The Shaping of Selection:

Secondary Migration and Historic Immigrant Geographies

Abstract

This paper uses data from the 1940, 1970, and 2000 Integrated Public Use Microdata files of the U.S. Census to analyse the changing relationships between the internal (secondary) migration of immigrants and the second generation and their wage outcomes, net of relevant individual and place characteristics. The endogenous switching models employed explicitly relate the sorting of individual and place characteristics to secondary migration through selection. Focusing on how these relationships change over time and between generations, as well as on the differing significance of local-level mobility and more significant inter-metropolitan moves, contributes to theoretical perspectives on spatial assimilation and secondary migration. Secondary migration is important for immigrants in terms of evading gender and educational wage gaps, even as these gaps diminish across decades. Moving toward immigrant concentration is often associated with positive wage outcomes, although remaining in immigrant concentrations can have negative effects. All of these effects are generally more significant for those undertaking non-local moves and also for the second generation. The addition of place characteristics experienced by a previous immigrant generation in situ suggests that the salient characteristics of immigrant geography emerge over time, with relatively high immigrant wages and educational levels continuing to attract new secondary migration decades later.

Immigrant Geographies, Immigrant Outcomes

The study of secondary migration in the United States has often focused on its relationship with spatial assimilation.[1] In this formulation, immigrants undertake internal migration as their experience with the US increases, and with diminishing needs for the site-specific resources originally provided by concentrated immigrant communities (Logan et al 1996; Alba, Logan, and Stults, 2002). However, migration scholars have also noted evidence of persistent settlement or re-concentration of long-resident immigrant and second generation groups (Lieberson and Waters 1989, Alba and Nee 2003, Ellis and Goodwin-White 2006). A related literature focuses on how the post-1965 immigrants and their children may not demonstrate patterns of assimilation, and especially of spatial assimilation, due to the significance of US racial and ethnic segregation and the non-European origins of post-1965 immigrants (Portes and Zhou 1993, Portes and Rumbaut 2001).

The scale at which secondary migration is considered varies. Those concerned with spatial assimilation have preferred to examine mobility and residence at a local level, commensurate with ideas of residential attainment via suburbanization (Massey 1985, Alba and Nee 1999, Alba, Logan, and Stults 2002, Urban 2008). Related research has examined secondary migration between counties or metropolitan areas or states, consistent with a broader migration literature that focuses on how human capital is translated across labor markets (Ellis and Goodwin-White 2006, Crowley et al 2006, Hall 2009). Whilst not explicitly concerned with spatial assimilation, these authors are also concerned with immigrant progress over time and across generations, and often measure this in relation to where immigrants reside and migration from or toward traditional metros or states of immigration. Researchers have also used considered larger-scale migrations as an indicator of whether immigrant concentrations are increasing or dispersing (Liaw and Frey 1998, Iceland and Scopilitti 2008). Thus, debates over immigrant progress have largely focused on the ways in which immigrant settlement intensifies or diminishes over time and across generations, although a closely-related literature takes changing settlement patterns and immigrant concentrations themselves (rather than immigrant progress) as the crux of analysis.

Post-1990 changes in the patterns of immigrant destinations, whether from primary or secondary (subsequent) migration, have complicated this literature. The new destinations literature documents emerging immigrant destinations (Suro and Singer 2002, Singer 2004) and counterflows (Fernandez, Howard, and Amastae 2007, Lichter and Johnson 2009, Ellis,

Wright, and Townley 2014), analyses whether these destinations are actually new or simply re-emerging (Singer 2004), focuses on the consequences for immigrants and the second generation (Kandel and Parrado 2005, Crowley et al 2006, Stamps and Bohon 2006, Donato et al 2008, Goodwin-White 2012, Kritz, Gurak, and Lee 2013), and queries what these changing immigrant geographies mean both empirically and theoretically (Zuñiga and Hernandez-Leon, 2005). Whilst this literature has not concerned itself specifically with spatial assimilation, it shares an emphasis on documenting and evaluating the dispersion of immigrant groups away from traditional locations of immigrant concentration.

However, as some of this work (especially that of Lieberson and Waters 1989 and Singer 2004) documents, immigrant destinations and sites of concentrated settlement have changed previously. The theoretical accounts of immigrant concentrations and their relationship to secondary migration and its determinants and outcomes, however, have scarcely deviated from spatial assimilation tenets. The key exception is those papers that examine changing internal migration patterns in response to recent policy changes that affect immigrants (Massey 2002, Kandel and Parrado 2012, Ellis, Wright and Townley 2014), or recent changes in housing markets. This paper attempts to narrow a small gap in the literature by examining how immigrants' wage outcomes and returns to individual demographic characteristics are shaped through secondary migration and a small array of immigrant-specific place characteristics, as well as how these relationships change between 1970 and 2000. Following an earlier enquiry that focuses on how the relevance of immigrant concentrations evolves over time (forthcoming), it considers how the immigrant-relevant characteristics of metro areas themselves, especially immigrant concentration, work explicitly through the selection of secondary migration. How are immigrant concentrations and the characteristics of immigrants and locations translated into economic outcomes through secondary migration itself? Has this relationship changed over time?

