

## **The Impact of International Migration on Unemployment Rates in Urban America: Testing Different Theoretical Approaches**

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*This study examines the influence of international migration on unemployment rates in urban America. For this purpose, this study first applies competition and discrimination and assimilation views in examining whether the size and composition of immigrant populations in American metropolitan areas affect urban unemployment rates. Based on local human capital and labor market views, this study also explores whether urban unemployment rates are affected by local human capital (education) and urban labor markets (employment distributions by class of workers), both of which vary with the size and compositions of local immigrant populations. Using a sample of the 301 Primary Metropolitan Statistical Areas /Metropolitan Statistical Areas (PMSAs/MSAs) in 1990 and 2000, this study employs regression models to test four hypotheses. First, the result supports to some degree competition and discrimination and assimilation views. The empirical findings show that more concentration of international migrants in urban areas, including recent immigrant cohorts, tends to increase urban unemployment rates. Second, the models of local human capital also support that growing college graduates play a role in reducing urban unemployment rates after controlling for the volume of immigrant population. However, there are conflicting impacts of local labor market (employment conditions) on urban unemployment rates.*

**Keywords:** *Urban Unemployment Rates, Immigration, Human capital, and Local Labor Markets*

### 1. INTRODUCTION

In the U.S., the impact of growing international migrants (immigrants) on the natives' or immigrants' own opportunities and constraints in employment and its consequences is undoubtedly of great importance in the fields of labor economics, industrial sociology, and social stratification. Equally, urban community research has shown that new immigrants can have an effect on the economic status of both natives and prior immigrants in the local economy (James et al. 1998; Sassen 1986; Waldinger 1989). The inflow of immigrants into local areas can change employment patterns in local industries (Jasso and Rosenzweig 1990; Wright and Ellis 2000), or new immigrants can affect their own ethnic economic sectors (Logan et al. 2002; Wilson 2003; Zhou 2004).

With immigrant populations growing very rapidly in suburban America, a steady dispersion toward new or even relatively small- or medium-sized metropolitan areas away from their traditionally settled larger metropolitan areas is another typical characteristic of their recent mobility patterns, particularly among those emigrating from Asia and Central and South America (Frey 2003, 2006; Logan et al. 2002; Suro and Singer 2002). For instance, international migrants, also known as foreign-born populations, have remarkably risen from

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constituting 6.2 percent of the total U.S. population in 1980 to 11.1 percent in 2000, most of whom lived in metropolitan areas (Bean et al. 2005; cf. Singer 2004). The recent surge in immigrant population in America has been most pronounced in the largest metropolitan areas (Frey 2006; Kritz and Gurak 2005).

Indeed, any direct attempt to identify whether the size and composition of immigrant populations affect metropolitan-level unemployment rates has been relatively of little interest in the previous literature. Therefore, in this paper, we explore whether urban immigration populations have a substantial impact on urban unemployment rates. This exploration is tested by two distinct theoretical approaches: *Discrimination and competition explanation* that often underlines limited employment opportunities for minorities within the mainstream job market (Blalock 1967; Lieberman 1980); and *assimilation explanation* that draws on immigrants' duration of dwelling in the host society (Alba and Nee 1997; Gordon 1964). Based upon these two theoretical views, this study assumes that growing size and compositions of international migrants in metropolitan areas play a key role in increasing urban unemployment rates.

Second, this study explores the roles of both local human capital distributions (education) and local labor (or employment) markets, understood as the consequences of immigrants' inflow into urban areas, in predicting urban unemployment rates. In fact, it is not difficult to infer that general patterns of local human capital distributions and labor markets are affected by the entry of international migrants into urban areas. However, little is known about whether the relative size of immigrant populations among local residents lowers or otherwise raises local unemployment rates through the restructuring of human capital levels among local residents. In the similar context, whether local labor markets under the influence of the relative proportion of immigrant populations lower or otherwise raise local unemployment rates is less known. Therefore, the second objective of this study is to examine urban unemployment rates by both of local human capital distributions and local employment patterns in industries after taking into account the relative size of local immigration populations.

