PUBLIC ASSISTANCE AND PRIVATE SUPPORT OF IMMIGRANTS*

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Abstract

This study addresses receiving AFDC and private support (both monetary and non-monetary) and their interrelationship among immigrant families with dependent children. Building upon social capital theory, our theoretical framework emphasizes the role of community social capital and hypothesizes links between social capital and the receipt of public and private support, and the complementary nature of AFDC and private support for immigrant families. The latter hypothesis stands in contrast to existing economic theory which argues for a "crowding out" hypothesis under which AFDC support reduces private support and leads immigrant families to assimilate into a welfare culture. In a methodological step forward from the literature, we develop measures of both the quantity and quality of community social capital, coethnic contact and coethnic economic activity at the county level, to test our hypotheses. There are two sets of major findings. The first demonstrate the effects of community social capital on the receipt of AFDC and private support. The second show no displacement of private monetary support by AFDC for immigrants and that the complementary relationship between AFDC and private non-monetary support is stronger for immigrants than for natives, thereby challenging the crowding out hypothesis and welfare assimilation. Our findings reveal the importance of including the quality of community social capital and considering non-monetary forms of private support in the analysis. An important policy implication is that policy makers do not need to fear that receipt of ADFC will lead immigrant families with children to adopt the American welfare culture since our results show that AFDC complements private support among immigrants, much more strongly than among natives.

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INTRODUCTION

A central concern over immigration is whether immigrants can achieve economic self-sufficiency in the host society. This concern has become more severe since the 1965 Immigration Act of the U.S., which replaced the quota system based on national origins with a preference system based primarily on family unification and secondarily on occupational skills. Along with a growing immigrant inflow, a consequence of this Act is the decline in the education level and labor market skills of recent immigrants. New arrivals are more likely to come from Asia and Latin America, the primary reason for the declining human capital among immigrants (Smith et al. 1997; Borjas 1992).

The decline in immigrants' education and marketable skills would indicate their need for greater public support and research has shown a rise in the immigrant-native differential in public assistance use (Bean et al. 1997; Borjas 1992). In a policy response, the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) restricted access to public assistance for non-citizen legal immigrants.

Immigrants use their own and outside resources, both private and public, to help themselves survive and succeed. Private support, both monetary transfers and non-monetary support such as housing, transportation and childcare, has been theorized to have a strong role in successful adaptation, social mobility and wellbeing of immigrants (Massey et al. 1993). A rise in public support raises concerns over its impact on the provision of private support. The literature on welfare dependency has noted the adverse effects when public support displaces private support, slowing single mothers' transition from welfare to work and reducing their social mobility (Moffitt 1992). If this displacement occurs as well for immigrant families with

dependent children, an increase in public support may not improve immigrants' attempts at economic success. However, if such a displacement does not occur, then the additional resources from public support could increase the chance and speed of their economic mobility.

Due to their common national origins and geographic residence in the local community, immigrant groups can often draw upon community social capital generated from common cultural norms, collective goals, and social networks. We particularly distinguish between the quantity and quality of community social capital. Using the social capital framework, we derive hypotheses regarding the effects of the quantity and quality of community social capital on the receipt of and the interrelationship between public and private support among immigrant families with dependent children. Our hypotheses regarding the interrelationship between public and private financial and in-kind support are fundamentally different from the "crowding-out" hypothesis on public and private financial transfers proposed by economic theories.

Using data from the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP), we focus our analysis on Aid to Families with Dependent Children (AFDC) and private financial, housing and transportation support of families with dependent children. We first characterize the patterns of public and private assistance received by immigrant families with children and the variation in these patterns by ethnic groups. These patterns are then compared to those of native ethnic groups. Second, we examine how the quantity and quality of community social capital affect the receipt of public and private support. Third, we investigate whether the receipt of public support displaces private support and how this relationship is altered by the quality of community social capital. We also undertake parallel analysis for natives to provide a comparison to understand the uniqueness of immigrants' public assistance and private support.

BACKGROUND

Immigrants' Welfare Participation

Legal immigrants are entitled to participate in the means-tested welfare programs three years after arrival (five years after PRWORA) if eligible under the guidelines for income, assets and family structure. These programs include AFDC (renamed TANF in 1996), SSI, Medicaid, public housing assistance, school meal programs, etc.

Earlier studies on immigrants' welfare participation found their likelihood to use welfare lower than for natives, all else equal (Jensen 1988; Tienda and Jensen 1986; Blau 1984). More recent studies, however, show a rise in welfare use among immigrants. Bean et al. (1997) found that during the 1980s, the immigrant-native differential in welfare use rose for both SSI and AFDC with the latter explained by the increase in size of the high-AFDC using immigrant groups. Borjas and Hilton (1996) found that the immigrant-native gap in both the rate and duration of receiving welfare increased among later arrival cohorts of immigrants. Specifically, they found that in 1984, 18% of immigrants received public assistance (cash and in-kind) versus 15% of native households. By 1990, this gap had increased to 21% versus 14% respectively. Additionally, they examined two 32 month windows and found that the duration of welfare spells was similar between immigrants and natives in the 1980s (6.7 versus 6.3 months respectively) but grew apart in the early 1990s to 9.5 versus 7.8 months. Their multivariate analysis suggests that observable socioeconomic characteristics reduce this welfare use gap by only a small amount (5%), leaving a substantial variation due to immigrant entry cohort. Their findings concerning the size of the gap may be overstated as Van Hook et al. determined that larger units of analysis (e.g., households) tend to overstate the immigrant-native differential in public assistance use when compared to smaller units (e.g., families or minimal households).

Borjas and Hilton (1996) further examined welfare use by immigrants and found that the participation of newly arrived immigrants depends on the participation history of the existing stock of immigrants of the same national origin. They ascribed this finding to the transmission of information on welfare programs through networks based on national origin.

Immigrants' Private Support

One well-documented source of private support is the networks established between immigrants in the U.S. and their relatives and friends in the home country. Immigrants in the U.S. provide not only information necessary for the decision to emigrate but also provide support during resettlement in the U.S., including housing and transportation assistance and assistance in job searching and employment. These forms of support reduce costs and risks of departure from the origin and resettlement in the destination and so accelerate and perpetuate immigration. The effects of social ties on rates and probabilities of emigration have been convincingly demonstrated by many analysts using a variety of data sets and methodologies (Hatton and Williamson 1994; Dunlevy 1991). In addition, other studies have found that network connections help to ease hardship (Forbes 1985) and increase wage rates through labor market attachment (Massey 1987; Greenwell et al 1993).

While the literature shows a strong link between immigrant networks and immigration rates and economic attainment, it assumes that relatives and friends settled earlier in the U.S. would provide support to newcomers. There is relatively less research on the patterns of assistance from immigrant networks in the U.S. In this paper, we highlight three areas of private support—financial, housing and transportation—the basic support for adaptation of immigrants.

It is important to know the patterns of private support in these forms and whether public assistance displaces private support of these forms.

THEORETICAL FRAMEWORK AND HYPOTHESES

Coleman (1988) proposed a social capital theory in a human capital approach to study decision-making and social behavior. The human capital approach to immigration specifies the labor market return to human capital (Chiswick 1978; Schoeni 1997). Immigrants invest in education, work experience and English proficiency. As a result, they gain higher earnings and climb up the occupational ladder. Social capital theory builds on an individual decision-making model, but explicitly considers the context of social structure, organization and interpersonal relationships governed by normative and cultural factors. For Coleman (1988, 1990), the concept of social capital captures the process by which individuals develop social relations, which, in turn, generate resources facilitating action. Social capital inheres in social relations and takes on three forms: (1) reciprocal obligations, expectations, and trust; (2) information that provides the basis for rational action; and (3) norms and effective sanctions that govern behavior and, in particular, induce action in the interest of a collectivity.

