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# State Dream Acts: The Effect of In-State Resident Tuition Policies and Undocumented Latino Students

*Stella M. Flores*

## INTRODUCTION

In 1982, the U.S. Supreme Court struck down a 1975 Texas law that sought to deny undocumented immigrant children a free elementary and secondary public education by charging them tuition to attend state schools. This ruling, *Plyler v. Doe* (1982), addressed only the educational rights of students attending public primary and secondary schools, however, and did not address state or federal actions regarding the postsecondary opportunities of undocumented students (Olivas, 2004). Multiple generations of school-age students benefiting from the *Plyler* decision have since attended and graduated from U.S. public high schools.

Despite an absence of direction from the U.S. Supreme Court regarding these students' right to postsecondary schooling, action on this issue has not been lacking. Since the 1980s, a number of statutes have arisen in state

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STELLA MARIE FLORES is an Assistant Professor of Public Policy and Higher Education in the Department of Leadership, Policy, and Organizations at Vanderbilt University. Address queries to her at Peabody College of Vanderbilt University, GPC 414, 230 Appleton Place, Nashville, TN 37203; telephone: (615) 343–2131; fax: (615) 343–7094; email: stella.m.flores@vanderbilt.edu. ACKNOWLEDGEMENTS: The author is grateful to Bridget Terry Long, Thomas J. Kane, Gary Orfield, Liang Zhang, John T. Yun, and two anonymous reviewers for helpful comments and suggestions.

legislatures attempting to address this gap in educational accessibility for students with uncertain citizenship status. Most notably, *Leticia A. v. Board of Regents of the University of California* (1985) gave undocumented students in California in-state tuition rates and state financial aid, but the ruling was overturned in 1990 (Olivas, 1995, 2004; Rincon, 2008). In addition, universities in New York, such as the City University of New York and the State University of New York, also made in-state tuition rates available to undocumented students through university administrative policies made in the 1980s (Olivas, 1995; Rincon, 2008).

While such examples indicate that the option of in-state resident tuition (ISRT) is not a new phenomenon, the configuration of the most recent such policies, 10 across the nation by 2006, is distinctive, given the federal era in which the legislation was passed. In 1996, the U.S. Congress passed the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and the Personal Responsibility and Work Opportunity Reconciliation Act, which initiated a new policy context regarding benefits for undocumented immigrants (Kobach, 2007; Olivas, 2008). The IIRIRA law, for example, mandates:

Unauthorized aliens, "shall not be eligible on the basis of residence within a State (or a political subdivision) for any postsecondary education benefit unless a citizen or national of the United States is eligible for such a benefit . . . without regard to whether the citizen or national is such a resident." (Feder, 2006, p. 1)

Nevertheless, a number of states have passed legislation aimed at making tuition benefits available to undocumented immigrants without violating the provisions of federal law (Feder, 2006). (For an alternative legal analysis about the legality of the in-state resident tuition policies as they relate to federal immigration law, see Kobach, 2007.) It was in this post-IIRIRA context that the first of 10 in-state resident tuition bills passed in Texas in 2001. The most recent bill passed in 2006 in Nebraska, which I excluded from this study due to data limitations.

This purpose of this study is to build on the legal, philosophical, and descriptive trend analyses of these policies to date. Specifically, the study estimates the responses of individuals likely to be undocumented to the various in-state resident tuition policies by applying an econometric methodology and, hence, is one of the first empirical efforts to investigate this impact, if there is any. It complements previous studies examining the impact of financial assistance on college enrollment.

The next section presents the research questions, describes recent research on in-state resident tuition policies, and justifies the current study as a next

step in research analysis on this topic. The following section describes the criteria of the various in-state tuition policies across the United States. A fourth section describes the theoretical framework guiding this study and reviews the literature examining the impact of price and financial aid on the college access of Latinos and Latino (used interchangeably with “Hispanic”) immigrant youth. The following section presents the research design, including data, analytic strategy, and threats to validity associated with the design’s potential limitations. I next describe the estimated effect of the various in-state resident tuition policies on the college-enrollment odds of Latino foreign-born noncitizen (FBNC) students and discuss additional checks on the robustness of my results. The final section discusses the implications of this policy analysis research.

### BACKGROUND AND RESEARCH QUESTIONS

In 2001, Texas became the first state to pass an in-state resident tuition policy benefiting undocumented students following passage of the 1996 IIRIRA law. In-state resident tuition policies allow out-of-state resident students to attend college at the same price as in-state resident students if they meet certain requirements. The tuition policies are not exclusively for undocumented students, although this group may be the most likely beneficiaries.

In 2003, a federal version of in-state resident tuition policies was introduced in the U.S. Congress. Called the Development, Relief, and Education for Alien Minors Act (DREAM Act), the federal policy was designed to allow, among the tuition discount provisions, undocumented students to get on the path toward citizenship and gain legal employment by going to college or serving in the U.S. military (National Immigration Law Center, 2006; Olivas, 2004). Although Congress has not passed any form of the DREAM Act to date, the terminology used in the original version of the proposed act has been adopted by researchers and media outlets across the country to describe the multiple in-state resident tuition policies (Immigrant Legal Resource Coalition, n.d.; Rincon, 2008; Taylor, 2006). Since 2001, nine other states have passed similar Dream Act legislation, including California, Utah, New York, Washington, Oklahoma, Illinois, Kansas, New Mexico, and Nebraska (Appendix A). In 2007, Oklahoma became the first state to retract its policy (Hebel, 2007).

The issue of whether ISRT policies increase the college-enrollment rates of undocumented immigrant high school graduates is particularly relevant, given the growing demographic significance of immigrants in the United States. In 2004, the Pew Hispanic Center reported that 11.3 million

undocumented immigrants represent almost 30% of all foreign-born individuals living in the United States.<sup>1</sup> Three of the five states with the highest percentage of undocumented immigrants in the country (California, Texas, and Illinois) have a version of the in-state tuition policy. California has the largest percentage of undocumented immigrants, 24%, followed by Texas (14%), Florida (9%), New York (7%), Arizona (5%), Illinois (4%), New Jersey (4%), and North Carolina (3%) (Passel, 2005a).<sup>2</sup> The ages and education completion rates of undocumented high school students are also particularly important in assessing the pool of students likely to benefit from an ISRT policy. One-sixth of the undocumented population is under age 18. Furthermore, the Urban Institute estimates that 49% of “unauthorized youth” of all races and ethnicities do not complete high school, compared to 21% of their legal immigrant counterparts and 11% of native-born students in the United States (Passel, 2005b). Despite graduation rates below those of other categories of students, it is estimated that, by 2004, approximately 48% of the 65,000 undocumented students who graduated from high school attended some college (Passel, 2005b). How and what factors facilitated this college attendance, however, requires further exploration, and as such is the subject of this analysis.

This study examines whether students likely to be undocumented Latinos living in states that have an ISRT policy were more likely to enroll in college after the policy was implemented than their student counterparts in states without similar state legislation. The changes in tuition legislation brought about by the introduction of each ISRT policy—and in the context of the 1996 IIRIRA law—provide a unique opportunity to use quasi-experimental methods to investigate the impact of policies targeting undocumented students (Dynarski, 2003, 2004).

To investigate whether these tuition policies have had an impact on the college-enrollment rates of the estimated population of undocumented Latino students, I explore the following question: Did the introduction of in-state resident tuition benefits to undocumented students in Texas, California, Utah, New York, Washington, Oklahoma, Illinois, Kansas, and New Mexico have an impact on their college participation rates, compared to similar students living in states without an in-state resident tuition policy?

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<sup>1</sup>Passel, Van Hook, and Bean (2004) use the term “unauthorized” rather than “undocumented” for greater technical accuracy.

<sup>2</sup>Estimating the undocumented population in the United States has involved a series of methodological developments since the 1980s. I rely on the latest estimates by Passel (2005a) and Passel, Van Hook, and Bean (2004), which account for various changes in demographic trends, including the number of refugees and asylees, and changes in immigration policy categories.

To answer this question, I use a nationally representative dataset of individuals, the Current Population Survey's (CPS) Merged Outgoing Rotation Groups (MORG), to examine the college-enrollment rates of the estimated undocumented Latino population. This measure includes students who are classified as foreign-born noncitizens (FBNCs), an official citizenship category of the CPS. Citizenship status in the CPS MORGs is represented by the following categories: (a) native, born in the United States; (b) native, born in Puerto Rico or U.S. outlying areas; (c) native, born abroad of American parents; (d) foreign-born, U.S. citizen by naturalization; and (e) foreign-born and not a citizen of the United States—the primary category of interest for this study.

I use FBNCs as a proxy for the undocumented because the category includes only legal residents, residents without proper authorization to live in the United States, and refugees (humanitarian migrants), whom the census counts in the percentage of the foreign-born population without U.S. citizenship (U.S. Census, 2009). While the inclusion of legal residents and refugees is not ideal, this category provides the closest level of detail on the presence of undocumented immigrants of a government survey (Passel, 2005a; Passel, Van Hook, & Bean, 2004). I discuss additional advantages and limitations of the dataset below.

I focus on immigrants of Latin American origin (i.e., Latinos) and do not include foreign-born individuals of Asian or African origin because Latinos (a) are the most likely to be undocumented, (b) comprise almost 85% of the total estimated undocumented population, (c) have historically lower citizenship rates than immigrants of Asian origin, and (d) have lower educational attainment rates than immigrants of Asian and African origin in the United States (Dixon, 2006; Erisman & Looney, 2007; Hagy & Staniec, 2002; Margon, 2004; Passel, 2005a). Of the estimated undocumented population, Asian-origin individuals comprise 9%, African and "other" comprise 4%, and Europeans and Canadians comprise 6%. In addition, individuals of Mexican origin, who comprise the majority (57%) of all foreign-born U.S. residents from Latin America, both dominate unauthorized immigration to the United States and "drive U.S. policy debates about international migration," legal or illegal (Bean & Lowell, 2007, p. 70).

Research on the undocumented, however, reaches beyond demographic accounts. An increasing volume of studies on college students in particular has emerged since the 1990s, particularly since 2001. For example, a number of researchers have contributed to the field of undocumented student access to postsecondary education, including legal analyses, descriptive policy briefs, congressional research reports, legislative and historical reviews, philosophical analyses of the concept of citizenship as it pertains to financial aid and educational attainment, and other analyses and journalistic

accounts of the ISRT policies (Batalova & Fix, 2006; Castillo, 2007; Feder, 2006; Flores & Chapa, 2009; Olivas, 2004, 2007, 2008; Olivérez, Chavez, Soriano, & Tierney, 2006; Perry, 2006; Rincon, 2008). Olivas (1995, 2004, 2007, 2008, 2009), for example, has continued to document the legal context and conflicts surrounding the debates among postsecondary, state, and federal jurisdictions as they relate to undocumented individuals. Perry (2006) has addressed the philosophical conflicts and opportunities in definitions of membership and citizenship as they relate to this group of students, from the 1982 *Plyler v. Doe* decision to a more recent education policy context. Rincon (2008) documents the case history of the Texas policy in historical and legislative detail.

Others have begun to document enrollment trends based on state higher education reports or estimates of potentially eligible unauthorized students in the United States (Batalova & Fix, 2006; Gonzales, 2007; Texas Comptroller, 2006). Gonzales (2007), for example, documents results from a Texas Higher Education Coordinating Board study of the growth in the number of students enrolling in Texas colleges after passage of the ISRT policy, from 393 students in 2001 to 3,792 students in 2004. Although an impressive growth trend, a report from the Texas Comptroller (2006) notes that only 0.36% of students in Texas public colleges and universities paid in-state tuition as a result of this policy provision. Other states, including Kansas, New Mexico, Washington, and Utah, cite growth in undocumented student enrollment, although at much lower numbers (Gonzales, 2007). Finally, Batalova and Fix (2006), using U.S. census data, estimate the pool of unauthorized students who might benefit from national implementation of the DREAM Act.

This study improves on existing quantitative analyses by statistically modeling varying legal criteria of the in-state resident tuition laws while incorporating a control group to account for general enrollment trends that may be occurring over time regardless of the impact of the tuition policy. That is, while enrollment trends suggest an increase in student response due to the passage of the tuition policies, without further analysis it is not clear whether such growth trends are any different than they might have been without any such tuition policies. While not all colleges and universities allow undocumented students to attend college, some do, although under the category of international residents and at international student rates, which are considerably higher than in-state resident prices (Olivas, 1995). To estimate the impact on enrollment of the benefits accorded by the in-state resident tuition policies designed as of 2001, I use an econometric method known as differences-in-differences, which is commonly used in public policy analyses measuring policy interventions of this type (Dynarski, 2003, 2004; Kane, 1994).

### CRITERIA OF THE IN-STATE RESIDENT TUITION POLICIES

As of 2006, 10 states (nine, excluding Nebraska) had passed in-state resident tuition policies targeted at undocumented students. While not exclusively for the undocumented, the 10 bills have three primary components in common. All require eligible students to have attended school in the state for a set number of years, to have graduated from high school or received a GED from that state, and to sign an affidavit declaring that they will apply for legal status as soon as they are eligible (National Immigration Law Center, 2006). While similar in primary eligibility criteria for the tuition benefit, each state's policy differs in terms of date enacted and other particular provisions. (See Appendix A.)

Finally, the tuition policies, while contested, have been deemed legal in many state legislatures based on the following reasoning: In-state residency is a state-determined benefit and "purely state benefits can be extended or withheld to undocumented students because tuition benefits and state residency determinations are properly designated as state classifications and may incorporate, but not determine immigrant status" (Olivas, 2008, p. 4). Nevertheless, the policies relating to undocumented students continue to remain controversial, and those of Kansas and California, for example, have been challenged in state and federal courts (Kobach, 2006; Olivas, 2009). Moreover, controversy over undocumented immigrant benefits has continued to extend beyond the context of education to issues related to housing, voting, and local law enforcement (Olivas, 2007).

Of the ten ISRT policies passed as of 2006, two were passed in 2001 (Texas and California), two in 2002 (Utah and New York), three in 2003 (Washington, Oklahoma, and Illinois), one in 2004 (Kansas), one in 2005 (New Mexico), and one in 2006 (Nebraska) (Flores & Chapa, 2009). Enactment dates—the dates on which a student is actually eligible to take advantage of the policy—and the primary identification strategy in this study range from the date of legislative approval to approximately one year after the signing of the bill. Under the enactment stipulations, then, the Texas policy became active in 2001; the California and Utah policies in 2002; New York, Washington, Oklahoma, and Illinois in 2003; Kansas in 2004; New Mexico in 2005; and Nebraska in 2006.

The policies also have different residency requirements. While a majority require a three-year residency and graduation from a high school in the state of residence (Texas, California, Utah, Washington, Illinois, and Kansas), New York and Oklahoma require only a two-year residency. New Mexico is the only state to date with a one-year residency requirement, in addition to the usual requirement of graduation from a high school in that state. The policies also vary according to the time and location in which a GED can be earned. While California does not accept GED credentials from



“adult” schools, New York allows any GED credential, but on the condition that a student applies to college within five years of completing the GED (National Immigration Law Center, 2006). Access to state financial aid is another benefit available only in some states. Texas, Oklahoma, and New Mexico (at the time the legislation passed) allow policy-eligible students to qualify for state financial aid. Since undocumented students do not qualify for any form of federal financial aid, this benefit might be an additional incentive for these students to enroll in postsecondary institutions in states that offer financial aid. However, it is not clear whether the amount of aid is similar across the three states or whether the application process in each state is clearly established and easily accessible to students and their families. Some school districts in Texas, for example, hold community workshops to coach families in how to fill out financial-aid paperwork, using strategies that work for those lacking particular identification documents (E. Morales, personal communication, November 2006).

Finally, three of the states that formally restricted race-conscious policies in college admissions through either a court mandate or a state referendum during a majority of the period examined also have an in-state resident tuition policy—Texas, with the Fifth Circuit Court of Appeals ruling in *Hopwood v. Texas* from 1996 to 2003;<sup>3</sup> California, with Proposition 209 beginning in 1997; and Washington, with Initiative 200 beginning in 1998. I have made an effort to account for a potential influence of these admissions policies where applicable.

## THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

### *Costs, Benefits, and Uncertainties*

For this study, I apply a cost-benefit framework developed by Becker (1964) as part of the human capital model to theorize the effect of a price reduction on college-enrollment behavior. Altonji (1993) extends this model by incorporating the concept of uncertainty, which I use to inform how undocumented Latino students, due to their vulnerable status in the United States, might choose to enroll in higher education as a result of a tuition subsidy that reduces the price of college. The price reduction is particularly

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<sup>3</sup>The 2003 U.S. Supreme Court *Grutter* decision allowed the use of race in college admissions in Texas and other states without a state ban on race-conscious policies (Coleman, Palmer, Sanghavi, & Winnick, 2007). However, institutions of higher education are not required to reinstitute this practice. Texas A&M University, for example, does not use race in college admissions. In contrast, The University of Texas at Austin reinstated this practice in 2005 (Chapa & Horn, 2007).

important because it is mandated by a state law implemented by all public higher education institutions in each particular state.

According to Becker, investment in education incurs a cost, but it also increases human capital that translates into skills that can be “rented out” to employers in exchange for income. In deciding whether to prepare for, enroll in, or complete college, an individual weighs the costs and benefits of the educational investment—both monetary and nonmonetary. The monetary considerations typically include form of tuition, foregone earnings (costs), and higher future earnings (benefits). Nonmonetary costs may include the psychological stress associated with the investment, while nonmonetary benefits might include increased public and social prestige and better health outcomes. Within a basic human capital framework, the primary effect of an in-state resident tuition policy, which provides a tuition discount for students who would otherwise be required to pay international rates, is a reduction in price.

The typical cost-benefit analysis, however, may operate differently for a student who is undocumented and therefore susceptible to a number of uncertain factors and outcomes, including a lack of financial capital, insufficient command of English to do college-level work, risk of deportation, separation from family in the United States, and uncertainty of receiving any real returns from or opportunity to legally enter the United States labor market after investing in college. Altonji (1993) suggests that the decision to invest in college is further complicated when individuals have incomplete information and uncertain conditions when trying to make the most accurate cost-benefit analysis of their enrollment decision. Applying this framework, a student who is low income and undocumented may initially see the monetary costs of investing in a college education as enormous but may also expect that the benefits of receiving U.S. wages for doing college-level work will far outweigh the immediate direct and opportunity costs of attending college.

However, the uncertainties associated with nonmonetary costs and benefits may be too much to manage. The psychological costs of revealing one’s undocumented identity (and perhaps that of one’s family) by deciding to enroll in a public institution may be too great. Thus, for an undocumented student, the expected returns on a college education may have an unusually high level of uncertainty in institutions where their presence is not welcome or secure.

Applying the concept of uncertainty to the potential policy effects of an in-state resident tuition policy, one might expect state support for this eligibility to reduce uncertainty by providing a safe space for undocumented students to pursue a college education while retaining a protected identity. In other

words, a secondary effect of this policy may be the reduction of uncertainty in the college-enrollment process for these undocumented students.<sup>4</sup>

### ***Price, Financial Aid, and Latino College Enrollment***

The role that financial aid plays in the college-enrollment decisions of low-income and underrepresented minority students has received increased attention, with particular emphasis on how specific groups of students have responded over the last three decades. Research on the role of income and background status suggests that the response to financial aid differs by background and may be greater for low-income students and underrepresented minority students (Ellwood & Kane, 2000; Heller, 1997; Kane, 1994; St. John & Noell, 1989). Kane (1994), for example, finds that both Blacks and low-income Whites were sensitive to tuition increases in the 1980s. By the 1990s, Long (2004a) reports, cost continued to play an important role in the college-decision process for low-income students, although this was less of a factor for the cohort of students entering college in the 1990s than for those in the 1970s. Other research suggests that student response to different forms of aid also varies by background status. Perna (2000) finds that students respond differentially to particular forms of financial aid. In a study examining a national cohort of students graduating in 1992 (the National Education Longitudinal Sample of 1988) (NELS 88), she presents descriptive results suggesting that African Americans and Hispanics are more likely to receive grants than Whites, although African Americans are also more likely to receive loans than their White and Hispanic counterparts. Multivariate analyses of the same cohort also suggest that, when controlling for other factors, loans reduce the probability of enrollment for African Americans but not for the other race and ethnic groups examined. This study, however, focuses on four-year institutions, thereby not accounting for the institutions Hispanics are more likely to attend—community colleges (Adelman, 2005; Kurlaender, 2006). Nonetheless, these results add to the growing evidence regarding the differences in student decisions to invest in college by race and ethnicity, institutional type, and form of financial aid available (Heller, 1997; Perna, 2000; St. John, 1991).

The growing research on race and ethnicity—in particular the recent inclusion of a sizeable sample of Latino students in national datasets—has provided additional evidence on this group's enrollment-decision process and behavioral response to financial aid. However, few if any studies to date document the role of the complex relationship between citizenship and race/

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<sup>4</sup>Public colleges and universities are not required to act as immigration agents and report undocumented students to federal authorities. One exception is Arizona, through a 2006 referendum known as Proposition 300 (Redden, 2007; Stone, 2006).

ethnicity in college-enrollment decisions as they relate to price and availability of aid. (See Erisman & Looney, 2007, as an exception.)

In a regional study examining the role of college access for Chicano students in California based on language status, Post (1990) found that costs were a large determinant of postsecondary plans for children of Spanish speakers but not for children of English speakers. In a recent examination of college price and aid response by race and ethnicity for students entering college in the 1990s, Alfonso (2004) suggests that Hispanics are more price sensitive to college costs than non-Hispanics. Additionally, a national study found that Hispanic parents were twice as likely as Black parents and White parents to have “no idea” how to pay for college, were less likely to receive any information on financial aid when their child was young, received information about financial aid later than Black parents and White parents, and indicated that the language in which information is available is critical (Sallie Mae Foundation, 2004).

These findings also showed that familiarity with financial aid options increased with time in the United States, although this pattern was not always consistent. More recently, Erisman and Looney (2007) provided detailed descriptions of the characteristics of immigrant student undergraduates according to citizenship status, using datasets from the Office of Immigration Statistics and the U.S. Census Bureau. They found that immigrant students from Latin America and the Caribbean were more likely to be living in poverty and to delay entry into higher education.

Finally, in examining where Hispanic students are most likely to enroll in college, the trends have remained remarkably consistent over the last three decades (Adelman, 2005; Hagy & Staniec, 2002; Kurlaender, 2005). A recent national study examining the role of generational status (not citizenship) also using the NELS 88 reports that both U.S.-born Hispanic students and Hispanic immigrant students are more likely than other racial and ethnic groups not to enroll in any postsecondary institution, followed by the second option of enrolling in a community college as their first-choice institution (Hagy & Staniec, 2002). In contrast, both first- and second-generation students of Asian origin were likely to enroll in a four-year institution as a first option.

## RESEARCH DESIGN

### *The Data*

Did the introduction of an in-state resident tuition law in select states impact the college participation rates of students likely to be undocumented compared to similar students living states without an in-state resident tuition law? To answer this question, I use the Current Population Survey, a nation-

ally representative sample sponsored by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics, for 1998 through 2005. The dataset is particularly useful in answering this question, since it is also representative at the state level and provides sufficient observations for analysis as constructed. I do not include Nebraska in my analysis because it passed its tuition policy in 2006, and I am limited to data that do not extend far enough to measure this state's enrollment trends.

The CPS is a multistage, stratified monthly sample that contains information on approximately 60,000 housing units across the United States for the civilian population age 16 and older. In the CPS, households are interviewed each month for four months, ignored for eight months, and then interviewed again for four months. For this particular analysis, I use a subset of the CPS known as the Merged Outgoing Rotation Group files, which includes approximately 30,000 individuals nationally per monthly extract to answer how the in-state resident tuition policies affected college enrollment. Because the MORG dataset has multiple observations for most individuals over time, I calculate robust standard errors to account for the clustering of observations at the individual level (within person) and so that standard error estimates reflect the structure of the data. Data are representative at both the state and national level. I use logistic regression to estimate my equation.

Utilizing these data for my analysis has some limitations. Since no government agency in the United States, including the Census Bureau, directly counts the undocumented immigrant population due to obvious legal and ethical reasons, their numerical presence cannot be measured with certainty (Passel, 2005a; Passel, Van Hook, & Bean, 2004). However, the CPS does include undocumented immigrants in its survey, thus making it a principal source of information for current estimates of unauthorized immigration in the United States (U.S. Department of Labor, 2002). Undocumented individuals in this population are counted in the data category of foreign-born noncitizens, although noncitizenship does not equate with undocumented status. Instead, current estimates indicate that of all foreign-born individuals in the United States, the undocumented account for approximately 29% (10.3 million). Legal permanent residents comprise 29% of all foreign-born residents (10.4 million); naturalized citizens comprise 32% (11.3 million); refugee arrivals comprise 7% (2.5 million); and temporary legal residents comprise 3% (1.2 million) (Passel, 2005b).

Another limitation involves who the CPS undercounts in its monthly survey: the number of immigrants in the sample compared to the U.S. Census (Passel et al., 2004), and the number of high school dropouts, most notably minority males, since the survey excludes military and institutionalized populations (Orfield, 2004).

For this analysis, I focus on the Latino population in the sample and define Latino as any individual who has self-identified as Hispanic in the survey, has listed a Latin American country of national origin, and has at least one parent who is foreign-born and has listed a Latin American country of origin. Specifically, I use the sample of Latinos, using FBNC status as the identifier, in the states with the tuition policy in question (Texas, California, Utah, New York, Washington, Oklahoma, Illinois, Kansas, and New Mexico) as the treatment group. I use the same population in states without a tuition policy (the rest of the United States, including Washington, D.C.) as a control group.

I also limit the sample according to restrictions dictated by each state policy, such as years of residency and high school graduation. First, I use year of entry into the United States as a proxy for residency for the foreign born. For example, I limit the sample to individuals who entered the United States by the last year in which they would qualify for the benefit (based on CPS year categories). In Texas this might be 1998, while in Oklahoma, which requires two years of residency, a student would have had to enter the United States by 2001.

Second, I test two educational completion samples, “All Grades” and “HS Diploma/GED Completer,” excluding all individuals who have completed a B.A. or higher. I also test my results for individuals within various age ranges (e.g., 18–24, 18–20, 21–24) within separate gender samples, and within separate samples of geographic concentration characteristics, such as metropolitan versus nonmetropolitan areas. The age categorization allows me to explore whether the “take-up” of the policy—i.e., whether an eligible student chooses to make use of the tuition policy benefit—is likely to occur with recent high school graduates or older students or both. The gender comparisons allow me to test as independent samples the factors that may influence the responses of females or males in particular states to the policy intervention. The tests for geographic concentration, which vary considerably across the nine states, allow me to examine how the role of urban concentration may interact with this type of financial assistance to affect the college-enrollment rates of this population.

I focus my results on the High School Diploma/GED Completer sample, but also include the more expanded All Grades sample (no high school/GED completion restriction; selected results for this sample are shown in Appendix B) for the following reasons. First, the various tuition policies differ in their requirements regarding previous postsecondary attainment and or years of consecutive U.S. high school attendance. Since various community colleges offer courses that lead to a GED or high school diploma, including courses such as English as a Second Language or GED preparation courses, it is possible that an individual without a high school diploma may have

accessed a postsecondary institution without an intended degree declaration through this initial pathway. Illinois, California, and Kansas allow students who have previously accessed a postsecondary institution to qualify for the tuition benefit. Other states (New York, Texas, and Utah) are more restrictive in terms of the method and timing with which a student accessed any postsecondary education.

Second, the CPS asks about educational attainment levels based on U.S. education-completion categories. I allow for an expanded sample in the event that an educational trajectory in a country other than the United States, such as Mexico, is not accurately captured in the survey. Other potential measurement errors include not being able to reach all individuals in their primary language during the survey administration (U.S. Census Bureau, 2006). Finally, this expanded sample allows for the possibility that the policy is also acting as a welcoming signal, in that students who abide by these requirements are likely to feel less threatened and thus access public postsecondary institutions in states with an in-state tuition policy whether or not they qualify for the tuition discount.

In addition to using states without the tuition policy as a control group, I test the potential effects of the policy on a separate sample of Latinos who are U.S. citizens (individuals who are U.S.-born as well as individuals who are naturalized in the United States) as a robustness check and to assess potential measurement error on the citizenship question. Due to the vulnerable status of undocumented individuals in the United States, individuals may not have answered the question about their citizenship status truthfully when surveyed. For example, if the parameter of interest is positive and significant for both the foreign-born and U.S.-citizen Latinos (naturalized or U.S. born), then I will be less able to conclude that this policy had an effect on the population of interest, foreign-born noncitizen Latinos. However, with no other available and sufficiently large individual-level representative dataset in the United States to capture the exact percentages of the undocumented along with educational attainment rates, the CPS is still one of the best national datasets with which to estimate their behavior, using the FBNC category as a proxy for undocumented status. Table 1 displays summary statistics for the dataset that includes the percentage of foreign-born Latinos, as well as year-of-entry restrictions for students ages 18–24 in states with and without the in-state resident tuition policies.

### ***Analytic Strategy***

In my analysis, I capitalize on the passage of each state's policy as a plausible source of exogenous variation in measuring the effects of financial aid incentives on college enrollment, using a quasi-experimental method to measure the "causal" impact of aid policies (Dynarski, 2003, 2004; Kane, 1994, 2003; Long, 2004b). Specifically, I employ a differences-in-differences



**TABLE 1**  
**SUMMARY STATISTICS**

Sample: All Latinos and Latino Foreign-Born Noncitizens, Ages 18–24

	ALL LATINOS						FOREIGN-BORN NONCITIZEN LATINOS					
	Policy States		Non-Policy States		Policy States		Non-Policy States		Policy States		Non-Policy States	
	Pre-Policy (1)	Post-Policy (2)	Pre-Policy (3)	Post-Policy (4)	Pre-Policy (5)	Post-Policy (6)	Pre-Policy (7)	Post-Policy (8)	Pre-Policy (9)	Post-Policy (10)	Pre-Policy (11)	Post-Policy (12)
Pct. FBNC	0.3757	0.3453	0.3923	0.4183								
Age	20.9901 (0.0204)	20.9840 (0.0195)	21.0740 (0.0239)	21.0805 (0.0201)	21.1678 (0.0281)	21.1733 (0.0283)	21.1772 (0.0303)	21.2769 (0.0260)				
Female	0.4879	0.4880	0.4723	0.4704	0.4579	0.4535	0.4406	0.4283				
Married	0.2434	0.2243	0.2568	0.2392	0.2783	0.2824	0.2861	0.2867				
Employed	0.6522 (0.0048)	0.6238 (0.0046)	0.6703 (0.0055)	0.6534 (0.0047)	0.6535 (0.0065)	0.6498 (0.0067)	0.6688 (0.0071)	0.6760 (0.0062)				
Live in metro area	0.9223	0.9235	0.8705	0.8521	0.9381	0.9347	0.8883	0.8616				
Pct. HS diploma & no BA	0.5748	0.6048	0.5476	0.5661	0.4765	0.4873	0.4821	0.4726				
Pct with BA or higher	0.0236	0.0280	0.0346	0.0357	0.0179	0.0238	0.0230	0.0280				



Table 1, cont.

	ALL LATINOS				FOREIGN-BORN NONCITIZEN LATINOS			
	Policy States		Non-Policy States		Policy States		Non-Policy States	
	Pre-Policy (1)	Post-Policy (2)	Pre-Policy (3)	Post-Policy (4)	Pre-Policy (5)	Post-Policy (6)	Pre-Policy (7)	Post-Policy (8)
Average year of entry to U.S.	5.4574 (0.0961)	5.6732 (0.0955)	6.4772 (0.1076)	7.5119 (0.1008)	9.8041 (0.1025)	11.6480 (0.1039)	9.5407 (0.1227)	12.3001 (0.1024)
Observations	12,929	14,719	9,217	13,025	6,586	6,522	5,345	6,888

Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: Data in this sample include individuals ages 18–24 who entered the U.S. before 1998 of all educational completion rates. For “average year of entry,” a value of 11 = entry in 1988–1989; 12 = entry in 1990–1991; 13 = entry in 1992–1995; 14 = entry in 1994–1997. Policy states in analysis include Texas, California, Utah, New York, Washington, Oklahoma, Illinois, Kansas, and New Mexico. Robust standard errors in parentheses. FE = Fixed Effects.

strategy to estimate the effect of eligibility for the nine in-state resident tuition policies on the overall college enrollment of FBNC Latino students, relative to this same population group in states without the tuition policy. This study examines the intent-to-treat effect—that is, students may not actually use the benefit even if they are eligible.

To answer whether the state resident tuition policies increased the college participation among FBNC Latino students in states with a tuition policy, I use the MORG subsample to estimate the following multivariate regression model (subscripts are suppressed):

$$(1) \text{LOGISTIC} (\text{INCOLL} = 1) = \beta_0 + \beta_1 \text{DIMMIGTUITION} + \beta_2 \text{FBNC} + \beta_3 (\text{DIMMIGTUITION} \cdot \text{FBNC}) + \beta_4 \text{STATEDUMMIES} + \beta_5 \text{YEARUMMIES} + \beta_6 (\text{STATEDUMMIES} \cdot \text{FBNC}) + \beta_7 (\text{YEARUMMIES} \cdot \text{FBNC}) + \beta_8 X + \beta$$

where INCOLL is a binary variable and a measure of 18-to-24-year-old Latino FBNCs who were enrolled in college during the week prior to being surveyed. DIMMIGTUITION is a binary variable equal to 1 in states, months, and years with an in-state tuition policy for undocumented immigrants. This variable captures the policy interventions in each of the nine states by month and year of the policy enactment date, and also includes year of entry restriction for each state's residency requirement. FBNC is a binary variable set to 1 if a Latino student is classified as a foreign-born noncitizen.

$\beta_3$  represents the coefficient of primary interest and is the interaction term of DIMMIGTUITION and FBNC. Because undocumented Latino students do not qualify for any federal financial aid, and because Latino immigrant families are more likely than the general population to have incomes below 150 percent of the federal poverty level (Erisman & Looney, 2007), I hypothesize that there will be a different effect on the college-enrollment rates of FBNC Latino students in states with an in-state resident tuition policy than on the rates of similar students in states that did not enact an ISRT policy change. Therefore, if  $\beta_3$  is nonzero, positive, and statistically significant, then I will reject the null hypothesis that the tuition policy has no effect, which will be suggestive evidence that states with a tuition policy have a positive effect on the college-enrollment rates of FBNC Latino students in the U.S. The coefficients  $\beta_4$ – $\beta_7$  are dummy variables that account for all states and years in the sample and act as state- and year-fixed effects. The state-fixed effects account for intrastate variation and control for the average differences in any observable or unobservable predictors not explained by other covariates in my outcome, such as state unemployment rate and year-specific trends. I include year-fixed effects to control for general trends over time in the outcome variable of “currently enrolled in college” for all states in the

sample. I also interact the state- and year-fixed effects with foreign-born noncitizens in the sample to allow for variance in immigration trends by state and year (as seen in  $\beta_6$  and  $\beta_7$ ), and to account for observable and unobservable characteristics among this population.

$X$ , captures the effect of individual covariates in order to measure relevant demographic characteristics that are correlated with educational attainment, as well as local economic conditions that may affect an individual's schooling decisions (age, gender, marital status, and living in a metropolitan area). I include the unemployment rate to account for state-specific economic shocks in the various state labor markets. In addition, to account for lower college enrollment over the summer terms, I include a term for month-fixed effects in order to capture enrollment variation over the course of the academic year. Finally, I include a control variable for states not allowed to implement affirmative action practices during the period of analysis (Texas, California, and Washington) since Latinos are a primary beneficiary of affirmative action. Since Latinos are more likely to attend community colleges, which are nonselective institutions, issues of eligibility for affirmative action policies in selective institutions may not affect the majority of this sample (Adelman, 2005). However, the data do not allow me to examine the academic preparation of this sample, so I am not able to discern whether foreign-born Latino noncitizens who are high school graduates are likely to enter selective institutions. As such, I test my results with and without this variable. The variable  $\varepsilon$  represents an error term.

### ***Threats to Validity and Strategies for Addressing Potential Limitations***

Sources of potential bias that could affect results of the research and how they are addressed in this analysis are worth mentioning. First, external events other than the tuition policy change could affect FBNC Latino student enrollment in higher education during this time period. In states including Texas, California, Washington, and Florida, these might be the effects of a policy change, such as the retraction of affirmative action and other race-conscious programs since 1998. Three of these states (Texas, California, and Florida) implemented various versions of a percentage plan, each of which had different requirements for gaining access to its state's selective public higher education systems (Horn & Flores, 2003; Marin & Lee, 2003).

Another event may be general changes in immigration trends over the years. Moreover, the economic recession from 2001 may bias my results if the states experienced the recession differently from one another. To address the issue of state policies banning affirmative action practices in admissions and recruitment, I include an additional variable, NOAFFAM, to account for states that experienced this policy retraction. I do not include

a measure for the presence of a percentage plan because I am able to assess only whether a student decided to enroll in college but not where he or she ultimately enrolled.

To address the issue of changes in immigration over time and in location, I include state- and year-fixed effects interacted with the variable FBNC to capture any such changes in each state across the country by year on the outcome of “currently enrolled in college.” Another potential source of bias involves measurement error in reporting the citizenship status of undocumented individuals in this vulnerable category. To test the reliability of the citizenship question, I examine the effect of tuition policies on Latino U.S. citizens (naturalized and U.S. born) as an additional test for accuracy in measuring my outcome.

Finally, as an additional validity check to verify that an effect is occurring for Latinos in states with a tuition policy, I test my results on different racial and ethnic groups, such as African American and Asian students who are U.S. citizens. If there is an increase in college enrollment for the population most likely to benefit from the ISRT policy—students likely to be undocumented residents—the trend should not occur among racial and ethnic groups that are U.S. citizens not likely to be affected by the policy.

## RESULTS

### *Program Take-Up: The Odds of College Enrollment*

I use logistic regression analysis to fit the model of whether students living in states with in-state resident tuition policies were more likely to enroll in college (via the outcome “enrolled in college”) than not, compared to students in the rest of the United States. In the tables that follow, I present estimates of odds ratios and robust standard errors from the fitting of the regression model within the sample of all Latinos, using the primary variable of interest (DIMMIGTUITION\*FBNC), the interaction of FBNC Latinos within the policy states during the years (and months) in which a policy was enacted. I also provide estimates clustered at the state level for select models in the event that standard errors at the individual level are too optimistic, using a group-level regressor and not allowing for group-level random effects (Moulton, 1986).

Table 2 presents detailed estimated odds ratios and robust standard errors for Latino FBNCs who are in the more restricted sample of HS Diploma/GED Completers. The data show that there is a significant positive effect in the odds of college enrollment *after* the enactment of the tuition policies in states with the resident tuition legislation (Texas, California, Utah, New York, Washington, Oklahoma, Illinois, Kansas, and New Mexico) (column 6).

**TABLE 2**  
**IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT**  
**OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos, HS-GED Completers, Ages 18–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

<i>HS-GED Completers</i>	<i>Basic Model</i> (1)	<i>Add BG Characteristics</i> (2)	<i>Add Local/State Conditions</i> (3)	<i>Add St. Policy Control</i> (4)	<i>Add State &amp; Year FE</i> (5)	<i>FULL MODEL:</i>	
						<i>FBNC Interaction with FEs</i> (6)	<i>CLUSTER BY STATE</i> (7)
Effect of all tuition policies	1.4196*** (0.1459)	1.3480*** (0.1473)	1.3969*** (0.1401)	1.4073*** (0.1459)	1.3502*** (0.1422)	1.5440*** (0.2260)	1.5440*** (0.2049)
Tuition policy states (w/enactment date)	1.2856*** (0.0533)	1.2512*** (0.0528)	1.2036*** (0.0579)	1.1689*** (0.0588)	1.2607*** (0.0813)	1.2193*** (0.0865)	1.2193*** (0.0708)
FBNC	0.4333*** (0.0222)	0.4926*** (0.0257)	0.4781*** (0.0249)	0.4766*** (0.0249)	0.4844*** (0.0258)	1.9645e+09*** (2.0606e+09)	1.9645e+09*** (2.7159e+08)
Age	0.8617*** (0.0078)	0.8617*** (0.0078)	0.8570*** (0.0078)	0.8573*** (0.0078)	0.8556*** (0.0079)	0.8561*** (0.0079)	0.8561*** (0.0088)
Female	1.5224*** (0.0527)	1.5224*** (0.0527)	1.5367*** (0.0534)	1.5352*** (0.0533)	1.5343*** (0.0536)	1.5357*** (0.0538)	1.5357*** (0.0559)
Ever married	0.2547*** (0.0147)	0.2547*** (0.0147)	0.2570*** (0.0149)	0.2566*** (0.0149)	0.2630*** (0.0154)	0.2614*** (0.0154)	0.2614*** (0.0232)
Metro	1.6819*** (0.1124)	1.6819*** (0.1124)	1.6819*** (0.1124)	1.6546*** (0.1114)	1.6790*** (0.1235)	1.6917*** (0.1256)	1.6917*** (0.1786)

HS-GED Completers	FULL MODEL:						
	Basic Model (1)	Add BG Characteristics (2)	Add Local/State Conditions (3)	Add St. Policy Control (4)	Add State & Year FE (5)	Interaction with FEs (6)	CLUSTER BY STATE (7)
State unemp. rate			1.0081 (0.0214)	1.0066 (0.0215)	0.9935 (0.0448)	0.9896 (0.0452)	0.9896 (0.0407)
States w/o affirmative action				1.0731* (0.0435)	0.5114* (0.2038)	0.5898 (0.2320)	0.5898*** (0.0393)
Month fixed effects			Yes	Yes	Yes	Yes	Yes
State and year FE	No	No	No	No	Yes	Yes	Yes
State and year FE incl. FBNC interaction	No	No	No	No	No	Yes	Yes
Observations	24,445	24,445	24,445	24,445	24,445	24,402	24,402

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.  
 Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.  
 Note: States with policy intervention include Texas (2001); California, and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data. Results for clustering at state level included in select tables.  
 FE = Fixed Effects.

Specifically, column 6 in Table 2, which represents the full model with all fixed effects, indicates that FBNC Latinos are 1.54 times more likely than not to have enrolled in college after the enactment of the tuition policies, compared to the same population in the rest of the United States. The model in column 6 also indicates that being female increases the odds of college enrollment 1.53 times, as did residence in a metropolitan area (1.69 times). Conversely, having been married significantly decreases the odds of college attainment after the policy enactment by 0.26 times. The odds ratios are all significant at the  $p < 0.01$  level. I found no effect for the control variable “living in a state without an affirmative action policy” on college enrollment.

Results clustered at the state level shown in column 7 indicate no change in significance level on the effect of the policy, although this variable has slightly lower standard errors. The major difference in this specification is that the covariate for states without affirmative action is now significant at the  $p < .01$  level.

Table 3 presents the odds of college enrollment by ages 18–20, or students who may be classified as recent high school graduates, and ages 21–24, representing older students. The age range at which a Latino FBNC student living in a state with a tuition policy attends college after the enactment of the policy varies by the educational attainment samples of All Grades and HS Diploma/GED Completers. For example, while the odds of college enrollment are significant across the age ranges of the All Grades sample (columns 1–4), I find mixed results in the HS Diploma/GED Completer sample. In this sample, the policy appears to have increased the college-enrollment odds of older students ages 21–24. The data indicate that these students are 1.7 times more likely to have enrolled in college after the implementation of the policies than similarly aged students living in states without a policy (column 8).

Table 4 provides a separate examination of the samples by gender and by age group. Although I find an effect on the odds of college enrollment as a result of the policy for both the female and male sample separately for the wider age range of 18–24 (Table 4, columns 1 and 4), I find a stronger effect in the male sample comprised of respondents age 21–24. In this sample of males who have completed a high school diploma or GED, I find that Latino FBNC students are approximately 1.9 times more likely than their similarly aged counterparts in states without a tuition policy to enroll in college after the implementation of the tuition policies. The college-enrollment odds are slightly lower for the female sample of HS Diploma/GED Completers at 1.5 times, although the effect is significant at the  $p < 0.05$  level. Interestingly, state unemployment rate has no significant effect on any of the specifications in the HS Diploma/GED Completer sample. Living in a state without affirmative action appears to significantly decrease the odds of college enrollment for females but not males (Table 4, column 1).

**TABLE 3**  
**IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT**  
**OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos All Grades and HS-GED Completers, Ages 18–20 and 21–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

	All Grades Ages 18–20		All Grades Ages 21–24		HS-GED Completion Ages 18–20		HS-GED Completion Ages 21–24	
	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All Grades & HS-GED Completers								
Effect of all tuition policies	1.4923*** (0.1819)	1.8078*** (0.3046)	1.5569*** (0.1983)	1.8514*** (0.3404)	1.3143* (0.1947)	1.4777* (0.3120)	1.5006*** (0.2081)	1.7040*** (0.3403)
Tuition policy states (w/enactment date)	1.2141*** (0.0714)	1.2589*** (0.1045)	1.1121 (0.0738)	1.1664 (0.1097)	1.2453*** (0.0833)	1.2784** (0.1237)	1.0985 (0.0755)	1.1369 (0.1112)
FBNC	0.3774*** (0.0220)	0.0000*** (0.0000)	0.2825*** (0.0185)	1.7274 (3.4827)	0.5025*** (0.0353)	3.9046 (4.5968)	0.4477*** (0.0313)	1.6166e+09*** (1.9031e+09)





	All Grades Ages 18–20		All Grades Ages 21–24		HS-GED Completion Ages 18–20		HS-GED Completion Ages 21–24	
	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. with FEs
All Grades & HS-GED Completers	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State and year FE incl. FBNC interaction	No	Yes	No	Yes	No	Yes	No	Yes
Observations	17,778	17,677	23,231	23,149	9,631	9,584	14,814	14,785

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California, and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.

FE = Fixed Effects.

**TABLE 4**  
**IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT**  
**OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos, HS-GED Completers by Gender and by Age Group: 18–24, 18–20, 21–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

	FEMALES			MALES		
	Full Model with All FE			Full Model with All FE		
HS-GED Completers	Ages 18–24 (1)	Ages 18–20 (2)	Ages 21–24 (3)	Ages 18–24 (4)	Ages 18–20 (5)	Ages 21–24 (6)
Effect of all tuition policies	1.5046** (0.3055)	1.5533 (0.4626)	1.6482* (0.4575)	1.6691** (0.3427)	1.4408 (0.4300)	1.9429** (0.5576)
Tuition policy states (w/enactment date)	1.3828*** (0.1313)	1.2918* (0.1702)	1.4129*** (0.1871)	1.0160 (0.1046)	1.2597 (0.1828)	0.8309 (0.1166)
FBNC	2.0571 (2.3898)	3.1686 (3.5266)	9.9536* (13.4153)	1.5568e+09*** (2.3429e+09)	1.3466 (1.3467)	6.2988e+09*** (8.9107e+09)
Age	0.8791*** (0.0110)	1.1526*** (0.0462)	0.8194*** (0.0226)	0.8268*** (0.0112)	1.0383 (0.0450)	0.7569*** (0.0238)
Ever married	0.2589*** (0.0175)	0.2518*** (0.0322)	0.2611*** (0.0206)	0.2451*** (0.0270)	0.2151*** (0.0521)	0.2538*** (0.0314)
Metro 1.5980***	1.5255*** (0.2497)	(0.1473)	1.3677** (0.1852)	1.6009*** (0.2134)	1.8584*** (0.2094)	2.1935*** (0.3386)
State unemp. rate	0.9571 (0.0574)	0.9455 (0.0813)	0.9641 (0.0807)	1.0506 (0.0688)	1.0919 (0.1029)	0.9993 (0.0896)

	FEMALES <i>Full Model with All FE</i>			MALES <i>Full Model with All FE</i>		
	Ages 18–24 (1)	Ages 18–20 (2)	Ages 21–24 (3)	Ages 18–24 (4)	Ages 18–20 (5)	Ages 21–24 (6)
HS-GED Completers						
States without affirmative action	0.3829** (0.1824)	0.4095 (0.3028)	0.6080 (0.3862)	1.1016 (0.6641)	0.4846 (0.4669)	1.6927 (1.2966)
Month fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes
State and year FE incl. FBNC interaction	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,600	5,004	7,530	11,751	4,484	7,052

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%  
 Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California, and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.  
 FE = Fixed Effects.

Table 5 presents as separate samples the estimated odds ratios for students living in metropolitan versus nonmetropolitan areas by age group. I find a significant effect for the tuition policies on the college-enrollment odds for students in the sample residing in a metropolitan area in the HS Diploma/GED Completer sample. Results for this specification indicate that students in the metropolitan residence sample are 1.52 times more likely to have enrolled in college after the policy's enactment than students in similar areas in states without a tuition policy ( $p < 0.01$ ). I find no effect of the tuition policy on college enrollment for students who reside in a nonmetropolitan area in any of the specifications examined.

### ***Additional Robustness Checks***

To test whether results regarding the effects of the tuition policies are indeed measuring the behavior of Latino FBNCs, or whether the results may instead be a result of measurement error or a trend that may be affecting all Latinos, I test the robustness of my results using the current estimated fitted regression model on my outcome of "enrolled in college" on U.S.-citizen Latinos comprised of both U.S.-born and U.S.-naturalized Latinos.

In addition, to explore whether the effect of an increase in college enrollment is a result of the tuition policies and not a trend affecting other underrepresented minority groups, such as African American or Asian students, I test my results on students who are African American and Asian U.S. citizens. If the tuition policy does indeed have an effect on the college-enrollment odds of foreign-born noncitizen Latinos, then we should not see any effects for other U.S.-citizen Latinos (to the extent that undocumented residents are truthful about their citizenship status according to the categories provided in the CPS). The policy should also not have an effect for students who are African American or Asian U.S. citizens. As hypothesized, the data indicate that there is no effect for any of the United States citizen groups in the full fixed-effects models (Table 6, columns 2, 4, and 6), further confirming the likelihood that the tuition policies have had a significant impact on the college-enrollment odds of students most likely to benefit from this legislation: Latino FBNCs.

## **IMPLICATIONS FOR POLICY AND RESEARCH**

Did the introduction of tuition policies targeted at undocumented students in the states examined increase their college participation, compared to a similar population of students who live in U.S. states without the tuition benefit? Despite variation in immigration rates, history, and incorporation of Latino immigrant students into each respective state's school system, the data in this analysis indicate that the policies significantly increased the college-enrollment rates of Latino foreign-born noncitizens, a large

**TABLE 5**  
**IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT**  
**OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos, HS-GED Completers by Metropolitan Area Status  
 and by Age Group: 18–24, 18–20, 21–24,  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

<i>HS-GED Completers</i>	<i>METROPOLITAN AREA</i> <i>Full Model with All FE</i>			<i>NONMETROPOLITAN AREA</i> <i>Full Model with All FE</i>		
	<i>Ages 18–24</i> <i>(1)</i>	<i>Ages 18–20</i> <i>(2)</i>	<i>Ages 21–24</i> <i>(3)</i>	<i>Ages 18–24</i> <i>(4)</i>	<i>Ages 18–20</i> <i>(5)</i>	<i>Ages 21–24</i> <i>(6)</i>
Effect of all tuition policies	1.5226*** (0.2286)	1.5183* (0.3279)	1.6832** (0.3455)	1.6098 (1.4715)	1.1948 (1.4927)	2.2385 (2.5336)
Tuition policy states (w/enactment date)	1.2422*** (0.0924)	1.2815** (0.1301)	1.1611 (0.1189)	0.9958 (0.2975)	1.1574 (0.5015)	0.9237 (0.3751)
FBNC	2.4707e+09*** (3.4671e+09)	0.2439 (0.3531)	1.0355e+09*** (1.5810e+09)	25.0414** (40.2609)	0.3209 (0.4739)	3.3739e+08*** (5.5861e+08)
Age	0.8554*** (0.0083)	1.0892*** (0.0328)	0.7977*** (0.0170)	0.8462*** (0.0284)	1.1191 (0.1256)	0.6865*** (0.0563)
Ever married	0.2558*** (0.0160)	0.2525*** (0.0315)	0.2543*** (0.0181)	0.3112*** (0.0583)	0.2038*** (0.0771)	0.3428*** (0.0745)
Female	1.5249*** (0.0557)	1.3968*** (0.0719)	1.6702*** (0.0839)	1.8441*** (0.2448)	2.0867*** (0.3945)	1.8419*** (0.3549)

Table 5, cont.

HS-GED Completers	METROPOLITAN AREA Full Model with All FE			NONMETROPOLITAN AREA Full Model with All FE		
	Ages 18-24 (1)	Ages 18-20 (2)	Ages 21-24 (3)	Ages 18-24 (4)	Ages 18-20 (5)	Ages 21-24 (6)
State unemp. rate	0.9912 (0.0500)	1.0415 (0.0725)	0.9450 (0.0640)	1.0647 (0.1272)	0.8452 (0.1468)	1.3204 (0.2327)
States without affirmative action	0.8682 (0.5499)	2.6660 (2.9116)	0.8506 (0.5924)	2.0988 (1.4755)	1.0364 (1.2059)	4.2738 (3.8997)
Month fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes
State and year FE incl. FBNC interaction	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,001	8,617	13,359	2,194	864	1,183

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California, and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.

FE = Fixed Effects.

**TABLE 6**  
**IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT ON U.S. CITIZENS**  
**BY RACE AND ETHNICITY, 1998–2005**

Sample: Latino, Black, and Asian Students, HS-GED Completers Ages 18–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

	LATINO U.S. CITIZENS		BLACK U.S. CITIZENS		ASIAN U.S. CITIZENS	
	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL: FBNC Inter. FEs	Main Model	FULL MODEL: FBNC Inter. with FEs
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HS-GED Completers</i>						
<i>Effect of all tuition policies</i>	0.9362 (0.0441)	1.0924 (0.0833)	1.0961 (0.0691)	1.0393 (0.0920)	1.3178*** (0.1170)	0.8515 (0.1111)
<i>Tuition policy states (w/enactment date)</i>	1.2850*** (0.0303)	1.1190*** (0.0329)	1.2133*** (0.0276)	1.1192*** (0.0317)	1.2315*** (0.0275)	1.1331*** (0.0312)
<i>FBNC</i>	0.7460*** (0.0190)	1.0471 (0.3880)	0.6259*** (0.0140)	1.7923 (0.9156)	1.6999*** (0.0651)	0.6743 (0.3011)
<i>Age</i>	0.8526*** (0.0027)	0.8527*** (0.0027)	0.8549*** (0.0027)	0.8555*** (0.0027)	0.8527*** (0.0027)	0.8528*** (0.0027)
<i>Female</i>	1.3818*** (0.0162)	1.3845*** (0.0163)	1.4026*** (0.0165)	1.4051*** (0.0166)	1.3818*** (0.0162)	1.3830*** (0.0163)
<i>Ever married</i>	0.2925*** (0.0070)	0.2984*** (0.0070)	0.2824*** (0.0068)	0.2883*** (0.0069)	0.2924*** (0.0070)	0.2984*** (0.0070)



Table 6, cont.

	LATINO U.S. CITIZENS		BLACK U.S. CITIZENS		ASIAN U.S. CITIZENS	
	Main Model	FULL MODEL: FBNC Inter. with FEs	Main Model	FULL MODEL FBNC Inter. FEs	Main Model	FULL MODEL: FBNC Inter. with FEs
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HS-GED Completers</i>						
Metro	1.3625*** (0.0226)	1.3357*** (0.0239)	1.3906*** (0.0232)	1.3539*** (0.0243)	1.3331*** (0.0222)	1.3149*** (0.0236)
State unemp. rate	0.9869** (0.0061)	1.0034 (0.0121)	0.9934 (0.0061)	1.0023 (0.0120)	0.9827*** (0.0061)	1.0005 (0.0122)
States without affirmative action	1.0826*** (0.0247)	0.9654 (0.0629)	1.0143 (0.0225)	1.0465 (0.0686)	0.9986 (0.0222)	0.9717 (0.0621)
Month fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes
State and year FE incl. FBNC interaction	No	Yes	No	Yes	No	Yes
Observations	183,592	183,592	183,592	183,592	183,592	183,592

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%  
 Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California, and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.  
 FE = Fixed Effects.

percentage of whom are undocumented. Foreign-born noncitizen Latinos are indeed more likely to enroll in college after the implementation of the tuition policies than their counterparts in states without the tuition benefit. However, whereas the odds of college enrollment are higher for females in the larger sample of all Latino FBNC students, more complex results emerge when examining males and females separately. Living in a metropolitan area is also a consistent indicator of increased college enrollment odds, while having been married decreases the odds of enrollment by a significantly large margin.

The results of the study are particularly relevant to the current state and national policy context in terms of higher educational opportunities for this population across the nation. Of similar importance is the potential direction in which to advance research on the topic of undocumented immigrants, as the country increasingly moves toward data-driven policy decisions. Research on this topic has most notably emerged from legal scholarship, with a number of scholars now investigating this topic from expanded philosophical, educational, demographic, and political perspectives. This article contributes to that line of inquiry by providing an econometric perspective regarding the measured impact of the ISRT policies on the college enrollment of students likely to be undocumented. Additional questions, however, remain unanswered regarding (a) the academic performance and persistence of students who benefit from these policies including their employment prospects and a continued path to U.S. citizenship; (b) issues of data collection as it relates to research and policy decisions regarding this population of students and their families; and (c) the sustainability of the in-state resident tuition policies within the current state and federal policy immigration context including the effects of retraction of these policies or passage of laws that ban educational benefits for the undocumented (Olivas, 2009).

This study has shown that the availability of an ISRT policy positively and significantly affects the college decisions of students who are likely to be undocumented as measured by an increase in their college enrollment rates. However, we know less about how they perform in postsecondary institutions by sector and selectivity. Using student-level administrative data, research by Flores and Horn (forthcoming) finds that students identified as ISRT beneficiaries by a selective public institution in Texas are likely to persist through college at the same rate as their U.S.-born Latino counterparts, whom they are most likely to resemble. Additional research into the role and quality of institution type as they relate to the persistence behavior in states where ISRT beneficiaries are able to enroll would provide further insight into the cost-effectiveness of the policy and the potential economic contribution to states by students who are completing college.

The question of data availability on this topic, however sensitive, is of the utmost importance. U.S. government databases like the one used for this study are the largest and most representative sources of state-level data on foreign-born noncitizens currently available to researchers. However, such databases are not designed to capture critical educational achievement variables, such as high school grades, course-taking patterns, parents' detailed income characteristics, and other influential factors that predict college enrollment and persistence (Ellwood & Kane, 2000). In contrast, existing national education databases that have such variables are too outdated to capture recent policy interventions and/or do not contain detailed citizenship information that would help answer questions on the diverse and growing immigrant population in the United States.

While studies on generational status have provided important contributions, current policy debates about citizenship status require particular information that goes beyond time spent in the United States. To this end, state participation in higher education data-collection entities can contribute extensively. These entities provide the most current and detailed data available to researchers. State administrative databases that can sensitively identify students as beneficiaries of these policies would provide ideal data for future analyses to confirm current results and to evaluate the future performance of these students in the state higher education systems in which they enroll.

Further analyses could be conducted on the impact of a college degree for these individuals. Recent research, for example, has begun to document the returns from a college education at the larger societal level. Moretti (2004) argues that the social returns to a college education exceed the private returns, finding that a percentage point increase in the supply of college graduates raises the wages of high school dropouts by 1.9%, the wages of high school graduates by 1.6%, and the wages of college graduates by 0.4%. With these results in mind, the larger benefits of educating a significant portion of the nation's largest minority extend beyond a personal income advantage. Furthermore, given the consistently low high school graduation rates of Latino students across the nation (Swanson, 2004), increasing the college-enrollment and completion odds for those who do graduate from high school despite the barriers faced by citizenship status is worth exploring in more detail.

In the interim, the number of legal challenges to the ISRT policies is on the rise and threatens their sustainability (Olivas, 2008, 2009). Future research might examine the effects of a policy retraction or the effect of a ban as initiated by a state legislature or voter referendum (Dynarski, 2003). If current trends regarding the passage of restrictions for undocumented immigrants continue, analyses regarding the likelihood of such events occur-

ring would also add to the research on this topic (Desjardins, 2003; Doyle, 2006; McLendon, Hearn, & Deaton, 2006). What is certain is that activity on matters relating to the educational opportunities of immigrant students is all but static. Current data systems at the local, state, and national level should be compared and revised to answer the critical policy questions and legal challenges that continue to emerge on the topics of immigration and educational policy.

**APPENDIX A**  
**STATES THAT ALLOW UNDOCUMENTED STUDENTS**  
**TO GAIN RESIDENT TUITION STATUS AS OF 2006**

<i>State</i>	<i>Bill Number</i>	<i>Date Passed</i>	<i>Date Enacted</i>	<i>State Financial Aid for Undoc.</i>	<i>Affirmative Action Ban</i>	<i>% Plan/Year</i>
Texas	H.B. 1403 (77th Leg)	June 16, 2001	June 16, 2001	Yes	1996 (Hopwood)	Yes: 1998 (Top 10%)
California	A.B. 540 (2001-02 Cal. Sess)	October 12, 2001	January 1, 2002	No	1997 (Prop 209)	Yes: 2001 (Top 4%+ELC)
Utah	H.B. 144 (54th Leg., Gen Session)	March 6, 2002	July 1, 2002	Partial: to 1 state program only	No	No
New York	S.B. 7784 (225th Leg., 2001 NY Sess)	June 25, 2002	August 1, 2003	No	No	No
Washington	H.B. 1079 (H.B. 1079, 58th Leg., Reg. Sess)	May 7, 2003	July 1, 2003	No	1998 (I 200)	No
Oklahoma	S.B. 596 (49th Leg., 1st Sess)	May 12, 2003	May 12, 2003	Yes	No	No

State	Bill Number	Date Passed	Date Enacted	State Financial Aid for Undoc.	Affirmative Action Ban	% Plan/Year
Illinois	H.B. 60 (93rd Leg. Reg. Sess.)	May 18, 2003	May 20, 2003	No	No	No
Kansas	K.S.A. 76-731A	May 20, 2004	July 1, 2004	No	No	No
New Mexico	N.M.S.A. 1978 Ch. 348, Sec. 21-1-1.2 (47th Leg. Sess.)	April 5, 2005	April 5, 2005	No	No	No
Nebraska	L.B. 239	April 2006	April 2006	No	No	No

Source: Some information from Olivas (2004), Rincon (2008), and National Immigration Law Center (2006).

Note: Texas amended the statute in its 2005 legislative session.

**APPENDIX B**  
**TABLE 4B: IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON**  
**COLLEGE ENROLLMENT OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos, All Grades by Gender and by Age Group: 18–24, 18–20, 21–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

	FEMALES			MALES		
	<i>Full Model with All Fixed Effects</i>			<i>Full Model with All Fixed Effects</i>		
<i>HS-GED Completers</i>	<i>Ages 18–24</i> (1)	<i>Ages 18–20</i> (2)	<i>Ages 21–24</i> (3)	<i>Ages 18–24</i> (4)	<i>Ages 18–20</i> (5)	<i>Ages 21–24</i> (6)
Effect of all tuition policies	1.5919*** (0.2759)	1.5643* (0.3749)	1.7829** (0.4454)	1.9754*** (0.3485)	2.0887*** (0.4809)	1.9781** (0.5352)
Tuition policy states (w/enactment date)	1.3851*** (0.1183)	1.2834** (0.1438)	1.4615*** (0.1853)	1.0553 (0.0977)	1.2292* (0.1493)	0.8703 (0.1172)
FBNC	0.0000*** (0.0000)	0.0000*** (0.0000)	0.0000*** (0.0000)	5.4170 (10.2603)	0.0000*** (0.0000)	28.0225 (56.9231)
Age	0.9345*** (0.0097)	1.2906*** (0.0414)	0.8220*** (0.0215)	0.8981*** (0.0099)	1.1642*** (0.0386)	0.7817*** (0.0232)
Ever married	0.2282*** (0.0000)	0.0144 (0.0228)	0.2058*** (0.1992***)	0.0233 (0.0442)	0.2405*** (0.2343***)	0.0181 (0.0273)
Metro	1.4200*** (0.1215)	1.2144* (0.1346)	1.6228*** (0.2058)	1.9018*** (0.1877)	1.9712*** (0.2428)	1.8128*** (0.2698)

	FEMALES			MALES		
	Full Model with All Fixed Effects			Full Model with All Fixed Effects		
	Ages 18–24 (1)	Ages 18–20 (2)	Ages 21–24 (3)	Ages 18–24 (4)	Ages 18–20 (5)	Ages 21–24 (6)
<i>HS-GED Completers</i>						
State unemp. rate	0.9585 (0.0509)	0.9164 (0.0663)	0.9992 (0.0788)	1.0232 (0.0594)	0.9985 (0.0767)	1.0183 (0.0862)
States without affirmative action	0.7903 (0.3411)	0.3778* (0.1877)	0.8676 (0.5797)	1.0401 (0.6178)	0.5353 (0.4619)	1.3091 (1.0220)
Month fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes
State and year FE						
incl. FBNC interaction	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,549	8,419	11,027	21,256	9,136	11,777

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.



**APPENDIX B**  
**TABLE 5B: IMPACT OF IN-STATE RESIDENT TUITION POLICIES ON COLLEGE ENROLLMENT OF LATINO FOREIGN-BORN NONCITIZENS, 1998–2005**

Sample: Latinos, All grades by Metropolitan Area Status and by Age Group: 18–24, 18–20, 21–24  
 Outcome: Enrolled in College; Control Group: U.S. States without a Tuition Policy

	METROPOLITAN AREA <i>Full Model with All Fixed Effects</i>			NONMETROPOLITAN AREA <i>Full Model with All Fixed Effects</i>		
	Ages 18–24 (1)	Ages 18–20 (2)	Ages 21–24 (3)	Ages 18–24 (4)	Ages 18–20 (5)	Ages 21–24 (6)
All Grades						
Effect of all tuition policies	1.7239*** (0.2239)	1.7865*** (0.3098)	1.8562*** (0.3522)	2.2576 (1.6785)	1.4938 (1.5707)	2.8866 (3.0149)
Tuition policy states (w/enactment date)	1.2593*** (0.0860)	1.2923*** (0.1136)	1.1833* (0.1168)	0.9866 (0.2382)	0.9504 (0.3087)	1.1460 (0.4162)
FBNC	2.7351 (6.3357)	0.0000*** (0.0000)	3.1465e+09*** (4.2068e+09)	0.0000*** (0.0000)	0.0000*** (0.0000)	0.0000*** (0.0000)
Age	0.9193*** (0.0074)	1.2302*** (0.0292)	0.8120*** (0.0164)	0.8780*** (0.0241)	1.1382 (0.0950)	0.6913*** (0.0529)
Ever married	0.2277*** (0.0134)	0.2166*** (0.0243)	0.2331*** (0.0159)	0.2523*** (0.0430)	0.1403*** (0.0449)	0.3195*** (0.0659)

	METROPOLITAN AREA Full Model with All Fixed Effects			NONMETROPOLITAN AREA Full Model with All Fixed Effects		
	Ages 18-24 (1)	Ages 18-20 (2)	Ages 21-24 (3)	Ages 18-24 (4)	Ages 18-20 (5)	Ages 21-24 (6)
All Grades						
Female	1.6554*** (0.0538)	1.5583*** (0.0670)	1.7798*** (0.0848)	2.1569*** (0.2478)	2.3836*** (0.3492)	2.0136*** (0.3696)
State unemp. rate	0.9895 (0.0448)	0.9918 (0.0587)	0.9785 (0.0629)	1.0534 (0.1077)	0.9085 (0.1297)	1.2218 (0.2025)
States without affirmative action	0.7573 (0.4012)	0.6728 (0.4168)	1.1155 (0.8019)	0.5896 (0.4913)	1.0908 (1.0445)	3.0063 (2.5723)
Month fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes
State and year FE						
incl. FBNC interaction	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36,466	15,736	20,655	3,992	1,804	1,938

Robust standard errors in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Source: U.S. Current Population Survey, Merged Outgoing Rotation Groups.

Note: States with policy intervention include Texas (2001); California and Utah (2002); New York, Washington, Oklahoma, and Illinois (2003); Kansas (2004); New Mexico (2005). Nebraska, passed in 2006, is not included in this analysis. Robust standard errors were calculated to account for clustering within person over time and so that standard error estimates would reflect the structure of the data.

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