This paper thus also connects a smaller body of work that focuses on locations themselves and how they matter for immigrants beyond serving as markers of either diminishing or augmenting concentration and theoretical adaptation. Some of this literature considers how locations have transmitted advantages and disadvantages to immigrants, especially over time as population compositions have waxed and waned. As such, it takes a more classical human capital approach to modeling internal migration, whether of immigrants or natives, while also emphasizing the barriers and obstacles that immigrants face

(Borjas 1992, 1993; Borjas, Bronars, and Trejo 1992, Feliciano 2005, Greenman 2011). Interestingly, the place-level 'control' covariates necessary when modeling any internal migration, whether of immigrants or natives, have received little substantive attention in the immigrant integration literature. In this paper, I add similar control covariates (population size, and proportion of manufacturing jobs) to previous studies, without making full use of them analytically. However, having previously found evidence that the metro-level characteristics of a previous generation are significant to how the current foreign-stock population experiences economic and educational outcomes, I include additional place covariates. These include measures of immigrant concentration, Mexican concentration,[2] average metro levels of immigrant education, and a measure of average immigrant wages relative to non-immigrant wages.

I argue that these past immigrant-relevant place characteristics affect wages selectively through secondary migration patterns that respond to and reflect the differences between US metropolitan areas – differences whose constitution is historic as well as contemporary. In order to investigate this claim, I make use of selection models (here, endogenous switching regressions) that ask whether unobservable characteristics selecting individuals into secondary migration are related to characteristics predicting wage outcomes. If selection were not present, then secondary migration and location choice could be seen as random and not as associated with wage outcomes. The results demonstrate the contrary, and returns to the individual and place characteristics associated with wages show significant differences between those who have undertaken a recent secondary migration and those who have not.[3] Given that the data are grouped at a metro-level, this indicates that locations mattered significantly for immigrants and the second generation, that immigrants who moved were generally positively selected in terms of economic outcomes, and that selection has worked through differences between places in terms of how they benefitted immigrants and their descendants over time. In addition, the metro-level characteristics of a previous generation's immigrants are shown to affect the selective migration behavior of current immigrants. Whereas earlier I examined how the locational choices immigrant parents had made affected the second generation in subsequent decades, here I consider how the secondary migration patterns of immigrant and second generation individuals themselves respond to differences between metro areas. I further emphasize the relative importance of

immigrant place characteristics as they change over time, as revealed by the economic returns to both movers and stayers.

Methodology

The data throughout this paper come from the integrated Public Use Microdata Samples (IPUMS-USA) for 1940, 1970, and 2000, as years including necessary largely-comparable variables. Table 1 displays the top ten internal migration flows of 1) all immigrants and 2) Mexican immigrants in the five years preceding 1970 and 2000 who made a move at least at the level of the county. As inter-county moves are specified, many of the top flows occur within a large, multi-county consolidated metropolitan area and thus the top moves are within the top metropolitan areas for immigrant populations. Here, the bracketed figures indicate what proportion of all moves made by that group in that period were constituted by the particular flow. In 1970, there are significantly more East Coast flows, although Mexican flows are much more concentrated between western parts of the US. By 2000, most Mexican flows are focused on leaving the Los Angeles metro area or circulation around the LA area and its surrounding counties.

I first extract 1970 and 2000 samples of prime-age immigrants with current labor force experience (restricted to those aged 24-54 who worked for wages in the previous year), and further restricted to those who were not newly-arrived immigrants (i.e. they had been in the US for at least five years at the time of the census). I also create separate samples of similar second generation (born in the US of two immigrant parents) individuals in 1970, and similar 1.5 generation individuals (those born abroad but who arrived in the US prior to their tenth birthday) in 2000.[4] In addition to a continuous age variable and a gender dummy, I include covariates that measure educational background (compressed into dummy variables for having less than a high school diploma or at least a 4-year university degree). Current metropolitan level variables include proportion of the population born outside of the US, proportion Mexican-born, and proportion of jobs that are in manufacturing.[5] These four individual-level variables and three metro-level variables are included in a series of endogenous switching regression models,[6] such that logged wages are simultaneously estimated equations for movers and stayers. The models are further divided into sets for 1) those who undertook (or did not) any internal move in the previous five years (mobility models) and 2) those who undertook a move that changed counties or even states (migration

models). These latter are generally seen as internal migration and as significant moves, whereas the former could be classed as local-level mobility. Although the findings are similar, slight differences in the covariate relationships are contingent upon scale of move. Differences between covariates for movers and stayers provide a preliminary glimpse of migration selection.