Applying the concept of social capital to immigration and following Portes and Sensenbrenner's (1993) specification of the social entities facilitating immigrants' goal attainment, we argue that national origins and geographic residence jointly constitute social entities that may generate community social capital for immigrants. National origins encompass many factors. For example, national origins define historically formed cultural norms, contemporary norms prevailing at the time of departure, and shared social networks within the home country, within the host country, and between the home country and the host country.

However, countries of origin are only one necessary condition under which community social capital can be generated. Another necessary condition is the particular location of residence; only where countrymen are settled near each other can they effectively share information, reinforce norms and collective goals, and build reciprocal relations.

While concentration of coethnic immigrants in the community is necessarily to generate community social capital, its quality depends on the characteristics of coethnics in the community. Economic productivity of the coethnics in the community is an essential quality of community social capital for the support of immigrant economic success. First, the willingness of mutual support can occur only when coethnics in the community have the means to do so. Second, with high economic activity levels, the coethnic community is more likely to have the goal of upward mobility, creating norm and reinforcement of the goal for all members. Third, high levels of coethnic economic activity may be related to the greater information on labor market while high levels of coethnic economic inactivity may be related to greater information on welfare participation.

Our discussion has focused on immigrants and it does not automatically apply to natives nor need it apply. Race-ethnic groups of natives share the widely-defined American culture and the mother tongue of English, which immigrants lack. While there are distinct cultural and social differences among native race-ethnic groups, concentration of coethnic natives in a community does not necessarily generate community social capital as in the case of coethnic immigrants from the same country of origin. Further, the conditions of ethnic community organizations are often necessary for the generation of community social capital for native coethnics. Similarly, native coethnic economic activity may only reflect the aggregate level of economic activity rather than the quality of community social capital which natives may lack.

Our next step is to derive two sets of hypotheses. The first concerns how the quantity and quality of community social capital affect the receipt of public and private support. The second addresses the potential displacement of private support by public support and the effect of the quality of community social capital on this relationship.

As hypothesized by Borjas and Hilton (1996), information channels, a form of community social capital, could play an important role for immigrants' decision of welfare use. Contact with coethnics may transmit information on welfare policies, eligibility and the application procedures, all of which are quite novel and not easy for immigrants to understand if the information is only available in English. In contrast, contact with coethnics who are economically active provides another kind of information on labor market opportunities and job referrals, which helps able-bodied immigrants find gainful employment and prevents them from joining the welfare roll. From this reasoning we derive our Hypothesis 1 that greater coethnic contact increases welfare use while greater economic activity of coethnics decreases it for immigrants.

Concerning the availability of private support among immigrants, concentration of economically active coethnics is necessary for the provision of support to needy coethnics. The collective goal of coethnic success is realistic when many coethnics are making their way to success. This leads to our Hypothesis 2 that both greater coethnic contact and coethnic economic activity increases the likelihood of private transfers among immigrants.

Concerning the relationship between public assistance and private support, we first review the existing economic theories that govern a large body of economic literature. The economic literature on welfare has raised the question whether public transfer programs reduce the amount of privately provided assistance that individuals on welfare would have otherwise

received, i.e., whether the state replaces the family and social networks as the provider of economic assistance. The overarching framework of private transfers is an altruistic model, where the donor cares for not only his own wellbeing but also for the recipient's wellbeing (Becker 1974). When the recipient's wellbeing is lowered, the donor will increase transfers to the recipient so that the donor's marginal utility from his own wellbeing is equal to that from the recipient's wellbeing. Conversely, as the amount of resources available to the recipient increases, the donor will decrease transfers. The prediction is straightforward: public assistance crowds out private transfers. While a number of versions of this model have been formulated, the common rule is that public assistance displaces private support.

There are two major limitations with these economic models. First, the economic theory ignores the norms and values in the community where individual decision-making is made. Second, the economic literature focuses exclusively on the monetary form of private support. While much in-kind public assistance, such as Food Stamps and Medicaid, can be translated into monetary term, much non-monetary forms of private support, such as room and board, childcare, and transportation cannot. This is so not only because of the heterogeneity of household economy but because of the attached values and normative supervision of the private supporters, a form of family social capital (Hao and Brinton 1997). The lack of attention to community norms and non-monetary forms of support creates a theoretical void. It is precisely to this gap that social capital theory makes its contribution. We distinguish between immigrants and natives since immigrants have greater access to community social capital if they live near their coethnics. We distinguish between private monetary and non-monetary support in that less norms and values of the donor (family social capital) are attached to monetary support and more are attached to non-monetary support. If there exist both family social capital and community

social capital, the community social capital plays an additional role in private non-monetary support.

Now we are ready to derive our Hypothesis 3. Immigrants have greater community social capital available than natives when living in coethnic-concentrated areas. With the collective goal of success in the host society, community social capital of immigrants may reverse the crowding-out prediction so that private monetary support continues to be provided to the needy coethnics along with the public assistance in order to achieve the collective goal. Thus, we hypothesize that because of the greater community social capital available for immigrants than for natives, public assistance does not displace private monetary support for immigrants whereas it does so for natives. This logic does not go against the economic calculation of donors. Receivers' quicker achievement of self-sufficiency may mean a reduced total amount of support donors need to contribute when community social capital is absent.

Furthermore, because the quality of community social capital differs across national origins and geographic areas among immigrants, our Hypothesis 4 states that lower quality of community social capital (higher level of coethnic economic inactivity) may restore the crowding-out prediction for monetary support among immigrants.

Hypotheses 5 and 6 parallel Hypotheses 3 and 4 but address non-monetary private support. We see two fundamental differences between monetary and non-monetary support because many forms of non-monetary support require coresidence or proximity between the donor and the recipient. First, while providing non-monetary support, the private donor in coresidence or proximity can impose normative supervision and reinforce their values, which will lead to the receiver's quicker achievement of self-sufficiency rather than an abuse of external support. Second, once a form of non-monetary support is given, the donor may be

responsible for other forms of support needed from time to time. For example, private housing support may be extended to providing board when the recipient has no cash income or childcare when the child is sick and the mother is at job training. When making decisions to offer non-monetary support, the donor must consider his/her capacity to provide the additional support as necessary. Potential donors of private support may be more willing to provide non-monetary support to families receiving public assistance. The stream of public cash or in-kind aid can help the family overcome times of additional need rather than lead to further reliance on the donor. This suggests a complementary relationship between public assistance and non-monetary private support.

Therefore under Hypothesis 5 we predict that public assistance complements private non-monetary support because of donors' normative supervision and the reduced threat of additional support needed. As these two reasons are the same for both immigrants and natives, we expect Hypothesis 5 to apply to both. However, because immigrants are more likely to benefit from community social capital than natives, public assistance may have a stronger complementary effect for private non-monetary support among immigrants than among native.

For immigrants, lower quality of community social capital decreases the motivation and capacity of the donors. Therefore under Hypothesis 6 we predict that the lower the quality of community capital (higher levels of coethnic economic inactivity), the less the complementary relationship between public and private support among immigrants.