What's more, two other theoretical approaches are introduced in this study: *Human capital explanation* emphasizing the importance of human capital distributions among local residents – like education and job credentials – for the reduction of local unemployment rate (Becker 1964; Chiswick 1978); and *local labor market explanation* relating to employment growth in local economy as a result of rising immigrant populations (Borjas 1990, 1999; Greenwood and McDowell 1986; Light and Gold 2000). Given these two theoretical approaches, this study further argues that as the relative size and composition of immigrant populations grow in urban areas, metropolitan unemployment rates will decline as direct responses of rising human capital characteristics and growing employment opportunities at local labor markets.

## 1. THEORETICAL BACKGROUND AND HYPOTHESES

### 1.1. *Competition and Discrimination and Assimilation Explanations*

Immigrants' occupational prospects in the host society heavily depend on the degree of competition with native workers, as well as the intensity of discrimination against international migration workers or job-seeking immigrants (Portes and Rumbaut 1996;

Spalter-Roth and Lowenthal 2005). In the discussion of growing immigrant populations in urban areas, Blalock's (1967) perspective, called "competition" or "visibility-discrimination" hypothesis, is of considerable relevance to this research. His main idea underscores the influence of the relatively growing size and compositions of local minority populations on widening employment disparity between local minority and majority populations. More specifically, he proposes that the larger the relative proportion of local minority population, the more their members would be in direct or potential competition with the members of the local majority group (Blalock 1967: 148).

In general, Blalock's competition model is often dealt with as part of his visibility-discrimination hypothesis. As one of its key premises, his visibility-discrimination hypothesis suggests a positive relationship between the greater concentration of the minority population in a locale and the high degree of discrimination against them from the majority population. The key reason is that local majority population often views this growing minority population as a threat to their local labor market opportunities, including local occupational attainment (Blalock, 1967: 218). For instance, evidence is shown that the concentration of black population in an area tends to weaken their occupational attainment as a consequence of prejudice or discrimination from local white workers (Beggs et al. 1997; Burr et al. 1991; Lieberman 1980).

To be sure, rising immigrant population in urban areas often leads to an oversupply of work force in the local labor market, particularly when its local economy stagnates, or enters into recession. For the immigrants' side, the possibility is that they will experience a relatively high unemployment rate due to competition and discrimination from the native workers already established in the local labor markets (Harrison 1984). Furthermore, as the number of international migrants rise, their employment prospect will worsen because more passive perceptions among local native residents can develop against local immigrants, who can often be treated as their competitors or a threat to their existing status quo (Raijman and Tienda 1999). There is also evidence that rising minority population in local areas has the potential to reduce employment opportunity for local majority population (Tigges and Tootle 1993). In short, urban unemployment rates are expected to increase due to certain types of competition between both population groups within local labor markets, or the natives' discriminatory forces against immigrant workers. In metropolitan areas, therefore, we assume that:

**Hypothesis 1:** *Growing size and compositions of international migrants among urban populations will in general increase local unemployment rates.*

Similarly, the relative size and composition of recent immigrant cohort are also expected to increase urban unemployment rates. Indeed, this assumption fits in quite well with an assimilation approach to immigrant opportunity in the host society. For immigrants, participation in the U.S. mainstream labor market is emblematic of a critical indicator of socioeconomic assimilation in the host society. Immigrant occupational assimilation is portrayed as a first stepping-stone to the ensuing forms of assimilation, such as social (memberships in social institutions of the core society) and spatial (or residential) assimilations (Alba and Nee 1997; Massey 1981). Also, occupational assimilation can be no longer regarded as the one that a bulk of prime-age immigrants can easily reach in the new country. In other words, immigrants' occupational attainments at the mainstream labor market are, to a great degree, dependent on their duration of residence in the host society.