The selection parameter comes from taking the unmeasured variance in internal migration (whether local-level mobility or more significant inter-county or inter-state migration) and using it as a covariate in the wage models. This captures the selection in migration via a latent variable that relates unexplained variance in wages to unexplained variance in migration behavior. The explicit selection models that follow thus report on the importance of the latent variable of the internal migration and destination choice of the second generation. There are several key insights to be gained from the endogenous switching regressions employed here. First, the coefficients in the second stage wage models show how individual and place characteristics were rewarded or experienced differently for movers and stayers over the previous five-year period (1965-1970 or 1995-2000, respectively). Second, the importance of these characteristics in determining the likelihood of internal movement over the preceding five-year period can be determined from the 1st-stage migration selection equations. The emphasis in what follows is not on personal characteristics, which are mostly as expected,[7] but on the association of migration with current (1970 and 2000) place characteristics as well as those faced by a previous immigrant generation in the same location 30 years previously (1940 and 1970). Although interpretation is complicated, it allows a glimpse of the ways in which immigrant metropolitan geographies have emerged over time, as well as accounting for a composition effect. Some differential returns to wages are the result of an area's large proportion of recent migrants whereas other areas have longer-established migrant populations. This is important in that immigrant concentrations at local or regional levels have often been interpreted as positively or negatively related to immigrant outcomes, rather than as aggregate descriptions of places wherein a population comprised mostly of newcomers will garner lower wages.

The selection equations are further assessed in terms of their instruments (covariates absent from the wage equations assumed to underlie migration selection). Mathematically, these covariates should be significant in order to avoid multicollinearity and provide grounds for the reasonable estimation of selection effects, although this caveat is frequently ignored

in the use of selection models. In the current analysis, the instruments are characteristics of immigrant locations 30 years previously, and so can be interpreted as the place characteristics associated with wage outcomes experienced over generations,[8] including the in situ educational and wage profiles of a previous generation. Finally, the rho coefficients indicate the significance of migration selection for wage outcomes in terms of the overall models. I will discuss these insights for a 1970 immigrant/second generation cohort and a 2000 immigrant/1.5 generation cohort in turn. I will also briefly demonstrate the differences between models of internal mobility (a local move undertaken within states or counties) and internal migration (a move that crosses county or more often state lines) in order to tease out some of the effects of migration selection at different scales. As discussed above, assessments of immigrant geography have oscillated between internal migration accounts focusing on labor market outcomes and accounts of the retaining effects of more local (neighborhood-level) immigrant concentration. The differences seen between mobility and migration in these models may point to future research directions regarding the scale of immigrant geography, as will be seen below. They also help to illustrate the role immigrant concentration plays through secondary migration.

Selection: connecting secondary mobility and migration to placed outcomes

Table 2 shows the results of the 1970 models. Columns A-B report the results of the models for immigrants who undertook moves at any level (A) and those who undertook a move between metropolitan areas. Columns A_2-B_2 elaborate these same models for immigrant men only, given the much less focused economic migration of women in this time period (these models do not receive significant attention here except in clarifying the often weaker results of the models including both genders). Columns C-D report the same for members of the 1970 adult second generation. Table 3 follows the same pattern for the 2000 cohort, although Columns C-D report on the 2000 1.5 generation. Men are not reported separately in these latter models, as women represented a more equivalent share of the labor force.

Intriguingly, women and less-educated individuals fare (relatively) better if they undertake secondary migration. Both local and inter-county moves significantly narrow the ever-present gender wage gap, particularly for those women who undertake a more significant migration (from a -.8327 disadvantage to a -.5096 one in column B, and more so for the second generation in column D). The relative disadvantage of lacking a high school diploma (<HS) also increases from 23-35 per cent for internal migrants versus stayers. However, the relationship is reversed for those immigrants and second generation individuals with a university degree (BA), who garner much higher wages if they have remained in place over the past five years. Considering place characteristics sharpens this analysis. Immigrant concentration (% immig) is associated with higher wages amongst those who move, and significantly so for the second generation. The effect is more pronounced for migrants than local movers (non-movers experience metro-level immigrant concentration in economically negative terms). This finding complicates assessments of the valence of immigrant concentration on wages, which appears positive for those who have recently *moved into* but negative for those who have *remained in* metros with immigrant concentrations. Mexican concentration (% Mex) proves significantly negative for in-metro movers and stayers, but significantly increases wages for those who have undertaken an inter-metropolitan move and for the second generation (as seen in columns B-D). This is suggestive of a quite early stigmatization and segmented labor profile of this national group when they remain within concentrated metro areas, but one that can be escaped by those who move more significantly beyond their locale. In other words, not all immigrant concentrations diminish wages – and moving toward more concentrated immigrant metros improves wages. The proportion of manufacturing jobs in a metro (% manuf) also improves wages; more so for movers than stayers (in fact it is negatively related to wages for immigrants who stayed behind), and more so for those moving longer distances.

Internal migration is thus strongly associated with positive results. Gender and educational wage gaps are abated, and movers to metro-level immigrant concentrations and manufacturing employment benefitted more than those who simply stayed in them. Given that the variable assesses immigrant concentration at destination (for movers) and at current residence (for stayers), spatial assimilation's suggestion that dispersal from immigrant concentrations might indicate economic success is challenged. Immigrants and members of

the second generation moving toward immigrant concentrations are generally those who will fare well economically, especially compared with moving to places with reduced immigrant concentrations. However, those staying in heavily concentrated immigrant metros fare worse than those in less-concentrated metros.