DATA AND METHODS

Data Sources

The SIPP. The analysis uses data from the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP). The SIPP is a multi-panel, longitudinal survey of

adults (age 15 and over) in households (U.S. Bureau of the Census 1991). The 1992 and 1993 panels each consist of about 20,000 nationally representative households over 36-40 months. The SIPP collects monthly data every four months by interviewing the original sample adults and other individuals with whom they reside (U.S. Bureau of the Census 1998). The core questions in each interview cover program participation and amounts and types of earned and unearned income, providing information to measure public assistance and private financial transfers. Topical modules probe in greater detail particular social economic characteristics, personal history, and specific topics and are asked one or more times during the life of the panel. The Migration History module asks where each person in the household was born in the U.S., and if born abroad, the country of birth and the year of arrival in the U.S. We use this information to identify immigrant status, country of origin, and length of U.S. residence. Other topical modules provide information on shelter costs and vehicles, from which we derive measures of housing and transportation support.

1990 Census Data. The geographic information on each SIPP individual's residence is available at the county level. For each individual's county residence, we merge in measures of community social capital based on the 1990 long-form census data.

Unit of Analysis

The unit of analysis in this study is minimal households. They are the smallest identifiable units within households that have the potential to reside independently of others (Van Hook et al. 1999). Within a household, the primary family, related or unrelated subfamilies, primary individual, and related or unrelated secondary individual adults can be separated out as minimal households. We choose the minimal households because such a unit of

analysis enables us to identify a sub-population who are demographically eligible for AFDC and allows more valid comparisons between immigrants and natives and among ethnic groups (Van Hook et al. 1999).

To address AFDC, the major cash transfer program for able-bodied adults (and their children), we define our population by the demographic eligibility to AFDC—families with dependent children (FDC). A unit is defined as FDC if this unit has one or more children under age 18.

We stack unit-month observations of the 1992 panel and those of the 1993 panel. A unit can have at most 40 months if it comes from the 1992 panel and 36 months if it comes from the 1993 panel but some have fewer months because of the demographic definition of the two sub-populations and because of attrition. Less than half of the total unit-month observations are FDC units. Among immigrant unit-month observations, 42% are FDC. Among native unit-month observations, the corresponding percentage is 32%.

Measurement

Both the core and topical module data of the SIPP and the 1990 census data are used to measure our seven key concepts: public assistance, private support, country of origin, migration history, program eligibility, human capital, community social capital, and state contexts.

- *Public Assistance.* We focus on Aid to Families with Dependent Children (AFDC). AFDC is means-tested, i.e., applicants' income and assets must be below a certain threshold. The demographic eligibility for AFDC requires a family with dependent children. We use the unit-level measure for AFDC: if any member in a unit receives AFDC, the unit is said to participate in AFDC. The monthly AFDC participation information is available in the core data.

• *Private Support.* Private support is confined to financial transfers from relatives and friends, non-public housing support and transportation support. We exclude support from institutions (such as pension and health insurance) and charitable organization.[1]

Financial transfer information is available in the monthly income sources of the core data. Housing support information is derived from the shelter costs module in wave 4 for the 1992 panel and wave 7 for the 1993 panel. We match the housing support information at two points in time to all those months in which the unit had the same address as the address in wave 4 or wave 7. If a unit (all members in a family or the individual in a one-person unit) did not own nor pay for the housing and the housing is not under the coverage of public housing or government low-rent programs, this unit is defined as having private housing support[2]. Housing support is a large source of private support. It provides shelter and sometimes meals, childcare or old age care, as well as normative and emotional support.

Transportation support information is derived from the vehicle module in waves 4 and 7. We match the two-points in time transportation data to all those months in which the unit had the same address as the address in wave 4 or wave 7. If there was at least one car in the address and a unit residing there did not own it, this unit is defined as having access to transportation support within the household. Transportation support is important in searching for and maintaining a job, taking children to school or daycare, taking elderly to see a doctor, as well as shopping.

· *Country of Origin.* A unit is called immigrant unit if either the husband or wife was an immigrant in the case of family units and if the individual is an immigrant in the case of one-person units. We define immigrant status as having been born in a foreign country and having

[1] We do not consider pension and private health insurance since they are a function of employment. We do not include charitable organizations since too few people reported having received charity transfers in the SIPP.
[2] Some units pay a small amount to cover utilities. We code those who paid less than $150 per month as not paying for housing.

moved to the U.S. at some point of life. We use information from the migration history module to identify immigrants' countries of origin. We can identify 10 specific countries of origin (former Soviet Union, Mexico, Cuba, Dominican Republic, China, Philippines, Japan, India, Korea and Vietnam).

To better understand the relationship between public and private support, we also carry out a parallel analysis for the native-born population, which includes the native-born non-Hispanic whites, non-Hispanic blacks, Puerto Ricans, and Mexican Americans.

- *Migration History*. We measure U.S. residency using four categories—those with less than 5 years, those with more than 25 years, and two categories in between each with a 10-year interval. The four categories result in three dummy variables, capturing the potential non-linear effect of U.S. residence. Immigrants, except for refugees, are not immediately eligible for welfare. U.S. residency is often used to proxy assimilation. If assimilating to the mainstream society, longer lengths of residency lead to less probability of welfare participation. Alternatively, if assimilating to the welfare culture, longer lengths of residency lead to greater probability of welfare participation. Our analysis of public assistance will test these competing hypotheses for families with dependent children.

A second variable of migration history is naturalization. As an indicator for integration into the host society, we expect that naturalization status reduces the need for external support including public assistance and private support.

A third measure of migration history focuses on the age at arrival at the U.S. In general, because human capital accumulated in the U.S. is more closely related to labor market success than human capital accumulated in foreign countries, the younger the age at arrival, the less likely an immigrant relies on external support.

• *Program Eligibility and Human capital*. The program eligibility includes female headship, number of children, poverty and wealth. Human capital includes the highest years of schooling in the unit and the number of workers in the unit.

• *Community Social Capital*. We use the intra-group interaction index for each country of origin group among immigrants to capture the opportunity for coethnic contact within local communities. Aggregate indexes have been well developed in the residential segregation literature and summarized in two review papers (Massey and Denton 1988; Massey, White and Phua 1996).

Residential intra-group interaction refers to the degree of potential contact or the possibility of interaction within minority group members in local areas. In our case, the local areas are counties, which include census tracts as subareas. The intra-group interaction index seeks to describe the probability of a particular group in terms of probability models of interaction among themselves. In other words, for a randomly selected member of group X, the intra-group interaction index gives the probability that someone else selected from the same census tract will be a member of X. It incorporates both the uneven distributions of the groups across the tracts in a county and their relative composition in the county. For the X group, the intra-group interaction index is:

$$ {}_xP_x^* = \sum_i \frac{x_i}{X}\frac{x_i}{t_i} $$

where x_i is the number of X members in tract i, X is its county total, and t_i is the total population of tract i. Like all probability measures, ${}_xP_x$ varies from 0 to 1.0. The value of ${}_xP_x$ heavily depends on the proportion of X in the tracts (decreasing as the proportion decreases). At the same time, ${}_xP_x$ increases as the distribution of a group across tracts in a county becomes more uneven (Liberson and Carter 1982). Thus ${}_xP_x$ represents the sociological meaning of actual

contact probability within groups, a close proxy for community social capital available within groups defined by countries of origin and residential areas. The index thus captures coethnic contact, representing the availability of information on welfare programs, normative justification of welfare participation, and the social relationships among coethnic that sustain private support.

The intra-group interaction index is calculated from the one-in-six long-form data of the 1990 census. We calculate the coethnic economic inactivity by taking the ratio of the number of economically inactive coethnic adults to the total number of coethnic adults age 16-64 for each immigrant and native ethnic group at the county level, using the one-in-six long-form data of the 1990 census. We match the coethnic contact index and the quality of community social capital with the SIPP data by the county of residence and immigrant status and ethnicity of each unit.

