

College Enrollment and Retention Effects of In-State Tuition Benefits to Non-Citizens
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Summary Notes

- Immigrant students face barriers to postsecondary education. Often, immigrant students are required to pay higher tuition rates than citizen students which can have negative implications for immigrant students' postsecondary outcomes. Hispanic non-citizens, in particular, maintain very low postsecondary enrollment rates.
- In 2001, Texas became the first state to legally guarantee in-state resident tuition rates to non-citizen students, substantially reducing the price of college for these students.
- Offering in-state resident tuition rates boosts non-citizens' application and enrollment yields. The increased enrollment yields are especially evident at Hispanic-serving institutions. The policy, however, does not appear to increase non-citizen students' retention rates.

Public colleges and universities offer large tuition discounts for in-state residents.¹ In 2011-12, the national average of the tuition and fees for public four-year institutions was \$20,770 for out-of-state students and \$8,244 for in-state students (Baum, Ma, & Payea, 2012).² This represents a reduction in college costs of approximately \$12,500 for in-state residency per academic year. In most states, students born abroad (henceforth “non-citizens”³) who graduate from in-state high schools do not qualify for this tuition discount. In 2001, Texas became the first state to pass a law that guarantees in-state resident tuition (ISRT) rates for non-citizens.⁴ At the time the law passed, the law offered a tuition discount of approximately \$6,000 for non-citizen students enrolling at the state flagships or approximately \$5,000 for these students attending Hispanic-serving institutions (HSIs).⁵ Since 2001,

¹ Long (2004) provides an analysis of the effects of offering in-state resident tuition on college enrollment.

² The numbers presented are only for tuition and fees. The average total charges for tuition and fees and room and board are \$29,657 for out-of-state students and \$17,131 for in-state students. The prices vary by region with the average in-state tuition rates at public four-year universities ranging from \$7,056 in the South to \$10,494 in New England (Baum & Ma, 2011).

³ Non-citizens are individuals born abroad to immigrant parents who did not undergo naturalization process to become U.S. citizens. These include legal permanent residents (“green card” holders), non-resident aliens, or undocumented residents (see Erisman and Looney, 2007).

⁴ The text of the Texas ISRT law, namely HB 1403, is available from the Texas state legislature at <http://www.capitol.state.tx.us/>. The Texas law specifies some requirements for non-citizens in order to qualify for in-state resident tuition including that they must have resided in the state for at least three years prior to the law passage and either graduated from high school or obtained GED.

⁵ The Integrated Postsecondary Education Data System provided by the National Center for Education Statistics records that the cost of attending the University of Texas at Austin in 2001-02 was \$3,766 for an in-state student and \$10,096 for an out-of-state student. Similarly, the University of Texas at San Antonio charged \$2,975 for an in-state student and \$8,039 for an out-of-state student.

more than a dozen states have passed similar ISRT laws.⁶

The topic of whether non-citizen students should qualify for ISRT rates is controversial, primarily because undocumented students (often referred to as illegal immigrants) are the primary beneficiaries of these laws.⁷ A Pew research poll administered in 2011 showed that 48 percent of those surveyed support offering ISRT to illegal immigrants and 46 percent of those surveyed are against offering ISRT to illegal immigrants.⁸ While the public is split on this issue, the statistics do suggest that undocumented immigrants face substantial financial hardships and could benefit from a reduction in the price of college. In 2007, undocumented immigrants had a median household income of \$36,000 in comparison to \$50,000 among U.S.-born residents (Passel & Cohn, 2009).

Nationally, the college enrollment rates of undocumented immigrants lag the enrollment rates of citizens. In 2008, 49 percent of undocumented immigrants ages 18 to 24 who have graduated from high school enrolled in college and this can be compared to 71 percent of U.S. born residents (Passel and Cohn, 2009). By lowering college costs, non-citizens may be encouraged to apply to college, enroll in college and persist in college. Several studies suggest that reducing college costs improves college enrollment and persistence. In particular, researchers estimate that for every \$1,000 reduction in college costs, college enrollment increases between 3 and 4 percentage points.⁹ The estimates on the effects of changes in college prices on retention are mixed ranging from 0 to a 4 percentage point increase in first- to second-year retention rates per every \$1,000 increase in aid (Dynarski, 2003; Singell, 2004; Goldrick-Rab et al., 2011, Castleman & Long, 2011).

Undocumented students face more restrictions in terms of borrowing money and barriers to legal employment than do citizen students. Undocumented students are not eligible for federal financial aid and do not qualify for state financial aid except in Texas and New Mexico (Dougherty, Nienhuser, & Vega, 2010). Furthermore, until recently, undocumented students were not eligible for legal employment in the U.S. upon finishing college and, if their illegal status was discovered, they faced deportation. Because of these restrictions, it is not clear whether undocumented students would respond to tuition reduction in the same way as citizen students. Studies suggest that uncertainty regarding college outcomes and labor market prospects is associated with suboptimal investment in education (Altonji, 1993; Buchinsky & Leslie, 2010).

Existing studies that evaluate the effects of ISRT laws on the educational outcomes of non-citizens focus on whether enrollment in any postsecondary institution increases. Kaushal (2008), analyzing Mexican youth (proxy for undocumented), finds that an ISRT policy leads to a 2.5 percentage point increase in college enrollment, a 3.7 percentage point increase in the proportion with at least some college education, and a 1.3 percentage point increase in the proportion with at least an associate degree. Amuedo-Dorantes and Sparber (2012) find a 3 to 6 percentage point increase in Hispanic non-

⁶ These states and the years they passed the law are: California (2002), Utah (2002), New York (2003), Washington (2003), Oklahoma (2003), Illinois (2003), Kansas (2004), New Mexico (2005), Nebraska (2006), Wisconsin (2009), Maryland (2011), Connecticut (2011), Colorado (2013), Minnesota (2013), and Oregon (2013). Furthermore, Rhode Island, though it does not have a formal law, allows non-citizens to pay ISRT rates. Seven states have passed a law explicitly stating that undocumented students are not eligible to pay in-state tuition rates including Arizona (2006), Colorado (2006; but enacted law in 2013), Georgia (2008), Oklahoma (2008), South Carolina (2008), Indiana (2011), and Alabama (2011).

⁷ Kaushal (2008) and Flores (2010) also note that the primary beneficiaries are undocumented students.

⁸ The Pew Research Center (2011).

⁹ Abraham and Clark (2006) provide an analysis of the effects of the Washington, D.C., Tuition Assistance Grant (DCTAG) program and find that offering in-state tuition rates increases enrollment by 3.6 percentage points for approximately a \$1,000 in aid. Using different datasets, Dynarski (2000, 2003) reports similar results for the effects of grant aid on college attendance.

citizen enrollment in states with an ISRT policy. Flores (2010), analyzing outcomes for all Latino non-citizens, also demonstrates that the policy positively affects enrollment in college. Only one study by Chin and Juhn (2011) reports no statistically significant effects of the ISRT policy on college enrollment.¹⁰ These studies rely on data from the Current Population Survey or the American Community Survey, which limits the analyses to enrollment in college rather than enrollment in specific colleges or universities (often referred to as college choice). In contrast, Flores and Horn (2010) use data from the University of Texas at Austin to investigate the causal effects of the law on persistence patterns by citizenship status. The authors find no significant difference in persistence patterns between Latino citizens and non-citizens over eight consecutive semesters.¹¹ While the existing literature provides information on the overall effect of ISRT laws on college enrollment, it does not yet include a comprehensive picture of the causal impacts of the laws on enrollment and retention at different types of postsecondary institutions.

Research Questions

1. What is the effect of the ISRT policy on non-citizen students' college access (i.e., application rates, admission rates, and enrollment yields) to different types of postsecondary institutions in Texas?
2. What is the effect of the ISRT policy on non-citizen students' college retention from the first year to the second year at different types of postsecondary institutions in Texas?

Data and Methodology

This study makes use of two datasets to examine the effects of offering ISRT to non-citizens on college-going behavior. First, data from the 2010 Merged Outgoing Rotation Groups from the Current Population Survey (CPS) provide current differences in college enrollment rates between citizen and non-citizen students in states with and without ISRT laws. Second, student-level administrative data from five universities in Texas is used to determine whether the ISRT policy causes non-citizen students to apply, enroll, and be retained at these specific colleges. The five public universities included in this study include two *flagship* universities, two *Hispanic-serving institutions* (HSIs), and one *moderately selective* university.¹² One advantage of using institution-specific data is the ability to analyze whether the effects of the policy vary by type of institution. This is important to policymakers as they consider the potential impact of passing a similar law at various institutions in their own state.

We focus on four outcome measures:

1. **College Applications:** The reduction in college price may increase the number of non-citizens applying to college. We analyze applications data for each university over time to assess whether non-citizen applications increased after the policy implementation in Texas.
2. **College Admissions:** Since the policy may have positively impacted applications, we analyze whether the admission rates of non-citizen students changed over time to see whether increases in applications led to increases in access.¹³

¹⁰ The authors use a different data source (i.e., the American Community Survey) that covers a shorter timespan when compared to data used by Kasuhal (2008) and Flores (2010).

¹¹ Flores and Horn (2010) examine enrollment patterns of students who enrolled as freshmen in Fall 2004 and follow them for eight consecutive semesters. Controlling for time-varying and time-invariant factors that affect college persistence, the authors calculate “survival rates” defined as proportion of students still enrolled at the beginning of each semester relative to the proportion of students who were in the sample a previous semester.

¹² A Hispanic-serving institution is one where the student enrollment is greater than 25 percent as noted by Malcom-Piqueux and Lee, Jr. (2011). The *moderately selective* public university is classified as very competitive by Barron’s selectivity rankings but is less selective than the state *flagship* universities. However, it is more selective than the *Hispanic-serving institutions* in our study.

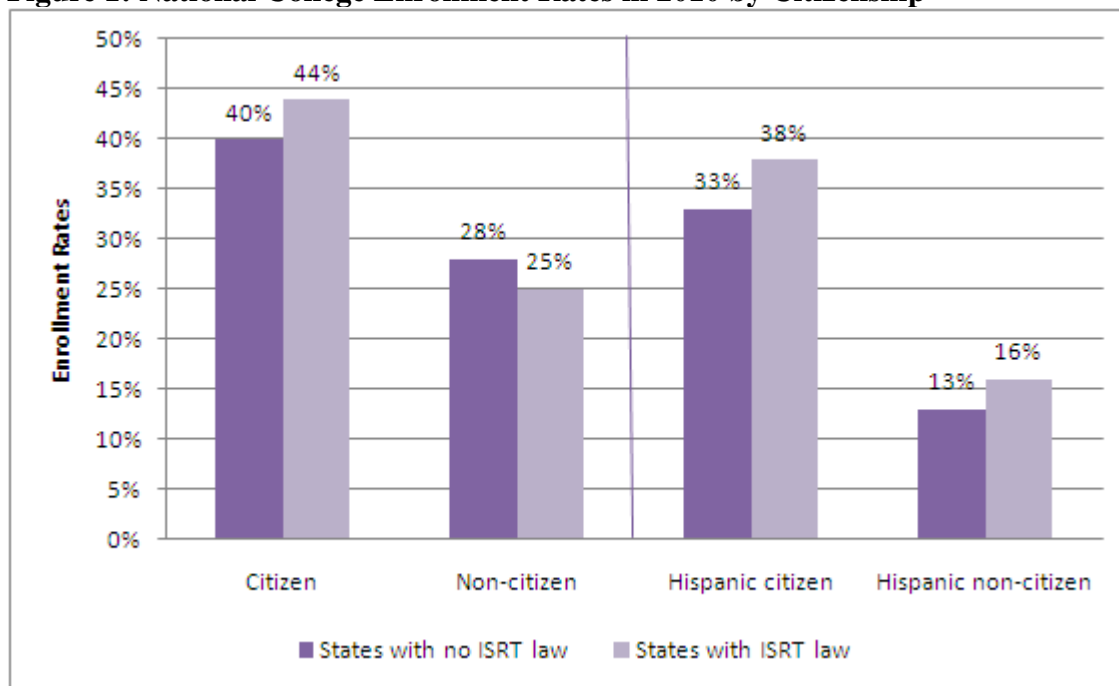
¹³ It should be noted that during the time period of interest, students who graduated from a Texas high school in the top ten

3. **College Enrollments:** Each university records information on the number of students who enroll conditional on being admitted (i.e., enrollment yield). These enrollment yields are analyzed to evaluate whether the policy increased the number of non-citizen students choosing to enroll in college. We evaluate whether the effects vary by institution.
4. **College Retention:** By lowering college tuition, the policy could potentially affect retention rates for non-citizens. We analyze the effects of the policy by comparing first-year retention rates for citizens and non-citizens pre and post.

What is the effect of the ISRT policy on non-citizen students' college access to different types of postsecondary institutions in Texas?

Nationally, the college enrollment rates of non-citizens are, on average, 15 percentage points lower than the college enrollment rates of citizens (41 percent compared to 26 percent, respectively). Among self-identified Hispanics, the gap in enrollment rates between citizens and non-citizens is even larger at 21 percentage points (36 percent vs. 15 percent, respectively). These enrollment rates are for individuals enrolled in any two- or four-year college.

Figure 1: National College Enrollment Rates in 2010 by Citizenship



Notes: These data are calculated using the Merged Outgoing Rotation Groups (MORG) of the Current Population Survey (CPS). The sample is limited to individuals who are between the ages of 18 and 22. Individuals are in the non-citizen category if they are foreign born and are non-citizens. An individual is considered to be Hispanic if they self-identify as being Hispanic. The states that are considered to have a law are: Texas 2001, California 2002, Utah 2002, New York 2003, Washington 2003, Illinois 2003, Kansas 2004, New Mexico 2005, Nebraska 2006, and Wisconsin 2009. Oklahoma is not considered as a state with a law as they repealed their 2003 law in 2008.

Since we are interested in the effects of ISRT laws on enrollment, figure 1 provides college enrollment rates separated by whether the individual lives in a state with or without an ISRT law and according to the characteristics of the individual. The data displayed in the left panel of figure 1 indicate that citizens who live in states with ISRT laws have higher college enrollment rates (44 percent) than do citizens who live in states without an ISRT law (40 percent). Notably, the enrollment rates of all

percent of their high school class were guaranteed admission if they filed a complete application. We discuss our results in the context of the top ten percent rule.

foreign-born, non-citizens are slightly lower in states with an ISRT law (25 percent) than in states without a law (28 percent). The right panel of figure 1 focuses on Hispanics, who are the most likely to be undocumented according to Kaushal (2008) and Flores (2010). The college enrollment rates of both citizen and non-citizen Hispanics are larger in states with an ISRT law than in states without an ISRT law. Results in figure 1 confirm that Hispanics who reside in states with ISRT laws have higher enrollment rates relative to Hispanics residing in states without these laws. While figure 1 does provide some data of interest, it does not provide a full picture of how these laws may impact non-citizens. The number and types of immigrants within each state vary as well as the types of higher education institutions available to these individuals. In order to have an accurate picture of how these laws impact individuals, it is important to control for individual characteristics and the characteristics of the higher education institutions within each state.

A. College Applications

The Texas ISRT law effectively decreased college prices which ultimately encouraged more non-citizen students to apply to in-state colleges. Table 1 provides application information at five public universities separated by citizenship status and by passage of the ISRT law. We limit our sample to only in-state students as we are interested in studying the effects of the ISRT law. For all of the years shown, citizen residents are eligible for ISRT. Non-citizens are eligible for in-state tuition only after the Texas state legislature passed the ISRT in 2001. The number of non-citizen students applying to each university grew substantially over time at the five universities and the average number of applicants more than doubled at the second *Hispanic-serving institution* (HSI 2) and at the *moderately selective* public university.¹⁴ Notably, the number of citizens applying to each university also grew over time though at a smaller rate. Furthermore, figure 2 displays the ISRT-induced growth in non-citizen applications relative to citizen applications. As shown, *flagship 2* and the *moderately selective* university experienced the largest changes in the share of non-citizens applying relative to the share of their citizen peers (as calculated by the difference in changes experienced by the two groups; for example, non-citizens experienced 67 percentage points higher growth in application rates relative to citizen students at *flagship 2*).

Several explanations exist for why student applications at each of the universities increased over this time period. Long and Tienda (2010) note that the number of students who graduated from high school in Texas during this time period increased due to a general population increase and that the demographics of the Texas population shifted quite dramatically (i.e., Hispanic representation increased from 29 percent to 35 percent). Given that non-citizen Hispanics in Texas are more likely to be undocumented than non-citizen non-Hispanics, this change in the demographic composition of high school graduates could help to explain why the number of student applications increased at each of these universities. However, it is unlikely to explain all of the changes in applications.

Table 1: Average Number of Applicants Before and After Texas ISRT Law Passed by Institution

	Non-citizens			Citizens		
	1998-2000	Post 2001*	% Change	1998-2000	Post 2001*	% Change
Flagship 1	314	452	44%	12,904	14,846	15%
Flagship 2	113	198	75%	13,938	15,082	8%
HSI 1	93	162	74%	4,343	5,663	30%
HSI 2	193	413	114%	4,913	8,146	66%

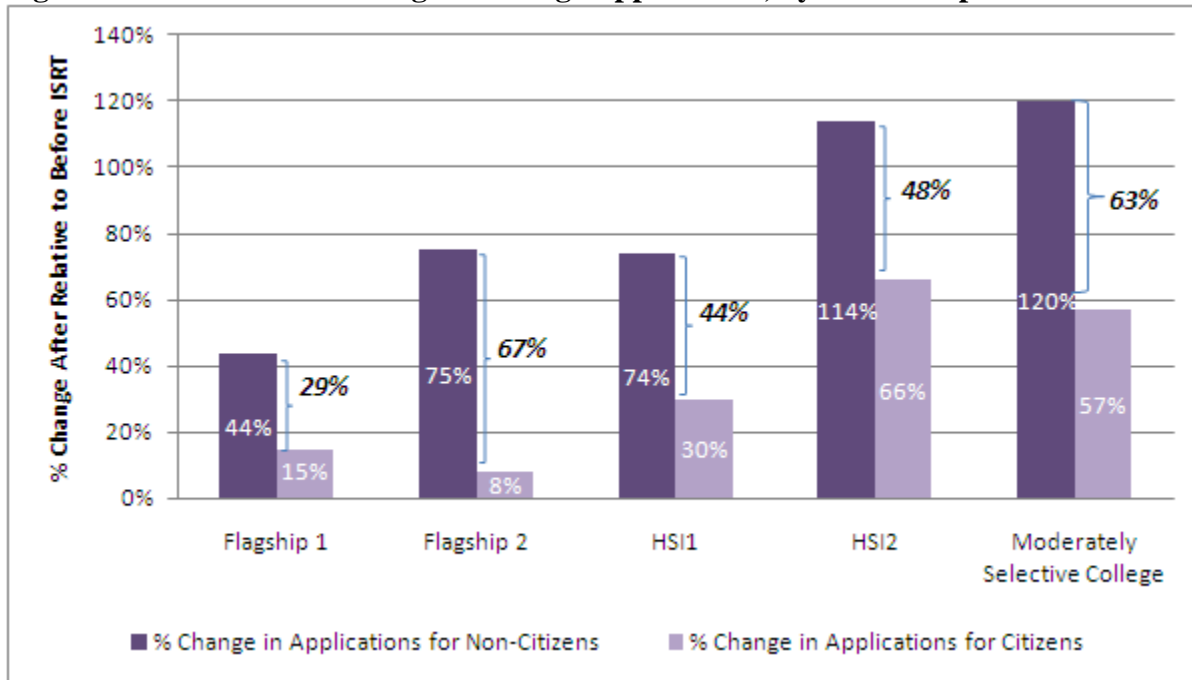
¹⁴ It should be noted that the much larger increases among non-citizens could occur because the same set of college-bound non-citizens applied to these institutions. We do not have student identifiers to calculate how much overlap exists in applications between the two institutions.

Moderately Selective College	99	219	120%	7,080	11,136	57%
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Notes: HB 1403 extended in-state resident tuition to non-citizens in Texas who met specific conditions. The Texas percent plan is in place for all years presented.

*The post period does vary by university as data is only available until 2002 for *flagship 1* and *HSI 1*. For the remaining universities, data is available until 2003.

Figure 2. ISRT-Induced Change in College Applications, by Citizenship and Institution



Notes: HB 1403 extended in-state resident tuition to non-citizens in Texas who met specific conditions. The Texas percent plan is in place for all years presented. The post period does vary by university as data is only available until 2002 for *flagship 1* and *HSI 1*. For the remaining universities, data is available until 2003.

B. College Admissions

While the law change may have had the desired effect of increasing the number of non-citizens considering college, the actual effect of the policy on college enrollment depends, in part, on whether the colleges admitted these new applicants. Since 1998, Texas high school graduates in the top decile of their class are guaranteed admission to any in-state public college or university by H.B. 588.¹⁵ Since the percent plan is in effect for all of the years in our sample, the admission rates of top decile in-state students is close to a 100 percent.¹⁶

Table 2 presents the acceptance rates for non-citizens and citizens before and after the passage of the ISRT law in Texas. As shown earlier, the average number of applications from non-citizens increased at each university. This trend translated into an absolute increase in the number of non-citizens admitted to each university. For every university, except *flagship 2* and *HSI 1*, the acceptance rate (rather than

¹⁵ The Texas percent plan was implemented in 1998, a year after the 5th Circuit Court decision in *Hopwood v. University of Texas*. The *Hopwood* decision ended the use of race in college admissions and the top ten percent law sought to restore racial diversity on public campuses without using race in college admissions. As noted by Dickson (2006) and Tienda and Niu (2006), the high schools in the state of Texas are fairly segregated and the top ten percent rule by guaranteeing admission to the top decile of each high school class is necessarily guaranteeing admission for some underrepresented students.

¹⁶ In the data, individuals who appear to qualify for the Texas percent plan are accepted at a rate of 99 percent. The number likely differs from 100 percent because some of the students did not file a complete application.

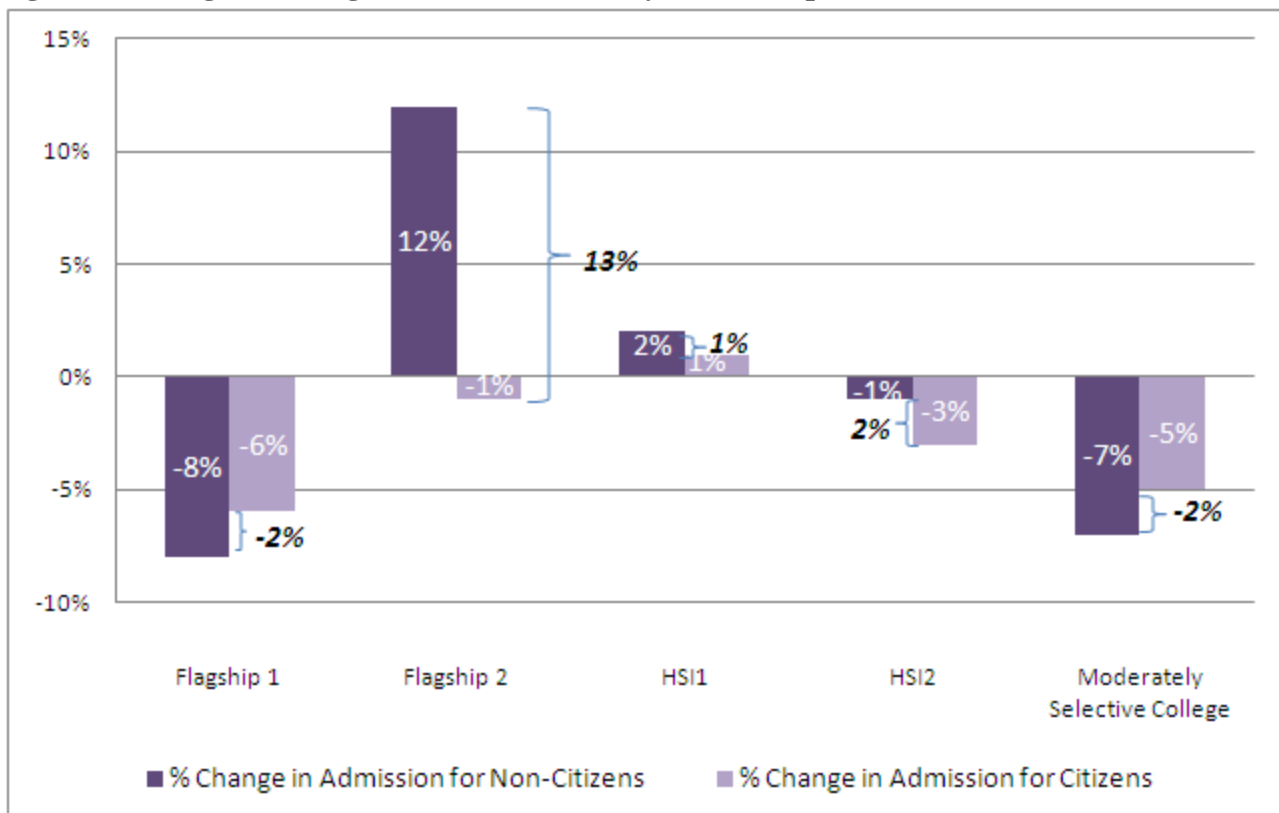
the absolute number of students) declined over time which is likely due to the increase in the number of applications witnessed at these universities. Since students do not have control over admission decisions, it is unclear as to how the introduction of the ISRT policy affects admissions. The effects on admissions would depend in part on the quality of students applying to college as well as possible capacity constraints at the universities. Figure 3 shows that *flagship 2* experienced the largest growth in non-citizen admission rates relative to citizen admission rates. Notably, although not shown in figure 3, the growth in the number of non-citizens accepted at the state flagship universities appears to be due to an increase in the number of non-citizens in the top decile applying for admission. At both state flagships, the number of non-citizens in the top decile applying increased by approximately 50 students on average. At the remaining universities, the growth in the number of non-citizens accepted appears to be due to a growth in the number of students outside the top decile.

Table 2. Acceptance Rates Before and After ISRT Law, by Citizenship and Institution

	Non-citizens			Citizens		
	1998-2000	Post 2001*	% Change	1998-2000	Post 2001*	% Change
Flagship 1	67%	59%	-8%	76%	70%	-6%
Flagship 2	40%	52%	12%	70%	69%	-1%
HSI 1	98%	100%	2%	91%	92%	1%
HSI 2	75%	74%	-1%	86%	83%	-3%
Moderately Selective College	67%	60%	-7%	79%	74%	-5%

*The post period does vary by university as data is only available until 2002 for Flagship 1 and HSI 1. For the remaining universities, data is available until 2003.

Figure 3. Change in College Admission Rates, by Citizenship and Institution

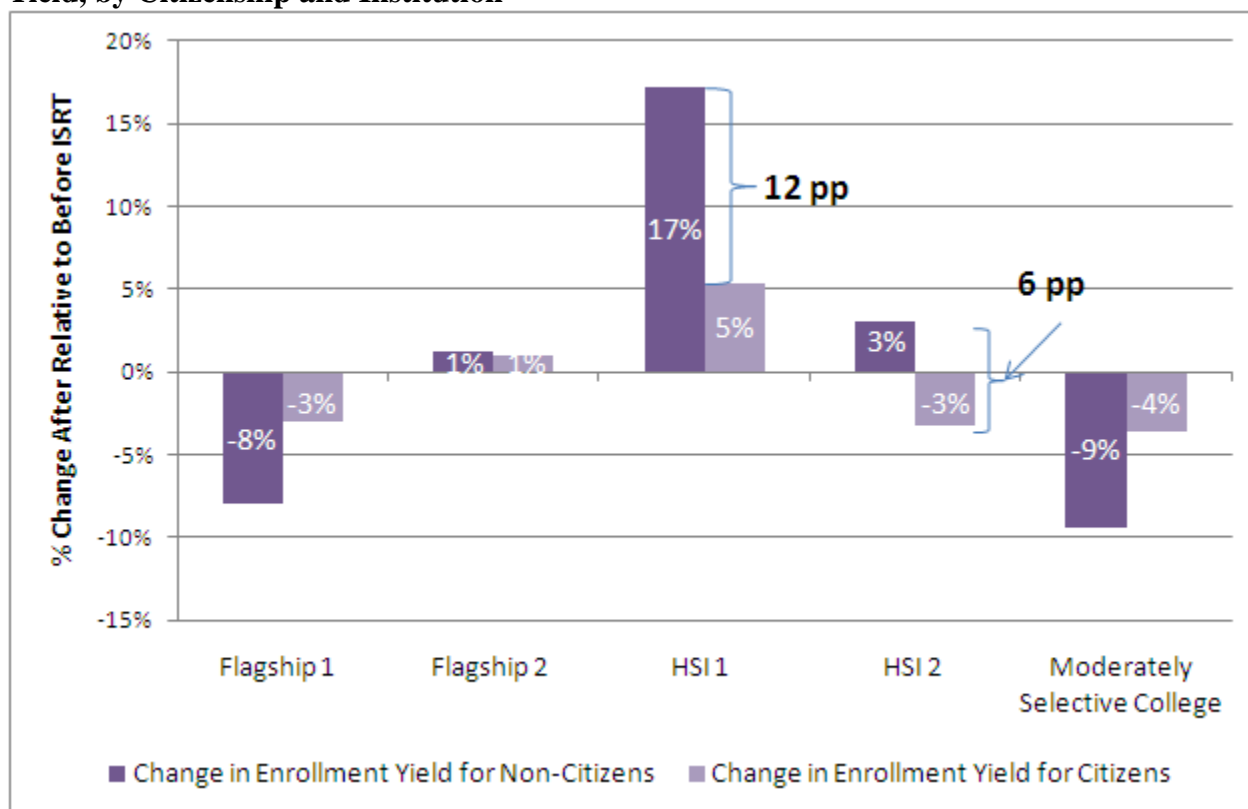


Notes: HB 1403 extended in-state resident tuition to non-citizens in Texas who met specific conditions. The Texas percent plan is in place for all years presented. The post period does vary by university as data is only available until 2002 for *flagship 1* and *HSI 1*. For the remaining universities, data is available until 2003.

C. College Enrollment

For those students who are admitted to college, they still must choose whether to enroll. The *enrollment yield* for a university is equal to the fraction of admitted students who choose to enroll. Figure 4 displays the enrollment yields of students by citizenship status before and after the passage of the ISRT law. The means show an increase in the enrollment yields of non-citizens at *HSIs* after the passage of the law. Notably, after the policy, the enrollment yields of non-citizens decreased at *flagship 1* and *moderately selective* college. Although the means displayed in figure 4 indicate that there has been an increase in enrollment yield of non-citizens at *HSIs* following the passage of ISRT law, these averages do not depict a complete picture of how enrollment probabilities changed as a result of the policy. A student’s college choice decision can be influenced by many factors including his/her family characteristics (e.g., family income), academic preparation (e.g., GPA, SAT scores), high school characteristics (e.g., sector), or institutional attributes (e.g., college sector or quality). Although not further discussed in this brief, Dickson and Pender (2010) demonstrate that the positive effects on enrollment yield observed at the *HSIs*, as evident in figure 4, still remain after controlling for aforementioned factors that may affect the probability of enrollment.

Figure 4. ISRT-Induced Growth in Non-Citizen Enrollment Yield Relative to Citizen Enrollment Yield, by Citizenship and Institution



Notes: HB 1403 extended in-state resident tuition to non-citizens in Texas who met specific conditions. The Texas percent plan is in place for all years presented. The post period does vary by university as data is only available until 2002 for *flagship 1* and *HSI 1*. For the remaining universities, data is available until 2003.

What is the effect of the ISRT policy on non-citizen students' college retention at different types of postsecondary institutions in Texas?

The effects of lowering tuition on whether the student graduates from college are theoretically ambiguous. On the one hand, the reduction in price may make college more affordable, so that students are more likely to stay in college compared to previous cohorts. On the other hand, the lower tuition may induce more applications by marginally prepared students compared to previous cohorts, which would reduce retention and persistence among those induced into college by the policy. The effect of the ISRT policy on student retention is, thus, an empirical question.

Undocumented students, in particular, may not have the same incentives to complete a college degree as legal immigrants or their citizen peers because illegal status limits undocumented students' job opportunities so that the labor market return to a college degree is likely significantly lower for these students than for citizens. In theory, this should make non-citizens less responsive to changes in postsecondary prices than citizens and may also make them less likely to persist in college. However, it should be noted that the undocumented status of immigrants is not necessarily permanent. For instance, individuals may be able to change their status through marriage or other means (Kaushal, 2008, Duncan & Trejo, 2007). Moreover, recent immigration reform efforts by President Obama that guarantee legal employment and prohibit deportation of young undocumented immigrants may help induce these students to enroll in and finish college.¹⁷

Table 3 summarizes the retention rates of students from the first year to second year of college (first-year retention rate) by citizenship status at each university. Focusing on non-citizens, third column shows the change in non-citizen students' first-year retention rates between the two periods. Since other factors may affect student retention, we also present the information for citizens, which serves as a control group for the changes in retention we observe among non-citizens over this same time period. The last column in table 3 shows the changes in the retention rates over time for citizens. We expect that citizen retention rates at these institutions are unaffected by the policy change, but do capture trends in retention that are due to common factors that affect both citizens and non-citizens (e.g., campus climate, local economic conditions).¹⁸ Similarly, figure 5 displays ISRT-induced changes in retention rates of non-citizens relative citizens. The estimated impact of the ISRT policy on retention is very small except at the *moderately selective* college where non-citizen retention rates decrease noticeably between the two periods.

Regression analysis can be used within the difference-in-differences framework (see technical appendix for detailed description) to control for additional student characteristics that might influence retention. After controlling for individual characteristics, as shown in table 1 in technical appendix, the impact of the ISRT law on retention is only statistically significant for *moderately selective* college. For the remaining universities, there is no significant difference in retention rates. These results suggest that students are no more or less likely to be retained following the implementation of the ISRT in Texas.¹⁹

Table 3. The Effects of Offering In-state Resident Tuition on First-Year Retention Rates

	Non-citizens			Citizens		
	1998-2000	Post 2001	% Change	1998-2000	Post 2001	% Change
Flagship 1	88%	89%	1%	89%	88%	-1%

¹⁷ Details on the executive order are available from the Department of Homeland Security:

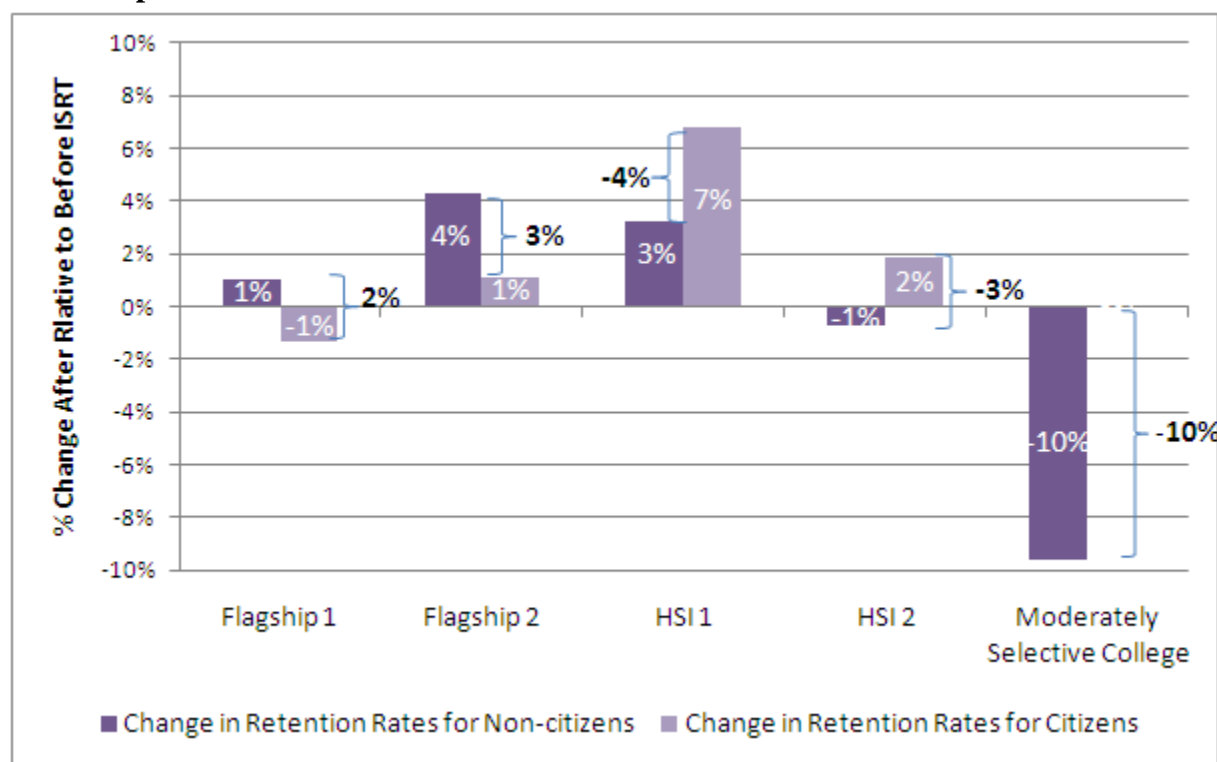
<http://www.dhs.gov/ynews/releases/20120612-napolitano-announces-deferred-action-process-for-young-people.shtm>.

¹⁸ This methodology is known as difference-in-differences. See the technical appendix for more detail.

¹⁹ It is important to note that due to data limitations, we cannot ascertain whether students do not return for a second year because they drop out of college entirely or transfer to different institutions.

Flagship 2	94%	98%	4%	90%	91%	1%
HSI 1	33%	36%	3%	39%	46%	7%
HSI 2	61%	60%	-1%	51%	53%	2%
Moderately Selective College	88%	78%	-10%	81%	81%	0%

Figure 5. ISRT-Induced Changes in Retention Rates Relative to Citizen Retention Rates, by Citizenship and Institution



Policy Implications

Non-citizens maintain very low college enrollment rates when compared to citizens (Erisman & Looney, 2007). College enrollment rates are especially low among undocumented immigrants. For instance, in 2008, only 26 percent of undocumented immigrants ages 18 to 24 reported either having some college or a college degree. This is in comparison to 58 percent of U.S. citizens (Passel and Cohn, 2009). One of the methods employed by state legislatures to boost the college enrollment rates of non-citizens, in particular undocumented immigrants, is to offer in-state resident tuition to these students. The evidence presented in this brief suggests that such a policy causes more students to apply to and enroll in college.

These results are important given that about three-quarters of the nation's unauthorized immigrant population is comprised of Hispanics (Passel and Cohn, 2009). Regardless of their immigration status, educational outcomes of Hispanics lag behind other racial and ethnic groups (Lee et al., 2011). While the number of Hispanics enrolling in college grew disproportionately over the last decade, the share of Hispanics attending college remains low compared to other racial groups. In 2010, 32 percent of Hispanic 18- to 24-year-olds enrolled in college as compared to 38 percent of blacks, 62 percent of Asians, and 43 percent of whites (Fry, 2011). Furthermore, Hispanic young adults have the lowest

education attainment rates among all racial or ethnic groups. For instance, in 2010, only 13 percent of Hispanic 25- to 29-year-olds completed at least a bachelor's degree (National Center for Education Statistics, 2011). In comparison, more than half (53 percent) of non-Hispanic Asians, 39 percent of whites, and 19 percent of non-Hispanic black young adults completed a college degree. High levels of immigration and high birth rates have made Hispanics the nation's biggest minority group, comprising 16 percent of the U.S. population as of 2010. The lower college attainment levels of Hispanic immigrants, particularly those from Latin America, can partly explain low college completion rates of Hispanic young adults in the U.S. (Fry, 2011).

If we do wish to have a more educated populace, it makes sense to focus on lowering the barriers to education for groups that maintain low college enrollment and attainment rates. For non-citizen youth, this may mean reducing tuition costs and providing opportunities for a legal employment; the latter has been the focus of President Obama's recently instituted Executive Order. We present several recommendations that can help inform discussion among policymakers, practitioners, and researchers who wish to improve college outcomes for these students.

Recommendation 1:

Research on the Policy Impacts in Other States

To date, very little is known about the effects of in-state resident tuition policies in states other than Texas.²⁰ Existing research reports aggregated policy effects that are calculated by comparing states with ISRT policies to states without these laws. Results from these studies confirm that immigrant students' college enrollment rates in states with ISRT policies increased at a higher rate relative to enrollment rates of immigrant students in states without these laws (Kaushal, 2008; Flores, 2010). Our study is among the first to analyze the effects of the law within one state, namely Texas, and to explore differential effects by university. We find that the policy effects are largest at Hispanic-serving institutions. Because of institutional differences in college prices and admission practices, as well as variation in socio-economic status and racial composition of non-citizens, the effects of ISRT policies in other states may differ when compared to our estimated effects in Texas. Thus, we recommend further research on the effects of ISRT policies to see whether these results hold in different contexts. These studies may help inform state leaders about impacts of current laws on their immigrant population and institutions.

Recommendation 2:

Qualitative Research to Understand Mechanisms through which ISRT Policy Affects Educational Outcomes

We find positive effects of the ISRT policy on non-citizens' college application, admission, and enrollment rates at the Hispanic-serving institutions in Texas, and no significant effects on first-to-second year college retention at these institutions. It is not clear why the reduction in college prices leads to increased access at these institutions and does not positively affect college retention at these institutions. We recommend qualitative research to explore mechanisms through which ISRT policies affect noncitizen students' access to Hispanic-serving institutions. In particular, specific information about policy implementation practices and students' perceptions and knowledge about the policy may help us understand why the policy effects differ by college selectivity.²¹ Additionally, we propose further research on the policy effects at two-year institutions where many non-citizens are expected to

²⁰ The exception is a recent study by Gindling and Mandell (2012) in which the authors analyze and discuss the net economic impacts of the Maryland Dream Act.

²¹ Dougherty et al. (2010) and Rincon (2008) analyze the ISRT policy formation and implementation in Texas and Arizona. Furthermore, see Olivas (2012) for comprehensive review of ISRT laws and higher education policies for immigrants.

enroll (Teranishi, Suárez-Orozco, C., and Suárez-Orozco, M., 2011). Finally, we urge for more research on existing college retention policies and practices to identify policy solutions that would improve retention of noncitizen students in colleges.

Recommendation 3:

Research on Immigrant Students' College Choices and Academic Outcomes

Characteristics of immigrants and their educational outcomes and experiences vary by country of origin. Immigrants from Mexico and other Latin American countries, in particular, have relatively low rates of participation and success in postsecondary education which can be mainly linked to their low family incomes and parents' education levels. Furthermore, Latin American immigrants often cite financial barriers and inadequate information as reasons for not pursuing college education or for choosing less selective colleges. Lack of familiarity with the U.S. postsecondary education system (e.g., college application process and financial aid eligibility) and language barriers present substantial challenges for immigrants' college access and success (Baum & Flores, 2011). Our research shows that, even when financial barriers are removed, these students opt for less selective institutions. Furthermore, removing financial barriers does not necessarily result in improved college retention. Thus, more research is needed to understand how immigrants, particularly those from disadvantaged backgrounds, make college choices and what factors, besides college price, determine their academic outcomes. Finally, researchers should also explore the effects of President Obama's Executive Order to learn about the extent to which uncertainty about employment and returns to education affect educational outcomes of immigrant youth.

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Technical Appendix

The regression model uses a differences-in-differences (DID) estimation technique to evaluate the effects of the policy on student retention. Since changes in the retention rate may be affected by university efforts as well as by the local job market, we use a DID technique to take advantage of the fact that in-state citizens are not affected by the policy change. The first difference in the DID estimation is a comparison of the outcomes for non-citizens before and after the policy change. In our case, we estimate the effects of offering ISRT rates on non-citizen's first-year retention. The second difference in the DID estimation is the change in the retention rate of citizens before and after the policy. Citizens who are Texas residents already qualify for ISRT and therefore the changes in their retention rate may help to capture university efforts to increase retention as well as changes in the local job market that may affect the opportunity cost of going to college.

The regression model is represented by the equation below:

$$\Pr(\text{First-year Retention}_i = 1) = \beta_0 + \beta_1 NC_i + \beta_2 Policy_i + \beta_3 NC_i * Policy_i + \beta_4 StudentCharacteristics_i + \beta_5 HSCharacteristics_i$$

The dependent variable is whether the student is retained from the first-year to the second-year. The NC_i variable is an indicator for whether the student is a non-citizen. The $Policy_i$ variable is equal to 1 if the student entered in the fall of 2001 or later. The interaction between non-citizen and the policy ($NC_i * Policy_i$) provides an estimate of the DID capturing whether the non-citizens' retention rates changed after the policy and accounting for those changes that are common to both citizens and non-citizens. In addition, the regression model controls for student characteristics including race and gender, the student's academic preparation in terms of their SAT score (rescaled for those that took the ACT), and the student's high school class rank. Indicator variables accounting for students who attend private high schools as well as for those students who entered in the fall semester are also included. We exclude students who entered during the summer. The regression is estimated separately for each university using a linear model. The sample consists of all students who enrolled at the university during the time period of interest. The students are limited to in-state students who are either citizens or non-citizens. Table 1 presents the full regression results.

Table 1: The Effects of ISRT on First-Year Retention

	Flagship 1	Flagship 2	HSI 1	HSI 2	Moderately Selective College
Non-Citizen	0.019 (0.020)	0.043 (0.033)	-0.033 (0.081)	0.098** (0.042)	0.077 (0.051)
Policy	0.005 (0.004)	0.007** (0.003)	0.067*** (0.010)	0.007 (0.009)	0.005 (0.007)
Non-citizen*policy	-0.020 (0.030)	0.022 (0.040)	-0.082 (0.099)	-0.047 (0.050)	-0.128** (0.064)
SAT score	0.017*** (0.001)	0.015*** (0.001)	0.005 (0.004)	0.013*** (0.003)	-0.002 (0.003)
Top Ten Percent	0.010* (0.005)	0.008* (0.005)	-0.017 (0.020)	0.078*** (0.014)	0.041*** (0.011)
High school class rank	-0.002*** (0.000)	-0.001*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)	-0.002*** (0.000)
Missing Class Rank	0.009 (0.009)	0.002 (0.007)	-0.134*** (0.015)	-0.064*** (0.012)	-0.157** (0.073)
Entered in Fall Semester	0.386*** (0.033)	0.198*** (0.021)	0.061*** (0.015)	-0.484*** (0.012)	0.271*** (0.026)
Private High School	0.031*** (0.008)	0.011* (0.007)	0.010 (0.106)	0.077*** (0.017)	-0.019 (0.015)
Male	-0.015*** (0.004)	-0.026*** (0.003)	-0.040*** (0.010)	-0.019** (0.008)	-0.015** (0.007)
Black	-0.012 (0.011)	0.034*** (0.008)	-0.019 (0.079)	0.008 (0.017)	0.015 (0.019)
Hispanic	-0.038*** (0.006)	-0.022*** (0.004)	0.025 (0.016)	0.009 (0.009)	-0.036*** (0.012)
American Indian	-0.070*** (0.025)	-0.042* (0.023)	0.355* (0.183)	-0.063 (0.057)	-0.002 (0.047)
Asian	-0.007 (0.010)	0.032*** (0.004)	0.075 (0.058)	-0.029 (0.020)	-0.014 (0.021)
Constant	0.341*** (0.037)	0.539*** (0.025)	0.456*** (0.042)	0.555*** (0.037)	0.621*** (0.039)
N	32,138	38,989	9,047	13,240	13,448
R-squared	0.027	0.020	0.046	0.141	0.026

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