Immigration and Unemployment in the United States:
A Multilevel Analysis

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The impact of the immigrant population on the work force of immigrant-receiving countries, especially immigrant countries such as the U.S., is a topic of considerable interest among social scientists. There have been two views articulated about its impact. One holds that economically motivated immigrants tend to become aggressive job seekers and replace native workers, leading to increases in unemployment (Kposowa, 1995; Kimenyi, 1989; Talyor et al, 1988; Briggs, 1986; Briggs, 1983; James, 1995; Huddle, 1993). Another argues that this commonly expressed fear is not supported by data, and that immigration does not have adverse consequences on employment (Winegarden and Khor, 1991; Enchautegui, 1994; Simon, et al, 1993; Carliner, 1986). One broadly argued explanation associated with this viewpoint is the dual market theory, which states that labor markets in the U.S. are characterized as a dual structure and most of immigrants have few skills and only can find employment in the low-wage menial occupations identified with the secondary labor markets (Bonacich, 1972; Gordon, 1972; Wilson and Portes, 1980; Neuman and Ziderman, 1986; Portes, 1994).

This study assumes that both immigration status and exposure to job markets with high proportions of immigrants operate to determine an individual's unemployment, but that they function at two different levels and their effects should not be confounded. Therefore, to provide a more comprehensive perspective, we study the relationship between immigration and unemployment risk in the United States from two different but complementary angles: the individual level and the contextual level. Past literature shows that for individuals, immigrant status is a key factor affecting employability (Enchautegui, 1998; Schoeni, 1998; Sehgal, 1985;

Madhavan, 1985; Cohen, 1989; Meisenheimer, 1992; Poston, 2002; Chiswick, 1978). Prior studies also indicate that, from a higher level of aggregation, the flow of the immigrant population into local labor markets may directly or indirectly impact the unemployment risk for workers (Kposowa, 1995; Winegarden and Khor, 1991; Enchautegui, 1994; Simon, et al, 1993; Kimenyi, 1989; Talyor et al, 1988; Briggs, 1986; Briggs, 1983; Carliner, 1986).

We employ a multilevel methodology to distinguish how immigration affects the likelihood of unemployment individually and contextually, and how it interacts with other factors to influence unemployment.

We estimate three multi-level statistical models to investigate the relationship between immigration and unemployment in the US. The state is our aggregate (level 2) unit of analysis, and the individual worker (level 1) is our individual unit of analysis. In other words, the level-1 variables are mainly demographic, and the level-2 variables provide state-related information. The dependent variable is unemployment, a dichotomous variable. Two immigration-related independent variables are "native", a level-1 demographic variable specifying whether or not the worker is an immigrant; and "immigration rate", a level-2 variable measuring the proportion of immigrants in the state's population. Other control variables include level-1 human capital variables such as education, and level-2 ecological variables such as state government expenditures per capita. Our focus is how the two main variables and their interactions with other individual and contextual variables, directly or indirectly, affect the individual's risk of being unemployed in the United States.

The data are derived from two sources: the 1995 June Current Population Survey (CPS) for individual-level information, and the State and Metropolitan Area Data Book 1997-98 (SMADB) for state-level statistics. We first use a logistic regression model to ascertain the effects of

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individual determinants of unemployment. Our research question at this stage is how immigrant status affects an individual's possibility of being unemployed, when other level-1 variables are controlled and the contextual effects are homogeneous for all individuals who locate in the same context. We estimate three Hierarchical Generalized Linear Models (HGLM) to analyze the direct effects on unemployment of the individual-level and contextual-level predictors, as well as their interactions. The first two models have the same level-1 variables but different level-2 variables. Model 1 only contains basic social, economic, and industrial contextual factors without immigration rate. Model 2 has immigration rate as one of the level-2 determinants. By comparing the results from these two models, we make clear how an individual's immigration status and other individual predictors function differently in two different social contexts. Model 3 is a comparison model especially built for studying the influence of the immigration rate on the unemployment risk of native-born people, because we realize that the immigrant population impacts immigrants and natives in different ways. Therefore, Model 3 has the same level-2 variables as Model 2, but different level-1 variables without native.

Are immigrants more likely to be unemployed than natives? Does an increase in the immigration rate lead to an increase in the likelihood of being unemployed? If yes, for those whose job security is affected by the increase of the immigrant population, what proportion of them are immigrants and what proportion of them are natives? In other words, does an increase in the size of the immigrant population cause unemployment among immigrants more so than among natives or vice versa? Where are immigrants more likely to gain employment advantages than natives? How do these two immigration-related variables interact with race, gender, age, educational attainment, state economic development, and aggregate financial situations and what are the possible explanations and sociological implications?

Preliminary studies indicate that persons who are born in the U.S. are more likely to be unemployed than immigrants. This is in line with the economic motivation and self-selective immigration theory as well as the dual labor market theory. The results of our models show that a large percentage of the immigrant population significantly increases the whole population's likelihood of employment, but a big part of this direct effect contributes to the immigrant's unemployment. That is to say, a large number of immigrants lead to an increased risk of unemployment for some of them as well as for some U.S.-born people. Moreover, cross-level interactions also reveal some significant findings. They tell us that whites lose part of their employment advantages because of a decreased employment advantage for white immigrants; thus other things being equal, minorities' employability increases in those states with a large number of immigrants. Also, people at age 55-64, the oldest group in the labor force, have less of an advantage in states with a large number of immigrants, and this effect is mainly due to the decreased advantage of U.S.-born people. Furthermore, there is a slightly decreased advantage for more educated people in states that have a higher percentage of immigrants. One possible explanation from the data is that the personal endowments that immigrants carry are not that different from those of natives, so more immigrants in a state tend to increase the state average education level.