· *State Contexts*. Because states have the latitude to set the level of AFDC benefits, there is a large variation in these levels among states. To capture the state-level policy differences, we use the monthly benefit levels of AFDC. Economic prosperity or recession in a state affects its AFDC caseload. We use state unemployment rates to capture these local economic conditions when considering AFDC use.

Statistical Models

Let Y_{it} be a vector of private support variables (financial transfers, housing support and transportation support) and P_{it} is public assistance (AFDC) for unit i at time t. We use M_i to denote migration history of unit i, which is constant over time for each unit. U_{it} is a vector of unit characteristics for unit i at time t. S_i includes two measures of community social capital (based on the 1990 census and thus time-invariant). C_{it} is a vector of state context variables.

When we model public assistance and private support separately, we consider the following reduced-form equations:

(1) $P_{it} = b_0 + b_1 M_i + b_2 U_{it} + b_3 S_i + b_4 C_{it} + e_{it}^P$

(2) $Y_{it} = a_0 + a_1 M_i + a_2 U_{it} + a_3 S_i + e_{it}^Y$

Estimating equations 1 and 2 allows us to test Hypotheses 1 and 2. However, as public assistance may affect private support, we further consider the following structural equations:

(3*a*) $P_{it} = b_0 + b_1 M_i + b_2 U_{it} + b_3 S_i + b_4 C_{it} + e_{it}^P$

(3*b*) $Y_{it} = d_0 + d_1 M_i + d_2 U_{it} + d_3 S_i + d_4 P_{it} + e_{it}^Y$

Since public assistance is not truly exogenous to private support, we use a two-stage-least-square (2SLS) estimator, which estimates (3a) first, obtain the predicted value of P_{it}, and replace the predicted value of P_{it} in (3b).[3] The instrumental variables for public assistance are the state context variables including AFDC benefit levels and state unemployment rates. We perform an endogeneity test to determine whether the public assistance in question is truly exogenous.[4]

Estimates from equation (3b) allow us to test our hypotheses 3 and 5. The sign of δ_4 indicates a crowding-out vs. complementary relationship between public assistance and private support.

To test our Hypotheses 4 and 6 that the quality of community social capital affects the relationship between public and private support, we extend the Main-Effect Model in Equation

[3] We used a linear probability model for the dichotomous measures of public and private support and a 2SLS estimator in STATA for estimation. We tested and found robustness of our linear probability model by manually performing a two-stage estimation of probit models. In the first stage, we predicted the linear prediction of participation in public programs from the probit for welfare participation. In the second stage, we estimated a probit model of private support where the observed public assistance is replaced with the linear prediction.

[4] For endogeneity tests, we followed a formal procedure of Bollen *et al* (1995). The essence of the endogeneity test is to test whether there is an overlap between the sets of unobserved variables that affect both the dependent variable and the endogenous variable. We included the residuals from the estimation of equation (3a) in equation (3b). If the

(3) to the Interactive Model in Equation (4) below, including an interaction term between public assistance and coethnic economic inactivity.

$$(4a) \quad P_{it} = b_0 + b_1 M_i + b_2 U_{it} + b_3 S_i + b_4 C_{it} + b_5 S_i C_{it} + e_{it}^{P}$$

$$(4b) \quad S_i P_{it} = l_0 + l_1 M_i + l_2 U_{it} + l_3 S_i + l_4 C_{it} + l_5 S_i C_{it} + e_{it}^{SP}$$

$$(4c) \quad Y_{it} = d_0 + d_1 M_i + d_2 U_{it} + d_3 S_i + d_4 P_{it} + d_5 S_i P_{it} + e_{it}^{Y}$$

The two endogenous variables on the right-hand-side of (4c) are AFDC participation and its interaction with coethnic economic inactivity. The instrumental variables for these two endogenous variables add the interaction terms between state context variables and coethnic economic inactivity. If low quality of community social capital weakens the complementary effect of AFDC on housing and transportation support, we should find δ_4 positive and δ_5 negative. We also use equation 4 to test the significance of immigrant-native differences in the relationship between AFDC and private support.

RESULTS

We organize the results in three parts. First, we present descriptive results, including the patterns of public assistance and private support among immigrant groups and a comparison with those of natives. The second part focuses on testing the effects of community social capital on public and private support among immigrants, controlling for migration history, eligibility, human capital, and state context. Third, we present the relationship between public and private support for both immigrants and natives and the effect of the quality of community social capital on the public-private support relationship among immigrants.

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estimate for the residuals is significant (using t-ratio) then we are confident that public assistance is endogenous and 2SLS should be used. Conversely, OLS should be consistent and efficient.

Patterns of Public Assistance and Private Support

Our empirical analysis is based on unit-month data. Table 1 describes distributions of public assistance and private support by immigrants and natives. Out of all units, the AFDC monthly rate is only slightly higher for immigrants than for natives (4.2% and 3.5%, respectively). Among immigrant units, over 25% of all Dominicans and 16% of all Vietnamese participated in AFDC. Restricted to families with dependent children (FDC), the Dominican AFDC rate is 46.1%, the former Soviet AFDC rate is 29.1%, and the Vietnamese AFDC rate is 33.0%, compared to only 1.5% among W. N. S. European FDC.

(Table 1 about here)

Financial transfers from relatives and friends are not frequent. While the SIPP questionnaire has no absolute criterion for reporting financial transfers, respondents might only enter a significant amount for this information. Nonetheless, the transfer rate for immigrants is higher than for natives. For total units, Japanese, Korean and Chinese immigrants exhibit higher rates of receiving financial transfers. However, the rates for FDC units are much lower. The higher rates among total Japanese, Korean and Chinese immigrants units may be attributed to the one-person units that receive parental transfers for college education.

Immigrants show greater private housing support than natives. Restricted to FDC, immigrant Dominicans receive the greatest housing support. While immigrants as a whole show greater private transportation support than their native counterparts, immigrant FDC receive less private transportation support than native FDC.

Overall, the patterns are heterogeneous among immigrants. For instance, Dominican immigrants rank high in AFDC and housing support; Vietnamese immigrants rank relatively high in all forms of public and private support; and Mexican immigrants do not rank high in

AFDC. However, the patterns are less heterogeneous among natives—minorities have greater rates than whites in public assistance and private support except for financial transfers.

Community Social Capital and Public and Private Support

Before turning to the multivariate analysis, we examine the descriptive statistics of variables used in analysis (see Table 2). For the dummy variables of ethnicity, the statistics are proportions of the sample in analysis. Among immigrant units, a substantial proportion of FDC is in each of the four entry cohorts. About two fifths of immigrant FDC were naturalized. The average age at arrival for the head of FDC is 22, a relatively young age.

Immigrant FDC units are more demographically advantaged than their native counterparts: a noticeably smaller proportion is female-headed. However, immigrant FDC units are more socio-economically disadvantaged than their native counterparts: greater proportion in poverty, lower education, a smaller number of workers, and less wealth. The immigrant-native differential in coethnic contact mainly reflects the immigrant-native differential in tract population composition. However, within immigrants, the variations in coethnic contact mainly reflect the unevenness of distribution across tracts within county because particular national origin groups have formed ethnic communities or ethnic enclaves. For example, Mexican is a much larger group than Cuban. However, Cubans are more geographically concentrated than Mexicans, reflecting in the coethnic contact (.182 for Mexican and .256 for Cuban; for more comparisons, see Appendix Table). In contrast, composition dominates unevenness in the variation in coethnic contact for natives because of the large size of whites and the relatively even distribution across tracts for native minorities. The coethnic economic inactivity is higher for immigrants than for natives.

(Table 2 about here)

We test Hypotheses 1 and 2 using a separate analysis for immigrant FDC since these two hypotheses regard immigrants only. We undertake a parallel analysis for native FDC only to show the similar effects of control variables.

