

The Impact of Refugees on Native Students' Academic Achievement

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Abstract

The number of asylum seekers worldwide has reached its highest point in history, motivating heated debate among politicians about the effects of such large migrations on host countries. Over 80,000 refugees entered the U.S. in 2016, including large numbers of children, and there is uncertainty about how this inflow will affect native children's schooling outcomes. This paper studies how the largest inflow of refugees in U.S. history – the inflow of Indochinese refugees at the end of the Vietnam War – affected native children's academic achievement and post-secondary education. To identify the causal effect of refugees on native students' academic success, I use novel data from the U.S. National Archives that contain refugees' first county of destination. This was determined by resettlement agencies and, as I will show, was uncorrelated with previous schooling conditions. I find zero or small positive effects from the inflow of Indochinese refugees on native children's academic achievement. These estimates are small and precisely estimated. There is also evidence of an improvement in the quality of native students' post-secondary education as native students were more likely to complete bachelor and graduate degrees if they were living in counties where refugees were a higher share of the population.

1 Introduction

The total number of refugees has doubled in the last 5 years and, since refugees come from poor countries, the increase in the number of asylum seekers has been surrounded by broad criticism. In the U.S., recent immigration policies have reduced the number of refugees who are admitted by dictating tighter restrictions on refugee resettlement, reducing the number of staff that conduct clearance interviews abroad, and intensifying the screening process (Migration Policy Institute, 2017).¹ The lack of political support in the U.S. for admitting refugees is,

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¹The current administration lowered the admission ceiling for FY2017 from 110,000 to 50,000. It also suspended the refugee resettlement program for 120 days (Migration Policy Institute, 2017). Admissions were even lower in FY2018, where only 22,491 refugees were resettled - although the ceiling was 45,000.

however, not a new development. In 1979, which was five years after the Vietnam war, more than 60% of adults in the U.S. disapproved of the government plan to double the number of Indochinese refugees according to a New York Times survey, and less than 30% were in favor of allowing Cuban refugees to settle in the U.S. in 1980 (Pew Research Center, 2017). U.S. natives also prefer to live in neighborhoods with fewer minorities, fewer immigrants, and more high-income/highly educated residents (Basum-Snow and Lutz, 2011; Cascio and Lewis, 2012). A common justification for restricting refugee inflows is that refugee children may have negative spillovers on the academic success of their school classmates (Card, 2009). The empirical literature on the effect of an inflow of refugees on native students, however, has not reached a consensus.

Although the first studies to investigate how immigrants affect native children found a negative association between the share of immigrants and the likelihood of completing high school, more recent studies that account for migrants' selection into locations show that higher shares of immigrants increase native students' academic attainment (Betts, 1998; Betts and Lofstrom, 2000; Mc Henry, 2015; Hunt, 2016). However, the evidence from these studies can not be directly extended to refugees as they differ from traditional migrants in their observable characteristics and the reasons to migrate from their countries of origin (Cortes, 2004; Jacobsen, 2005; Dustman et al, 2017). Only a handful of studies look at the spillovers from refugee children onto their native classmates and the results from these studies are mixed. For instance, Gould, Lavy, and Paserman (2009) find that the inflow of refugees lowers the likelihood of passing the high school exit exam in Israel, Assaad, Ginn, and Saleh (2018) find no evidence of a negative effect in Jordan, and Tumen (2018) finds it increases high school enrollment rates in Turkey. I contribute to the literature by answering this question in a causal framework in the U.S. context.

To determine the effect of refugees on native students' academic success, I harness a natural experiment generated by the largest historical inflow of refugees to the United States: the resettlement of over a quarter million Indochinese refugees in the aftermath of the Vietnam War. I argue that the suddenness and the magnitude of the inflow together with the lack of Indochinese prior to 1975 and the number of voluntary agencies involved in their resettlement resulted in quasi-random variation as the assigned location of these refugees was uncorrelated with local characteristics. Because of this, the resettlement of Indochinese refugees can be used to understand the causal effects of refugee children on their native classmates.

There are two reasons to believe refugees' location assignment were uncorrelated with county characteristics. First, with the help of nine voluntary agencies, the federal government dis-

tributed refugees widely across the country with the specific intent of avoiding a concentration of refugees in a single city. To accomplish this, Congress instructed the agencies to disperse refugees across the whole country and to only avoid economically depressed areas (Refugee Act 1975; Haines (1985). Voluntary agencies achieved this goal by dispersing refugees both across states and widely within states (Congress Report, 1976); in fact, Refugees were resettled in over 76% of U.S. counties in 1975. Second, there were no clear guidelines to distribute refugees between the voluntary resettlement agencies. Although the Committee on Migration and Refugee Affairs from the American Council of Voluntary Agencies for Foreign Service (ACVAFS) was created to allocate cases between the resettlement agencies, in practice, the number of refugees resettled by each voluntary agency depended mainly on the decisions of the junior personnel who were working at the resettlement camps (Zucker, 1982). As voluntary agencies differed in their strategies to assign refugees, differences in the allocation of refugees to voluntary agencies ultimately led to differences in the concentration of refugees across the country. In addition, because voluntary agencies also provided refugees with assistance and financial benefits, refugees had strong incentives to settle (at least initially) in their assigned areas (Refugee Act 1975).²

My research design also helps overcome two additional challenges. First, most sources only record refugees' current locations, making it is difficult to disentangle the effect of refugees on their communities from the reasons why they choose to settle in a specific location. Second, hardly any available data sources directly identify refugees. To address these issues, I use novel data from the U.S. National Archives which contains individual level records of refugees including their first destination county, which was determined by voluntary agencies. This is important as records show that over 40% of Indochinese refugees ultimately moved to a different county between their time of arrival and 1981, and almost 30% moved to a different state within the same period.³ Ignoring self selection would lead to a negative bias if refugees sort into disadvantaged areas so, to account for selection, researchers have generally exploited variation over time in the same location or use prior settlements as an instrumental variable.

The ideal strategy to identify the effect of refugees would be a difference-in-differences, comparing the outcomes of native students before and after the refugee inflow in areas with different concentrations of refugees (a measure of the intensity-of-treatment). Data limitations

²The success of the dispersal policy implies that the share of refugees was generally below 1.5% of the population. Nevertheless, it is worth noting that this is the largest inflow of refugees in U.S. history and, even in more recent - and more concentrated - influx of refugees, their share is generally below 1%. For instance, Figlio and Özek (2019) study the inflow of Haitian refugees in Florida and define exposed schools as those where the share of refugees is above 1%.

³These numbers are based on the migration rates of a random sub sample of approximately 83,000 refugees for whom there is additional information on the location in 1981 in the data from the U.S. National Archives.

make this approach impossible as counties were surveyed only once between 1971 and 1982 so I approximate a difference-in-differences framework by combining multiple micro studies from the National Center for Education Studies (NCES) and comparing the outcomes of native students who were exposed to a high fraction of refugees against those who were exposed to a lower fraction of refugees.

I start by analysing the High School and Beyond survey. This nationally representative study follows a cohort of students beginning in 10th grade (in 1980) through their final years in high school (in 1982), and then through their post-secondary education and their early labor market outcomes (until 1992). With these data, which provide students' location in 1980, I am able to compare the outcomes of students in counties with high shares of refugees to those living in counties with low shares of refugees. In all analyses, I control for individual characteristics, 1970 county characteristics, and state fixed effects. Then, to show that these counties were comparable prior to the inflow of Indochinese refugees in 1975, I estimate the effect on students' test scores in the National Assessment of Educational Progress (NAEP) from 1971 and 1975, before the arrival of the first refugees.⁴ Finally, I estimate the effects on NAEP cross sections collected after the inflow of refugees in 1978, 1980, and 1982.