1970 Selection equations

More explicit evidence of the role of migration is apparent in the selection models in the bottom half of the tables. Are those immigrants who moved those who would fare better by doing so? 1970s immigrant concentrations do not attract recent local migrants, and probably not immigrants from other metro areas. This coefficient demonstrates that some dispersal, especially *within* metro areas, occurred between 1965 and 1970. The Mexican immigrant coefficient indicates that concentration may be solidifying or intensifying within counties/metro areas (columns A and C) whilst not attracting immigrants from other counties or metro areas (columns B and D). Manufacturing concentration also detracted movers, especially amongst the second generation, although those who moved toward them experienced higher wages. By 1970, it seems, manufacturing metros were no longer attracting immigrant movers, although immigrants who had been residing in them experienced higher average wages. This finding echoes earlier evidence of the declining significance of manufacturing employment for post-1965 immigrants. Compositional effects aside, the main point of the selection equations is the additional variables (instruments) added from the wage models. Theoretically, these capture the significance of the characteristics immigrants faced a generation previously in the same metro areas as the current 1970 immigrant generation. They continue to exert influence on immigrant populations a generation later.

Historical 1940 immigrant concentrations and manufacturing concentrations did not attract new internal migrants in 1970, and the former significantly deterred immigrant men. However, 1940s Mexican metros and metros with high levels of immigrant education historically quite significantly attracted the second generation between 1965 and 1970, as did the latter for immigrants.[9] Rho1 indicates that both migration and mobility are positively selected, in that internal migration acts as a latent variable positively associated with wages,[10] and rho2 shows that stayers evidence negative selection with regard to wages. While it is not surprising that secondary migration is positively selected with regard to wages (just as

internal migration is, generally, for the native-born population), the relationships evidenced here contribute to our understanding of how immigrant location is experienced over time. Not only are gender and educational wage gaps ameliorated through secondary migration, but immigrant concentrations appear to benefit those *moving to* them versus those *staying in* them, whereas concentrations of manufacturing employment appear to benefit stayers rather than those moving to them. Further, historical place characteristics contribute significantly to the positive selection of migration, in that immigrants and the second generation moved between 1965 and 1970 to places that had high levels of immigrant education in 1940, and also places that were early Mexican concentrations. Without consideration of these positive hangover effects of 1940s geography, 1970s immigrant wages would be lower, especially for secondary migrants.

2000 Wage Models

Results are generally consistent with the earlier period, although several differences are illustrative. The predictably-diminished gender wage gap remains much greater for stayers than for movers. Those without a high school diploma suffer more in this latter period, again especially for those who do not make an inter-county level move. The positive effects of a BA degree are much stronger again for those who have *not* undertaken a recent secondary migration. This may be further evidence of findings that new 2000 immigrant destinations are negatively selected for wages. The educational differences related to moving, whether positive or negative, are especially strong amongst the 1.5 generation. The selection associated with location choice via place characteristics has also become stronger and more coherent by 2000. Immigrant concentration is now very positively associated with wages for those who have moved, especially across county lines. It is also somewhat positively associated with the wages of immigrant stayers but diminishes the wages of 1.5 generation stayers. The Mexican immigrant concentration of the metro is usually negatively associated with wages, although it is associated with a slight wage boost for recent immigrant migrants from another metro area. Manufacturing jobs are positively related to wages; more so for movers than stayers. While the positive effects are nearly doubled for those who undertake larger-scale moves for both immigrants and the 1.5 generation, manufacturing jobs are negatively associated with wages for members of the 1.5 generation who have not recently moved. The results of these second-stage wage models suggest strongly that internal

migration is associated with positive results, with the exception of those with university degrees who fare better by having stayed in place in recent years. Gender and educational wage gaps are abated, and movers to metro-level immigrant concentrations and manufacturing employment benefitted more than those who simply stayed in them.

2000 Selection equations

The explicit role of migration selection is also much clearer and consistent in 2000. Current immigrant concentrations are less likely to attract movers, whether immigrant or second generation, at whatever scale, between 1995 and 2000. The effect is nearly doubled for those undertaking a move across counties (columns B and D). The increased strength and consistency of this relationship from 1970 probably has much to do with the new array of immigrant destinations by 2000. Mexican immigrant concentration is again positively associated with in-county mobility but detracts recent movers from further afield. Again, this extremely interesting effect, visible in both decades for both immigrants and the second/1.5 generation, suggests that immigrants may be choosing a broader array of metro locations through internal migration (the dispersion evident in columns B and D), but also concentrating within counties (the local moves of columns A and C). In 2000, manufacturing concentrations somewhat significantly attract in-county immigrants, and the deterrent effect for the second generation evident in 1970 is no longer significant, reflecting shifts in where manufacturing jobs are located and newer post-90s immigrant destinations.