The assimilation approach, in particular, sheds light on the length of residence as a key source of immigrants' occupational incorporation. Its main argument is that as immigrants stay longer in the host society, they enhance their employment opportunities enough to reach employment attainment parallel to the natives of the same backgrounds (Chiswick 1978; Chiswick et al. 2005; Powers and Seltzer 1998). Furthermore, recently-arrived immigrants, are more disadvantaged relative to earlier immigrant cohorts, in assessing employment in a host economy because of their relatively greater deficiency in obtaining job information, a smaller job network, or lack of understanding of workplace culture, each or all of which can be developed through the course of a longer stay in the host society (Borjas 1999; Friedberg and Hunt 1995; Lofstrom and Bean 2002). Therefore, we further propose that:

**Hypothesis 2:** *A relative growth of recent immigrant cohort among total international migrants will lead to an increase in local unemployment rates in urban America.*

### **1.2. Human Capital and Local Labor Market Explanations**

In an attempt to examine the mechanisms linking urban immigrant populations to local unemployment rates, then, the above two theoretical explanations that the size and compositions of immigrant populations exert a direct impact on local unemployment rates reveal some limitations. As more international migrants settle in urban America, there is a possibility that local unemployment rates can change with their influences on the general makeup of local residents' human capital, as well as with the scale of the local economy and accompanying employment redistributions in the local industries. Therefore, the influence of urban immigrant populations on local unemployment rate can be contingent upon how they can raise or otherwise reduce the overall level of local human capital (education), or how they affect the structural transformation of local labor market including its industrial employment redistribution.

This argument can be supported by the human capital approach, where some indicators of human capital – e.g. education, job skills and experiences, other job-related credentials, or English language proficiency – are critical for immigrants' employment opportunity in a host economy. One key idea of this approach is that individual worker's employment opportunity relies upon the extent of his/her human capital investment (Becker 1964). Typically, there is no question that education is the main indicator of human capital characteristics in the discussion of immigrants' occupational opportunity (Neidert and Farley 1985). For instance, some scholars contend that human capital attainment and its quality in the sending country are essential for enhancing immigrants' participation in local labor markets in a host society (Akresh 2006; Borjas 1999; Funkhouser and Trejo 1995; Raijman and Tienda 1999). Overall, population characteristics related to the size and compositions of immigrant populations are taken into account as important determinants of local unemployment rate. In urban America, therefore, we expect that:

**Hypothesis 3:** *If the urban concentration of international migrants tends to increase the average level of local human capital, local unemployment rates will decline because of the inverse relationship between individual human capital and the possibility of his/her unemployment.*

As a whole, it is also expected that the size and compositions of immigrant populations in

urban areas will expand local labor market, restructuring local employment distributions between local native workers and immigrant workers. Indeed, some empirical studies report that a rise in international migrants, largely Latino immigrants, contributes to overall employment growth in urban areas, including local economic growth in certain local industries such as agriculture, retail and personal services, construction, transportation, and manufacturing (Jasso and Rosenzweig 1990; James et al. 1998; Wilson 2003; Wright and Ellis 2000). Then participation in the sectors of the ethnic economy as either ethnic business owners or co-ethnic workers is viewed as an alternative option to the mainstream labor markets where wage and salary employment dominates at large (Fernandez and Kim 1998; Light and Gold 2000).

Seeing middleman minorities as those who establish their businesses mostly outside the formal labor market and who also run their businesses between the ruling class and the masses, middleman roles in the host economy are often taken by immigrants (Bonacich 1972). In a society where the roles of middleman minorities in economy are more in demand, but nevertheless their positions are still left unfilled, some immigrants will tend to pursue self-employment by opening up small businesses in the natives' communities (Light and Rosenstein 1995). Besides, more demands for ethnic consumer goods and services, propelled by incessant influx of immigrant populations, accompany more establishments of immigrant-owned businesses in urban ethnic communities as far as co-ethnic memberships provide better knowledge of their ethnic consumers' tastes and preferences (Aldrich and Waldinger 1990; Borjas 1986; Light and Sanchez 1987). For example, according to Fairlie (2004), Latino entrepreneurship has skyrocketed between 1979 and 1998, with a 193 % growth rate occurring predominately in construction and personal services. Similarly, Asians have experienced a 55 % increase in their self-employment from 1989 to 1999 as a result of their growing foothold in retail and professional services.