We first estimate the reduced-form equations 1 and 2. The results are shown in Table 3. We examine AFDC among immigrants FDC first (see Column 1). Compared to the reference (W.N.S. European immigrants), Dominican, Vietnamese and former Soviet FDC have a greater probability of AFDC participation whereas Korean and Mexican FDC have a smaller probability of AFDC participation. FDC with less than 25 years of U.S. residency have a lower probability of AFDC participation. However, this effect is not linear—the recent cohort is more likely to receive AFDC more than those arrived 5-24 years ago. Naturalization, an indicator of integration into the host society, reduces the likelihood of AFDC participation, presenting a counter argument to welfare assimilation. The older age at arrival, the more likely a FDC is to receive AFDC. Eligibility for AFDC, such as female-headship, the number of dependent children, poverty status and low level of wealth, strongly increases AFDC participation while human capital, such as the number of working persons reduces it. Education does not matter, indicating the discounted value of education among immigrant FDC. Greater levels of state AFDC benefits and unemployment rates increase AFDC participation, which supports the feasibility of using state context variables as the instrumental variables and their statistical power in the 2SLS estimator.

(Table 3 about here)

Controlling for the above variables, we find that greater coethnic contact, an indicator of available information on the AFDC program, does not significantly affect AFDC use whereas

economic inactivity, an indicator of lack of information on labor market opportunity, promotes the probability on AFDC use. This implies the important role of labor market information, rather than welfare information, for parents in FDC, who are in the labor force. This finding confirms our Hypothesis 1 that coethnic economic inactivity increases the probability of welfare use among immigrant FDC. But our finding does not support the hypothesis regarding coethnic contact for immigrant FDC.

Column 5 shows the corresponding results for AFDC participation of natives. All minority groups show greater AFDC participation. Eligibility, human capital, and state context affect natives' AFDC participation in the same directions as for immigrants. We include coethnic economic inactivity and coethnic contact for natives only for parallel analysis. Keep in mind that the contact index reflects predominantly the compositional difference between majority and minority.[5]

Turning to financial transfers for immigrants (Column 2), we see that former Soviet, Chinese, Filipino and Korean are more likely but other non-white immigrants are less likely to receive financial transfers. The negative effect of poverty may reveal that poor people may also have poor relatives and friends. Education increases the probability, perhaps because parents with higher education are thought to need temporary assistance rather than long-term dependency. The number of workers reduces the probability of receiving financial transfers from relatives and friends, as we expected because the more people in a unit are employed, the more likely the unit will be self-sufficient.

[5] The effect of coethnic contact for natives can be interpreted as that white single mothers living in predominantly white tracts are more likely to receive AFDC.

Net of the above effects, economic inactivity reduces immigrants' private financial transfers whereas coethnic contact exerts little effect, suggesting that the quality of community social capital is more important than the quantity.

Among natives (Column 6), Mexican Americans are more likely to receive private financial transfers, all else equal. Welfare eligibility and human capital have similar effects for natives as for immigrants.

Turning to housing support among immigrants (Column 3), Dominican, Japanese and Korean FDC are more likely to receive housing support. The fewer years in the U.S., the more likely are FDC to have housing support. Both naturalization and older age at arrival reduce housing support. A larger number of dependent children, above poverty, more wealth, higher education and a larger number of workers in the unit decrease the probability. All else being equal, coethnic contact increases housing support but economic inactivity has no significant effect. Among native FDC (Column 7), blacks are more likely and Puerto Ricans and Mexicans are less likely to receive housing support. Welfare eligibility and human capital have similar effects for natives as for immigrants except that female headship increases housing support.

Finally, we look at access to transportation support within household among immigrants (Column 4). Except for western Europeans and Filipinos, most of the immigrant FDC are less likely to have such an access. New comers are more likely to have this access. Naturalization and older age at arrival reduce it. More children lead to less access to transportation support while female-headship, poverty, low level of wealth, low education and a small number of workers lead to greater access. All else being equal, coethnic contact increases and coethnic economic inactivity reduces access. Among native FDC (Column 8), Mexican Americans are

more likely while Puerto Ricans are less likely to have access to transportation support. The effects of AFDC eligibility and human capital are similar in sign as for immigrants.

In sum, the results in Table 3 partially support our Hypotheses 1 and 2 that community social capital plays certain roles in public assistance and private support among immigrants. Coethnic contact increases non-monetary private support while coethnic economic inactivity increases public assistance and reduces transportation support among immigrants. These findings regarding the role of community social capital are net of the effects of welfare eligibility and human capital, which are similar for both immigrant and native FDC.

Are Public Assistance and Private Support Substitutes or Complements?

We investigate the relationship between AFDC and private support among FDC by estimating Equation 3 (Main-Effect Model) and Equation 4 (Interactive Model) and by determining the consistency of the OLS estimates and the 2SLS estimates using the endogeneity test. Results are shown in Table 4. Our principle is that if the endogeneity test is significant, the OLS estimates are biased and the 2SLS estimates are consistent; conversely, the OLS estimates are consistent and efficient.

(Table 4 about here)

The Main-Effect Model is used to test Hypotheses 3 and 5 for both immigrant and native FDC. We examine the Main-Effect Model for immigrant FDC first. The endogeneity tests for all three forms of private support are significant, indicating the consistency of 2SLS estimates and the bias of OLS estimates. The 2SLS estimates reverse the OLS sign for financial transfers and transportation support from negative to positive and increase the magnitude for housing support. In short, we find strong evidence that AFDC does not displace private support and it

actually promotes housing and transportation support among immigrant FDC. This supports Hypotheses 3 and 5 that public assistance does not displace private support among immigrants because immigrants have greater access to community social capital than natives.

Examining the results for native FDC, we find again that 2SLS estimates are consistent for the three forms of private support. In contrast to immigrant FDC, AFDC significantly displaces financial transfers among native FDC. This result supports our Hypothesis 3 and is consistent with the economic theory of substitutability between public and private support and with findings in the welfare literature (e.g., Rosenzweig and Wolpin 1995). For non-financial transfers, AFDC recipiency increases housing support and it does not displace transportation support. The results for natives provide additional evidence to support our Hypotheses 3 and 5 that public assistance displaces financial support for natives and AFDC and non-financial private support is not substitutable for both immigrants and natives.

To see whether the structural effect of AFDC recipiency on private support significantly differs between immigrants and natives, we pool immigrants and natives and introduce an interaction effect between AFDC recipiency and immigrant status, using the Interactive Model (equation 4). The main effect is for natives and the combination of the main and interaction effects is for immigrants. The endogeneity tests show that 2SLS estimates are consistent, so we focus on the 2SLS results. For financial transfer, natives differ from immigrants in the sign of the effect—negative for natives and positive for immigrants. And this difference is significant. For housing support, natives differ from immigrants in the magnitude of a positive AFDC effect—.837 and .467 (.837-.370), respectively. For transportation support, natives exhibit no AFDC effect while immigrants exhibit a positive AFDC effect. These results are consistent with the results we see from the estimation of the Main-Effect Model separately for immigrants and

natives in the top panel and confirm the significant structural difference in the substitutable-complementary nature of public and private support between immigrants and natives.

The Interactive Model is useful to test our Hypotheses 4 and 6 regarding the quality of community social capital by interacting AFDC recipiency with coethnic economic inactivity. Again these hypotheses are relevant for immigrants only. Our criterion to judge whether 2SLS is the appropriate estimator is the endogeneity tests for both endogenous variables (AFDC and its interaction with coethnic economic inactivity), both of which should be significant. If only the test of one endogenous variable is significant or if neither is significant, we conclude that the interaction term is unnecessary and we use the Main-Effect Model results.

