant and changes to her own actions, skills, and mindset as (respectively) *structural* and *cultural* assimilation (Berry, 1997, 2006; Berry et al., 1987; Gans, 1997; Gordon, 1954, 1964; Rosenthal, 1960). Structural and cultural assimilation can occur either in “forward” direction away from the migrant's ethnic group, following a traditional straight-line understanding of assimilation, or “in reverse,” toward the migrant's ethnic group, with both migrant and her contacts becoming further embedded in the ethnic community of origin.

This application of social network processes to immigration provides an account of empirical variance in assimilation outcomes. Namely, assimilation toward the mainstream is one way by which homophily is accomplished; immigrants surround themselves with members of another culture and adapt their beliefs and behavior to match those of their new friends, family, and colleagues. But it is not the only way. Often an easier route to congruence is maintenance of ethnic beliefs and traditions and immersion in neighborhoods and workplaces where these beliefs and traditions are shared. The striving for social accordance thus provides an

explanation for diverse trajectories and outcomes. Which path – toward or away from the ethnic group – is of lesser resistance depends on situational conditions of the migrant. Migrants with a reasonable command of the host language, some familiarity with mainstream customs, and a job in the main economy may proceed to assimilate. Those with poor language skills, an already strong ethnic identity, and largely co-ethnic job and friendship networks more naturally remain in or recede back into the ethnic community. This theory of homophilous assimilation can then be summarized as follows: *Selection and influence form a ‘dual engine’ of assimilation, resulting in a bi-directional process. Moderately assimilated migrants move toward the mainstream, while less assimilated migrants remain with or recede back to their ethnic group.*

Fig. 1 illustrates how the direction in which homophily drives assimilation depends on the number of dimensions along which a migrant is currently assimilated. A total of six distinct dimensions of assimilation are assumed (corresponding with six empirical measures that we introduce later): ethnic identification, attachment to ethnic values and traditions, command of the host language, co-ethnic friendship network, co-ethnic workplace, and co-ethnic household members. Three dimensions – identity, values, language skills – pertain to the migrant herself and are cultural dimensions of assimilation, while the remaining three measures – friendship, workplace, and household integration – concern her social environment and are therefore structural dimensions of assimilation. Homophily is maximal for a migrant in two extreme cases, namely either if assimilated along none of the dimensions (outer left) or if assimilated along all six of them (outer right). When migrants identify strongly with their ethnic group of origin, speak their first language, and wish to carry on the values and traditions of their homeland while at the same time maintaining many co-ethnic friendship, work, and family relations (# assimilated dimensions = 0), there is congruence between self and other. Yet there is congruence also in a situation where communication is done in the host language, when

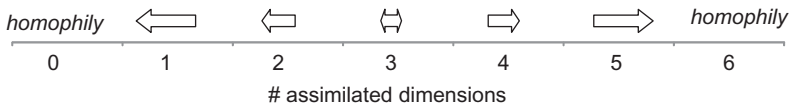


Fig. 1. Homophily as a Function of Assimilation. Shown is homophily as a function of the number of dimensions along which a migrant is assimilated. Arrows indicate whether reverse (pointing left) or forward (pointing right) assimilation leads to greater homophily.

simultaneously ethnic identification and cultural attachment are weak and when at the same time household, friendship, and work ties are largely with the mainstream (# assimilated dimensions = 6).<sup>5</sup>

### *Hypotheses*

From this model of homophilous assimilation, several hypotheses can be derived. First, the model suggests that an immigrant will typically move from an initial “distressed” state of incongruence between self and social environment to one of two homophilous equilibria, where she is likely to remain. It follows that as more and more immigrants reach a state of homophily, with time we should see fewer and fewer changes occur in the networks and behaviors of an immigrant cohort.

**Hypothesis 1.** Assimilation exhibits “deceleration”: As time goes by, fewer and fewer changes occur along structural and cultural dimensions.

Also, as Fig. 1 illustrates, the direction of assimilation along any one structural or cultural dimension depends on the number of dimensions a migrant is already assimilated along, because dimensions of assimilation reinforce one another:

**Hypothesis 2.** Assimilation exhibits “reinforcement”: The more assimilated an immigrant is along any one dimension, the more (less) likely s/he will assimilate forward (in reverse) along other dimensions.

An additional consequence of the tendency for homophily is that migrants during the adjustment process will tend to spend relatively little time in partially assimilated states – which are nonhomophilous – and a lot of time in either a state of nonassimilation or full assimilation along all dimensions.

**Hypothesis 3.** Assimilation exhibits “parallel change”: A migrant will at any point during her adjustment process tend to be assimilated either along none or along all of the dimensions, but not partially assimilated.

In the long run the bidirectional movement that the tendency for homophily sets in motion should converge on one of the two homophilous states. As time goes by more migrants reach such a state so that less and less change should occur. If this increasing stability is indeed the result of convergence on homophilous states, then the probability of remaining in a

homophilous state would have to be greater than the probability of remaining in a nonhomophilous state. Migrants who are unassimilated along all dimensions or assimilated along all dimensions should be less subject to change than migrants who are partially assimilated. In other words, unassimilated migrants and fully assimilated migrants more likely remain in that state than partially assimilated migrants.

**Hypothesis 4.** Assimilation exhibits “stability of extremes”: Migrants who are unassimilated to the mainstream as well as fully assimilated migrants will show greater stability than partially assimilated migrants.

Moreover, when near one state of homophily while far away from the other, we would expect migrants to move to the first. If assimilation follows the arrows in Fig. 1, then migrants move toward the nearest extreme.

**Hypothesis 5.** Assimilation exhibits “movement toward extremes”: When a migrant is near an extreme state, s/he will tend to move toward that state. The closer s/he is to his/her ethnic or cultural group (the farther away from the mainstream) the more likely s/he will assimilate in reverse toward this group (and the less likely forward toward the mainstream).

At the population level this will then result in a polarized distribution of assimilation levels with many immigrants concentrating near the extremes. As individual migrants move toward the most proximate of the two maximally homophilous states of Fig. 1, for any cohort of migrants we should see a tendency for a majority to be assimilated along either few or many dimensions, while only a minority is partially assimilated.

**Hypothesis 6.** Assimilation exhibits “polarity”: Assimilation levels in any immigrant cohort are distributed in a polarized fashion, with unassimilated and assimilated migrants being overrepresented and partially assimilated migrants underrepresented.

As it takes immigrants time to find their way in the host society, this polarized state may not be obtained immediately. Rather, over the course of years, a cohort of migrants will gravitate toward a more and more polarized population-wide assimilation pattern.

**Hypothesis 7.** Assimilation exhibits “polarization”: The tendency for polarity increases with time.

### *Data*

Traditional data on immigrant assimilation has been of a cross-sectional nature and scholars have long called for longitudinal data that permits analysis of lifetime changes: “The lack of ... life-course information for immigrant cohorts hinders understanding of the integration of immigrants.” (Jasso, Massey, Rosenzweig, & Smith, 2000, p. 127); “Actual longitudinal data that track individual immigrants over time ... have largely been lacking” (Bean, Brown, & Rumbaut, 2006, p. 309). Here we draw on data from the LSIC (Statistics Canada, 2005a). A key feature of immigration policy in Canada makes longitudinal data on this particular immigration country attractive for a test of the theory developed. Namely, Canada’s official multicultural policy is aimed at stimulating structural assimilation while discouraging most forms of cultural assimilation (cf. Bloemraad, 2006), thus counteracting the hypothesized positive interaction effects between structural and cultural assimilation. These data thus allow a conservative test of the theory.

The target population of the LSIC is all immigrants aged 15+ who entered Canada between October 1, 2000 and September 30, 2001 from abroad with legal “landed immigrant” status and who were still in Canada after four years. The survey conducted face-to-face or telephone interviews in one of 15 languages with 14,356 immigrants six months after entry. From these interviewees 9,332 were reinterviewed after two years, and of those second-wave respondents 7,713 were interviewed a third time, four years after landing. If respondents were not reinterviewed that was either because they could not be located at the next wave of the survey or because they chose not to participate again. Attrition analysis shows that the probability of exit from the sample was unrelated to satisfaction with life in Canada and various sociodemographic variables, with the exception of old and family-class immigrants for whom exit was somewhat more likely (Houle & Schellenberg, 2010). A comparison of the wave 1 frequency distributions of the assimilation variables of interest for respondents who only participated in wave 1 with those for wave 2 and wave 3 respondents yielded no significant differences. Weights constructed by Statistics Canada, who collected the data, were designed to make the sample of immigrants who completed all three interviews representative of the target population (Statistics Canada, 2005b, ch. 12) and these weights are used throughout the analysis.