Thus, more entry of immigrants into local areas makes it possible to provide better employment opportunities for local native workers because some low-status employment sectors unattractive to existing native workers are filled up by such new local population on behalf of some of native workers pursuing more desirable jobs with upward occupational mobility (Lieberson 1980; Waldinger 1996). For example, whites' employment in local managerial and professional sectors, often known as white-collar jobs, rise with the growth of local immigrant population because such sectors of occupations – e.g., managers, clerical workers, lawyers, accountants, insurers, bankers, or physicians – require American licenses and English proficiency at the minimum (Meisenheimer II 1992; Mueller 1993; Wilson 2003). As the number of international migrants grow, the employment opportunity in public administration among African Americans – e.g., police, school, welfare, housing, or health – is also expected to rise (Alba et al. 2000; Bean et al. 2005; Waldinger 1996). Therefore, we also expect that:

**Hypothesis 4:** *More concentration of international migrants in urban areas will expand the scale and volume of their local economy, in which more employment opportunities to both local native workers and immigrant worker still lead to a decline in local unemployment rates.*

## 2. RESEARCH DESIGN

### 2.1. Data

The selection of sample in this study is based upon the 301 American Primary Metropolitan Statistical Areas /Metropolitan Statistical Areas (PMSAs/MSAs), where population in each metropolitan area is greater than 100,000 as of 1990, since a MSA requires a city with a 50,000 population or more or an urbanized area with a total population of at least 100,000 (Office of Management and Budget 1999). In addition to the sources of data from the published volume of the 1990 Census of Population and the 2006 State and Metropolitan Area Data Book, data for most demographic and economic characteristics of the population in 1990 and 2000 are obtained from the on-line State of the Cities Data System (SOCDS) sponsored by the U.S. Department of Housing and Urban Development's Office of Policy Development that has compiled census data for a total of 331 metropolitan areas from 1970 to 2000.

### 2.2. Measurement and Analysis

*Urban unemployment rates* in 1990 and 2000, as the key dependent variables, are measured by the percentage of those who were not at work but were looking for work at the metropolitan level. Considering education as the most critical indicator of human capital characteristics, two human capital measures at the metropolitan level are used in this study: the percentage of *high school graduates or less* that typically is a manifestation of lower level of local human capital; and that of *college graduates or more (or advanced degrees)* that is indicative of the relatively higher level of local human capital.

To measure the features of local (or metropolitan) labor markets reflecting the general scale of local economy and employment distributions across local industries, this study uses three measures of *class of workers: private wage and salary workers, public-sector workers, and self-employers*. Basically, *class of workers* is comprised of the five sectors of work, each of which is measured as a percentage of employed workers at the metropolitan level: (1) private wage/salary; (2) federal government; (3) state and local government; (4) self-employment; and (5) unpaid family works.

In this study, workers in federal, state, and local government are treated as *public-sector workers*, while both self-employment and unpaid family works are included in *self-employers*. In addition, the scope of self-employment used in this study includes both unincorporated and incorporated businesses to reflect a more accurate level and trends of entrepreneurship in the United States, as suggested by some researchers (Fairlie 2004; Hipple 2004; Karoly and Zissimopoulos 2004).

In this study, immigrant populations (or international migrants) at the metropolitan level are dealt with as the main determinant of local human capital, local labor markets, and urban unemployment rates. In both census periods, three specific variables of immigrant populations are percents of *total immigrants* (foreign-born populations), *recent immigrants* who arrived in the past 5 years, and *earlier immigrants* who stayed for 5 years in the United States, – e.g., in the 1990 and 2000 censuses, those arrived before 1985 and 1995, respectively. As the control variables, three racial groups (*Blacks, Latinos, and Asians*) are measured as a percentage of each racial and ethnic population at the metropolitan level.

In order to include a measure reflecting a gender difference at labor market participation rate, which is difficult to calculate, this study employs *males per 100 females* as an alternative variable. The natural log of *total population* is also used as another control variable in this study. As the last control variable, *U.S region*, coded as 1 = South and West and otherwise, 0 = Northeast and Midwest, is used because annexation has been far more slow and limited in metropolitan areas located in the Northeast and Midwest (Frostbelt) than those in the South and West regions (Sunbelt) (Abrahamson and Hardt 1990; Stahura and Marshall 1982). To test our four hypotheses, urban unemployment rates in 1990 and 2000 are estimated with the regressions models, called ordinary least squares (OLS) regressions.