Historical 1970 immigrant concentrations significantly deterred 1995-2000 1.5 generation in-migration, and 1970s Mexican and manufacturing concentrations also experienced significantly lower migration from within the county. As in 1970, these earlier place characteristics are still exerting influence on immigrant populations a generation later, although the direction of this relationship has changed. While 2000 Mexican concentrations attract new local mobility, 1970 Mexican concentrations deter local mobility. This suggests that the role of immigrant concentrations in attracting and cementing immigrant concentration over time, seen in the earlier 1970 cohort, has deteriorated by 2000 (in part as new settlement geographies have emerged). A previous generation's metro-average educational levels (immedavg70) was only significant for attracting local-level immigrant movers (those who did not cross county or metro lines), although the relative wages of a previous generation's immigrants relative to natives (fbnbavg70) also significantly attracted

local immigrant and 1.5 generation movers (unlike in 1970). Rho1and rho2 again indicate that migration is positively selected, and that failing to undertake an inter-metropolitan level move is negatively selected.[11] This means, again, that secondary migration is extremely positive in terms of wage effects for both immigrants and the 1.5 generation. It is possible that the transition from 1970 to 2000 represents both the maturing of immigrant concentrations and a newly significant, expanded immigrant geography, in which inter-metropolitan migration becomes more important for immigrants and their descendants.

Summary and discussion

Although these effects are complicated to assess, several key theoretical insights are gained from maneuvering through the model permutations. The fact that both migration and mobility are positively selected (and that staying in place is negatively selected), in both 1970 and 2000, and especially for the second/1.5 generation, is not surprising. The same would generally be the case for the internal migration of the US-born of US-parents cohort. The lower wages garnered by women and those without a high school education are significantly ameliorated by moving at both local and especially inter-metropolitan levels, and even more dramatically for the second generation. The gender effect is stronger in 1970 but still quite obvious in 2000, whilst the less-educated effects strengthen. These individual-level effects demonstrate the role of secondary migration in avoiding relative labor market vulnerabilities. The advantage of a university degree, in contrast, is best experienced by those who have not moved. Again, the greatest wage advantages are generally found for those who have stayed rather than undertaking a significant move (local moves matter less) and for the second (1.5) generation in 2000. This effect is counter to that usually experienced in the internal migration literature, which premises migration as necessary to recoup high human capital investments. It may be that immigrants benefit from remaining in immigrant concentrations to benefit from high levels of education, especially in 1970.[12] The negative selection of new post-1990s destinations, which involved steps down the urban hierarchy, may also be at play in 2000. At any rate, the positive individual-level effects on moving for immigrants and the second generation seem to be about evading the wage penalties associated with low levels of education (and with being female), and not with capitalizing on a university degree.

The evolution of immigrant place characteristics for movers and stayers is of more interest theoretically. Immigrants who made significant inter-county moves between 1965

and 1970 benefitted economically from metro-level immigrant concentration, although non-movers experienced lower wages. Notably, immigrant concentration significantly increased wages for the second generation overall, although movers benefitted considerably more. By 2000, the relationship has solidified such that immigrant concentration is always significantly positive for immigrants and 1.5 generation movers (most strongly by far for the latter and for longer-distance moves), much less positive for immigrant stayers, and always negative for 1.5 generation stayers. In contrast, Mexican immigrant concentration diminishes wages, except for those who have *migrated into* Mexican concentrations (for whom the relationship is nonsignificantly positive) rather than *remained in them* or moved locally.[13] Manufacturing jobs generally increase immigrant wages, although they can be negative (especially for the second generation) for those who have remained in metros with manufacturing jobs rather than moving into them.

Again, there is considerable evidence here that migration is positively selected, whether in terms of avoiding disadvantageous personal characteristics or responding to place characteristics that reward individuals differently. Immigrant concentrations have positive wage effects for movers, although they are negative for those immigrant men who stay in them in 1970 and for everyone remaining in them in 2000. This complicates spatial assimilation arguments about dispersion, in that dispersion is not necessarily associated with economic progress. Mexican concentrations are negatively associated with wages, and probably indicate labor markets where wages are low and immigrant labor market segmenting high. However, this is again only consistent for those workers *remaining in them*, and not for those who choose to move toward them. Even manufacturing jobs can be negatively associated with wages for the second generation who have remained in them rather than moved to them, especially amongst the 1.5 generation by 2000.

The specific ways in which selection works, however, are made visible by the selection component of both switching regressions. The negative coefficients on current immigrant concentration in both 1970 and 2000 (especially) show that concentrated metros do not attract secondary migration. Mexican concentrations attract local mobility but deter new in-migration from other metro areas in both decades. Manufacturing locations also detract immigrants and especially the second generation (although they attract or retain some local immigrants in 2000). Again, those immigrants and second generation who move, especially in 2000, are those who will fare markedly better by doing so. However, the

relationship between immigrant concentration and economic outcomes is ambiguous at best, and it is driven by the dynamism of secondary migration in that concentrations seem positively selected for in-migrants but negatively selected for stayers.