We consider six measures of assimilation. As a measure of strength of group *identity*, scholars often record perceived closeness to the in-group

(e.g., Bosson, Johnson, Niederhoffer, & Swann, 2006; Otten & Epstude, 2006; Staerklé, Sidanius, Green, & Molina, 2005). We follow this convention, using the question “When you think of others in Canada from the same ethnic or cultural group as yourself, how close would you say you feel to that group as a whole?” as an indicator of ethnic identification. Answers ranged from “very close,” to “close,” to “not very close,” to “not close at all.”

Attachment to cultural traditions and *values* is measured by the following question: “How important is it for you to carry on the values and traditions of your ethnic or cultural group or your homeland?” Answer categories are “very important,” “important,” “not very important,” and “not important at all.”

The LSIC provides a self-assessment of *language* skills: “How well can you speak English/French?” Answer categories are “cannot speak this language,” “poorly,” “fairly well,” “well,” and “very well.” In the analysis reported here we used the measure of French language skills for residents of Quebec and English otherwise. Alternative treatment of the language variables such as models with French only, English only, or both languages does not lead to substantively different results.

Brown (2006) has argued that structural assimilation variables that directly measure the ethnic composition of immigrants’ networks are preferable to measures of neighborhood composition, which “... rely on the assumption that relationships develop among racially and ethnically dissimilar people who live near one another” (p. 85). The LSIC provides such measures of network ethnic composition. For *friendship* relations, we use the question “How many of your new friends are of the same ethnic or cultural group as you?” Possible answers were “all of them,” “most of them,” “half of them,” “some of them,” and “none of them.” New friends were defined as friends made since landing (wave 1) or since the previous wave (waves 2 and 3).

For *work* relations, we use the question “How many of your co-workers are of the same ethnic or cultural group as you?” Possible answers were “all of them,” “most of them,” “some of them,” and “none of them.”

For *household* relations we employ a measure of the proportion of household members who speak English or French (Quebec) – excluding the respondent.

Missing values reduce the sample from 7,713 to 7,031 cases. We report on analyses of this smaller sample of list-wise deleted cases. Analyses with imputed missing values are consistent.

Table 1 displays means and standard deviations of all six assimilation variables. The fraction of household members speaking the official language

**Table 1.** Descriptive Statistics ( $N=7,031$ ).

Time-Varying Variables	Wave 1 (6 months)		Wave 2 (2 years)		Wave 3 (4 years)	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
English/French speaking skills	.676	.323	.743	.299	.752	.293
Does not feel close to cultural group	.351	.262	.343	.246	.343	.253
Finds unimportant to carry on values/traditions	.277	.245	.261	.232	.265	.242
Proportion cross-cultural friends	.314	.314	.395	.295	.422	.314
Proportion cross-cultural colleagues	.319	.384	.470	.395	.514	.387
Proportion household speaking English/French	.675	.249	.849	.242	.864	.226
Log annual individual income	5.36	4.18	7.08	4.29	7.70	4.16
Age	35.0	12.0	36.7	12.0	38.6	12.0
Proportion neighbors not born in country of origin	.961	.054	.962	.052	.964	.052
	Percentage		Percentage		Percentage	
Marital status (1 = single)	23.5%		21.7%		20.2%	
Attends religious services	14.9%		16.2%		15.4%	
Owens own business	1.3%		3.7%		5.8%	
Unemployed	48.2%		26.0%		20.1%	
Time-Constant Variables					Percentage	
Gender (1 = female)						50.3%
Holds college degree from foreign country						64.8%
Immigrant class “Family”						26.3%
Immigrant class “Independent”						67.0%
Immigrant class “Business”						6.1%
Immigrant class “Refugee/Other”						0.5%
Country of Origin	Percentage		Country of Origin		Percentage	
China	16.7%		Bosnia		1.8%	
India	14.5%		Algeria		1.7%	
Philippines	6.6%		Morocco		1.7%	
Pakistan	4.5%		Iraq		1.7%	
Afghanistan	4.0%		France		1.5%	
South Korea	3.7%		Ukraine		1.5%	
Iran	3.4%		Yugoslavia		1.3%	
Romania	3.1%		Bangladesh		1.3%	
Russia	2.1%		Columbia		1.2%	
Sri Lanka	1.9%		Sudan		1.1%	
U.K.	1.9%		South Africa		1.1%	

n.a. = not applicable.

*Note:* Statistics Canada does not permit reporting of minimum and maximum values or cross-tabulations with cell counts below 10 (Statistics Canada, 2005b: ch. 12).



is of cardinal measurement level. For the remaining five assimilation variables, the data in Table 1 are based on a cardinalization where the unit interval is divided up into equidistant fractions. For example, for language skills we have 0 = cannot speak this language,  $\frac{1}{4}$  = poorly,  $\frac{1}{2}$  = fairly well,  $\frac{3}{4}$  = well, and 1 = very well/fluent. Such cardinal level variables are used for estimation of the dynamic panel models, as elaborated in the following section. Alternative coding decisions yield no qualitative differences in results. Table 1 additionally shows various time-varying control variables. These are income (logged with base 10 so that a unit increase corresponds to an extra digit), age (in years), marital status (dummy; 1 = single), church attendance (dummy; 1 = attends), neighborhood ethnic composition (proportion migrants from same country of origin in same three-digit postal code area), business ownership (dummy; 1 = owner), and unemployment (dummy; 1 = unemployed). Table 1 also shows some time-constant variables that give the reader a sense of the demographic composition of the sample. For example, the most strongly represented nationalities in the 2000/2001 cohort were Chinese and Indians, together accounting for 31% of all immigrants.

### Analysis Strategy

Hypothesis 1 (“deceleration”) can be tested by comparing migrant-level changes in the six assimilation variables between waves 1 and 2 with changes between waves 2 and 3. The hypothesis would be confirmed if fewer migrants exhibit change in the latter period than in the former period.

To test hypothesis 2 (“reinforcement”), we must verify if changes in the six assimilation variables are positively affected by other assimilation variables. We do so by estimating six regression equations, one for each dimension  $d = 1, 2, \dots, 6$ , of the following form:

$$x_{dit} = \alpha_d + \sum_{e \neq d} \beta_{ed} x_{eit} + \psi_d x_{dit-1} + \theta_{di} + \varepsilon_{dit} \quad (1)$$

Equation (1) is the standard dynamic panel model (Finkel, 1995; Halaby, 2004, p. 540), where  $i$  indexes the  $N$  migrants,  $t$  indexes time,  $x_{dit}$  is the level of assimilation along dimension  $d$ ,  $e = 1, 2, \dots, 6$  indexes dimensions other than  $d$ ,  $\alpha$  is a vector of constants for each assimilation dimension,  $\beta$  the six-by-six matrix of cross-dimension coefficients of interest,  $\theta_i$  a migrant-specific vector of constants and  $\varepsilon$  error. We employ the Arellano–Bond GMM1 estimator (Arellano & Bond, 1991), which provides fixed-effect estimates and uses lags of the dependent variables as instruments for the  $\psi_d$

coefficients. As controls we include the time-varying control variables shown in Table 1 as well as lags of all predictors. Positive entries in  $\beta$ , this would support the hypothesis.

A test of hypothesis 3 (“parallel change”) must involve comparisons within migrants across time, which the panel data allow us to make. We use fixed effects linear regression (Allison, 2009) and estimate the multivariate effects of the level of assimilation in each source dimension on the level of assimilation in each target dimension. Positive effects would support the hypothesis. Note that straight-line theory would also predict these correlations, namely as a byproduct of contemporaneous change in forward direction. To capture such cross-dimensional correlations that are merely due to simultaneous unidirectional change, we add dummy variables for wave 2 and wave 3. We also add the aforementioned control variables to the regression model.

To test hypothesis 4 (“stability of extremes”) we predict the probability of extreme and non-extreme assimilation levels remaining unchanged from wave to wave. We consider a space capturing all combinations of the six assimilation variables at each wave. As to keep the dimensionality of this space manageable, we first dichotomize the six assimilation variables, considering migrants either assimilated or not assimilated. We split variables at the wave 1 median, consistently used these same median thresholds across waves, and verified that the particular choice of threshold is inconsequential for the results. On each assimilation dimension, a migrant can at any wave thus either be assimilated or not, giving rise to  $2^6 = 64$  states. Two of these 64 states, namely nonassimilation in all dimensions and assimilation in all dimensions, are homophilous and predicted to be more stable than the others. We estimate six logistic regression models, one for each of the six assimilation variables, with prior levels of assimilation in all six variables as predictors.