### 3. RESULTS

Table 1 presents descriptive statistics for variables used in the analysis. There has been a significant drop in urban unemployment rates from 6.2 percent in 1990 to 5.8 percent in 2000. In all three measures of immigrant populations (or international migrants) in urban areas, their percentages have substantially risen during the 1990s. During the same period, two human capital measures reveal that percentage of high-school graduates or less has plunged from 54.3 to 48.0, whereas percentage of college graduates or advanced degrees has risen from 20 to almost 24. Then, three measures of local labor markets, known as employment distributions by class of workers, show a relative decline in both its private- (wage and salary) and public-sector employment, but a greater degree of employment growth in local self-employed sectors, including unpaid family work.

Table 2 presents two regression models of urban unemployment rates on selected independent variables in 1990. In Model 1 where one immigration variable (percent total immigrants) is included, the coefficient for total immigrant populations indicates that a growing proportion of total immigrants in urban areas tends to cause a rising unemployment rate in urban America. However, the coefficients for recent and earlier immigrant cohorts in Model 2 show that the size and compositions of both recent and earlier immigrant populations have nothing to do with local unemployment rates. After controlling for the size and compositions of immigrant populations in urban America, Table 2 also shows the fact that two local human capital variables – *high school graduates or less*, and *college graduates or more (or advanced degrees)* – are critical to our discussion of urban unemployment rates. For instance, in both models, there is evidence that growing college graduates in urban areas can lower local unemployment rates. Furthermore, our study also attempts to explore whether local labor market conditions (employment distributions by occupations) are important for variation in local unemployment rates. Indeed, both models reveal that a growing employment opportunity at local private wage/salary sectors has a negative impact on urban unemployment rates.

Like Table 2, Table 3 presents two regression models of urban unemployment rates on selected independent variables in 2000. In Model 1, similar to the analyses of local human capital in 1990, the percentage of total immigrant population in urban America has a substantial effect on local unemployment rate. Thus, the coefficient for total immigrant populations suggests that local unemployment rate rises with the growth of local immigrant populations. More interestingly, the coefficient for recent immigrant cohort in Model 2 indicates that the inflow of recent immigrant population in metropolitan areas can cause a rise in local unemployment rate, as well.

**Table 1.** Descriptive Statistics for Variables Used in the Analysis, 1990-2000 (301 MSAs)

Variable	1990		2000		1990-2000
	Mean	Standard Deviation	Mean	Standard Deviation	Mean Differences
Metropolitan Unemployment Rate	6.2	1.8	5.8	1.8	-0.4***
Immigrant Populations					
Percent total immigrants	5.5	6.2	7.7	7.5	2.2***
Percent recent immigrants <sup>a</sup>	2.3	2.9	3.3	3.0	1.0***
Percent earlier immigrants <sup>b</sup>	3.2	3.3	4.4	4.5	1.2***
Local Human Capital					
Percent high school graduates or less	54.3	8.8	48.0	8.6	-6.3***
Percent college graduates or more	20.0	6.3	23.7	10.4	3.7***
Local Labor Markets (Employment)					
Percent private wage/salary workers	74.6	9.8	73.8	8.8	-0.8**
Percent public-sector workers <sup>c</sup>	18.3	11.3	16.6	4.6	-1.7***
Percent self-employers <sup>d</sup>	7.2	1.9	9.7	2.3	2.5***
Control Variables					
Percent latinos	7.5	13.1	10.2	14.5	2.7***
Percent asians	2.0	4.1	3.0	4.9	1.0***
Percent blacks	10.2	9.9	11.3	10.7	1.1***
Males per 100 females	95.0	5.0	96.0	4.0	1.0***
Total population (ln)	12.8	1.0	12.9	1.0	0.1***
Region (south or west = 1)	.5	.5	.5	.5	-0.1

\* p < .05 \*\* p < .01 \*\*\* p < .001 (two-tailed t-tests)

Note: <sup>a</sup> indicates those immigrants arrived between 1985-1990; <sup>b</sup> indicates those immigrants arrived before 1985 and 1995; <sup>c</sup> encompasses percents of federal, state, and local governments' workers; and <sup>d</sup> includes percents of self-employed and unpaid family workers 1995-2000, respectively.



**Table 2.** Unstandardized Coefficients for OLS Regressions on Selected Immigration Variables, 1990

Variable	Metropolitan Unemployment Rate	
	Model 1	Model 2
<b>Immigrant Populations</b>		
Percent total immigrants	.05* (.02)	-----
Percent immigrants, 1985-1990	-----	.09 (.08)
Percent immigrants before 1985	-----	.03 (.07)
<b>Local Human Capital</b>		
Percent high school graduates or less <sup>a</sup>	-.02 (.02)	-.01 (.02)
Percent college graduates or more <sup>b</sup>	-.14*** (.03)	-.14*** (.03)
<b>Local Labor Markets</b>		
Percent private wage/salary workers	-.03** (.01)	-.03** (.01)
Percent public-sector workers	-.01 (.01)	-.01 (.01)
Percent self-employers	-.03 (.05)	-.04 (.05)
<b>Control Variables</b>		
Percent latinos	.05*** (.01)	.05*** (.01)
Percent asians	-.01 (.02)	-.01 (.02)
Percent blacks	.00 (.01)	.00 (.02)
Males per 100 females	-.08*** (.02)	-.08*** (.02)
Total population (ln)	-.01 (.00)	-.04 (.00)
Region (south or west = 1)	-.05 (.20)	-.07 (.21)
R <sup>2</sup>	.51	.51

\* p < .05 \*\* p < .01 \*\*\* p < .001 ( two-tailed t-tests)

Note: Numbers in parentheses are standard errors; N = 301 metropolitan areas; <sup>a</sup> denotes percent of high school graduates or less; and <sup>b</sup> denotes percent of college graduates or more (advanced degrees).

**Table 3.** Unstandardized Coefficients for OLS Regressions on Selected Immigration Variables, 2000

Variable	Metropolitan Unemployment Rate	
	Model 1	Model 2
Immigrant Populations		
Percent total immigrants	.06** (.02)	-----
Percent immigrants, 1995-2000	-----	.18* (.08)
Percent immigrants before 1995	-----	-.02 (.05)
Local Human Capital		
Percent high school graduates or less <sup>a</sup>	.03 (.02)	.03 (.02)
Percent college graduates or more <sup>b</sup>	-.07** (.02)	-.09*** (.03)
Local Labor Markets		
Percent private wage/salary workers	-.01 (.01)	-.01 (.01)
Percent public-sector workers	.05** (.02)	.05** (.02)
Percent self-employers	-.01 (.04)	-.01 (.04)
Control Variables		
Percent latinos	.04*** (.01)	.04*** (.01)
Percent Asians	-.00 (.02)	.00 (.02)
Percent blacks	.01 (.01)	.01 (.01)
Males per 100 females	-.07*** (.02)	-.08*** (.02)
Total population (ln)	-.00 (.00)	-.00 (.00)
Region (south or west = 1)	.19 (.20)	.14 (.20)
R <sup>2</sup>	.52	.53

\* p < .05    \*\* p < .01    \*\*\* p < .001 ( two-tailed t-tests)

Note: Numbers in parentheses are standard errors; N = 301 metropolitan areas; <sup>a</sup> denotes percent of high school graduates or less; and <sup>b</sup> denotes percent of college graduates or more (advanced degrees).

Even after controlling for the size and compositions of immigrant populations in urban America, both models reveal a substantial causality between local human capital and urban unemployment rate. Specifically, there is an indication that more growth of college graduates in a metropolitan area can lower local unemployment rates. Table 3 also reports the coefficients of local labor markets for variation in local unemployment rates. Unlike the findings shown in Table 2, then the coefficients for percent of local private wage/salary sectors reveal that an employment shift in local private sectors has no significant influence on urban unemployment rates. Instead, an employment growth in local public sectors exerts a positive impact on urban unemployment rates. Nonetheless, it is unclear why a growth of local public-sector employment accompanies its rising unemployment rate.