As demonstrated above, the historical characteristics of evolving immigrant metros also drive secondary migration, and are a missing part of explaining the relationship between wages and locations a generation later. Metros that had highly-educated immigrants in 1940 significantly attracted immigrants and the second generation between 1965 and 1970. In 2000 this historical education effect was only visible for local-scale movers, but metros where 1970 immigrant wages had been relatively high attracted new local mobility from immigrants and the 1.5 generation between 1995 and 2000. Historic immigrant concentrations from a previous generation (1940 and 1970) significantly deterred immigrant men in 1970 and the 1.5 generation in 2000. By 2000, historical Mexican concentrations are also detracting secondary migration as newer destinations without significant histories of immigrant settlement emerge, although they had attracted significant members of the second generation in 1970 and 1970s manufacturing concentrations also deter secondary migration from 1995-2000. By 2000, these employment concentrations hold less economic promise (although they benefit those who move into them economically, they do not benefit those who remain in them). Given the similar effects of manufacturing and immigrant concentration, and the strong detraction for the 1.5 generation, it is also likely that employment competition or group discrimination also work against newcomers.

At any rate, the metro-level characteristics of a previous immigrant generation still drive secondary migration patterns decades later, normally by deterring new secondary migrants. However, historic 1940s Mexican concentrations continued to significantly attract the second generation from other metro areas in 1970. And the metro-aggregated individual characteristics of average levels of immigrant education (in 1970) and relative wages (in 2000) from a generation ago continued to attract secondary migration. This latter factor explains some of the positive selection of secondary migration a generation later, in that immigrants and the second generation who moved to places where a previous generation had fared relatively well received higher wages.

Conclusions

The analysis presented in this paper queries the constitution of the relationships between immigrant concentration, secondary migration, and economic outcomes. It does so by connecting immigrant and second generation wage outcomes to secondary migration via an explicit consideration of the role of selection in responding to metropolitan area characteristics including immigrant concentration and the varying characteristics of a previous immigrant generation in place. The endogenous switching regressions employed here allow for the simultaneous estimation of how individual and place characteristics matter differently for movers and stayers, and how this relationship changed over time. The limited five-year previous residence question in the US means that these models can be interpreted similarly to models of destination choice between metro areas. Inclusion of local and cross-metro moves means that competing scales often employed in spatial assimilation research are peremptorily but usefully considered in terms of what scale of secondary migration matters with regard to movement toward or within immigrant concentrations. The models are both overly complex with regard to theoretical comparison and overly simplified with regard to individual covariates. Nevertheless, some interesting findings present challenges to theorization of immigrant geographies, as selection engages with dimensions of varying population composition and the dynamic responses of individuals to place characteristics.

The following critical summary points are made with regard to overall model findings. 1) Migration is positively selected with regard to wages in that gender and educational disadvantages are reduced through secondary migration, especially amongst the 1.5/second generation and especially for inter-metropolitan movers. Stayers and local movers are often relatively disadvantaged. 2) Current place characteristics, especially immigrant concentration and Mexican concentration are often negatively related to wages for those who remain in them, but not for those who migrate into them. This is the most striking finding from these models in that it challenges the framing of spatial assimilation arguments without consideration of the selection of secondary migration, in that moving toward concentrations is associated with positive outcomes. 3) Examining these results over time in the selection models demonstrates that discussions of immigrant concentration and dispersion often miss a latent effect whereby immigrants may be cementing concentrations within metropolitan areas whilst new metro-level concentrations seem to disperse previous settlement. 4) Finally, the place characteristics of a previous generation, especially in terms of

immigrant educational and relative wage profiles, continue to significantly drive secondary migration 30 years later. While the importance of immigrant concentration has diluted somewhat with time and often turned from positive to negative, the compositional effect of historically positive immigrant characteristics such as education and relative wages continues to attract immigrants via secondary migration. All of these findings suggest a more substantial role for the consideration not only of immigrant geographies and how they matter for outcomes, but of how their ongoing and historical constitution evolves through secondary migration's selective sorting of individuals and places. Without this consideration, the significance of secondary migration for immigrant outcomes is firmly ensconced between competing accounts of dispersion as locational attainment and more classically-framed human capital models of migration, and considerable analytical territory is ceded.

Table 1–
Top 10 5-year foreign-born and Mexican-born secondary migration flows in the US: 1940, 1970, 2000[14]

(% represents % of all flows by that group in the preceding 5-year period)

Foreign-born

	1940	%	1970	%	2000	%
1	NYC-NYC	20	NY-MIA	3	LA-LA	9
2	BOS-BOS	4	NY-NYC	3	NYC-NYC	8
3	SF-SF	3	NY-LA	2	DAL-DAL	3
4	DET-DET	3	CA-NYC	2	DC-DC	3
5	PHI-PHI	2	NY-FtL	1	PHX-PHX	2
6	CHI-CHI	2	NJ-NYC	1	SF-SJ	2
7	NYC-LA	2	NJ-MIA	1	BOS-BOS	1
8	CHI-LA	2	TX-LA	1	SF-OAK	1
9	NYC-MIA	1	FL-NYC	1	SF-SF	1
10	SF-LA	1	PA-NYC	1	LA-RIV	1