These same logistic regression models can be used to test hypothesis 5 (“movement toward extremes”). We assess the differences in probabilities of forward and reverse assimilation between those who are nearly assimilated to the mainstream with those who are hardly assimilated. We estimate the probability that a migrant who is assimilated along one dimension but unassimilated along all other dimensions will have reverse-assimilated in that dimension by the next wave. We compare this with the probability that a migrant who is unassimilated along that dimension as well as all other dimensions assimilates along that dimension. We similarly compute probabilities of forward and reverse assimilation along each dimension conditional upon assimilation along all other dimensions.

For hypothesis 6 (“polarity”) we consider the same state space of dichotomous assimilation variables, but now at all waves. This yields  $3 \text{ waves} \times 2^6 \text{ states} = 192$  possible assimilation histories that any one migrant can have experienced. We estimate a Negative Binomial regression model for cell frequencies in the corresponding seven-dimensional matrix with 192 cells:

$$\ln(f_c) = \phi_0 + \sum_d \phi_d x_{cd} + \sum_g \gamma_g z_{cg} + \delta_c \quad (2)$$

Here,  $f_c$  is the frequency of cell  $c$ ,  $\phi_0$  a constant,  $\phi_d$  a coefficient for the effect of a cell involving assimilation along dimension  $d$ ,  $x_{cd}$  taking on value 1 if cell  $c$  involves assimilation along dimension  $d$  and 0 otherwise,  $\gamma_g$  with  $g = 0, 1, 2, 3$  a coefficient for the effect of homophily  $z_{cg}$ , where higher values represent positions closer to the two homophilous states. Variable  $z_{cg}$  equals 1 if  $|\sum_d x_{cd} - 3| = g$  and 0 otherwise.  $\delta_c$  is an error term.<sup>6</sup> Note that  $g$  equals 3 both at maximal assimilation ( $g = |6 - 3| = 3$ ) and at minimal assimilation ( $g = |0 - 3| = 3$ ), while intermediate levels of assimilation yield smaller values (e.g.,  $g = |3 - 3| = 0$ ). The pattern of polarity predicted by hypothesis 6 would be visible if  $\gamma_g$  were increasing in  $g$ .

Finally, hypothesis 7 (“polarization”) can be tested by evaluating if the degree to which  $\gamma_g$  increases with  $g$  (i.e., polarity) becomes stronger with each subsequent wave. Hypothesis 7 would also be supported if we find a pattern of increasing correlation between dimensions of assimilation. To this end we calculate pairwise correlations for all pairs of assimilation variables at each wave.

## RESULTS

Table 2 shows lifetime changes in the six measures of assimilation for both the 6 months–2 years and the 2 years–4 years period. The table shows that for all measures and all periods the direction of adaptive change strongly varies across immigrants, unlike what classic assimilation theory predicts. While many immigrants after longer residence are indeed less connected to their ethnic group and are less attached to its values and traditions, the table also shows that many other immigrants move in opposite direction, which does not support a unidirectional perspective. For two measures, namely, values & traditions and group identity, such reverse assimilation is even more common than forward assimilation in both periods ( $p < .05$  using a  $\chi^2$  test). These longitudinal data on Canada thus exhibit heterogeneity in

**Table 2.** Lifetime Changes in Six Measures of Immigrant Assimilation between 6 Months and 4 Years after Entry.

	Period	Reverse	No change	Forward	Total
Group identity	$\frac{1}{2}$ –2 years of residence	2,061 (29%)	3,035 (43%)	1,935 (28%)	7,031 (100%)
	2–4 years of residence	1,939 (28%)	3,251 (46%)	1,841 (26%)	7,031 (100%)
Values & traditions	$\frac{1}{2}$ –2 years of residence	1,938 (28%)	3,385 (48%)	1,708 (24%)	7,031 (100%)
	2–4 years of residence	1,737 (25%)	3,577 (51%)	1,717 (24%)	7,031 (100%)
Language proficiency	$\frac{1}{2}$ –2 years of residence	979 (14%)	3,834 (55%)	2,218 (32%)	7,031 (100%)
	2–4 years of residence	1,371 (19%)	4,113 (58%)	1,547 (22%)	7,031 (100%)
Friendship integration	$\frac{1}{2}$ –2 years of residence	1,300 (18%)	3,098 (44%)	2,633 (37%)	7,031 (100%)
	2–4 years of residence	1,531 (22%)	3,530 (50%)	1,970 (28%)	7,031 (100%)
Workplace integration	$\frac{1}{2}$ –2 years of residence	790 (11%)	4,012 (57%)	2,229 (32%)	7,031 (100%)
	2–4 years of residence	1,178 (17%)	4,228 (60%)	1,625 (23%)	7,031 (100%)
Household integration	$\frac{1}{2}$ –2 years of residence	844 (12%)	1,666 (24%)	4,521 (64%)	7,031 (100%)
	2–4 years of residence	1,192 (17%)	4,370 (62%)	1,469 (21%)	7,031 (100%)

*Note:* For all measures, more change occurs during the first period of one-and-a-half years than during the second period of two years, confirming Hypothesis 1 (“deceleration”).

the rate and direction of assimilation, as has been noted before in the literature on immigration to Western countries. Table 2 further shows that for all measures there is less change in the second period than in the first, suggesting that the biggest adjustments in an immigrant’s life are made at the very beginning, after which a process of equilibration is set in motion. This finding confirms hypothesis 1 (“deceleration”).

Table 3 shows results for the six dynamic panel models regressing temporal changes in each of the six assimilation variables on levels of assimilation in each of the others. Hypothesis 2 (“reinforcement”) predicts positive effects of assimilation along one dimension on assimilation along other dimensions. With six assimilation dimensions, there are 30 such

**Table 3.** Estimates of Six Dynamic Panel Models Regressing Dimensions of Assimilation on One Another.<sup>a</sup>

	Identity <i>coef (z)</i>	Values <i>coef (z)</i>	Language <i>coef (z)</i>	Friendship <i>coef (z)</i>	Workplace <i>coef (z)</i>	Household <i>coef (z)</i>
Identity	–	.234*** (19.79)	.010 (.96)	.072*** (5.46)	.028* (2.07)	–.018 (–1.69)
Values	.287*** (20.35)	–	.006 (.52)	.025 (1.73)	.003 (.21)	–.012 (–1.06)
Language	.007 (.38)	–.003 (–.17)	–	.076*** (4.11)	.035 (1.84)	.269*** (18.77)
Friendship	.078*** (5.91)	.016 (1.33)	.031** (3.18)	–	.077*** (5.78)	.017 (1.60)
Workplace	.027 (1.81)	.004 (.30)	.027* (2.42)	.100*** (6.78)	–	–.000 (–.04)
Household	–.014 (–.79)	–.011 (–.68)	.254*** (20.04)	.020 (1.17)	.018 (1.01)	–
$\chi^2$ (df)	556.75 (25)	552.20 (25)	515.12 (25)	157.99 (25)	5045.62 (25)	549.64 (25)
# migrants	7,031	7,031	7,031	7,031	7,031	7,031

*Note:* With many cross-dimension effects being insignificant and all significant effects positive, there is weak overall support for Hypothesis 2 (“reinforcement”).

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

<sup>a</sup>Effects of the following control variables are included but not shown: Income (log), age (in years), marital status (dummy; 1 = single), church attendance (dummy; 1 = attends), proportion migrants from same country of origin in neighborhood, business ownership (dummy; 1 = owner), and unemployment (dummy; 1 = unemployed). Additionally included but not shown are time lags of the dependent, independent and control variables.

cross-dimension effects. Of these 30 effects none have  $z$  values below  $-1.96$ , 18 have  $z$  values between  $-1.96$  and  $+1.96$ , while 12 have  $z$  values above  $+1.96$ . As all statistically significant effects are in the predicted direction, these results are consistent with the hypothesis. However, with only a minority of the predicted positive cross-dimension effects being statistically significant, empirical support is weak overall.

Looking more closely at the various effects, we can see that the directionality of cultural assimilation – forward or reverse – indeed depends on how structurally assimilated a migrant is. Cross-ethnic friendships and workplace relations speed up acquisition of the official language, and so does contact with household members who speak the official language. The findings support our theoretical propositions and are also consistent with the intuition that exposure to a language eases an immigrant’s acquisition

of that language (e.g., Van Tubergen & Kalmijn, 2005). Friendship effects on identification are in the expected direction as well, which is also consistent with the notion of “influence.” There is no evidence that workplace segregation or interaction with household members who do not speak the official language reinforces identification with one’s original ethnic group, nor is there any evidence for structural effects on cultural values.