#### 4. CONCLUSION

In this paper, the significance of international migrants is discussed in examining unemployment rates in urban America. More specifically, the current research applies two distinct theoretical approaches – e.g., *competition and discrimination* and *assimilation views* – to the investigation of urban (or metropolitan) unemployment rates. The main reason for introducing two perspectives is to explore whether the size and compositions of local immigrant populations have a direct impact on urban unemployment rates. Based on the regression models of the 1990 and 2000 data, *competition and discrimination view* is supported in this study because more concentration of international migrants, measured as the percentage of total immigrants in urban areas, increases urban unemployment rates. These results may suggest that rising unemployment rate in urban areas is caused by less employment opportunities of local immigrant populations. Also, it may indicate the point that an oversupply of local workforce can cause limited accesses to local employment sectors among local native workers in reaction to their relatively higher wage and other demands (e.g., health insurance, union, fringe benefits, and so on) than those of local immigrant workers. In another sense, the source of rising unemployment rate in urban areas may stem from job losses among some of local native workers as a result of their job competitions with recent immigrant workers. Overall, our proposed Hypothesis 1 has been empirically supported in this study.

In addition to *competition and discrimination view* for explanations of urban unemployment rates, this study also introduces an *assimilation view* about recent immigrant populations' effect on urban unemployment rates. In part, the regression analysis of the 2000 census has supported this argument that more concentration of recent immigrants in metropolitan areas tends to increase urban unemployment rates. It is likely that recent immigrants, relative to earlier immigrants and native workers, will experience more loss of job opportunities due to their disadvantaged positions associated with their relatively short duration of residence in the host society and other barriers to job credentials, job information, job network, or employment discrimination. In general, this finding from our proposed Hypothesis 2 is consistent with those results of past studies that have revealed the negative impacts of recent-immigrant populations on local unemployment rates (Borjas 1999; Friedberg and Hunt 1995; Lofstrom and Bean 2002). However, our study shows that the size and composition of earlier immigrant population in urban American itself has nothing to do with local unemployment rate.

Second, this study also proposes *human capital* and *local labor market views*, in which

urban unemployment rates are directly affected by local human capital and labor markets (employment distributions by classes of workers), both of which also vary with the size and compositions of local immigrant populations. In general, the findings in the *human capital view*, as described in Hypothesis 3, reveal that the growth of more educated populations (college degree or more) has a direct effect on the decline in urban unemployment rates. These findings imply that improvement in immigrants' human capital or credentials is one of the most important keys to their employment opportunity in a new country. Thus, our proposed Hypothesis 3 is to some degree supported in this study. According to the findings under the *local labor market view*, as seen in Hypothesis 4, the regression coefficients have also revealed that employment distributions in local labor market have significant implications for variation in urban unemployment rates. More specifically, the regression analysis of the 1990 data has indicated that urban unemployment rate can decline significantly as long as local employment in local private (wage and salary) sectors grows. In part, this is consistent with the findings of past research that attempted to explore the impact of growing inflow of high-educated immigrants in urban areas on local employment growth (Jasso and Rosenzweig 2000; Wilson 2003; Wright and Ellis 2000). On the other hand, the regression model of the 2000 data suggests that an employment growth in public sectors exerts a positive impact on local unemployment rates.

As a limitation of this study, however, it is not easy to explain an unexpected finding that a shift in local public-sector employment has a positive impact on urban unemployment rate. As another limitation, there is no way to detect how a compositional change in urban immigrant populations affects out-migration in native-born workers and then, its impact on urban unemployment rate (Card 2001; Kritz and Gurak 2005). Likewise, this study reveals a limitation in attempting to understand how urban mobility patterns of international migrants in different backgrounds – e.g., countries of origin, ethnic economy, or personal resources such as education, job skills and experiences, job networks, or English proficiency– affect urban unemployment rates (Gurak and Kritz 2000; Kritz and Nogle 1994; Scott et al.2005).

Therefore, future studies need to consider these important factors in examining metropolitan unemployment rates. Lastly, future studies also need to compare natives' unemployment rate from immigrants' unemployment rate under the framework of urban immigrant concentration. The reason for this is that the continuing debates about the impact of international migrants on the natives' or their own opportunities and constraints in the host society are undoubtedly of great importance.

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