The results from High School and Beyond show that the inflow of refugees does not affect the academic achievement of native students. These estimates are precise enough to rule out negative effects larger magnitude than -0.05 standard deviations on native students' test scores. Specifically, the confidence interval of the effect on all students in 1980 and 1982 at a 90% significance level don't include values below -0.05 standard deviations.⁵ Moreover, I find that the inflow of Indochinese refugees increased native students' likelihood of completing post-secondary education and obtaining a graduate degree. Specifically, a one standard deviation increase in the share of refugees raised natives' likelihood of completing post-secondary education by 2 percentage points, and raised their probability of obtaining a bachelor and a graduate degree by 2.3 and 2.5 percentage points, respectively. This effect is concentrated among students whose parents have at least some college education. Regarding long-term outcomes, I find no evidence of a negative effect on native students' labor market participation or unemployment over the next ten years.

⁴NAEP 1975 was conducted in school year 1974-1975, the final information was collected before the arrival of the first group of refugees

⁵The literature on peer effects generally finds effects that are greater than 0.05 standard deviation (in absolute values). For instance, Sacerdote (2001) finds that having a roommate with a one standard deviation higher GPA is associated with a 0.05 increase in the students own score. Likewise, Carrell and Hoekstra (2010) find that attending school with one more troubled boy (a child living in a household with domestic violence) decreases boys' test scores by 0.06 standard deviations.

I also study how the inflow of refugees affected native students' socio-emotional outcomes. Refugees could have positive peer effects as they are a positively selected group and come from families that give education a high value or, on the other hand, negative peer effects from increases in disruptive behaviour from their exposure to war. I do not find evidence that refugees affected native students' behavior and motivation in high school. Interestingly, the inflow of refugees has positive effects on native students' likelihood of registering to vote and voting. There is also suggestive evidence of increased polarization, as natives are more likely to describe their political beliefs as radical and conservative as opposed to liberal and moderate.

I find the same patterns using the same identification strategy but measuring native students' academic achievement using standardized test scores from NAEP. In addition, using cross cohort variation or variation in the percentage of students who are refugees by age and controlling for county fixed effects, the magnitude of the estimates increases but the coefficients remain statistically insignificant. Furthermore, controlling by county and year fixed effects, by defining the treatment variable as the interaction between the share of refugees in the county and the share of years native students' attended school after the inflow over their time in school, I find a similar magnitude positive the effect but it becomes statistically significant.

Two main mechanisms can explain the positive effect of refugees on native students' academic attainment. First, refugees may have a positive impact through peer effects. Specifically, the first wave of Indochinese families were highly positively selected – a high share of their parents had college degrees, and over 70 percent of them ultimately enrolled in U.S. colleges. Their presence, and their motivation, may have induced natives to work harder in school. A second possibility is that the presence of refugees increases resources as the federal government provided extra funding to schools with a high number of refugees. These increases in funding may have allowed schools to hire additional teachers.

In general, the evidence suggests that there are no negative effects on natives' academic achievement or attainment from the inflow of Indochinese refugees. It is worth highlighting that Indochinese refugees have similar demographic characteristics as refugees currently referred to the U.S. by the United Nations High Commissioner for Refugees as both groups are positively selected. In both cases, over 35% of refugees have completed college and about 10% of them have no schooling. Moreover, 95% of refugee children were enrolled in 1980 and the rate is just as high today. Because of these similarities, studying the effect of Indochinese refugees on U.S. children in 1980 may shed light on the effect of allowing a similar number of refugees to enter the U.S. in the current setting.

2 Background and Related Literature

The past century has witnessed a large number of conflicts throughout the world. During the past half-century, at least twenty percent of countries have experienced civil wars that lasted ten years or more. This phenomenon has been particularly prevalent in developing countries, especially in Sub-Saharan Africa where one third of the nations had a civil war in the past 20 years (Blattman & Miguel, 2010). Individuals living in regions undergoing conflict are exposed to several types of violence. Previous research on the effect of conflict on education has found that exposure to violence in utero, during early childhood, and at preschool age decreases educational attainment, lowers the probability of enrolling in secondary school, and reduces earnings (e.g. Leon, 2012; Chamarbagwala and Moran 2011; Galdo, 2013; Shemyakina, 2011; Swee, 2015). The evidence suggests that those exposed to the violence while attending school accumulate fewer years of education and have lower earnings (Islam et al., 2015; Merrouche, 2011; de Walque, 2006).

The evidence on the effect of conflict on human capital accumulation suggests that individuals who were exposed to conflict obtained, on average, fewer years of education and that the education they obtained is of lower quality. However, the effect of war on the level of education of refugees that reached the United States is not clear, as only a select group of refugees has the resources and the ability to migrate there. For instance, refugees in Vietnam obtained less education than they would have in the absence of the war as there was discrimination against those associated with the former government or with the American war effort. In practice, this prevented some children from attending college (Hung, 1985). Nevertheless, the refugees that reached the U.S. were highly qualified: 37% of adult refugees had at least some college, 19% had completed high school, and only 7% had no formal education.

There are few studies looking at the inflow of refugees into the school systems. In Austria, Schneeweis (2015) finds that although native students are not affected when the share of immigrants rises, immigrant students are more likely to repeat a grade in primary and secondary schools when there is a higher share of immigrants. Furthermore, immigrants are less likely to attend a high track school if they attended first grade with a higher fraction of migrant peers.⁶ The author also finds that the negative effect on previous immigrant children are especially large for inflows of children from the same area of origin. Likewise, looking at the inflow of refugees from the Soviet Union in Israel, Gould, Lavy, and Paserman (2009) establish that at-

⁶The main group of immigrants in Austria comes from former Yugoslavia. They entered the country as refugees or as guest workers.

tending elementary school with a higher share of refugees decreases the likelihood of passing the high school exit exam. Along the same lines, Ohinata and van Ours (2016), study the effect of refugees in the Netherlands and find that there is no effect on native education outcomes from the inflow of refugees once native characteristics are controlled for.

There is only one document that looks at the effect of refugees in the United States. Figlio and Özek (2017) study the effect of an inflow of Haitian refugees, caused by the 2010 earthquake, on the academic achievement of children in Florida. The authors generally find no effect and occasionally a positive effect on the educational outcomes of native students in the year of the influx and the two years after it. These results are consistent with my findings.

The impact of attending schools with higher shares of immigrants in the U.S. have been studied broadly. The results from these studies are mixed. Earlier research, such as Betts (1998) and Betts and Lofstrom (2000), finds that African American and Hispanic native-born students are less likely to complete high school in states or metropolitan areas with a higher fraction of immigrants. However, more recent research, that controls for natives' selection into residential areas with higher shares of immigrants, indicates that there is a positive relationship. This suggests that, although immigrants may decrease the benefit of attending school by competing with natives for resources and reducing per pupil expenditures, the inflow of unskilled immigrants increases the return to education by widening the high school graduate to high school dropout gap (McHenry, 2015; Hunt, 2016; Jackson, 2016; Eberhard, 2012; Genc, 2012). Moreover, Lull et al. (2016) estimates a structural model and find heterogeneous effects for natives depending on their characteristics: some individuals switch to white collar jobs and increase their education as the return to education is higher in that sector, while others choose not to participate in the labor market and drop out of school given the lower return to their investment.

However, it is worth emphasizing that immigrants differ from refugees in several ways. First, economic migrants are associated with voluntary migration motivated by economic gains while refugees are associated with forced migration and dependency on welfare assistance (Jacobsen 2005). Second, refugees differ from economic migrants in the expected length of migration as they are protected by international law and can't be sent back to where their life and freedom would be endangered (UNHCR 2016). These two differences are likely to result in different patterns of selection in the migration process and human capital investment decisions after migrating. This is reflected in the evidence from Cortes (2004), who compares the socioeconomic and demographic characteristics of economic migrants and refugees that arrived to the United States between 1975 and 1980, and finds that refugees have higher levels of education on average:

most refugees completed high school as opposed to economic migrants who are mainly high school dropouts. Nevertheless, the author finds that the gender composition, the percentage of individuals who are married, and the number of children, are similar across both groups.

3 Indochinese Refugees

The following section first describes the refugee resettlement process and then summarizes the characteristics of the refugees that arrive to the United States. This information is important for the identification strategy as it describes the nature by which the federal government - and in practice the voluntary agencies - assigned refugees to each geographic area. In addition, refugee characteristics are relevant both to understand how refugees affected native school age children as well as to comprehend the nature of the selection process under which only a select group of the Indochinese population were resettled to the United States.

3.1 The Refugee Resettlement Process

Indochinese refugees arrived to the U.S. in two main waves. The first one was after the fall of Saigon in April 30 of 1975 when refugees left the country under an evacuation effort organized by the United States government (Haines, 1985). The second one, in 1978-1979, was in response to the Sino-Vietnamese conflict, the Vietnamese invasion of Cambodia, and the border war between China and Vietnam. This wave was mainly organized by Vietnamese authorities in response to international pressure (Hung, 1985). However, there was a substantial number of refugees who left their countries independently between the two waves (Haines, 1985).

During the first wave, refugees were airlifted to staging areas in the Pacific. Then, they were transported to one of four processing centers in the continental United States: Camp Pendleton (California), Camp Chaffee (Arkansas), Eglin Air Force Base (Florida), and Indiantown (Pennsylvania). Finally, they arrived at communities under the sponsorship of voluntary agencies (Haines, 1985). Refugees from the later waves experienced harder transitions. They traveled in boats, often assaulted by pirates, to Thailand where they stayed in refugee camps for long periods of time.

There are two main reasons why the dispersal of refugees to counties was exogenous. First, as opposed to Cuban refugees who were concentrated in Miami, there were significant efforts to disperse Southeast Asian refugees throughout the U.S. (Refugee Act 1975; Haines, 1985). Given the nature of the exodus of refugees, the 1975 Refugee Act was designed to rapidly guarantee

that the necessary funds were available to refund local governments and voluntary agencies for expenditures related to the resettlement of refugees. The discussion regarding the act during the “Hearings before the Subcommittee on Immigration, Citizenship, and International Law of the Committee on the Judiciary House of Representatives” reflects the urgency of the situation. The document also describes the instructions given to the initial nine voluntary agencies working on the resettlement: Indochinese refugees should be dispersed as evenly and equitably as possible through the United States while avoiding resettlement in economically hard pressed areas.⁷ Moreover, the voluntary agencies expected to process refugees within a few weeks of their arrival to the U.S. processing camps. In practice, this meant that Indochinese refugees were assigned widely across the country with refugees ending up in over 75% of counties.

Second, there was no clear structure for assigning the refugees in each camp among the voluntary agencies and, since there were significant differences in the resettlement strategies across voluntary agencies, this led to variation in the share of refugees across the country. In theory, the Committee on Migration and Refugee Affairs from the American Council of Voluntary Agencies for Foreign Service (ACVAFS) was the main mechanism to coordinate the resettlement of refugees between voluntary agencies. Among its responsibilities, ACVAFS allocated the cases between the resettlement agencies. To do so, it created the Indochinese Refugee Data Center through which all Indochinese refugees were channeled to the voluntary agencies. However, the reality of the distribution was very different as Zucker (1982) explains that the number of refugees, as well as which refugees were distributed where, was actually determined by junior level personnel from the participating voluntary agencies. Moreover, Parsons and Vézina (2018) explain that it was a chaotic process where the proactiveness of the voluntary agents in each camp determined the number of refugees resettled by them.

The Refugees Resettlement Program Report to Congress in 1984 explains that voluntary agencies had different strategies for assigning refugees and that their strategies affected the places where refugees were resettled. For instance, the American Fund for Czechoslovak Refugees (AFCR) reallocated refugees from their main offices in New York, Boston, Salt Lake City, and San Francisco. Matching these location restrictions, AFCR resettled refugees mainly in California, Massachusetts, Connecticut, and New York (State). Along the same lines, the International Rescue Committee (IRC) assigned refugees from their regional offices in Georgia, Massachusetts,

⁷The nine voluntary agencies were: U.S. Catholic Conference Migration and Refugee Services, American Fund for Czechoslovak Refugees, Church World Service*, Lutheran Immigration and Refugee Service*, United Hias Service INC.*, International Rescue Committee*, American Council for Nationalities Services, and Travelers Aid-International Social Services. (* Are currently resettling refugees)

Texas, Montana, Oregon, California, Washington, and the District of Columbia.⁸ Nevertheless, the number of refugees that each regional office resettled was determined by on-going communications between them and national headquarters.

On the other hand, religious voluntary agencies such as the United States Catholic Conference (USCC) and Church World Services resettled refugees through churches and church committees. USCC often resettles refugees through resettlement offices associated with Catholic charities in each of the Catholic dioceses of the United States. Usually, USCC refugees are placed in areas where housing and jobs are available. USCC generally avoids isolating refugees from their ethnic group but strikes not to concentrate them excessively in any area (Refugees Resettlement Program Report, 1984). The Lutheran Immigration and Refugee Services (LIRS) also resettles refugees mainly through congregational sponsors. They work through a three-tiered system where the local sponsor finds initial housing and helps with enrollment of minors into the school system, the regional office provides back-up support, and the national office supports and monitors the regional and local case management. As the USCC, LIRS also avoids areas that have already been heavily impacted with refugee populations. As opposed to non religious organization, these three religious organizations placed refugees throughout the whole country.

The 1975 Task Force Report to the Congress confirm that HEW's Office of Education Refugee Task force accomplished a wide distribution of refugees both across states and within states by the end of 1975. The report documents that after the resettlement, there were fewer than 10 refugee students per school in over 85% of the schools that enrolled refugees. Moreover, it mentions only 28 school districts (out of 864 schools that applied for transitional assistance grants) had over 100 refugee students.

Over the next eight years, Indochinese refugees continued to arrive in the U.S. In principle, I could also use these later waves of refugees to identify the effects of refugees. Nevertheless, as in these later waves, there was a higher share of refugees who were resettled with prior refugees or other family sponsors, later refugees may have had some choice over their initial destination. Therefore, to avoid the potential biases from incorporating the later waves of refugees, in the main specifications I identify the effect based solely on the first wave of refugees.

Nevertheless, an important concern is secondary migration. In order to measure the extent of this source of concern, the Office of Refugee Resettlement created the Refugee State-of-

⁸The regional offices are located in Atlanta, Georgia; Boston, Massachusetts; Houston and Dallas, Texas; Missoula, Montana; Portland, Oregon; San Diego, Los Angeles, Orange County, San Jose, and San Francisco, California; Seattle, Washington; and Washington, DC.

Origin Report. In this report, they used the first three digits of the Social Security Number - assigned geographically in blocks by State - to check the fraction of refugees in each State that had originally been assigned to that State as well as the number of refugees who had migrated to other states. Their estimates suggest that in 1983, 75% of refugees were still living in the state in which they were initially resettled.⁹ Moreover, about 62% of interstate migrants moved to California as they were attracted by the climate, employment opportunities, training opportunities, and the possibility to be reunified with relatives or other members of the same ethnic communities (Hung, 1985; Refugees Resettlement Program Report, 1984).

3.2 Refugee Characteristics at Arrival

Southeast Asian refugees were, on average, younger than the general U.S. population at arrival. For example, they had a median age of 20 while the U.S. median was close to 29; moreover, 45.9% of Indochinese refugees were under the age of 17 while this proportion was close to 25% in the U.S. population (Report to Congress, 1975). This is the result of the large number of children per refugee family. For instance, over a third of Vietnamese refugee families had more than six members (Haines, 1985).

Indochinese refugees that reached the U.S. were highly qualified. The statistics from the Task Force Report to the Congress in 1975 suggests that over 70 percent of households heads speak some English and that 36.7% speak it well. The report also states that 27.4% of household heads had a college degree and 19.5% of all refugees over 18 had a university degree or higher. Looking at their characteristics in the Census of 1980 shows a similar picture: 36% of refugees from Vietnam, Cambodia, and Laos, have at least some college education. This is very similar to the share of natives, aged 18 to 65, with some college close to 39% at the time. Nevertheless, there is a large share of refugees who didn't complete high school. On average, 37% of refugees dropped out of high school and 19% completed it as opposed to natives where the shares are 25% and 36% respectively.

However, there was significant variance across countries; for instance, Haines (1985) reports that 14% of Vietnamese refugees had college degrees while only 7% of Laotian refugees had the same level of education. Moreover, refugees' education levels varies across year of immigration. Specifically, given the nature of the evacuation process, the share of highly qualified refugees from urban areas and professional backgrounds was higher in the first wave than over the following years (Hung, 1985; Refugee Act 1975).

⁹In general, refugees applied for a Social Security Number immediately upon arrival.

Regarding employment history, over two thirds of Indochinese refugees used to work in white-collar occupations before migrating while only about half of the population in the U.S. worked in the same type of jobs at that time (Haines, 1985). Moreover, over 30% of Vietnamese refugees worked in professional and technical occupations while the share of workers in the same sectors was 15% for the U.S. general population.¹⁰

The evidence, therefore, suggests that even though Southeast Asian refugees were exposed to war, which usually reduces educational attainment and in general human capital accumulation, the group that reached the U.S., at least in the first wave, was highly qualified relative to their counterparts that stayed in Vietnam, Laos and Cambodia.

Regarding the characteristics of refugee children. Table 1 shows that, on average, refugee children were younger than natives in the same age groups. The table also shows that refugee children attended schools at a similar rate as natives. Moreover, those who were attending school were less likely to attend private and Catholic schools than their native counterparts. Finally, the last row shows that refugees were more likely to have completed no schooling.

3.3 Adult Characteristics of Refugee Children in 2000

To better understand how Indochinese refugee children (age 5–18 in 1980) could have affected native students, it is useful to see their educational attainment and labor market characteristics twenty five years after their arrival. Table 2 shows that 50% of Indochinese refugees have completed more than college while only 35% of natives in the same age group have that education level. This large increase in their share of students with more than college education comes mainly from high-school and college graduates as their rate of high school dropouts is only 2 percentage points higher than the ones from natives. This suggest as scenario where refugees, and the federal programs that incentivized them to attend college, may have pushed native students to attend college and further their education.

4 Data

To identify the causal effect of the inflow of Indochinese refugees, it is key to have information on the assigned location of refugees, as later locations, decided by refugees, make it hard to disentangle the effect of the inflow from the characteristics of the location that motivated refugees

¹⁰The Task Force Report indicates that 7.2% of household heads were medical professionals and 24% worked in professional, technical, and managerial occupations.

to move to a given county. To calculate the number of refugees by county, I use records of all Indochinese refugees since 1975 collected by the office of Refugee Resettlement and kept by the U.S. National Archives and Records Administration. These data includes the day, month and arrival year as well as the exact date of birth of each Refugee. Importantly, it also contains information on the county of first destination of each refugee which, given the context of the refugee resettlement program in 1975, was determined by the voluntary agency resettling them. The share of refugees in each county is then calculated by dividing the number of assigned to each county by the 1975 county population estimates from the National Bureau of Economic Research. To determine the relevance of having the assigned location against the current location, I also compute the share of refugees based on the number of Vietnamese reported to live in each county in the 1980 Census Summary files.

To measure the education outcomes of U.S. students, I combine several micro studies from the National Center for Education Studies (NCES). First, I use the National Assessment of Educational Progress (NAEP), a nationally representative study of public and private schools that started in 1971. This study contains repeated cross sections information on reading test scores in school years ending in 1971, 1975, and 1980, and math test scores in school years ending in 1978 and 1982.¹¹ Each time it was conducted, the NAEP tested 9 years old, 13 years old, and 17 years old students from schools in approximately 150 counties. Unfortunately for the purpose of this study, the sample of counties changed over time and counties were only surveyed once throughout the period. Importantly, this implies that to identify the effect, I can only use geographic variation in the contemporaneous share of refugees and can not use a difference-in-differences identification strategy.

Second, I use data from High School and Beyond. It is a nationally representative panel study that follows approximately ten thousand students who were in 10th grade in 1980 throughout their secondary and post-secondary education. As with NAEP, this study includes public and private schools. As opposed to NAEP, this study follows students over time and has information beyond students' test scores. Specifically, it has students scores on two standardized tests taken by them in 10th and 12th grade but it also recorded whether students graduated from high school, applied to college, whether they started and completed post-secondary education as well as the highest education level they achieved.

The study also recorded information on non academic outcomes. Students were also asked

¹¹I could not use data from NAEP after 1982, as the restricted use version does not have county information between 1984 and 1988.

about their political beliefs in 1980. In 1984, two years after they were expected to graduate, they recorded whether they had register to vote and whether they had voted since they were 18. They surveyed them again in 1986 and 1992. In addition, I calculated two indices on their motivation and discipline based on several questions about heir motivation, interest, and grades in school, as well as whether they had been suspended or were viewed as trouble-makers by their peers. Finally, I created a dummy for whether they had a child as a teen based on their date of birth and the date of birth of their oldest child.

High School and Beyond also has information on the labor market outcomes of these group of students between 1984 and 1992. With this information, I calculated average income between 1989 and 1992 - excluding the first five years because there is large variation in income levels directly after graduation. I also calculated an index, centered at zero and with a standard deviation of one, based on their labor market participation every February between 1984 and 1992. Finally, I calculated an index based on their employment in the same period.

Importantly, both micro studies have information on race or birthplace which allows me to restrict the sample native students. In particular, I used the race variable in NAEP cross sections to exclude students with Asian origins. Although in practice this exclude some American students, it is the only way to guarantee I do not have refugee students in my sample. In High School and Beyond, I can directly restrict the sample to students born in the U.S. to exclude refugees from the sample.

5 Methodology

The basic specification is a difference model that compares the outcomes of native students in counties with a low share of refugees against those living in counties with a high share of refugees. The estimated regressions are of the form:

$$Y_{ikzt} = \alpha + \beta Share_z + X_{ikz}\Gamma_1 + S_{kz}\Gamma_2 + C_z\Gamma_3 + \gamma_s + \varepsilon_{ikzt} \quad (1)$$

where Y_{ikzt} is the outcome of student i , in school k , in county z , in period t . $Share_z$ is the share of Indochinese refugees who were assigned to county z in 1975. X_{ikz} are individual characteristics such as native students' race and parental education in High School and Beyond which are not available in NAEP data. Likewise, S_{kz} are school characteristics: teacher student ratio and school size which, again, are only included in High School and Beyond. Finally,

C_2 are county level characteristics from the 1970 County Books such as the percentage black, the median years of education, the percentage of housing empty, median household income, and labor market characteristics such as the unemployment rate and the labor force participation rate. All regressions also include state fixed effects.

As refugees were exogenously assigned to counties, as described in section 3, the effect can be identified by comparing the outcomes of native students in counties based on the share of refugees in their county after 1975. In all regressions, the parameter of interest is β , measured as the effect of increasing the share of refugees in 1975 by one standard deviation in the county in which native students live when the outcome was measured. It is identified from variation across counties but within the same state due to state fixed effects.

The validity of the identification strategy relies on the exogeneity of the share of refugees across counties. The next three tables show evidence of the plausibility of this assumption. The first column of Table 3 shows the correlation between the share of refugees who arrived in 1975 and the characteristics of counties in 1970, before the inflow. It shows that refugees were more likely to be placed in counties with higher median years of education, median household income, and labor force participation. This is consistent with a scenario where refugees were placed across the country avoiding economically pressed areas as required by the Congress.

Regressions using High School and Beyond longitudinal study are weighted to adjust for attrition throughout the study. In both studies, all standard errors are clustered at the county level as the share of refugees is the same for all schools located in the same country. Moreover, because there are many correlated outcome variables, I also report significance level adjusted for multiple hypotheses testing using Holmes (1979).

The next two columns of the table, show the correlation between two later waves of refugees and county characteristics. In the Table, each column corresponds to a different regression where the dependent variable is the share of refugees who arrived before a given year and the independent variables are the characteristics of the county in 1970. The second column includes the refugees that arrived before 1980 while the third column includes those who arrived between 1981 and 1985. As before, the evidence shows that refugees were assigned to counties with higher income levels. However, the correlation is stronger for later waves. This is not surprising as a higher fraction of refugees who arrived after 1980 were reunified with their families and, because of that, they may have been able to choose to settle in better off locations. Because of this, I will identify the effect of refugees based only of the first wave of 140, 000 refugee who arrived in 1975 are were quickly dispersed by voluntary agencies.

To test whether counties with higher shares of refugees are systematically different from those with lower shares of refugees, I look at relation between the share of refugees that arrived in 1975 and the test scores of students at time t before the inflow of refugees, after controlling for 1970 county characteristics. Table 4 shows the effect on student test scores in the school years ending in 1971 and 1975.¹²¹³ Overall, there is no evidence of a positive effect on reading test scores before the inflow of refugees, indicating that variation in the share of refugees across counties is not correlated with prior student test scores and suggesting that the identification strategy is valid.

To evaluate if there is a relationship between the educational attainment of adult native students and the share of refugees, I look at the association between the share of refugees who arrived in 1975 and the educational level of natives over 25 years old as reported in the Census Summary Tape Files from 1980. The results suggest that the refugees were established in counties with higher shares of non-Vietnamese Asians in 1980. This relationship becomes stronger for refugees that arrived in later waves, which is intuitive as later these group of refugees could be resettled with family members that had arrived in earlier periods. In general, there is no significant correlation between the share of refugees who arrived in 1975 and the educational attainment of adults over 25, who had completed their education before the influx. However, there is some evidence of selection into location as refugees for the second wave of refugees as those who arrived between 1981 and 1985 are more likely to be in areas with a higher share of natives who dropped out of high school.

6 Results

The first set of results looks at the outcomes of the panel of students from High School and Beyond. Table 6 presents the effect of attending school in a county with a higher share of refugees on native students' test scores. Panel A shows the estimates when the number of refugees comes from the U.S. archives while Panel B shows the results when the number comes from the Census Summary Files. The left panel shows the results for their average test score in their sophomore year, 1980, while the right panel shows the results for their senior year, 1980. Columns (1) and (4) report the estimates for all students, columns (2) and (5) report the results for students with parent with low education or those who at most finished high school, and

¹²The last group of students were tested in May 1975, shortly after the first refugees arrived and before they started attending school

¹³It is worth noting that the counties in the 1971 sample are different from the counties in the 1975 sample so there are both changes in time and geography between the two panels.

columns (3) and (6) report the the results for students whose parents have high education or those who started college or have more education. In this table, and in all subsequent tables, each cell contains the results of a separate regression that controls for county characteristics and state fixed effects. In addition, these estimates as well as all estimates from High School and Beyond include individual and school characteristics.

The results presented in panel (A) of Table 6 show that an increase of one standard deviation in the share of refugees on average increases native students' by 0.007 standard deviation in 1980 and decreases them by 0.003 in 1982. Nevertheless the effect is never statistically significant at traditional levels. Likewise, the results from panel (B) indicate that overall the inflow of refugees did not significantly affect native students' learning and show that, in this cases, selection bias does not play an important role identifying the effect. In addition, I study the effect on socio-emotional outcomes in Table A5 and find no evidence that the inflow of refugees affected native students' motivation or interest in school, the likelihood of having a disciplinary incident, or the teenage pregnancies.

Then I turn to post-secondary education. The first column of Table 7 studies how the inflow of refugees affected native students' likelihood of completing high school and shows that there is no effect. The next columns show the effect on natives' post-secondary education. The results indicate that the inflow of refugees did not not affect who applied or started college but it induced natives to complete college. A one standard deviation increase in the share of refugees increases the likelihood of completing post-secondary education by 2 percentage points or 4.5% and increased the probability of completing a bachelor and a graduate degree by 2.3 and 2.5 percentage points respectively. Interestingly, there is no evidence of a positive effect in the second panel which indicates that refugees may be migrating to counties that are relatively worse off.

There are several differences between which refugees were counted (and where they were counted) in each panel. First, the refugees may have moved from their assigned location and, if they self-select into locations that are worse off, this will bias the results negatively. Second, as the average skill level of refugees decreased over time it is possible that the second wave of refugees induced natives to reduce their education. Finally, there is a higher share of refugees in 1980 as refugees continued to arrived to the U.S. after 1975. This may be important if there is a tipping point beyond which natives react to their presence.

To take a close look at these differences, Table A1 estimates the effect including both the first and the second wave of refugees. The results suggest that the positive effect on natives'

education level comes mainly from the first wave of refugees while the refugees that arrived later may have induced natives with parents with low education levels (finished high school or less) to drop out of high school or where resettled with family members living in regions with lower education. To close the selection channel, in Table A2, I instrument the share of refugees living in each county in 1980 with the share of refugees assigned to that county in 1975. The results show that there is no evidence of a negative effect. In fact, the only coefficient that is statistically significant is the effect of obtaining a graduate degree.

To study whether there was any effect on non academic outcomes, in Table A3 and A4 I look at the likelihood of voting as well as the effect to native student's political beliefs. The estimates indicate that being exposed to a higher share of refugees during school raised the likelihood of registering to vote of natives students with parents with high education by one percentage point and increased all natives' likelihood of voting in the presidential elections of 1988 by the same amount. Moreover, Table A4 suggest it also influenced their political beliefs and students living in areas with more refugees were more likely to be radical and conservative as opposed to liberal and moderate. This is interesting, as voting is considered a positive externality of education.

The next two tables look at the impact of the inflow of refugees on native students' labor market outcomes over the next 10 years, between 1983 and 1992. Table 8 looks at whether attending school when there was a higher share of refugees in their counties affected natives' total income, labor force participation or employment while Table 9 studies their income sources in 1992. As before, there is no evidence of a negative effect on native students' early labor market outcomes and, if anything, it decreased the likelihood that native students with parents with low education were on public assistance in 1992.

Now I turn to the results using information from the National Assessment of Educational Progress. As before, Table 10 presents the effect of attending school in a county with a higher share of refugees on native students' test scores. Each cell report the coefficient of an independent regression. The first three columns estimated the effect on 4th, 9th, and 11th grade students using the same identification strategy as the previous tables, that is variation within states and across counties. The results are consistent with the previous tables. For instance, I find that a one standard deviation increase in the share of refugees from 1975 raises 9th grade native students' test scores in mathematics by 0.05 standard deviations. Overall, I find no evidence of a negative effect on native students' test scores.

I also conduct two robustness checks using information from NAEP. First, I estimate the effect based on cross cohort variation as it is common in the peer effects literature. To do so, I

calculate the share of refugees in the same age group for the native students who are 9, 13 and 17 years old in each of the NAEP studies. The main advantage of this identification strategy is that it allows me to include county fixed effects and, thus, control for unobserved differences between counties that were exposed to different shares of refugees. These results are presented in the fourth column of Table 10. The coefficients (in standard deviations) are very close to the results from the first three columns and, if anything, they are always positive.¹⁴

Second, I estimate the effect by calculating a measure of exposure to refugees by interacting the share of refugees with the percentage of native students' school years after the inflow of Indochinese refugees. For instance, in NAEP 1980, 4th grade students have been exposed during all their school life while those in 9th and 11th grade have been exposed during 5/9 and 5/11 of their school time. Then by combining all the information from NAEP 1978, 1980, and 1982, I can estimate the effect while including both county and year fixed effects. This results are presented in the fourth column of Table 10. As before, the coefficient is similar to the previous columns indicating that including county and year fixed effects does not change the estimates.

7 Conclusion

Worldwide, there are currently over 10 million certified refugee children, yet, we still know very little about how refugee inflows affect host countries' educational opportunities. This is important as concerns on the costs refugees impose on local communities have been growing motivated, in part, by the potential negative spillovers from refugee children onto their classmates. I shed light on this question by using a natural experiment generated by the largest inflow of refugees in U.S. history – the migration of Indochinese refugees at the end of the Vietnam War. Importantly, during this period, refugees were assigned to counties by voluntary agencies on a quasi-random basis. By making use of information on initial assignment, I am able to make substantial inroads on selection bias that is inherent in previous studies of refugee impacts.

Using information on initial placement, I find that, contrary to common perception, an inflow of refugee students does not impose negative effects on native students' education outcomes. Rather, a refugee presence generates positive spillovers, increasing natives' likelihood of completing post-secondary degrees. This unexpected finding is driven by my ability to harness quasi-random variation in refugees' location: when I use information on individuals' location

¹⁴To estimate the effects using cross cohort variation, I first standardized all tests to a mean of zero and a standard deviation of one to make them comparable. Because of this, the raw coefficients are not directly comparable across columns.

choices just five years after their initial placement, the estimated effect on native outcomes is negative.

I also provide evidence that positive spillovers are driven by two main channels: first, like refugees who are currently arriving in the United States, the Indochinese refugees who arrived in 1975 were positively selected. As described in Section 3, they were disproportionately from families with college degrees and families with a parent who worked in a white-collar occupation. In addition, the federal government put significant resources into incentivizing refugees' college attendance. These two factors raise native students' academic attainment as both increases in the incentives to obtain post-secondary education for a particular group and having peers with more parental education have been shown to increase their classmates academic success. Second, small transfers from the federal government to schools with high shares of refugees may have led to increases in school quality that benefited all students.

Taken together, my estimates suggest that current concerns about the impact of refugees on native children's opportunities are likely overstated. More generally, my study highlights the importance of taking immigrants' location choices into account when examining their impacts on host communities. Moving forward, research designs that circumvent selection bias will be critical to understanding this important phenomenon.

Table 1: Native and Refugee Children Characteristics in 1980

	Refugees		Natives	
	mean	sd	mean	sd
Age	11.94	3.73	12.29	3.73
School attendance	0.92	0.27	0.94	0.24
Private School	0.07	0.25	0.11	0.31
Catholic School	0.06	0.24	0.09	0.28
No Schooling Completed	0.02	0.14	0.005	0.068
Observations	5025		2342561	

Source: 1980 Decennial Census

Note: The sample is restricted to individuals who were 5-18 years old in 1980.

Table 2: Characteristics of Native and Refugee Children as Adults in 2000

	Refugees		Natives	
	mean	sd	mean	sd
Age	31.53	4.13	31.85	4.03
High School Dropout	0.14	0.34	0.12	0.32
High School Graduate	0.17	0.37	0.28	0.45
Some College	0.20	0.40	0.25	0.43
College or more	0.494	0.500	0.355	0.478
Observations	6313		2314373	

Source: 2000 Decennial Census

Note: The sample is restricted to individuals who were 5-18 years old in 1980.

Table 3: Relation between the share of refugees at the County level and 1970 County Characteristics

	U.S. National Archives		
	Arrived in 1975	Arrived in 1976-1980	Arrived in 1981-1985
Percentage Black	-0.0003 (0.0002)	-0.0000 (0.0006)	0.0001 (0.0006)
Median years of education	0.0079*** (0.0020)	0.0104** (0.0047)	0.0072 (0.0045)
Percentage of housing Empty	-0.0004 (0.0006)	0.0067 (0.0063)	0.0038 (0.0044)
Ln of Median Household Income	0.0300* (0.0178)	0.1341 (0.0826)	0.1916** (0.0751)
Unemployment rate 1970	0.0012 (0.0007)	0.0033 (0.0024)	0.0037* (0.0022)
Labor force participation rate	0.0004* (0.0002)	0.0014 (0.0010)	0.0004 (0.0007)
F-statistic	4.9989	3.6454	6.3720
P-value	0.0004	0.0044	0.0000

Source: 1970 County Books

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 4: Relation between the share of refugees and native students' test scores - National Assessment of Educational Progress

	4th grade	9th grade	11th grade
Reading 1971	-0.022 (0.246) [22740]	-0.022 (0.254) [25170]	-0.035 (0.298) [23230]
Reading 1975	0.033 (0.407) [19900]	0.029 (0.122) [19590]	0.027 (0.209) [18020]

Note: P-values from standard errors clustered at the county level in parentheses. Standard errors also account for multiple imputation in student test scores. Number of observations in square brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 5: Relation between the share of refugees and native adults' academic attainment - Census Summary Tape Files

	U.S. National Archives		
	Arrived on 1975	Arrived on 1976-1980	Arrived on 1981-1985
Share Black: 0-100	0.0008 (0.0008)	-0.0002 (0.0016)	0.0018 (0.0016)
Share Hispanic: 0-100	-0.0008 (0.0005)	-0.0015 (0.0011)	-0.0014 (0.0011)
Share Asian: 0-100	0.0104* (0.0056)	0.0434*** (0.0128)	0.0501*** (0.0161)
Share Other: 0-100	-0.0001 (0.0004)	-0.0002 (0.0007)	-0.0000 (0.0006)
Share High-School Dropout: 0-100	-0.0004 (0.0006)	0.0014 (0.0009)	0.0023** (0.0011)
Share High-School Graduate: 0-100	0.0003 (0.0005)	-0.0000 (0.0015)	0.0002 (0.0015)
Share Some college or more: 0-100	0.0017 (0.0011)	0.0042 (0.0032)	0.0058 (0.0040)
Employment Share	0.0003 (0.0006)	-0.0004 (0.0011)	-0.0012 (0.0011)
Labor Force Participation	-0.0004 (0.0010)	-0.0021 (0.0028)	-0.0024 (0.0032)
Median household income in 1979	0.0038 (0.0095)	0.0047 (0.0177)	0.0300 (0.0220)
Poverty rate	0.0007 (0.0008)	0.0030 (0.0019)	0.0034 (0.0023)
Fstatistic			
Pvalue			

Note: Standard errors clustered at the county level in parentheses. Standard errors also account for multiple imputation in student test scores. Number of observations in square brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 6: Effect of the share of refugees on native students' test scores - High School and Beyond

	1980			1982		
	All	Low Education	High Education	All	Low Education	High Education
<i>Panel A: 1975 Share (Archives)</i>						
Share of Refugees	0.007 (0.017)	-0.004 (0.025)	0.018 (0.022)	-0.003 (0.017)	-0.007 (0.022)	0.009 (0.023)
<i>Panel B: 1980 Share (Census)</i>						
Share of Refugees	0.005 (0.029)	0.011 (0.030)	0.004 (0.043)	-0.023 (0.023)	-0.023 (0.022)	-0.015 (0.035)
Number of students	9220	3640	5300	9220	3640	5300
Number of schools	740	710	730	740	710	730
Number of counties	400	390	390	400	390	390
County characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 7: Effect of the share of refugees on native students' academic attainment - High School and Beyond

	Post-secondary Education							
	High school							
	Graduate	Apply	Start	Complete	Associate	Bachelor	Graduate	
<i>Panel A: 1975 Share (Archives)</i>								
All	-0.003 (0.004)	0.003 (0.011)	-0.004 (0.007)	0.020* (0.011)	0.000 (0.007)	0.023* (0.013)	0.025*** (0.009)	
Low education	-0.005 (0.008)	-0.017 (0.020)	-0.016 (0.018)	0.015 (0.021)	0.013 (0.014)	0.014 (0.019)	0.000 (0.009)	
High education	-0.004 (0.004)	0.015 (0.013)	0.003 (0.008)	0.029** (0.014)	-0.003 (0.007)	0.033** (0.016)	0.039*** (0.010)	
<i>Panel B: 1980 Share (Census)</i>								
All	-0.004 (0.005)	0.006 (0.011)	-0.008 (0.009)	0.005 (0.013)	0.001 (0.005)	0.004 (0.014)	0.005 (0.006)	
Low education	-0.013 (0.013)	0.019 (0.023)	-0.043*** (0.015)	0.012 (0.018)	-0.002 (0.015)	0.013 (0.012)	0.004 (0.009)	
High education	-0.001 (0.005)	0.008 (0.016)	0.007 (0.008)	0.005 (0.015)	0.001 (0.007)	0.006 (0.020)	0.009 (0.009)	
Mean	.91	.70	.88	.44	.07	.33	.13	
Number of students	5000	3870	4290	4290	4290	4290	4290	
Number of schools	730	690	710	710	710	710	710	
Number of counties	390	370	390	390	390	390	390	
County characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Student characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
School characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 8: Effect of the share of refugees on native students' labor market outcomes - High School and Beyond

	Average Income	Income Index	Labor Force Participation Index	Unemployment Index
<i>Panel A: 1975 Share (Archives)</i>				
All	0.006 (0.013)	0.030 (0.024)	-0.006 (0.017)	-0.028 (0.026)
Low education	0.027 (0.024)	0.008 (0.028)	0.018 (0.027)	-0.028 (0.043)
High education	-0.005 (0.014)	0.049 (0.033)	-0.028 (0.023)	-0.026 (0.026)
<i>Panel B: 1980 Share (Census)</i>				
All	0.008 (0.015)	0.025 (0.038)	-0.016 (0.016)	0.011 (0.026)
Low education	0.028 (0.029)	-0.012 (0.047)	-0.025 (0.040)	-0.022 (0.045)
High education	0.005 (0.018)	0.054 (0.055)	-0.022 (0.019)	0.032 (0.028)
Mean	9.54	0	.12	-.05
Number of students	4450	2160	4590	1690
Number of schools	720	630	720	600
Number of counties	390	360	390	340
County characteristics	Yes	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table 9: Effect of the share of refugees on native students' income in 1992 - High School and Beyond

	Wage (any)	Social security	Unemployment compensation	Public Assistance	No Income
<i>Panel A: 1975 Share (Archives)</i>					
All	0.001 (0.005)	-0.002 (0.001)	-0.003 (0.004)	0.001 (0.004)	0.002 (0.003)
Low education	-0.006 (0.008)	-0.004 (0.003)	-0.007 (0.007)	-0.008* (0.005)	0.007 (0.006)
High education	0.004 (0.006)	-0.001 (0.002)	0.000 (0.005)	0.006 (0.005)	-0.001 (0.004)
<i>Panel B: 1980 Share (Census)</i>					
All	-0.008 (0.008)	-0.002 (0.003)	-0.000 (0.005)	0.003 (0.004)	0.005 (0.005)
Low education	-0.010 (0.011)	-0.005 (0.008)	-0.004 (0.012)	-0.000 (0.008)	0.006 (0.008)
High education	-0.005 (0.011)	-0.000 (0.002)	0.001 (0.008)	0.007 (0.005)	0.003 (0.005)
Mean	.89	.01	.06	.05	.04
Number of students	4800	4800	4800	4800	4800
Number of schools	720	720	720	720	720
Number of counties	390	390	390	390	390
County characteristics	Yes	Yes	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

** Significant at the 1 percent level.

* Significant at the 5 percent level.

Significant at the 10 percent level.

Table 10: Effect of the share of refugees on native students' test scores - National Assessment of Educational Progress

	4th Grade	9th Grade	11th Grade	Cross Cohort	Dosage or Exposure
Math 1978	3.138 (16.49) {0.005}	36.43* (20.86) {0.05}	-16.12 (12.00) {-0.025}	0.788 (6.832) {0.002}	
Reading 1980	1.116 (4.949) {0.003}	1.979 (3.996) {0.006}	-1.854 (5.556) {-0.005}	6.267 (4.247) {0.058}	
Math 1982	-39.82 (47.84) {-0.04}	29.89 (28.25) {0.031}	17.35 (60.58) {0.019}	1.540 (6.522) {0.015}	
Math and Reading					0.205* (0.110) {0.011}
Controls	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	No	No
County fixed effects	No	No	No	Yes	Yes
Year fixed effects	No	No	No	No	Yes

Note: Standard Errors Clustered at the county level in parenthesis. Standard errors also account for multiple imputation in student test scores. To ease the interpretation, the table also includes the coefficients in standard deviation is curly brackets.

** Significant at the 1 percent level.

* Significant at the 5 percent level.

Significant at the 10 percent level.

8 Appendix Tables

Table A1: Effect of the share of refugees on native students' academic attainment by arrival year - High School and Beyond

	High school		Post-secondary Education					
	Graduate	Apply	Start	Complete	Associate	Bachelor	Graduate	
<i>Panel A: All</i>								
Share of refugees in 1975	-0.002 (0.004)	0.000 (0.012)	-0.001 (0.008)	0.020* (0.012)	0.005 (0.008)	0.021 (0.014)	0.025*** (0.010)	
Share of refugees in 1976-1980	-0.003 (0.005)	0.009 (0.012)	-0.011 (0.009)	0.001 (0.011)	-0.014** (0.007)	0.007 (0.010)	-0.000 (0.006)	
Number of students	8620	5840	6500	6500	6500	6500	6500	
<i>Panel B: Parents with high school or less</i>								
Share of refugees in 1975	0.002 (0.009)	-0.034 (0.021)	-0.007 (0.021)	0.011 (0.022)	0.015 (0.014)	0.018 (0.021)	0.001 (0.010)	
Share of refugees in 1976-1980	-0.025** (0.012)	0.050* (0.027)	-0.024 (0.020)	0.011 (0.017)	-0.006 (0.012)	-0.011 (0.016)	-0.002 (0.009)	
Number of students	3390	1860	2080	2080	2080	2080	2080	
<i>Panel C: Parents with some college or more</i>								
Share of refugees in 1975	-0.006 (0.005)	0.017 (0.013)	0.005 (0.008)	0.031** (0.014)	0.003 (0.008)	0.027 (0.018)	0.038*** (0.011)	
Share of refugees in 1976-1980	0.007 (0.005)	-0.004 (0.014)	-0.005 (0.009)	-0.006 (0.013)	-0.019** (0.008)	0.018 (0.016)	0.003 (0.009)	
Number of students	5000	3870	4290	4290	4290	4290	4290	
Number of schools	730	690	710	710	710	710	710	
Number of counties	390	370	390	390	390	390	390	
County characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Student characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
School characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A2: Effect of the share of refugees on native students' academic attainment by arrival year - High School and Beyond

	High school		Post-secondary Education						
	Graduate	Apply	Start	Complete	Associate	Bachelor	Graduate		
<i>Panel A: All</i>									
Share of refugees 1980	-0.009 (0.013)	0.010 (0.039)	-0.014 (0.023)	0.064 (0.044)	0.001 (0.021)	0.071 (0.053)	0.079* (0.045)		
Number of students	8620	5840	6500	6500	6500	6500	6500		
First stage F	12.2	12.2	10.6	10.6	10.6	10.6	10.6		
<i>Panel B: Parents with high school or less</i>									
Share of refugees 1980	-0.016 (0.027)	-0.048 (0.054)	-0.043 (0.047)	0.040 (0.052)	0.033 (0.034)	0.035 (0.048)	0.001 (0.024)		
Number of students	3390	1860	2080	2080	2080	2080	2080		
First stage F	18.9	25.4	18.4	18.4	18.4	18.4	18.4		
<i>Panel C: Parents with some college or more</i>									
Share of refugees 1980	-0.012 (0.011)	0.054 (0.056)	0.011 (0.028)	0.097 (0.067)	-0.009 (0.024)	0.109 (0.080)	0.130* (0.067)		
Number of students	5000	3870	4290	4290	4290	4290	4290		
First stage F	8.9	8.7	8.2	8.2	8.2	8.2	8.2		
Number of schools	730	690	710	710	710	710	710		
Number of counties	390	370	390	390	390	390	390		
County characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Student characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
School characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

Note: Standard Errors Clustered at the county level in parentheses.

** Significant at the 1 percent level.

* Significant at the 5 percent level.

Significant at the 10 percent level.

Table A3: Effect of the share of refugees on native students' on voting - High School and Beyond

	Registered to vote				Voted	
	1984	1986	1992	Since age 18 (in 84)	1984 presidential election	1988 presidential election
<i>Panel A: 1975 Share (Archives)</i>						
All	0.008 (0.007)	0.009 (0.010)	0.004 (0.008)	0.011 (0.008)	0.005 (0.007)	0.014** (0.007)
Low education	0.001 (0.014)	-0.009 (0.016)	0.009 (0.013)	0.002 (0.012)	-0.005 (0.014)	0.020* (0.012)
High education	0.016* (0.009)	0.021** (0.011)	0.004 (0.009)	0.021** (0.009)	0.014 (0.008)	0.015* (0.008)
<i>Panel B: 1980 Share (Census)</i>						
All	0.001 (0.011)	0.015 (0.009)	0.001 (0.010)	0.002 (0.011)	0.014* (0.008)	0.023*** (0.008)
Low education	0.005 (0.016)	0.005 (0.017)	-0.000 (0.017)	0.009 (0.014)	0.009 (0.016)	-0.001 (0.017)
High education	0.002 (0.014)	0.020** (0.010)	0.003 (0.012)	0.001 (0.014)	0.016 (0.010)	0.037*** (0.011)
Mean	.56	.69	.67	.36	.52	.57
Number of students	5200	4820	4760	5170	4810	4770
Number of schools	730	730	720	730	730	720
Number of counties	390	390	390	390	390	390
County characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A4: Effect of the share of refugees on native students' on political beliefs
- High School and Beyond

	Radical	Liberal	Moderate	Conservative
<i>Panel A: 1975 Share (Archives)</i>				
All	0.008*** (0.003)	-0.007 (0.005)	-0.010 (0.007)	0.006 (0.004)
Low education	0.012*** (0.005)	-0.006 (0.008)	-0.012 (0.010)	0.001 (0.006)
High education	0.010*** (0.004)	-0.008 (0.006)	-0.010 (0.011)	0.008* (0.005)
<i>Panel B: 1980 Share (Census)</i>				
All	0.008** (0.004)	-0.013** (0.006)	-0.005 (0.008)	0.004 (0.005)
Low education	0.014** (0.006)	-0.013 (0.009)	-0.007 (0.012)	-0.004 (0.006)
High education	0.008 (0.005)	-0.012 (0.008)	0.000 (0.011)	0.005 (0.006)
Mean	.05	.12	.25	.06
Number of students	5300	5300	5300	5300
Number of schools	730	730	730	730
Number of counties	390	390	390	390
County characteristics	Yes	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A5: Effect of the share of refugees on native students' socio-emotional outcomes - High School and Beyond

	Motivation	Disciplinary problems	Teenage pregnancy
<i>Panel A: 1975 Share (Archives)</i>			
All	0.012 (0.020)	0.026 (0.027)	-0.001 (0.004)
Low education	0.042 (0.040)	-0.021 (0.037)	-0.001 (0.007)
High education	0.018 (0.020)	0.041 (0.041)	0.001 (0.006)
<i>Panel B: 1980 Share (Census)</i>			
All	-0.010 (0.020)	0.017 (0.026)	0.007 (0.006)
Low education	-0.014 (0.053)	-0.030 (0.039)	0.010 (0.010)
High education	0.004 (0.025)	0.025 (0.031)	0.006 (0.007)
Mean	0	-.02	.04
Number of students	4130	4220	4920
Number of schools	700	700	730
Number of counties	390	390	390
County characteristics	Yes	Yes	Yes
Student characteristics	Yes	Yes	Yes
School characteristics	Yes	Yes	Yes

Note: Standard Errors Clustered at the county level in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

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