The directionality of structural assimilation is also associated in the expected direction with how culturally assimilated a migrant is. A better command of the official language and less identification with one’s own ethnic or cultural group are found to promote cross-ethnic friendship contact, consistent with the notion of “selection.” The effect of language skills is in line with the present theory and also with the intuitive understanding of language skills as allowing conversations one could otherwise not have (Chiswick & Miller, 1995; Espinoza & Massey, 1997). In a similar vein, language skills are expected to increase the odds of transitioning from an ethnic to a mainstream work environment (e.g., Nee et al., 1994), but this effect is not significant in the dynamic panel models. Value orientation does not seem to affect the directionality of change in the ethnic composition of migrants’ friendship or work networks. As for friendship relations, for work relations an identity effect is also observed. Change in the proportion of household members speaking the official language is strongly affected by one’s own command of that language, but not by identification or attachment with the own ethnic/cultural group.

Degrees of assimilation in cultural dimensions do not significantly affect the directionality of change in other cultural dimensions, with one exception; attachment to cultural values of the own group reinforces identification with that group and vice versa. This mutual relationship can be explained as a combination of selection and influence whereby the effect of identity on values and the reverse effect are both mediated by some form of structural assimilation; stronger ethnic identification leads to increased co-ethnic contact which in turn reinforces ethnic values and vice versa. Analogously, influence and selection can in combination produce effects between dimensions of structural assimilation. Indeed, Table 3 shows that friendship relations with the own group lead to more work relations of that same type and this effect also runs in the opposite direction. These effects are thus consistent with the theory of selection and influence and also with the argument that friends from one cultural group refer one to jobs with employers and co-workers of that same cultural group (Bashi, 2007; Hagan, 1998; Menjivar, 1999; Portes & Rumbaut, 1996; Portes & Sensenbrenner,

1993; Sanders et al., 2002). No evidence was found for any of the remaining effects between dimensions of structural assimilation.

Table 4 displays the results of the six static fixed-effects panel models, including the estimated cross-dimension coefficients with associated *t* values, the *F* statistics with the associated numbers of degrees of freedom (all are significant), and the number of migrants. Note that the matrix of *t* values is symmetric because each model includes the same variables; for example, the *t* value for the effect of friendship integration on language skills is the same as the *t* value for the effect of language skills on friendship integration.

Of the 15 cross-dimension correlations, 7 are significantly positive, 7 are not statistically significant, while 1 is significantly negative. The exception involves the apparent negative relationship between household relations and values, which the present theory cannot account for. All in all, these results provide modest support for hypothesis 3 (“parallel change”): degrees of assimilation are mostly positively correlated with one another over the life course of a migrant. Note that this tendency is not a mere consequence of

**Table 4.** OLS Estimates for Six Models with Migrant-Level Fixed Effects, Regressing Levels of Assimilations on Any One Dimension on Levels of Assimilation Along the Five Other Dimensions.<sup>a</sup>

	Identity <i>coef (t)</i>	Values <i>coef (t)</i>	Language <i>coef (t)</i>	Friendship <i>coef (t)</i>	Workplace <i>coef (t)</i>	Household <i>coef (t)</i>
Identity	— (28.75)	.215*** (28.75)	-.004 (-.61)	.071*** (8.12)	.028* (2.55)	-.013 (-1.85)
Values	.259*** (28.75)	—	.004 (.67)	.035*** (3.67)	.003 (.34)	-.018* (-2.39)
Language	-.007 (-.61)	.007 (.67)	—	.062*** (5.06)	.056*** (3.65)	.366*** (40.30)
Friendship	.066*** (8.12)	.027*** (3.67)	.029*** (5.06)	—	.103*** (9.75)	.006 (.89)
Workplace	.016* (4.56)	.002 (.34)	.029*** (3.65)	.065*** (9.75)	—	.023*** (4.48)
Household	-.019 (-1.85)	-.023* (-2.39)	.283*** (40.30)	.010 (.89)	.061*** (4.48)	—
<i>F (df)</i>	438 (7)	137 (7)	130 (7)	155 (7)	333 (7)	1073 (7)
# migrants	7,031	7,031	7,031	7,031	7,031	7,031

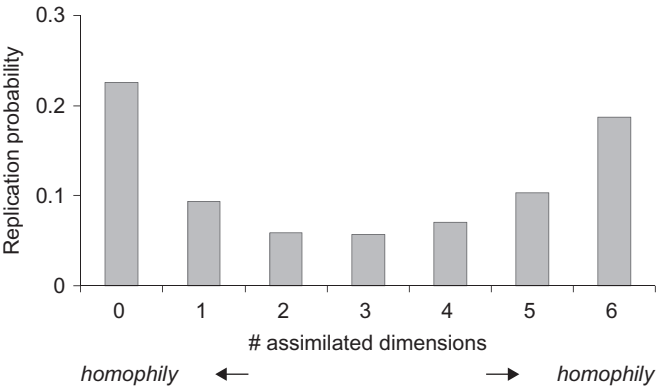
*Note:* All but one of the significant cross-dimension effects are positive, providing weak overall support for Hypothesis 3 (“parallel change”).

\**p* < .05; \*\**p* < .01; \*\*\**p* < .001

<sup>a</sup>Effects of constants and wave 2 and wave 3 dummy variables are not shown.

contemporaneous increases across waves, as a unidirectional perspective would predict. The model contains dummy variables for individual waves, thus controlling confounding effects of time.

Fig. 2 graphs the replication probabilities of assimilation levels remaining unchanged from one wave to another as a function of the number of dimensions along which a migrant is assimilated. The probabilities were computed from logistic regression models, as detailed in the previous section. The light grey bars in Fig. 2 closely follow the theoretical pattern depicted in Fig. 1. They show that migrants who are completely unassimilated are most likely to remain where they are from one wave to the next. They also demonstrate that in accordance with our theoretical propositions, the two most stable states in the empirical analysis are the ones that maintain homophily. All forms of partial assimilation are less stable, with the most mixed forms being the least stable, again in accordance with the theory. There is strong evidence that the two homophilous states are



*Fig. 2. Stability by Degree of Assimilation.* The “replication probability” shown is the conditional probability that a migrant is again found in a state with the given number of assimilated dimensions in the current wave provided that s/he exhibited no change along any of the six dimensions since the previous wave. *Note:* For values 1 through 5, the value shown is averaged across all states with the corresponding number of assimilated dimensions. The replication probabilities were estimated from six logistic regression models predicting assimilation along each of the six dimensions from levels of assimilation along each of the dimensions at the previous wave and from control variables. For each of the control variables a population average score was used to generate the replication probabilities shown. Consistent with Hypothesis 4 (“stability of extremes”), replication probabilities are highest at the extremes.



more stable than other states, as hypothesis 4 (“stability of extremes”) predicts.

Table 5 shows the probabilities of forward assimilation and reverse assimilation along each dimension conditional upon either nonassimilation or assimilation in all other dimensions, estimated from logistic regression models. Consistent with hypothesis 5 (“Movement toward extremes”), for every dimension it is found that reverse assimilation is more likely and forward assimilation less likely when a migrant is unassimilated in all other dimensions than when s/he is assimilated in all other dimensions. For some dimensions these differences in likelihoods of assimilation seem much larger than for others.<sup>7</sup> Temporal change in the migrant’s reported importance to carry on values and traditions of the homeland appears least affected by other dimensions while the directionality of linguistic assimilation of the migrant and her household members appear most strongly affected.

Table 6 shows results of three Negative Binomial regression models,<sup>8</sup> one for each wave, providing a test of the prediction that for the entire

**Table 5.** Estimated Probabilities of Assimilation and Reverse Assimilation for Each Dimension, Conditional upon Either Nonassimilation or Assimilation in All Other Dimensions.

	Unassimilated Along All Other Dimensions		Assimilated Along All Other Dimensions	
	Probability of forward assimilation	Probability of reverse assimilation	Probability of forward assimilation	Probability of reverse assimilation
<i>Dimension</i>				
Language	.33	.14	.80	.02
Identity	.14	.73	.42	.37
Values	.08	.70	.14	.55
Friends	.15	.54	.46	.19
Work	.29	.28	.60	.10
Household	.31	.41	.79	.08

*Note:* For each dimension, the probability of forward assimilation increases and the probability of reverse assimilation decreases with the number of dimensions along which the immigrant is currently assimilated. This provides support for Hypothesis 5 (“movement toward extremes”). The probabilities were estimated from six logistic regression models predicting probabilities of assimilation along each of the six dimensions from levels of assimilation along each of the other dimensions at the previous wave and from control variables. For each of the control variables a population average score was used to generate the probabilities of forward and reverse assimilation shown above.