The endogeneity tests for the two endogenous variables show that the interaction is needed for transportation support and the 2SLS results for transportation are consistent. For immigrant units, the effect of AFDC recipiency when coethnic economic inactivity is zero is 1.662. The positive AFDC effect is reduced by a lower level of social capital quality—every 10% increase in coethnic economic inactivity reduces the AFDC positive effect by .503. These results provide some evidence to support our Hypothesis 6 for transportation support but not for housing support. A parallel analysis for native FDC is also included in Table 4.

DISCUSSION

We discuss five aspects of this study: (1) its departure from the literature, (2) patterns in the use of public assistance, (3) the effects of community social capital on public and private support, (4) the displacement or supplement of private support by public assistance, and (5) the policy implications and future research needs.

This study departs from the literature in two important ways. First, while the literature has commented upon the role of community social capital in immigrants' receipt of support, it has not formally tested such a role. In this study, we have tested the role of community social capital in determining the probability of receiving AFDC and private support among immigrant FDC units through the use of two measures. We adopted the intra-group interaction index for coethnic contact from the segregation literature to measure the quantity of community social capital and we determined the level of coethnic economic activity to serve as a measure of the quality of community social capital.

Second, the study of immigrants' welfare use and of immigrants' private support has remained separated and unrelated in the literature. Public support and private support are essential to the economic survival and success for families with dependent children. Therefore, our investigation into the relationship between public assistance and private support, and the potential displacement of the latter by the former, is important to further our understanding of immigrants' adaptation.

Our descriptive analysis confirms past research by showing that the immigrant FDC units in 1991-1995 (as a measure of stock) disproportionately used more AFDC than natives as a whole. However, when breaking down by nationality we find that only three immigrant groups, Dominican, Vietnamese and former Soviet FDC units, are more likely to use AFDC than natives. Immigrants of other national origins do not show this tendency. It may be that the disruption in the lives of the Vietnamese and ex-Soviet immigrants explains their heavier use of AFDC.

Our multivariate analyses provide several important findings regarding the effects of community social capital on private and public support. First, our results reveal that AFDC and private support patterns of immigrant nationality groups found in our descriptive analysis

continue even after controlling for migration history, AFDC eligibility, human capital, community social capital and state context. Dominican, Vietnamese and former Soviet FDC remain more likely to use AFDC. This implies that factors considered in our framework do not explain completely the group difference in welfare use. Future research will need to identify the factors driving these immigrants' heavier use of welfare.

Second, AFDC participation is increased by coethnic economic inactivity though not by coethnic contact. In obtaining this result, we have better tested the effect of network information on welfare participation originally put forward by Borjas and Hilton (1996). Their analysis used the national count of coethnics receiving welfare as a measure of network information which confounds two very different kinds of information (welfare versus labor market) and requires the assumption that national data provides an adequate measures of coethnic contact. We separate out coethnic contact from coethnic inactivity thereby separating out two networks, the former providing information on welfare and the latter on the labor market. In addition, we use a much smaller local area (county with census tracts as subareas). Our findings show the importance of a lack of labor market information rather than of welfare information in determining immigrants' AFDC participation.

Third, coethnic contact increases non-monetary housing and transportation support for immigrant FDC units, supporting the hypothesis that community social capital generated by coethnic contact promotes private support. We do not test the hypothesis for natives since coethnic contact may not represent community social capital for them as they do not share a unique culture nor face the same barrier from not knowing English well.

Our multivariate analysis also identifies important findings regarding the relationship between public and private support when accounting for community social capital. Given

immigrants have greater access to community social capital, we test the immigrant-native difference in displacement. It clearly shows that AFDC does not displace private financial transfers for immigrant FDC but does for native FDC. When tested, this immigrant-native difference is found to be highly significant. This finding challenges the economic "crowding out" hypothesis, drawing further attention to the importance of community social capital.

In addition, our analysis presents evidence that AFDC does not displace non-monetary private support for both immigrant and native FDC and the complementary AFDC effect is much stronger for immigrant FDC than for native FDC. This finding identifies the need for taking into account family social capital and community social capital when conceptualizing the relationship between public assistance and private non-monetary support.

Also, we find that the quality of community social capital affects private transportation support. Poorer quality of community social capital weakens the complementary relationship between AFDC and transportation support for immigrant FDC. This provides further evidence of the importance of considering the quality of community social capital as well as the quantity.

Our results have several policy implications. First, they address the fear that able-bodied immigrants assimilate into welfare dependency. This fear has been justified for native FDC as AFDC has been found to displace private monetary support. Our analysis reveals that immigrant FDC receive both public and private support and that the latter is not displaced by the former. In some cases private non-monetary support increases with public support. With private non-monetary support often accompanied by normative supervision by the donors who stress eventual self-sufficiency, long-term welfare dependency of immigrant FDC is made less likely.

Second, while the overall fear of welfare dependency for immigrant FDC should be reduced, our analysis shows that low quality of community social capital (high levels of

economic inactivity) may lead to greater dependence on public support and reduced receipt of private support. For immigrant groups in locations suffering from this problem, government programs to increase economic activity would also increase the quality of community social capital and bring the benefits from this increase (both reduced reliance on public support and greater provision of private support).

We have identified three areas for further research. First, we need to identify the additional explanatory factors that can potentially explain away the difference in AFDC use by country of origin. These may be of great importance in developing public programs to help specific immigrant groups economically succeed. Second, we need to develop appropriate measures of community social capital for natives to better facilitate the comparison between immigrants and natives. Such measures may help with the design of programs for supporting natives in communities suffering from low community capital. Third, we need to apply this type of study to other forms of public assistance and other immigrant sub-populations, such as the elderly. Through this additional research, we can advance our understanding of the relationship between public assistance and private support as well as better target public assistance in ways more likely to improve the economic security of both immigrants and natives.

REFERENCES

Bean, Frank D., Jennifer V. W. Van Hook, and Jennifer E. Glick. 1997. "Country of Origin, Type of Public Assistance, and Patterns of Welfare Recipiency among U.S. Immigrants and Natives." *Social Science Quarterly* 78:432-451.

Becker, Gary S. 1974. "A Theory of Social Interactions." *Journal of Political Economy* 82:1063-1093.

Blau, Francine. 1984. "The Use of Transfer Payments by Immigrants." *Industrial and Labor Relations Review* 37(2): 222-239.

Bollen, Kenneth A., David K. Guildey and Thomas A. Mroz. 1995. "Binary Outcomes and Endogenous Explanatory Variables: Tests and Solutions with an Application to the Demand for contraceptive Use in Tunisia." *Demography* 32: 111-131.

Borjas, George J. 1992. "National Origin and the Skills of Immigrants in the Postwar Period." In George J. Borjas and Richard B. Freeman eds. *Immigration and the Work Force: Economic Consequences for the United States and Source Areas* pp.17-47.

Borjas, George J. and Lynette Hilton. 1996. "Immigration and the Welfare State: Immigrant Participation in Means-Tested Entitlement Programs." *The Quarterly Journal of Economics* CVXI:576-604.

Chiswick, Barry R. 1978. "The Effect of Assimilation on the Earnings of Foreign-Born Men." Journal of Political Economy 86: 897-921.

Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94:s95-s120.

Coleman, James S. 1990. *Foundation of Social Theory*. Cambridge: Harvard University Press.

Dunlevy, James. A. 1991. "On the settlement patterns of recent Caribbean and Latin immigrants to the United States." *Growth and Change* 22:54-67.