Mexican-born

	1940	%	1970	%	2000	%
1	ElP-LA	15	TX-LA	13	LA-RIV	2
2	SAnt-LA	4	TX-CHI	9	LA-LV	2
3	NYC-LA	4	PA-ElP	5	LA-ATL	1
4	LA-SJ	4	AZ-LA	4	LA-OC	1
5	CAN-YTN	4	TX-SD	4	LA-CHI	1
6	SF-SF	4	CA-CHI	3	RIV-LA	1
7	SAnt-ElP	3	TX-RIV	2	RIV-OC	1
8	SF-LA	3	TX-FRES	2	LA-PHX	1
9	DC-NYC	3	NM-LA	2	LA-DEN	1
10	RIV-LA	3	PA-LA	1	SYR-NYC	1

NYC= New York, NJ=New Jersey, SF= San Francisco, LA= Los Angeles, BOS=Boston, DET=Detroit, PHI=Philadelphia, CHI= Chicago, MIA=Miami, ElP=El Paso, SAnt= San Antonio, SJ= San Jose, DC= Washington DC, RIV=Riverside, FtL=Ft.Lauderdale, FRES=Fresno, PHX=Phoenix, CAN=Canton, YTN=Youngstown, DAL= Dallas, OAK=Oakland, SD= San Diego, ATL= Atlanta

Table 2 –Endogenous switching wage regression models, 1970

switch = mob/mig

	A	B	A$_2$	B$_2$	C	D
logwage (movers)	FB (mob)*	FB (mig)*	men(mob)	men(mig)	SG (mob)*	SG (mig)
age	.0425***	.0444^	.0393***	.0476**	.0107***	.0514***
female	-.7384***	-.5096*	--------	--------	.0376***	-.4540*
< HS	-.2333***	--------	--------	--------	.0253***	-.1783***
BA	.0875	--------	--------	--------	.0622^	-.1025
Educ (cont)[15]	--------	.0023	.0057***	.0015	--------	--------
% immig	.6151	1.1104	.0872	.6115	.5825***	2.4063***
% Mex	-3.6917**	2.0462***	-3.2038**	1.9164	2.7632***	1.1587
% manuf	1.0578***	1.962*	1.2080***	1.8370***	.2731***	2.0275***
constant	7.7274***	8.2448***	7.2966***	8.0238***	.2598***	8.3050***
logwage(nonmovers)						
age	.0143***	.0008	.0164***	.0059***	.0131***	-.0000
female	-.8848***	-.8327***	--------	--------	-1.1181***	-1.0603***
< HS	-.3474***	--------	--------	--------	-.2319***	-.2687***
BA	.3267***	--------	--------	--------	.3959***	.5471***
Educ(cont)	--------	.0099***	.0082***	.0097***	--------	--------
% immig	.3839	-.2647	-.3380	-.9429***	1.0114***	.5114**
% Mex	-1.7511^	-3.6962***	-.8378	-3.3265***	-1.2261	-3.1178***
% manuf	.7567*	-.0955	.9729***	.2471	.2267	-.5264*
constant	8.2994***	8.6864***	7.5856***	8.4633***	8.4232***	9.4472***
Mob/Mig (1=Y)						
age	-.0415***	-.0235***	-.0438***	-.0288***	-.0438***	-.0280***
female	.0543***	-.1581***	--------	--------	.0745***	-.2908***
< HS	-.0645**	--------	--------	--------	.0329	-.0688***
BA	.2778***	--------	--------	--------	.2720***	.3075***
Educ (cont)	--------	.0041***	.0028***	.0059***	--------	--------
% immig70	-.7952**	-.2069	-.8599**	-.3606	-.6649	-.6371^
% Mex70	1.9051	-8.4745	-.0806	-10.5692^	7.0723**	-6.9400*
% manuf70	-.5724	-1.0299	-.3994	.2896	-.7364**	-1.5078***
% immig40	.1220	-.3942	.0332	-.7405^	-.2976	-.0892
% Mex40	-.7445	3.8619	.2092	5.0960	-2.2741	3.0343*
% manuf40	.0231	.1906	-.1199	.2896	.0136	.1579
Immedavg40	.1387***	.0405**	.1928***	.0398*	.0986*	.0229
Fbnbavg40	-.0824	-.0512	-.1128	-.1238	.0208	.0208
Constant	1.530***	.2025	1.3608***	.3822*	1.354***	.6690***
rho1	-.9643**	-.9807^	-.9357*	-.9654^	-.9690**	-.9793352**
rho2	-.0623*	.9524*	-.0718**	.9210**	.0144**	.9480796**
Chi2(1)	-6.0e+06	-5.0e+06	-3.1+06	-2.6e+06	-1.9e+07	-1.6e+07

^ p<.10, * p<.05; **p<.01; ***p<.001

**Table 3 – Endogenous switching wage regression models, 2000
switch = mob/mig**

	A	**B**	**C**	**D**
logwage (movers)	**FB (mob)**	**FB (mig)**	**SG (mob)**	**SG (mig)**
age	.0381***	.0463***	.0524***	.0645***
female	-.3692***	-.2949***	-.3535***	-.2950***
< HS	-.4055***	-.2360***	-.3536***	-.1130
BA	.4588***	.2878***	.3920***	.1723*
% immig	.6650*	2.7935***	1.217***	2.7536***
% Mex	-1.1013*	1.0728	-1.277*	-.1069
% manuf	.8313**	1.3236*	.7608*	1.4613*
constant	9.2846***	9.5569***	8.8864 ***	9.0887***
logwage(nonmovers)				
age	.0164***	.0048***	-.0074*	.0094***
female	-.4639***	-.4605***	-.4092***	-.4178***
< HS	-.3876***	-.4127***	-.3545***	-.4433***
BA	.5102***	.6560***	.6672***	.6607***
% immig	.0627	.6048***	-.3444^	-.3144^
% Mex	-.9518***	-1.4969***	-.1424	-1.0781***
% manuf	.8648**	.6436	-.1303	-.1472
constant	9.4607***	10.389***	11.5113***	10.3402***
Mob/Mig (1=Y)				
age	-.0377***	-.0277***	-.0395***	-.0324***
female	-.0485***	-.0855***	-.0225*	-.0544***
< HS	.0240***	-.1357***	-.0296	-.2137***
BA	.1768***	.2796***	.1917***	.3102***
% immig00	-.6387**	-1.6132***	-.7752**	-1.1763***
% Mex00	1.0985**	-2.0169***	.8572^	-1.4158*
% manuf00	.7338^	-.0906	.1784	-.7092
% immig70	.2295	-1.0412^	-.0455	-1.4698*
% Mex70	-3.906**	-.2156	-1.4872^	.5065
% manuf70	-.7535**	-.3761	-.5643*	-.1900
Immedavg70	.0387**	.0030	.0116	-.0088
Fbnbavg70	.2036**	-.0735	.1206*	-.0246
constant	1.2531***	.8763***	1.534***	.9993***
rho1	-.8981***	-.9409*	-.9190*	-.9464*
rho2	-.0658*	.8590**	.9376*	.9047**
Chi2(1)	-3.1e+07	-2.7e+07	-5.7e+06	-5.3e+06

^ p<.10; * p<.05; **p<.01; ***p<.001

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1 Internal migration generally refers to a move undertaken within the borders of a country. Secondary migrations are internal migrations undertaken by immigrants in the host society, and stress that the immigrant has moved before at an international scale. The term onward migration, not common in the US literature, is often used elsewhere, especially in the EU, to emphasise that more than one international move often takes place, and often in stages (Lindley and Van Hear 2007). This is also a useful conceptualization for subsequent internal migrations within the US, in that adjustment moves are common and important in terms of understanding settlement as a response to different contexts. A further clarification is necessary. In the US context where most 'onward' migration would involve sub-national moves or circular mobility (especially between the US and Mexico), local-level mobility (moves within the same county or metro area) has usually been distinguished from internal migration (moves that are significant in that they involve changing counties or metros). However, both mobility and migration are often called internal migration (or secondary migration, in the case of immigrants) in order to distinguish them from international migration.

2 As the largest current immigrant group, and one that was already sizeable in 1970, as well as one continually marked by new immigrants.

3 Frustratingly, the census only allows assessment of an individual's birthplace, as well as their current residence and residence five years previously. Although additional moves could have occurred, immigrants are assigned to mover/stayer categories on the basis of these available variables alone (i.e. someone born outside of the US but resident in the US currently and five years previously has moved internally in the past five years).

4 This customary delineation of the 1.5 generation as a proxy for the second generation is necessary because the decadal census did not enquire about parental birthplace after 1990.

5 A variable measuring overall labor force size was only inconsistently significant, and so was removed from models (although all models are weighted to reflect population frequencies, with standard errors clustered at the metropolitan level to account for the dual individual/metro area data structure).

6 These are estimated using Stata's *movestay* (Lokshin and Sajaia, 2004).

7 Men are generally more mobile than women, more educated people are more likely to undertake migration, and there is a negative relationship between migration and age.

8 In the event of their significance over current place and individual characteristics.

9 For immigrants, 1940s Mexican concentrations are not statistically significant, but the mobility models (column A) suggest local de-concentration, whilst some new internal migration to them is suggested (as evidenced by the positive coefficients on the migration models in column B).

10 Although the coefficient on rho is negatively-signed, the negative conditional estimation renders its association with the selection variable positive (Lokshin and Sajaia, 2004)

11 These are reported in columns B and D for the mig models rather than for the more local mob models where rho2 can also indicate very slight positive selection .

12 This hypothesis could be tested through interaction effects, were the models employed here not already complicated.

13 Mexican concentrations are positively associated with wages for inter-metro moves in 1970 and the relationship is reversed for stayers and local movers, although the relationship is non-significant (there are few significant Mexican concentrations in 1970).

14 These tables report the top flows among those who made a move at a least an inter-county level. Thus the prevalence of moves that remained in the same large metropolitan area.1970 data only provide a previous place of residence at a state level. Although these reported flows are at a county-level or greater the previous residence reported is at a state level in 1970.

In models where there were insignificant numbers of university graduates amongst immigrant migrants the categorical education variables were replaced with a continuous education variable.