**Table 6.** Results from Negative Binomial Models of Assimilation State Frequencies.

	Frequency <i>coef (z)</i>
<i>Wave 1</i>	
Two steps away	.194 (1.32)
One step away	.839* (5.24)
Maximal homophily	2.042* (14.80)
<i>Wave 2</i>	
Two steps away	.318 (1.65)
One step away	.970* (4.72)
Maximal homophily	2.259* (14.29)
<i>Wave 3</i>	
Two steps away	.162 (.84)
One step away	.931* (4.68)
Maximal homophily	2.265* (11.89)
<i>df</i>	10
# migrants	7,031

\**p* < .05.  
*Note:* Effects of control variables and constants are omitted. Immigrants are disproportionately located in states of maximal homophily, consistent with Hypothesis 6 (‘polarity’). However, there is no significant increase in homophily with time, rejecting Hypothesis 7 (‘polarization’). Control variables: For each of the six assimilation dimensions a dummy variable is included indicating whether the focal cell involves above-threshold assimilation along the respective dimension.

immigrant cohort, assimilation levels are distributed in a polarized fashion. The results provide strong support for hypothesis 6 (‘Polarity’). At all waves, migrants tend to be found in or near a homophilous state. Least likely is a mixed state where migrants are assimilated along three dimensions while unassimilated along the other three. This mixed state serves as the baseline for the effects shown in Table 6. More likely is that they are assimilated in four or in two ways, thus two steps away from maximal homophily. Even more likely they are only one step away from one of the two homophilous states. And most likely they are assimilated in none

**Table 7.** Changes in Pairwise Correlations between Measures of Immigrant Assimilation from  $\frac{1}{2}$  year to 2 years to 4 years after entry ( $N = 7,031$ ).

Change in Pearson Correlation Coefficient	Values			Language			Friendship			Workplace			Household		
	# years			# years			# years			# years			# years		
	$\frac{1}{2}$	2	4	$\frac{1}{2}$	2	4	$\frac{1}{2}$	2	4	$\frac{1}{2}$	2	4	$\frac{1}{2}$	2	4
Identity		+.05	+.09		-.04	+.06		+.02	+.09		+.00	+.03		-.02	+.04
Values					+.02	+.05		+.03	+.04		+.00	+.02		+.02	+.04
Language								+.06	+.08		+.00	+.04		-.02	-.02
Friendships											+.03	+.08		+.05	+.05
Workplace														-.01	-.02

*Note:* Exceptions notwithstanding, change tends to occur in positive direction, providing weak overall support for Hypothesis 7 (“polarization”).

or all ways. For example, complete or nonassimilation at wave 3 is  $e^{2.265} - 1 = 863\%$  more likely than partial assimilation and this difference is strongly significant at all three waves ( $p < .001$ ).

Comparing estimates across waves, the maximal homophily effects in Table 6 appear somewhat stronger for later waves, but  $\chi^2$  tests do not find this tendency to be significant. Thus, these results do not provide support for the predicted increase in polarity (hypothesis 7).

As a second test of hypothesis 7 we examine changes in the pairwise correlations across measures of structural and cultural assimilation from wave 1 to wave 2 and from wave 2 to wave 3. Table 7 shows these correlations. For 24 out of 30 pairwise comparisons, correlation coefficients increase from wave to wave and for 13 out of 15 sequences the correlation is strongest at the last wave, 4 years after entry. The trends are thus in general agreement with hypothesis 7, some exceptions notwithstanding.

The results as a whole mostly support the theory of homophilous assimilation. The data appear to exhibit the predicted bidirectional dynamic whereby with time immigrants come to occupy one of two homophilous positions.

DISCUSSION

A theoretical account of the well-documented pluriformity in assimilation trajectories and outcomes need not draw on corresponding heterogeneity in

the resources and intentions of immigrants or any differential treatment by the host society. Rather, this variability can be explained as spontaneously emerging from adaptation in a culturally differentiated host society, where both the mainstream as well as the own ethnic group provide competing sociocultural alternatives. The immigrant enters the confines of the ethnic or cultural group that is structurally and culturally most proximate and whose boundaries are most permeable to her. Often this is not the mainstream but the immigrant's own ethnic or cultural group.

Our approach agrees with contemporary perspectives and critiques of classic "straight-line" assimilation theory that reject the notion of a universal transformation from newcomer to all-round member of a dominant mainstream, instead emphasizing the great diversity of assimilation trajectories and outcomes (Alba & Nee, 2003; Brown & Bean, 2006; Portes & Zhou, 1993; Rumbaut & Portes, 2001; Waldinger, Lim, & Cort, 2007). We differ, however, in where we look for the origins of this diversity. What we have argued and purported to show here is that the sources of heterogeneity in assimilation outcomes need not be found in exogenous factors differentiating immigrant groups but may for a significant degree lie in the internal mechanics of immigrant assimilation. Diversity may endogenously arise as an emergent property of a bidirectional dynamic. These mechanisms drive how newcomers naturally adjust to a changed environment. Moderately assimilated immigrants tend to further assimilate while unassimilated migrants strengthen their embeddedness in their own ethnic group. Responsible for this dual movement in opposing directions is a tendency for immigrants' cultural behavior, beliefs, and values to come to match those of the people present in their immediate social environment. Such congruence is attainable not only by moving "forward" through immersion in the mainstream but also "in reverse," through participation in the ethnic neighborhood, culture, and economy.

This endogenous account does not by any means deny the existence of large *a priori* differences between migrants in social, financial, and human capital, settlement intentions, or in the differential opportunities that host societies bestow upon them. These factors can be seen as initial conditions that interact with the bidirectional forces we have identified, pushing most immigrants with greater resources, stronger intentions to adapt, and preferential treatment by the host population on a self-reinforcing integration trajectory while placing most others on the opposing path. Our point is rather that even if these important exogenous factors were not present, the adaptation process would still bifurcate and produce divergent outcomes.

While our investigation concerned the adaptation patterns of individual migrants, the results have implications for the assimilation of migrant *groups*. Namely, individual migrants do not assimilate independently. For example, if one migrant masters the official language and is the cohabitant of another migrant, then by implication the number of household members of that other migrant who speak the official language has gone up too. If the migrant subsequently develops friendships with those who speak the official language, then she is likely to introduce those friends to her partner. And so on. The self-reinforcing effects we identified within the lives of migrants might then also exist between migrants. Perhaps this can cause tipping effects at the population level, where the assimilation of one migrant triggers the assimilation of other migrants to that group (Bruch & Mare, 2006; Schelling, 1971; van de Rijt, Siegel, & Macy, 2009). It also suggests that the snowball effects that Massey et al. (1987) and Palloni, Massey, Ceballos, Espinosa, and Spittel (2001) find in the entry phase of migration, where one migrant increases the chance of a second migrant, may generalize to the adjustment phase: The more migrants approach a certain cultural group, the more likely subsequent migrants follow. As a result, we may see group-size effects at the population level. *Large* groups will naturally lead their members to develop more friendship, household, and work relations with others of the same group (Blau & Schwartz, 1984). The LSIC data show that the Chinese, forming the largest immigrant group in Canada, start off most behaviorally assimilated to their own group on all traits and in all relations and are more likely than others to remain so. Mexicans, a much smaller group in Canada than in the United States, acquire English speaking skills at a faster pace and more readily enter relations with members of other groups.

The present study has an important implication for the social networks literature focusing on selection and influence processes. What it shows is that the scale of these processes is not limited to the empirical settings that are typically considered in this literature: teenagers influencing one another's smoking habits (Mercken, Snijders, Steglich, Vartiainen, & De Vries, 2010) or socializing around common tastes and interests in online social networks (Lewis, Gonzales, & Kaufman, 2011). Immigrant assimilation concerns a metamorphosis that is initiated by much greater incongruity between self and other, that unfolds over a much longer stretch of time, and that concerns a much broader swath of life domains. Nonetheless, it is well captured by the same basic principles of network dynamics.

We draw our conclusions in recognition of a number of important study limitations. First, the empirical analysis is restricted to three-and-a-half

years of residence. Extrapolation from the trend data suggests an equilibrating process with less and less change, but later-life data are needed to confirm this. Second, the data at hand could only measure assimilation toward or away from the mainstream. Cases of assimilation toward a third group have been observed for first and second generations of several nationalities and ethnicities such as the Sikh in California (Dadabhai, 1954; Gonzales, 1986; LaBrack, 1981; Leonard, 1982) and West Indians in the United States (Deaux, 2006; Portes & Stepick, 1993; Portes & Zhou, 1993; Waters, 2001). The theory can straightforwardly be expanded to accommodate such cases. Namely, migrants may assimilate to any of a multitude of cultural groups, most likely the one that is least socially distant. Third, past immigration studies have almost exclusively focused on change among immigrants, while ignoring changes among native populations. While this paper is limited in the same way, the model proposed is not tailored to migrants and the concepts of selection and influence may be analogously applied to autochthon adaptation to the foreign-born. Fourth, the measures used may suffer from measurement problems that cannot be assessed. We assumed but could not verify that reported cross-ethnic contact involved members of the mainstream and co-ethnic contact was with a minority culture. Last but not least, our results are limited to the early residence years of recent immigrants to Canada. A number of longitudinal datasets will allow future researchers to study individual assimilation in greater depth. Analysis of the New Immigrant Survey, the Longitudinal Survey of Immigrants to Australia, and the Longitudinal Survey of Immigrants to New Zealand permits an assessment of the generalizability of the bidirectional assimilation dynamics that we have here identified.