Forbes, S. S. 1985. *Adaptation and Integration of Recent Refugees to the U.S.* Washington, DC: Refugee Policy Group.

Hatton, Timothy J. and Jeffrey G. Williamson. 1994. "What drove the mass migrations from Europe in the late nineteenth century?" *Population and Development Review* 20:533-559.

Hao, Lingxin and Mary C. Brinton. 1997. "Productive Activities and Support Systems of Single Mothers." *American Journal of Sociology* 102(5):1305-1344.

Jensen, Leif. 1988. Patterns of Immigration and Public Assistance Utilization, 1970 - 1980." *International Migration Review*. XXII (1): 51 - 83.

Liberson, Stanley and Donna K. Carter. 1982. "Temporal Changes and Urban Differences in Residential Segregation: A Reconsideration." *American Journal of Sociology* 88:296-310.

Massey, Douglas S. 1987. "Understanding Mexican Migration to the United States." *American Journal of Sociology* 92:1372-1403.

Massey, Douglas S. and Nancy A. Denton. 1988. "The Dimensions of Residential Segregation." *Social Forces* 67:281-315.

Massey, Douglass S., Michael J. White, and Voon-Chin Phua. 1996. "The Dimensions of Segregation Revisited." *Sociological Methods and Research* 25:172-206.

Portes, Alejandro and Julia Sensenbrenner. 1993. "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action." *American Journal of Sociology* 98: 1320-50.

Schoeni, Robert F. 1997. "New Evidence on the Economic Progress of Foreign-Born Men in the 1970s and 1980s." *Journal of Human Resources* 32: 683-740.

Smith, James P. and Barry Edmonston. 1997. *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington D.C.: National Academy Press.

Tienda, Marta and Leif Jensen. 1986. "Immigration and Public Assistance Participation: Dispelling the Myth of Dependency." *Social Science Research* 15(4): 372 - 400.

U.S. Bureau of the Census. 1991. *Survey of Income and Program Participation Users' Guide*. Washington D.C.

U.S. Bureau of the Census. 1998. *Survey of Income and Program Participation (SIPP). http:/www.bls.census.gov/sipp.*

Van Hook, Jennifer, Jennifer E. Glick and Frank D. Bean. 1999. "Public Assistance Receipt Among Immigrants and Natives: How the Unit of Analysis Affects Research Findings." *Demography* 36:111-120.

Table 1. Public Assistance and Private Support of Immigrant and Native Units

Ethnicity	Public Assistance		Private Support					
	AFDC		Financial		Housing		Transportation	
	Total	FDC	Total	FDC	Total	FDC	Total	FDC
Immigrant	.042	.096	.020	.014	.331	.306	.088	.034
W. N. S. European	.004	.015	.015	.015	.234	.178	.052	.021
Former Soviet	.099	.291	.032	.042	.333	.398	.077	.021
Mexican	.071	.119	.006	.006	.379	.358	.121	.056
Cuban	.010	.032	.011	.002	.348	.235	.153	.027
Dominican	.262	.461	.007	.012	.538	.544	.093	.000
Chinese	.015	.035	.052	.021	.260	.182	.045	.006
Filipino	.001	.001	.011	.021	.299	.211	.134	.056
Japanese	.000	.000	.068	.002	.253	.369	.052	.000
Indian	.005	.009	.009	.005	.373	.123	.108	.000
Korean	.003	.001	.068	.027	.331	.337	.053	.019
Vietnamese	.161	.330	.012	.023	.343	.314	.159	.059
Other	.052	.110	.028	.016	.395	.365	.084	.028
Native	.035	.099	.012	.011	.249	.240	.062	.048
Non-Hispanic white	.017	.052	.012	.010	.226	.203	.053	.036
Non-Hispanic black	.122	.279	.012	.013	.354	.389	.105	.097
Puerto Rican	.185	.326	.012	.010	.397	.362	.058	.031
Mexican	.085	.180	.010	.013	.336	.334	.121	.095
Other	.087	.212	.012	.010	.352	.340	.099	.072

Source: The 1992 an 1993 panels of the Survey of Income and Program Participation (SIPP).
Note: FDC stands for families with dependent children. The statistics are weighted. The units are minimal households (see precise definition in text).

Table 2. Descriptive Statistics of Variables Used in Analysis

Variable	Immigrant	Native
Immigrant Ethnicity		
W. N. S. European	.150	--
Former Soviet	.014	--
Mexican	.295	--
Cuban	.024	--
Dominican	.027	--
Chinese	.044	--
Filipino	.050	--
Japanese	.013	--
Indian	.028	--
Korean	.030	--
Vietnamese	.027	--
Other	.269	--
Native Ethnicity		
Non-Hispanic white	--	.771
Non-Hispanic black	--	.136
Puerto Rican	--	.016
Mexican	--	.033
Other	--	.044
Migration history		
<5 years in US	.132	--
5-15 years in US	.404	--
16-25 years in US	.286	--
>25 years in US	.177	--
Naturalized	.402	--
Age at arrival	21.9	--
Welfare Program Eligibility		
Number of dependent children	2.0	1.8
Female-headed	.162	.267
Poverty	.261	.197
Highest education	13.5	13.9
Human Capital		
Number of workers	1.389	1.461
Wealth<$1000	.608	.585
Community Social Capital		
Coethnic contact	.103	.773
Coethnic Economic inactivity	.295	.228
State Context		
AFDC benefit ($)	438	361
Medicaid expenditure per elderly ($)	--	--
Unemployment rate (%)	8.5	7.3
Panel 1992	.503	.522
Year		
1991-92	.190	.201
1993	.321	.322
1994	.323	.319
1995	.166	.158
N	67,540	427,949

Source: The 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP).
Note: The statistics are weighted. The units are minimal households (see precise definition in text)

Table 3. Determinants of Public Assistance and Private Support of Immigrant and Native Families with Dependent Children: Reduced-Form Estimates

Variable	Immigrant				Native			
	AFDC	**Financial**	**Housing**	**Transportation**	**AFDC**	**Financial**	**Housing**	**Transportation**
Immigrant Ethnicity								
Former Soviet	.131 **	.025 **	.032 *	-.015 *	--	--	--	--
	(.008)	(.004)	(.016)	(.007)				
Mexican	-.018 **	-.007 **	-.059 **	-.001	--	--	--	--
	(.004)	(.002)	(.007)	(.003)				
Cuban	.010	-.010 **	-.029 *	-.011	--	--	--	--
	(.007)	(.003)	(.013)	(.006)				
Dominican	.200 **	-.013 **	.123 **	-.086 **	--	--	--	--
	(.007)	(.003)	(.013)	(.006)				
Chinese	.011 *	.009 **	.005	-.011 **	--	--	--	--
	(.005)	(.002)	(.009)	(.004)				
Filipino	-.000	.007 **	.025 **	.037 **	--	--	--	--
	(.005)	(.002)	(.009)	(.004)				
Japanese	-.036 **	-.009 *	.125 **	-.020 **	--	--	--	--
	(.008)	(.004)	(.016)	(.007)				
Indian	.034 **	-.006	.036 **	-.003	--	--	--	--
	(.007)	(.003)	(.012)	(.005)				
Korean	-.032 **	.013 **	.141 **	-.001	--	--	--	--
	(.006)	(.003)	(.011)	(.005)				
Vietnamese	.181 **	.005	.011	.020 **	--	--	--	--
	(.006)	(.003)	(.011)	(.005)				
Other	.015 **	-.000	.057 **	-.010 **	--	--	--	--
	(.003)	(.002)	(.006)	(.003)				
Native Ethnicity								
Non-Hispanic black	--	--	--	--	.089 **	-.001	.013 **	-.002
					(.002)	(.001)	(.003)	(.002)
Puerto Rican	--	--	--	--	.133 **	-.003	-.066 **	-.062 **
					(.004)	(.002)	(.007)	(.004)
Mexican	--	--	--	--	.039 **	.002 *	-.017 **	.019 **
					(.003)	(.001)	(.005)	(.003)
Other	--	--	--	--	.051 **	-.003 *	-.007	-.011 **
					(.002)	(.001)	(.004)	(.002)