## NOTES

1. Social capital also affects the probability of migration, prior assimilation (cf., Garip, 2008).
2. A third possibility for homophily is assimilation to another minority culture, a phenomenon that has in fact been observed (Dadabhai, 1954; Deaux, 2006; Gonzales, 1986; LaBrack, 1981; Leonard, 1982; Portes & Stepick, 1993; Portes & Zhou, 1993; Waters, 2001). The present two-group model can straightforwardly be generalized to scenarios with more than two groups; see also the discussion section.
3. This assumption of a preexisting state of cultural segmentation is consistent with theoretical models that show that selection and influence produce locally homogeneous communities within a cultural diverse population (Axelrod, 1997; Centola, Gonz  les-Avella, Egu  luz, & San Miguel, 2007).

4. Immigrants may simultaneously place value on contact with other ethnic groups and on maintenance of cultural identity and characteristics (e.g., Berry, 1997, 2006; Berry, Kim, Minde, & Mok, 1987; Sayegh & Lasry, 1993). The theory developed here does not exclude this possibility but posits a tension between cross-ethnic contact and ethnic identification based on the principle of homophily.

5. For simplicity we assume that relations are either cross-ethnic or with individuals who adhere to majority culture norms. In reality, there could be overlap and relations could also be with members of another minority group. The present theory is easily extended to more than two groups; see the discussion section.

6. This absolute value formulation constrains proximity to the one extreme to be equally likely to proximity to the other extreme. In the unconstrained alternative model with separate effects for all seven assimilation levels (0–6), the set of predictor variables would not be linearly independent.

7. An interpretation of the absolute probabilities would not be meaningful as they depend on the cutoff points chosen in the dichotomization of the variables.

8. We estimated three corresponding Poisson regression models, instead assuming Poisson distributed counts. These yielded lower standard errors, but on the grounds of overdispersion and goodness-of-fit, the negative binomial models are preferred.

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## REFERENCES

- Ajrouch, K. J., & Jamal, A. (2007). Assimilation to a white identity: The case of Arab Americans. *International Migration Review*, 41, 860–879.
- Akers, R. L. (1985). *Deviant behavior: A social learning approach*. Belmont, CA: Wadsworth.
- Akresh, I. R. (2007). Contexts of English language use among immigrants to the United States. *International Migration Review*, 41, 930–955.
- Alba, R. (1990). *Ethnic identity: The transformation of white America*. New Haven, CT: Yale University Press.

- Alba, R. D., Logan, J. R., Stults, B., Marzan, G., & Zhang, W. (1999). Immigrant groups in the suburbs: A reexamination of suburbanization and spatial assimilation. *American Sociological Review*, 64, 446–460.
- Alba, R. D., & Nee, V. G. (2003). *Remaking the American mainstream: Assimilation and contemporary immigration*. Cambridge, MA: Harvard University Press.
- Allison, P. (2009). *Fixed effects regression models*. Thousand Oaks, CA: Sage.
- Andersen, R., & Milligan, S. (2010). Immigration, ethnicity and voluntary association membership in Canada: Individual and contextual effects. *Research in Social Stratification and Mobility*, 29, 139–154.
- Aral, S., Muchnik, L., & Sundararajan, A. (2009). Distinguishing influence-based contagion from homophily-driven diffusion in dynamic networks. *Proceedings of the National Academy of Sciences*, 106, 21544–21549.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte carlo evidence and an application to employment equations. *Review of Economic Studies*, 58, 277–297.
- Axelrod, R. (1997). The dissemination of culture: A model of local convergence and global polarization. *Journal of Conflict Resolution*, 41, 203–226.
- Bandura, A. (1977). *Social learning theory*. New York, NY: Prentice Hall.
- Bashi, V. (2007). *Survival of the knitted. Immigrant social networks in a stratified world*. Stanford, CA: Stanford University Press.
- Bean, F. D., Brown, S. K., & Rumbaut, R. G. (2006). Mexican immigrant political and economic incorporation. *Perspectives on Politics*, 4, 309–313.
- Bean, F. D., & Stevens, G. (2003). *America's newcomers and the dynamics of diversity*. New York, NY: Russell Sage.
- Berry, J. W. (1997). Immigration, acculturation and adaptation. *Applied Psychology: An International Review*, 46(1), 5–68.
- Berry, J. W. (2006). Mutual attitudes among immigrants and ethnocultural groups in Canada. *International Journal of Intercultural Relations*, 30, 719–734.
- Berry, J. W., Kim, U., Minde, T., & Mok, D. (1987). Comparative studies of acculturative stress. *International Migration Review*, 21, 491–511.
- Blau, P. M., & Schwartz, J. E. (1984). *Crosscutting social circles: Testing a macrostructural theory of intergroup relations*. Orlando, FL: Academic Press.
- Bloemraad, I. (2006). Becoming a citizen in the United States and Canada: Structured mobilization and immigrant political incorporation. *Social Forces*, 85, 667–695.
- Bosson, J. K., Johnson, A. B., Niederhoffer, K., & Swann, W. B. (2006). Interpersonal chemistry through nativity: Bonding by sharing negative attitudes about others. *Personal Relationships*, 13, 135–150.
- Brown, S. K. (2006). Structural assimilation revisited: Mexican-origin nativity and cross-ethnic primary ties. *Social Forces*, 85, 75–92.
- Brown, S. K., & Bean, F. D. (2006). *Assimilation models, old and new: Explaining a long-term process*. Migration Information Source. Washington, DC: Migration Policy Institute.
- Bruch, E., & Mare, R. D. (2006). Neighborhood choice and neighborhood change. *American Journal of Sociology*, 112, 667–709.
- Carliner, G. (2000). The language ability of U.S. immigrants: Assimilation and cohort effects. *International Migration Review*, 34, 158–182.
- Centola, D. (2011). An experimental study of homophily in the adoption of health behavior. *Science*, 334, 1269–1272.



- Centola, D., Gonzáles-Avella, J. C., Eguíluz, V. M., & San Miguel, M. (2007). Homophily, cultural drift, and the co-evolution of cultural groups. *Journal of Conflict Resolution*, 51, 905–929.
- Chiswick, B. R., & Miller, P. W. (1995). The endogeneity between language and earnings: International analysis. *Journal of Labor Economics*, 13, 246–288.
- Christakis, N. A., & Fowler, J. H. (2007). The spread of obesity in a large social network over 32 years. *New England Journal of Medicine*, 357, 370–379.
- Crandall, D. J., Cosley, D., Huttenlocher, D., Kleinberg, J., & Suri, S. (2008). Feedback effects between similarity and social influence in online communities. *Proceedings of the 14th ACM SIGKDD international conference on knowledge discovery and data mining* (pp. 163–167).
- Dadabhai, Y. (1954). Circuitous assimilation among rural Hindustanis in California. *Social Forces*, 33, 138–141.
- Dávila, A., & Mora, M. T. (2000). The English-skill acquisition of Hispanic Americans during the 1980s. *Social Science Quarterly*, 81, 261–275.
- Deaux, K. (2006). *To be an immigrant*. New York, NY: Russell Sage Foundation.
- De Vroome, T., Coenders, M., Van Tubergen, F., & Verkuyten, M. (2011). Economic participation and national self-identification of refugees in the Netherlands. *International Migration Review*, 45, 615–638.
- Diehl, C., & Schnell, R. (2006). Reactive ethnicity or assimilation? Statements, arguments, and first empirical evidence for labor migrants in Germany. *International Migration Review*, 40, 786–816.
- Ersanilli, E., & Saharso, S. (2011). The settlement country and ethnic identification of children of Turkish immigrants in Germany, France, and the Netherlands: What role do national integration policies play? *International Migration Review*, 45, 907–937.
- Espenshade, T. J., & Fu, H. (1997). An analysis of English-language proficiency among U.S. immigrants. *American Sociological Review*, 62, 288–305.
- Espinoza, K. E., & Massey, D. S. (1997). Determinants of English proficiency among Mexican immigrants to the United States. *International Migration Review*, 31, 28–50.
- Esser, H. (1987). *The substitution of complete networks. An "Economic" explanation of development and change of friendship-networks*. Working Paper. Mannheim, Germany.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Peterson.
- Finkel, S. E. (1995). *Causal analysis with panel data*. Thousand Oaks, CA: Sage.
- Fong, E., & Ooka, E. (2006). Assessing patterns of social integration among immigrants. *International Migration Review*, 40, 348–374.
- Fuller, S., & Martin, T. F. (2012). Predicting immigrant employment sequences in the first years of settlement. *International Migration Review*, 46, 138–190.
- Gans, H. (1973). Introduction. In N. Sandberg (Ed.), *Ethnic identity and assimilation: The Polish-American community*. New York, NY: Praeger.
- Gans, H. (1997). Toward a reconciliation of assimilation and pluralism: The interplay of acculturation and Ethnic retention. *International Migration Review*, 31, 875–892.
- Garip, F. (2008). Social capital and migration: How do similar resources lead to divergent outcomes? *Demography*, 45, 591–617.
- Glazer, N., & Moynihan, D. P. (1970). *Beyond the melting pot: The Negroes, Puerto Ricans, Jews, Italians and Irish of New York city*. Cambridge, MA: MIT Press.
- Golash-Boza, T. (2006). Dropping the hyphen? Becoming Latino(a)-American through racialized assimilation. *Social Forces*, 85, 27–55.

- Gonzales, J. L. (1986). Asian Indian immigration patterns: The origins of the Sikh community in California. *International Migration Review*, 20, 40–54.
- Gordon, M. (1954). Social structure and goals in group relations. In M. Berger, T. Abel & C. H. Page (Eds.), *Freedom and control in modern society*. New York, NY: D. Van Nostrand Co.
- Gordon, M. (1964). *Assimilation in American life. The role of race, religion, and national origins*. New York, NY: Oxford University Press.
- Grenier, G. (1984). Shifts to English as usual language by Americans of Spanish mother tongue. *Social Psychology Quarterly*, 65, 537–550.
- Guarnizo, L. E., Portes, A., & Haller, W. (2003). Assimilationism and transnationalism: determinants of transnational political action among contemporary migrants. *American Journal of Sociology*, 108, 1211–1248.
- Hagan, J. (1998). Social networks, gender, and immigrant incorporation: Resources and constraints. *American Sociological Review*, 63, 55–67.
- Halaby, C. N. (2004). Panel models in sociological research. *Annual Review of Sociology*, 30, 507–544.
- Heider, F. (1946). Attitudes and cognitive organization. *The Journal of Psychology*, 21, 107–112.
- Houle, R., & Schellenberg, G. (2010). *New immigrants' assessments of their life in Canada*. Statistics Canada Analytic Studies Branch Research Paper Series no. 322.
- Hurh, W. M., & Kim, K. C. (1990). Religious participation of Korean immigrants in the United States. *Journal for the Scientific Study of Religion*, 29, 19–34.
- Huston, T. L., & Levinger, G. (1978). Interpersonal attraction and relationships. *Annual Review of Psychology*, 29, 115–156.
- Itzigsohn, J., & Saucedo, S. G. (2002). Immigrant incorporation and sociocultural transnationalism. *International Migration Review*, 36, 766–798.
- Jasso, G., Massey, D. S., Rosenzweig, M. R., & Smith, J. P. (2000). The new immigrant survey pilot: Overview and new findings about U.S. legal immigrants at admission. *Demography*, 37, 127–138.
- Kalmijn, M., & Van Tubergen, F. (2010). A comparative perspective on intermarriage: Explaining differences among national-origin groups in the United States. *Demography*, 47, 459–479.
- Kandel, D. B. (1978). Homophily, selection, and socialization in adolescent friendships. *American Journal of Sociology*, 84, 427–436.
- LaBrack, B. (1981). Immigration law and the revitalization process: The case of the California Sikhs. In S. Chandrasekhar (Ed.), *From India to America* (pp. 59–66). La Jolla, CA: Population Review.
- Lazarsfeld, P. F., & Merton, R. K. (1954). Friendship as a social process: A substantive and methodological analysis. In M. Berger et al. (Eds.), *Freedom and control in modern society* (pp. 18–66). New York, NY: Van Nostrand.
- Lee, S. M., & Boyd, M. (2008). Marrying out: Comparing the marital and social integration of Asians in the U.S. and Canada. *Social Science Research*, 37, 311–329.
- Leonard, K. (1982). Marriage and family life among early Asian Indian immigrants. In S. Chandrasekhar (Ed.), *From India to America* (pp. 67–75). La Jolla, CA: Population Review.
- Lewis, K., Gonzales, M., & Kaufman, J. (2011). Social selection and peer influence in an online social network. *Proceedings of the National Academy of Sciences*, 109, 68–72.

- Martinovic, B., Van Tubergen, F., & Maas, I. (2009a). Dynamics of inter-ethnic contact. A panel-study of immigrants in the Netherlands. *European Sociological Review*, 25, 303–318.
- Martinovic, B., Van Tubergen, F., & Maas, I. (2009b). Changes in immigrants' social integration during the stay in the host country: The case of non-western immigrants in the Netherlands. *Social Science Research*, 38, 870–882.
- Martinovic, B., Van Tubergen, F., & Maas, I. (2011). Acquisition of cross-ethnic friends by recent immigrants to Canada: A longitudinal approach. *International Migration Review*, 45, 460–488.
- Massey, D. S., Alarcón, R., Durand, J., & González, H. (1987). *Return to Aztlan. the social process of international migration from western Mexico*. Berkeley, CA: University of California Press.
- Massey, D. S., & Espinosa, K. E. (1997). What's driving Mexico-US migration? A theoretical, empirical, and policy analysis. *American Journal of Sociology*, 102, 939–999.
- Matute-Bianchi, M. E. (1986). Ethnic identities and patterns of school success and failure among Mexican-Descent and Japanese-American students in a California high school: An ethnographic analysis. *American Journal of Education*, 95, 233–255.
- McConnell, E. D., & LeClerc, F. B. (2002). Selection, context, or both? The English fluency of Mexican immigrants in the American Midwest and Southwest. *Population Research and Policy Review*, 21, 179–204.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27, 415–444.
- Medvedeva, M. (2012). Negotiating languages in immigrant families. *International Migration Review*, 46(2), 517–545.
- Menjívar, C. (1999). *Fragmented ties: Salvadoran immigrant networks in America*. Berkeley, CA: University of California Press.
- Mercken, L., Snijders, T. A. B., Steglich, C., Vartiainen, E., & De Vries, H. (2010). Dynamics of adolescent friendship networks and smoking behavior. *Social Networks*, 32, 72–81.
- Nee, V., & Sanders, J. M. (2001). Understanding the diversity of immigrant incorporation: A forms-of-capital model. *Ethnic and Racial Studies*, 24, 386–411.
- Nee, V., Sanders, J. M., & Sernau, S. (1994). Job transitions in an immigrant metropolis: Ethnic boundaries and the mixed economy. *American Sociological Review*, 59, 849–872.
- Newman, M. E. J. (2002). Assortative mixing in networks. *Physical Review Letters*, 89, 208–701.
- Otten, S., & Epstude, K. (2006). Overlapping mental representations of self, ingroup, and outgroup: Unraveling self-stereotyping and self-anchoring. *Personality and Social Psychology Bulletin*, 1121, 117–127.
- Pagnini, D. L., & Morgan, P. S. (1990). Inter-marriage and social distance among U.S. immigrants at the turn of the century. *American Journal of Sociology*, 96, 405–432.
- Palloni, A., Massey, D. S., Ceballos, M., Espinosa, K., & Spittel, M. (2001). Capital and international migration: A test using information on family networks. *American Journal of Sociology*, 106, 1262–1298.
- Park, R. E. (1950). *Race and culture*. Glencoe, IL: The Free Press.
- Park, R. E., & Burgess, E. W. (1921). *Introduction to the science of sociology*. Chicago, IL: University of Chicago Press.
- Paul, A. M. (2011). Stepwise international migration: A multistage migration pattern for the aspiring migrant. *American Journal of Sociology*, 116, 1842–1886.

- Perlmann, J., & Waldinger, R. (1997). Second generation decline? Children of immigrants, past and present – a reconsideration. *International Migration Review*, 31, 893–922.
- Portes, A., Guarnizo, L. E., & Haller, W. (2002). Transnational entrepreneurs: An alternative form of immigrant economic adaptation. *American Sociological Review*, 67, 278–298.
- Portes, A., & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. *American Journal of Sociology*, 98, 1320–1350.
- Portes, A., & Stepick, A. (1993). *City on the edge: The transformation of Miami*. Berkeley, CA: University of California Press.
- Portes, A., & Rumbaut, R. G. (1996). *Immigrant America: A portrait*. Berkeley, CA: University of California Press.
- Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *Annals of the American Academy of Political and Social Science*, 530, 74–96.
- Rose, A. M. (1942). A research note on the influence of immigration on the birth rate. *American Journal of Sociology*, 47, 614–621.
- Rosenthal, E. (1960). Acculturation without assimilation? The Jewish community of Chicago, IL. *American Journal of Sociology*, 66, 275–288.
- Roth, W. D., Seidel, M. L., Ma, D., & Lo, E. (2012). In and out of the ethnic economy: A longitudinal analysis of ethnic networks and pathways to economic success across immigrant categories. *International Migration Review*, 46, 310–361.
- Rumbaut, R. G., & Portes, A. (2001). *Legacies: Stories of the immigrant second generation*. Berkeley, CA: University of California Press.
- Sandberg, N. (1973). *Ethnic identity and assimilation: The Polish-American community*. New York, NY: Praeger.
- Sanders, J. M., & Nee, V. G. (1987). Limits of ethnic solidarity in the enclave economy. *American Sociological Review*, 52, 745–773.
- Sanders, J. M., Nee, V. G., & Sernau, S. (2002). Asian immigrants' reliance on social ties in a multi-ethnic labor market. *Social Forces*, 81, 281–314.
- Sayegh, L., & Lasry, J. (1993). Immigrants' adaptation in Canada: Assimilation, acculturation, and orthogonal cultural identification. *Canadian Psychology*, 34, 98–109.
- Schelling, T. (1971). Dynamic models of segregation. *Journal of Mathematical Sociology*, 1, 143–186.
- Sears, D. O., Du, M., Henry, P. J., & Bui, K. (2003). The origins and persistence of ethnic identity among the “new immigrant” groups. *Social Psychology Quarterly*, 66, 419–437.
- Shibutani, T., & Kwan, K. M. (1965). *Ethnic stratification: A comparative approach*. New York, NY: MacMillan.
- Staerklé, C., Sidanius, J., Green, E. G. T., & Molina, L. (2005). Ethnic minority-majority asymmetry and attitudes towards immigrants across 11 nations. *Psicología Política*, 30, 7–26.
- Statistics Canada. (2005a). *Longitudinal survey of immigrants to Canada*. Catalogue No. 80–614–XIE. Statistics Canada, Ottawa.
- Statistics Canada. (2005b). *Longitudinal survey of immigrants to Canada, microdata user guide for wave 2*. Ottawa: Statistics Canada.
- Steglich, C., Snijders, T. A. B., & Pearson, M. (2010). Dynamic networks and behavior: Separating selection from influence. *Sociological Methodology*, 40, 329–393.
- Stevens, G. (1992). The social and demographic context of language use in the United States. *American Sociological Review*, 57, 171–185.
- Stevens, G. (1999). Age at immigration and second language proficiency among foreign-born adults. *Language in Society*, 28, 555–578.

- Stoll, M. A., & Wong, J. S. (2007). Immigration and civic participation in a multiracial and multiethnic context. *International Migration Review*, 41, 880–908.
- Strogatz, S. (1994). *Nonlinear systems and chaos*. Cambridge, MA: Perseus.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations*. Monterey, CA: Wadsworth.
- Tazelaar, F. (1980). *Mental incongruities – social restrictions – behavior: A study of labor force participation of married women with an academic degree*. Utrecht, Netherlands: Utrecht University.
- Trilla, C. C., Esteve, A., & Domingo, A. (2008). Marriage patterns of the foreign-born population in a new country of immigration: The case of Spain. *International Migration Review*, 42, 877–902.
- Van de Rijt, A., Siegel, D., & Macy, M. (2009). Neighborhood chance and neighborhood change: Comment on bruch and mare. *American Journal of Sociology*, 114, 1166–1180.
- Van Tubergen, F., & Kalmijn, M. (2005). Destination-language proficiency in cross-national perspective: A study of immigrant groups in nine western countries. *American Journal of Sociology*, 110, 1412–1457.
- Van Tubergen, F., & Kalmijn, M. (2009a). A dynamic approach to the determinants of immigrants' language proficiency: The United States 1980–2000. *International Migration Review*, 43, 519–543.
- Van Tubergen, F., & Kalmijn, M. (2009b). Language proficiency and usage among immigrants in the Netherlands: Incentives or opportunities? *European Sociological Review*, 25, 169–182.
- Waldinger, R. (2007). The bounded community: Turning foreigners into Americans in twenty first century L.A. *Ethnic and Racial Studies*, 30, 341–374.
- Waldinger, R., Lim, N., & Cort, D. (2007). Bad jobs, good jobs, no jobs? The employment experience of the Mexican American second generation. *Journal of Ethnic and Migration Studies*, 33, 1–35.
- Warner, W. L., & Srole, L. (1945). *The social systems of American Ethnic groups*. New Haven, CT: Yale University Press.
- Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.
- Waters, M. (2001). *Black identities: West Indian immigrant dreams and American realities*. Cambridge, MA: Harvard University Press.
- Watts, D. J., Dodds, P. S., & Newman, M. E. J. (2002). Identity and search in social networks. *Science*, 296, 1302–1305.
- White, M. J., Biddlecom, A. E., & Guo, S. (1993). Immigration, naturalization, and residential assimilation among Asian Americans in 1980. *Social Forces*, 72, 93–117.
- Wilson, K. L., & Portes, A. (1980). Immigrant enclaves: An analysis of the labor market experiences of Cubans in Miami. *American Journal of Sociology*, 86, 295–319.
- Zhou, M. (1997). Segmented assimilation: Issues, controversies, and recent research on the new second generation. *International Migration Review*, 31, 975–1008.
- Zhou, M. (2001). Straddling different worlds. In R. G. Rumbaut & A. Portes (Eds.), *Ethnicities: Children of immigrants in America* (pp. 187–227). Berkeley, CA: University of California Press.
- Zhou, M., & Logan, J. R. (1991). In and out of Chinatown: Residential mobility and segregation of New York City's Chinese. *Social Forces*, 70, 387–407.
- Zimmerman, L., Zimmermann, K. F., & Constant, A. (2007). Ethnic self-identification of first-generation immigrants. *International Migration Review*, 41, 769–781.

## APPENDIX: A SIMPLE FORMALIZATION OF THE ASSIMILATION MODEL

The assimilation model in the main text is left unformalized. Here we propose a simple formalization and derive the characteristic property of bidirectionality.

Let  $t$  denote lifetime and  $\dot{a}_k = \partial a_k / \partial t$  the rate of assimilation for an immigrant along dimension  $k$ . Selection (influence) can then be expressed as an immigrant's rate of assimilation  $\dot{a}_k$  along structural (cultural) dimension  $k$  being a positive linear function of the level of assimilation  $a_l$  along cultural (structural) dimension  $l \neq k$ . Furthermore, selection followed by influence (influence followed by selection) can then be expressed as the rate of assimilation along one cultural (structural) dimension depending on the level of assimilation along another cultural (structural) dimension. Thus, we may state that for all structural and cultural dimensions  $k$ , selection and influence produce positive linear cross-dimension effects:

$$\dot{a}_k = a_k + \sum_{l=1}^K \beta_{kl} a_l \quad (\text{A.1})$$

Here,  $\alpha$  is a  $K$ -sized vector of dimension-specific constants and  $\beta$  is a  $K \times K$  matrix of coefficients.  $\dot{a}$  is a linear system of differential equations with solution vector  $a(t)$  for a diagonalizable matrix  $\beta$  given by (e.g., Strogatz, 1994, pp. 123–44):

$$a(t) = \sum_{m=1}^K c_m e^{\lambda_m t} v_m \quad (\text{A.2})$$

where  $v_m$  are eigenvectors and  $\lambda_m$  eigenvalues of  $\beta$ , and  $c$  is a vector of constants.

For positive coefficients  $\beta_{kl}$  the Perron–Frobenius theorem states that for some  $n$ ,  $\lambda_n$  is real positive and strictly larger than all other eigenvalues, and that the corresponding eigenvector  $v_n$  has only positive entries. As inspection of Eq. (A.2) establishes, this means that as  $t$  becomes large, the term  $c_n e^{\lambda_n t} v_n$  comes to dominate in magnitude, as it is asymptotically approached by  $a(t)$ . Since  $c_n e^{\lambda_n t} v_n$  grows exponentially with  $t$ , the system has only two attractors, namely, maximal assimilation in all domains,  $a \rightarrow \infty$ , and minimal assimilation in all domains,  $a \rightarrow -\infty$ . After sufficient time has elapsed, the immigrant experiences forward assimilation along all

dimensions or reverse assimilation along all dimensions. Which of the two trajectories the immigrant will follow depends on whether  $c_n$  is positive or negative, which in turn depends on initial conditions. Immigrants who start off rather assimilated further assimilate. Immigrants who start off not so assimilated reverse assimilate.