(continued)

(table 3 continued)

Variable					Native			
	AFDC	**Financial**	**Housing**	**Transportation**	**AFDC**	**Financial**	**Housing**	**Transportation**
Migration History								
<5 years in US	-.024 **	-.013 **	.370 **	.073 **	--	--	--	--
	(.005)	(.002)	(.009)	(.004)				
5-15 years in US	-.044 **	-.006 **	.238 **	.046 **	--	--	--	--
	(.003)	(.002)	(.007)	(.003)				
16-25 years in US	-.034 **	-.001	.102 **	.021 **	--	--	--	--
	(.003)	(.001)	(.006)	(.003)				
Naturalized	-.023 **	.002	-.040 **	-.011 **	--	--	--	--
	(.002)	(.001)	(.004)	(.002)				
Age at arrival	.001 **	.000 **	-.009 **	-.002 **	--	--	--	--
	(.000)	(.000)	(.000)	(.000)				
AFEC Eligibility								
Number of kids	.028 **	-.000	-.020 **	-.016 **	.014 **	-.001 **	-.021 **	-.015 **
	(.001)	(.000)	(.002)	(.001)	(.000)	(.000)	(.001)	(.000)
Female-headed	.158 **	.014 **	.003	.066 **	.079 **	.010 **	.075 **	.075 **
	(.003)	(.001)	(.005)	(.002)	(.001)	(.000)	(.002)	(.001)
Poverty	.150 **	-.003 *	.020 **	.027 **	.283 **	.001	.065 **	.076 **
	(.003)	(.001)	(.005)	(.002)	(.001)	(.001)	(.002)	(.001)
Wealth<$1000	.023 **	.001	.154 **	.007 **	.009 **	.004 **	.125 **	.015 **
	(.002)	(.001)	(.004)	(.002)	(.001)	(.000)	(.001)	(.001)
Human Capital								
Highest education	.000	.001 **	-.007 **	-.001 **	-.005 **	.001 **	-.013 **	-.003 **
	(.000)	(.000)	(.001)	(.000)	(.000)	(.000)	(.000)	(.000)
Number of workers	-.059 **	-.012 **	-.061 **	-.001	-.040 **	-.005 **	-.054 **	-.010 **
	(.001)	(.001)	(.003)	(.001)	(.001)	(.000)	(.001)	(.001)
State Context								
AFDC level ($100)	.013 **	--	--	--	.015 **	--	--	--
	(.001)				(.000)			
Unemployment rate	.067 **	--	--	--	.006 **	--	--	--
	(.005)				(.002)			
Community Social Capital								
Coethnic contact	-.023	.008	.531 **	.101 **	.028 **	.001	-.104 **	-.007 *
	(.016)	(.007)	(.030)	(.013)	(.003)	(.001)	(.005)	(.003)
Coethnic economic inactivity	.086 **	.005	-.021	-.028 **	.055 **	-.032 **	-.102 **	-.099 **
	(.012)	(.006)	(.024)	(.010)	(.007)	(.003)	(.012)	(.006)
N	67,540	67,540	57,116	54,165	427,949	427,949	363,763	336,590
R^2	.333	.015	.172	.062	.376	.006	.121	.094

Source: the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP).
Note: The model controls for a dummy variable indicating the 1992 Panel and 3 dummy variables indicating 1993, 1994 and 1995 compared to 1991-92. Standard errors are in parentheses.
** p<.01 * p<.05

Table 4. Effects of Public Assistance on Private Support of Immigrant and Native Families with Dependent Children: OLS and 2SLS estimates

	Financial		Housing		Transportation	
	OLS	**2SLS**	**OLS**	**2SLS**	**OLS**	**2SLS**
Main-Effect Model						
Immigrant Units						
AFDC	-.012 **	**.006**	.047 **	**.194** *	-.009 **	**.202** **
	(.002)	(.019)	(.007)	(.078)	(.003)	(.034)
Endogeneity of AFDC (P-value)		.000 **		.015 *		.000 **
Native Units						
AFDC	-.009 **	**-.019** *	-.097 **	**.804** **	-.041 **	**-.033**
	(.001)	(.008)	(.003)	(.042)	(.002)	(.023)
Endogeneity of AFDC (P-value)		.000 **		.000 **		.000 **
Interactive Model						
Differential AFDC Effect by Immigrant Status: Pooled Immigrant and Native units						
AFDC	-.010 **	**-.021** **	-.084 **	**.837** **	-.031 **	**-.023**
	(.001)	(.008)	(.003)	(.043)	(.001)	(.019)
AFDC*immigrant status	.006 **	**.041** **	.067 **	**-.370** **	-.022 **	**.126** **
	(.002)	(.013)	(.007)	(.067)	(.003)	(.029)
Endogeneity of AFDC (P-value)		.000 **		.000 **		.000 **
Endogeneity of AFDC*immi-grant status (P-value)		.000 **		.000 **		.000 **
Differential AFDC Effect by Coethnic Economic Inactivity						
Immigrant Units						
AFDC	-.010	.127 *	.049	.676 **	.111 **	**1.662** **
	(.007)	(.052)	(.030)	(.228)	(.013)	(.108)
AFDC*coethnic economic inactivity	-.066 **	-.430 **	-.007	-.969	-.365 **	**-5.033** **
	(.021)	(.142)	(.088)	(.627)	(.037)	(.296)
Endogeneity of AFDC (P-value)		.329		.154		.000 **
Endogeneity of AFDC*coethnic economic inactivity (P-value)		.007 **		.998		.000 **
Native Units						
AFDC	.003	.014	-.003	2.793 **	.033 **	**.145**
	(.002)	(.029)	(.010)	(.193)	(.005)	(.076)
AFDC*coethnic economic Inactivity	-.044 **	-.107	-.347 **	-6.040 **	-.269 **	**-.533** **
	(.007)	(.077)	(.033)	(.509)	(.017)	(.200)
Endogeneity of AFDC (P-value)		.199		.708		.000 **
Endogeneity of AFDC*coethnic Economic inactivity (P-value)		.000 **		.000 **		.000 **

Source: the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP).

Note: The models include all the variables presented in Table 3. The instrumental variables for the 2SLS are the state-level maximum AFDC benefits for a family of four and unemployment rates for Baseline Model and also their interaction terms with immigrant status or coethnic contact in Interaction Model. The endogeneity tests of the AFDC variables test the significance of the estimated disturbances of the AFDC equation(s) when they are included in the structural equation. Standard errors are in parentheses. ** p<.01 * p<.05

Appendix Table. Coethnic Contact Index: Immigrant and Native Groups

Ethnicity	Co-Ethnic Contact Index	Population Percentage (%)
Immigrant		
W. N. S. European	.033	2.69
Former Soviet	.046	.21
Mexican	.182	2.46
Cuban	.256	.45
Dominican	.116	.25
Chinese	.064	.48
Filipino	.054	.60
Japanese	.014	.19
Indian	.017	.25
Korean	.027	.28
Vietnamese	.035	.30
Native		
Non-Hispanic white	.846	72.16
Non-Hispanic black	.520	10.27
Puerto Rican	.087	.88
Mexican	.253	2.08

Source: the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP).