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# Ending Statelessness for Displaced Children: Impact on Early Childhood Education

*Britta Rude*

ifo INSTITUTE

Leibniz Institute for Economic Research
at the University of Munich

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Poschingerstr. 5, 81679 Munich, Germany
Telephone +49(0)89 9224 0, Telefax +49(0)89 985369, email ifo@ifo.de
www.ifo.de

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# Ending Statelessness for Displaced Children: Impacts on Early Childhood Education

Abstract

Displaced children often face educational disadvantages in their host countries. Statelessness might be one of the factors limiting educational access, but research on this aspect is limited. In this paper, I leverage the introduction of birthright citizenship for Venezuelan children in Colombia to analyze the effect of ending statelessness on educational participation during early childhood. I employ a difference-in-discontinuity strategy that exploits a birthdate and policy cutoff to determine whether a Venezuelan child became eligible for birthright citizenship or not. I find that the reform has positive effects on the participation rates of children below six years old. I explain these results by demand- and supply-side factors faced by displaced parents and their children.

JEL Code: I28, J13, J18, J15
Keywords: Government policy; children; public policy; economics of minorities

Britta Rude
ifo Institute – Leibniz Institute for
Economic Research
at the University of Munich,
University of Munich
Poschingerstr. 5
81679 Munich, Germany
rude@ifo.de

# 1 Introduction

Early childhood education and care are crucial for child development (Temple and Reynolds (2007); Carneiro and Ginja (2014); Williams (2019)). Immigrant children, however, often do not benefit from the positive effects of early childhood education (Felfe, Rainer, and Saurer 2020). The multiple barriers faced by immigrants in their host countries, therefore, already start early in life and might exacerbate as different types of barriers complement each other and cumulate as immigrant children grow up.

Statelessness might be one of the strongest factors limiting the educational access of displaced children. A stateless person is a person who is not considered a national by any State. UNHCR (2023) estimates that millions of people around the world are stateless, and approximately one-third are children. Every year, more than 70,000 children are born into statelessness in countries hosting the 20 largest stateless populations (UNHCR 2015). Statelessness leads to one of the worst forms of exclusion and discrimination as stateless people are often denied access to fundamental services, such as education, health, job opportunities, and social protection (UNHCR 2019b). Although humanitarian and development workers have called for ending statelessness for many decades, research about the effect of doing so is limited to date. While research on the situation of immigrant children has grown over time, this research mostly focuses on immigrant children in developed countries where statelessness is less of a problem and focus. Consequently, little is known to date about the effects of removing statelessness, especially in developing countries, although these countries bear the large burden of the short- and long-term consequences of statelessness.

In this paper, I study the introduction of birthright citizenship for children born in Colombia to Venezuelan parents to estimate the impact of granting birthright citizenship on educational participation during early childhood. An estimated 24,000 children born to Venezuelan parents in Colombia fell into statelessness since August 2015 as a consequence of the Venezuelan refugee crisis during which millions left their country and settled into neighboring Colombia (UNHCR 2019b). Under the status quo, children born in Colombia

to Venezuelan parents could only obtain Colombian nationality if at least one of their parents was Colombian. In addition, Venezuelan consulate services were closed from October 2019 to October 2021, which made it impossible for Venezuelan parents to register their children. Moreover, the issuing of new passports in Venezuela had come to a halt because the government lacked the necessary material. These factors imposed a number of challenges for Venezuelans to obtain the official documentation to register their children with a Venezuelan consulate in Colombia.

In August 2019, the Colombian government introduced a major reform to ensure that these children could acquire Colombian nationality. All children born after August 2015 were eligible. I employ a regression-in-discontinuity design by using the reform's birth cutoff and policy cutoff and rely on household survey data to identify children targeted by the reform. My study is among the first to exploit exogenous policy variation in order to identify causal factors underlying the educational integration of stateless and displaced children. In addition, it is the first to study the mechanisms behind the impact of removing statelessness on educational participation during early childhood in more detail.

Removing statelessness and early childhood education might be linked via two channels. First, granting stateless children citizenship might address supply-side constraints. Stateless children might not be able to attend early childhood education facilities as they lack the necessary documentation to register. One consequence of statelessness is a lack of official documentation, such as ID cards, passports, or birth certificates, which are normally required by educational facilities. In addition, stateless people might face discrimination and xenophobia based on their status of statelessness (Burki 2021).

Furthermore, addressing statelessness might tackle demand-side constraints to early childhood education. Research shows that parents' educational choices might change when immigrant children's future labor market opportunities improve (Felfe, Rainer, and Saurer 2020). For instance, research indicates that immigrants who have obtained citizenship through naturalization tend to have higher earnings compared to those who have not (Chiswick (1978);

Steinhardt (2012)). They also exhibit greater success in finding employment (Fougère and Safi (2009); Gathmann and Keller (2014)) and typically observe more pronounced increases in wages over time (Bratsberg, Ragan, and Nasir 2002). Based on these effects, parents of immigrant children might perceive an increase in the rate of return on parental investment. In addition, they might anticipate reduced discrimination against their children within the educational system.

I find that the reform has positive effects on the participation rates of children below six years old. These persist when varying the control group of children and when restricting the age group to children subject to compulsory schooling. I explain these results by demand- and supply-side factors, in line with the previous literature studying constraints behind educational access (Justino 2016). I use descriptive evidence from the National Living Conditions Survey to show that Venezuelan parents of children targeted by the reform report increased parental care investments after their children obtained Colombian nationality. Therefore, parents likely perceived an increased rate of returns to parental investment as a result of birthright citizenship. In addition, I argue that these demand-side-driven mechanisms are complemented by supply-side factors. Nationalized children might experience a positive effect since they might face less discrimination and increased possibilities to access the formal schooling system in Colombia.

My study contributes to three strands of the literature. First, it contributes to the literature studying the educational integration of immigrant children. Numerous studies have examined the educational achievements of immigrant children in comparison to native children, both within individual countries and across different nations. Dustmann, Frattini, and Lanzara (2012) have provided a comprehensive overview of this research. There exists significant variation in the academic performance of immigrant children in OECD countries (as illustrated by studies like Entorf and Minoiu (2005); Algan et al. (2010)). In regions where immigrant children lag behind their peers (as seen in Continental Europe), this achievement gap is influenced by factors like their family background, the language spoken at home, and

educational tracking systems. This has been discussed in works such as Schnepf (2007); Akresh and Akresh (2011); Dustmann, Frattini, and Lanzara (2012); Lüdemann and Schwerdt (2013). In the United States, an additional factor contributing to the relatively lower educational attainment of certain immigrant groups (such as those of Hispanic origin) is the subpar quality of schools they attend, as indicated by Wells (2009). Currie and Thomas (1999) offer evidence that participation in a preschool program known as Head Start in the United States can mitigate a portion of the gap in test scores between Hispanic children and non-Hispanic white children, closing approximately one-fourth of the gap in test scores and about two-thirds of the gap in the likelihood of repeating a grade. Research by Morales (2022) find positive effects of changing children's refugee status on their peers' academic achievement.

The second area of related research studies the consequences of bestowing citizenship upon immigrants. One of the early contributors to this field was Chiswick (1978), who examined how becoming more Americanized influenced the earnings of foreign-born men. More recent studies have provided valuable insights into the impact of citizenship on factors like wage growth (discussed in Bratsberg, Ragan, and Nasir (2002); Steinhardt (2012)), employment opportunities (explored by Fougère and Safi (2009); Gathmann and Keller (2014); Sajons (2019)), cooperation (Felfe et al. 2021), and remittances (investigated by Piracha and Zhu (2012)). In addition, research by Dahl et al. (2022) and by Holmlund, Rainer, and Reich (2023) reveals unintended consequences of granting birthright citizenship for immigrant girls due to cultural factors. Gathmann and Garbers (2023) provide a literature review on citizenship and integration.

The third area of related literature studies the situation of displaced children, such as mental health outcomes (Baird et al. 2022), poverty and inequality (Özler et al. 2021), discrimination within the school and family system (Barron et al. 2021), and earnings in adulthood (Yoshida and Jonathan McLay 2022). Overall, this area of research is still limited, likely due to challenges in capturing and identifying displaced children using traditional data

sources.

My paper also contributes to a series of studies analyzing a set of policies introduced in Colombia that try to alleviate the situation of Venezuelans residing in the country. Bahar, Ibáñez, and Rozo (2021) study the labor market effects of the Permiso Especial de Permanencia program, the largest migratory amnesty program offered to undocumented migrants in a developing country in modern history. Similarly, Ibanez et al. (2022) estimate the program's impact on wellbeing, and Bahar, Cowgill, and Guzman (2022) on entrepreneurship.

My research provides valuable insights that policymakers should consider. First, removing statelessness is an effective mechanism to increase displaced children's participation in early childhood education. These positive effects might have considerable long-term implications for the longer-term human capital accumulation and labor market integration of these children. Second, enforcing mandatory schooling during early childhood could contribute to even higher participation rates, particularly in the early years and among vulnerable groups. Granting birthright citizenship to displaced children could prove especially effective when combined with mandatory schooling requirements.

# 2 Context

## 2.1 The Venezuelan Refugee Crisis

The Venezuelan refugee crisis is grounded in the political context following the election of Hugo Chávez in 1998. Many Venezuelans thought of Chávez as a promising pathway out of the souring levels of inequality in the country, but what followed was a political era marked by corruption, restrictions on private businesses, nationalizations, and expropriations (Bahar, Ibáñez, and Rozo 2021). In addition, the regime introduced large social programs financed by resources from the oil booms in the early 2000s. These policies led to an eroding public and private sector, an unsustainable fiscal space, and nepotism. Job opportunities within Venezuela decreased and many high-skilled Venezuelans migrated to other countries with

better employment conditions and higher wages.

By 2013, when Chávez's successor Nicolás Maduro was first elected as president of Venezuela, the country already faced an ongoing social and economic crisis, which only worsened under Maduro's harsh regime, accompanied by increased authoritarianism. The situation pushed an ever-increasing share of households into poverty, and signs of increasing multidimensional poverty surrounding health and educational outcomes mounted (ENCOVI 2023).

The worsening conditions in Venezuela, which transitioned to a humanitarian crisis by 2018, led many Venezuelans to leave their country. In 2019, by the time Colombia introduced its reform on birthright citizenships for children born in Colombia to Venezuelan parents, Venezuela had the second largest number of displaced people in the world, according to data from UNHCR (2019a). A total of 4.5 million Venezuelans were displaced, and most of them settled in neighboring countries, many in irregular situations, with 1.8 million Venezuelans displaced in Colombia (UNHCR 2019a).

Venezuelan immigrants abroad faced many challenges, also around their documentation. According to independent sources, it was impossible for Venezuelans to obtain passports due to the incapacity of the government to produce these based on a lack of materials (BBC 2017). In addition, Venezuelans residing in Colombia also found themselves confronted with a situation in which Colombia and Venezuela had terminated their diplomatic relations in 2019. Consequently, there were no consulate activities active in the country (El País 2022).

## 2.2 Introduction of Birthright Citizenship

The situation faced by Venezuelans in both Colombia and back in Venezuela resulted in an estimated number of 24,000 children being born into statelessness (UNHCR 2019b). Children born to Venezuelan parents in Colombia were unable to acquire Colombian nationality because the law required at least one parent to be Colombian for entitlement. In addition, Venezuelan parents could not register their children with a Venezuelan embassy in Colom-

bia because they were closed from 2019 onwards. Additionally, many Venezuelans entered Colombia without legal status (Bahar, Ibáñez, and Rozo 2021) and did not want to expose themselves to the authorities.

In the second half of 2019, the Colombian government introduced its program "Childhood First" ("Primero la Niñez" in Spanish). The program, which was implemented on August 20, 2019, ensured that all children born to Venezuelan parents in Colombia after August 19, 2015, could acquire Colombian nationality (Cepal 2019). From August 20, 2019, onwards, Venezuelan parents could simply approach the nearest registry office or notary and carry out the respective registration process. Importantly, the process was free of charge (Cancillería 2019).

## 2.3 Early Childhood Education in Colombia

Early childhood education in Colombia encompasses children from birth to six years of age and is considered a fundamental right for all children. Education for 3-5 year-olds is the first phase of a child's schooling. Enrolment for 5-year-olds in the transition grade (Grade 0) is compulsory. In 2011, early childhood education became a presidential priority, with the goal to enroll two million 3-5 year-olds in early childhood education facilities (OECD 2016). There are ten different types of early childhood education services in Colombia. These services range from community and family modalities over institutional modalities to pre-primary school modalities.

Colombia has made significant progress in early childhood education over the years. According to data published by the World Bank (2023), pre-primary enrolment rates increased from 39 percent in 1999 to 86 percent in 2020, outperforming the OECD average. Next to increased enrolment rates, Colombia documented important improvements around the quality of early childhood education (OECD 2016). Nevertheless, shortcomings around access and quality remain (OECD 2016). For example, poor children and those living in rural areas still face barriers to accessing early childhood education. In addition, parents also lack awareness

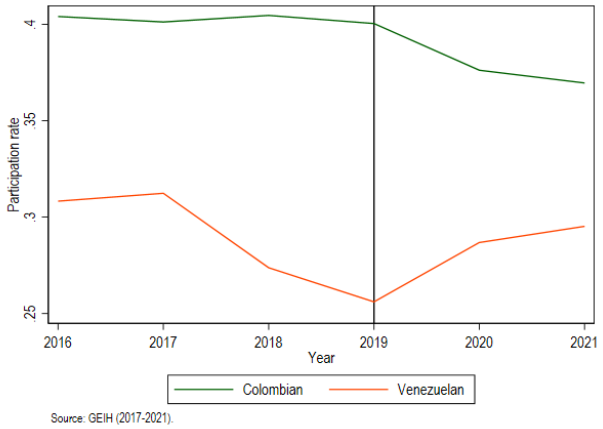
about the importance of early childhood education.

According to data published by the Ministry of Education, the Venezuelan refugee crisis resulted in more than 350,000 Venezuelan children being enrolled in the Colombian schooling system (Ministerio de Educación 2020). The Colombian government put several reforms in place to ensure that Venezuelan children had equal access to education. For example, in 2018, the government introduced a law that fully recognized educational attainments acquired in Venezuela and allowed students to continue their schooling without interruptions in Colombia. In addition, Venezuelan children have access to the same support mechanisms that try to facilitate educational access for Colombian children: the school alimentary program (PEP), school transport, and educational materials. Moreover, Colombia introduced a number of interventions that try to encounter xenophobia against Venezuelan children within the schooling system.

Nevertheless, children with Venezuelan backgrounds continued to face constraints around their educational participation in early childhood education facilities. Figure 1 plots participation rates of Colombian and Venezuelan children in early childhood education. The figure reveals that there was a significant gap in participation rates between both groups of children over the years. In addition, participation rates dropped for Venezuelan children before the introduction of the reform. This negative trend could be related to the sharp increase of Venezuelans arriving in Colombia from 2018 onwards. As a consequence, it might have been more challenging for the Colombian early childhood educational system to absorb these children. Moreover, the number of stateless children also increased, further leading to a decrease in the average participation rates of Venezuelan children.

The negative trend observed for Colombian children after the reform, as shown in Figure 1, might likely be related to the negative lasting effects of the COVID-19 pandemic. Research shows that the pandemic might result in negative effects on early childhood education that last beyond the pandemic and lockdowns imposed by governments (Bundervoet, Dávalos, and Garcia 2022). However, these impacts most likely affected Colombian and Venezuelan

Figure 1: Participation rates in early childhood education over time - Venezuelan versus Colombian children




Notes: The figure plots participation rates of children under six years old in early childhood education over time by nationality. The green line presents estimates for Colombian children and the orange one for Venezuelan children. Venezuelan children are all children born in Venezuela or those born in Colombia to Venezuelan parents. Estimates are yearly averages. I exclude data from March 2020 to September 2020 due to the nationwide COVID-19-lockdown in place in Colombia during that time period. The vertical black line indicates the year the Colombian government introduced birthright citizenship for children born to Venezuelan parents in Colombia. Source: GEIH (2016-2021).

children to equal extents. Indeed, when restricting the sample period to the pre-COVID-19 outbreak, results hold. I am, therefore, confident that the dynamics induced by the COVID-19 pandemic do not bias my results.

# 3 Data and Empirical Strategy

## 3.1 Identification Strategy

o estimate the causal impact of birthright citizenship and, subsequently, the removal of statelessness for children born to Venezuelan parents in Colombia, I employ a difference-in-discontinuity strategy that exploits the cutoff date of the Colombian citizenship reform (20th of August 2019). Importantly, the reform covered all children born to Venezuelan parents in Colombia after the 19th of August 2015. This means that in order to be eligible for birthright citizenship, children have to meet two criteria given the two cutoffs that define

treatment in conjunction. Only if children meet the birth- and the policy cutoff criteria are they eligible for birthright citizenship.

I want to estimate the impact of birthright citizenship and the removal of statelessness on participation rates in early childhood education facilities. To this end, I compare the participation rate of children born shortly before and shortly after the birth eligibility cutoff of the reform.

The resulting regression model can be written as follows:

$$Y_i = \alpha + \beta \times Reform_i + \gamma \times After_i + \delta \times (Reform_i After_i) + \theta \times M_i + \epsilon_i \qquad (1)$$

$Y_i$ is the outcome of interest, an indicator variable that is equal to one if a child attends an educational facility, and zero otherwise. $Reform_i$ is a binary variable that is equal to one for all months after the reform was introduced (August 2019) and is zero otherwise. $After_i$ is a binary variable that is equal to one for all children born after the birth eligibility cutoff (August 2015) and zero for all children born before that date. $\delta$ is the treatment effect of interest. It identifies the impact of being a child that was born after the birth eligibility cutoff and in a post-reform period. $M_i$ represents birth-month fixed-effects to account for the effect of age (in months) on educational participation.

As I am interested in the impact of the reform on early childhood education, I restrict the sample to all children below six years old. My identification strategy is subject to the assumption that children on both sides of the cutoff do not systematically differ from each other. However, to control for confounding factors related to seasonal effects, I include earlier and later cohorts of children as potential control groups in the sample.

Potentially, several groups of children could serve as my control group. I could consider only children born to Venezuelan parents in Colombia that are ineligible to the reform as a potential control, Venezuelan children living in Colombia, or all children in Colombia that are unaffected by the reform. While the latter could potentially be the control group most comparable to the treatment group in terms of observable and unobservable characteristics,

its small sample size might result in imprecise estimates. Therefore, I use all three of these groups as control groups and analyze whether my results differ.

## 3.2 Data

I utilize individual-level monthly data for my empirical analysis. I rely on the Colombian labor force surveys (GEIH) compiled by the Colombian Statistics Agency (DANE in Spanish). The labor force surveys are conducted on a monthly basis and provide insights into individual socio-demographic factors and labor-related outcomes. These surveys capture a wide range of information about individuals and their work situations.

Importantly, the survey gathers some basic information on all household members in the household and includes questions on each member's date and place of birth. Since the survey only records a person's month and year of birth (excluding the day), I cannot precisely identify treated individuals in August; however, I need to approximate the treatment cutoff to August. I treat all children born in August 2015 as treated and consider August 2019 as the first month the reform was in place. The survey also allows for establishing family relations within the household by asking about the unique personal identifier of the parent and mother of each person. These questions allow me to identify children born in Colombia who have Venezuelan parents. I define Venezuelan parents as parents born in Venezuela.

In addition, the survey includes a question on educational participation for all household members. Based on this question, I define my main variable of interest, the educational participation of children below six years old.

I consider all survey rounds from January 2016, the first available survey round that includes information on family relations within the household, to December 2021, the latest available survey round at the time I conduct this research.[1] I exclude the monthly surveys from March 2020 to September 2020 due to the COVID-19-related lockdown in Colombia.

[1] I verify that my results hold when varying the survey rounds included in the sample. I include the largest possible number of survey rounds because Venezuelan children only represent a small group in the household survey and, therefore, estimates might be less precise when restricting the number of survey rounds.

Colombia implemented strict COVID-19-related lockdowns during these months, which could have impacted both my outcome of interest and the collection of survey data.

Table 1 presents summary statistics for the three groups of children below six years old of interest: all children, Venezuelan children, and children born to Venezuelan parents in Colombia. I present the average participation rate of each group of children in Row 1, and a number of descriptive child and household characteristics in the rows to follow. The table indicates that there are some systematic differences in these characteristics across the groups of children, so I control for them in a robustness test. This approach could also help address concerns about the reform potentially influencing the return intentions of Venezuelans in Colombia, which would be a problem if the pool of families remaining in the country would change after the introduction of birthright citizenship for children born to Venezuelan parents in Colombia.

Table 1: Summary Statistics

| | (1) | | (2) | | (3) | |
|---|---|---|---|---|---|---|
| | All | | Venezuelan | | Born to Ven. parents | |
| | mean | sd | mean | sd | mean | sd |
| Participates in education | 0.29 | 0.45 | 0.24 | 0.43 | 0.03 | 0.18 |
| Age in years | 2.58 | 1.70 | 3.12 | 1.47 | 0.96 | 1.20 |
| Female | 0.49 | 0.50 | 0.49 | 0.50 | 0.49 | 0.50 |
| HH members | 4.93 | 2.05 | 5.69 | 2.46 | 5.70 | 2.47 |
| Single parent | 0.27 | 0.44 | 0.35 | 0.48 | 0.15 | 0.36 |
| Children in HH | 2.22 | 1.24 | 2.61 | 1.42 | 2.55 | 1.51 |
| Father with primary educ. or less | 0.16 | 0.37 | 0.15 | 0.36 | 0.16 | 0.37 |
| Father with tertiary educ. | 0.11 | 0.31 | 0.11 | 0.31 | 0.16 | 0.37 |
| Mother with primary educ. or less | 0.13 | 0.33 | 0.13 | 0.33 | 0.10 | 0.30 |
| Mother with tertiary | 0.18 | 0.38 | 0.18 | 0.39 | 0.20 | 0.40 |
| Observations | 353407 | | 14739 | | 2931 | |

Source: GEIH (2016-2021).

I analyze the potential mechanisms behind my main findings by using data from the National Living Condition Survey (ECV). The ECV is a yearly household survey conducted in Colombia that analyzes the living conditions of Colombian households. The survey includes a detailed section on early childhood education and development. I utilize this information

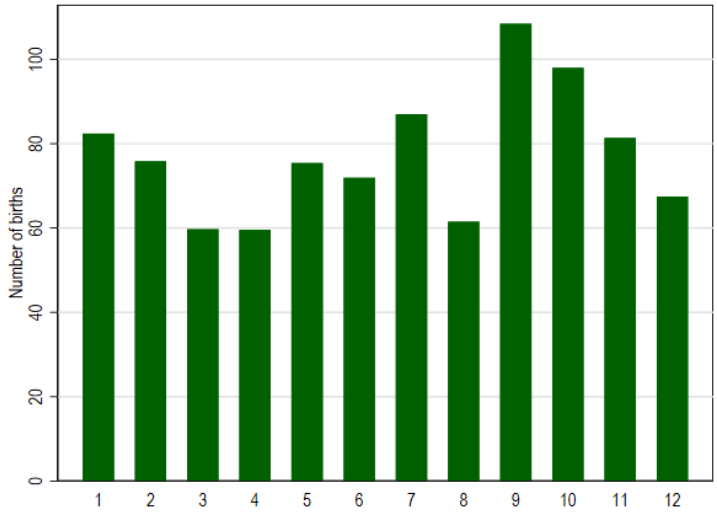
to examine how parental caregiving and demand-side constraints towards early childhood education have evolved over time among Venezuelan parents in Colombia. I have to rely on descriptive evidence since information on migration backgrounds from abroad was only included in the survey from 2019 onwards. Hence, I can only study the situation of Venezuelan families from 2019 onwards. In addition, the survey is a yearly and not a monthly survey, and information on the exact birthdates is not included, making it impossible to precisely distinguish treated from untreated children. Table B1 reports descriptive statistics for children below six years old included in the ECV.

## 3.3 Threats to Identification

The reform in Colombian citizenship rules targeting stateless children born to Venezuelan parents could have prompted Venezuelan parents to modify their decisions regarding family planning in three distinct ways. Initially, parents might have chosen to delay conceiving a child to ensure that their offspring would benefit from the reform. However, the policy was announced suddenly and surprisingly and also included children born previously to the policy cutoff date. Therefore, this type of manipulation around the cutoff is not a concern in this policy setting. Similar reasoning applies to potential identification concerns around mothers postponing the birth of their children. In addition, as previously discussed, the introduction of birthright citizenship is likely to improve the future employment prospects for children, thereby elevating their perceived "value." Referring to the concept of the trade-off between quantity and quality highlighted by Becker and Tomes (1976), this shift might prompt Venezuelan parents to reconsider and potentially decrease their desired number of children. Figure 2 plots the number of children born to Venezuelan parents in Colombia during the months around the date the policy was introduced. There is no sign of this type of manipulation around the cutoff.

I conduct several additional robustness tests. First, I include survey-year fixed-effects to control for yearly unobservable dynamics that could confound the policy studied in this

Figure 2: Number of children born to Venezuelan parents in Colombia per month of birth in 2019




Notes: The figure plots the monthly number of children born to Venezuelan parents residing in Colombia in 2019 around the cutoff date of the reform introduced in August 2019. Source: GEIH (2016-2021).

paper. Next, I cluster standard errors at the department level to account for potential correlation or heteroskedasticity at the regional level. Lastly, instead of running a logit model, I estimate a probit model.

# 4 Birthright Citizenship and Educational Participation

Table 2 presents the results for the effects of birthright citizenship on the participation in early childhood education when estimating a logit model. Column 1 reports results when using all children below six years old as a control group, Column 2 when using all Venezuelan children and illegible children born in Colombia to Venezuelan children as a control group, and Column 3 only uses illegible children born in Colombia to Venezuelan children as a control group. Columns 4 to 6 present similar estimates but focus solely on children aged five and six, who are subject to compulsory early childhood education in Colombia. I analyze this age group separately because I want to test if the removal of statelessness is more effective when complementing this type of policy with policies around compulsory schooling.

Importantly, estimates are intent-to-treat (ITT) effects because I cannot observe if parents of eligible children obtained Colombian nationality for their children. Therefore, my treatment group might also contain untreated children and estimates most likely represent conservative average treatment effects on the treated (ATT). I confirm this rationale by using data on the share of undocumented children born to Venezuelan parents reported in the ECV. The share dropped to zero percent in 2021, compared to 20.3 percent in 2019 (compare Figure A1). The share is probably already low in 2019, as this estimate also covers the six-month post-reform period (August 2019 to December 2019). Initial delays in the implementation of the policy, especially during the COVID-19-related strict lockdowns in Colombia between March 2020 and September 2020, could explain why the share was still relatively high in 2020 (12.6 percent). This share could also represent children born in Colombia to Venezuelan parents before August 2015. While in 2020, the sample still contains children below six years old born before the birth cutoff (August 2015), this cohort is not part of the sample in 2021 anymore.

The table reveals that the reform had positive effects when analyzing participation rates of all children below six years old (Columns 1 to 3). Effects remain positive when restricting the sample to children subject to compulsory schooling (Columns 4 to 6). Depending on the control group used, birthright citizenship increased the participation rate by 0.021 to 0.160 percentage points, or 55 to 60 percent, in the case of children younger than six. Effects are significant at the 1-percent significance level. For children aged five to six, I observe an increase of 0.0123 to 0.425 percentage points, equivalent to a range of 1.6 percent to 63.5 percent. The increase is also significant at the 1-percent significance level besides the estimate reported in Column 6. The latter is probably insignificant because the sample size is small in this case, which increases the standard errors. Only 134 children between five and six years old have Venezuelan parents and are born in Colombia. Overall, when abstracting from the estimates in Columns 3 and 6, the evidence indicates that complementing policies that tackle statelessness with compulsory schooling might result in slightly higher effects.

Results are similar in magnitude and significant at the 1-percent significance level when estimating a probit model (Table B2). They also hold when controlling for survey-year fixed-effects (Table B3), individual and household characteristics (Table B4), and clustering standard errors at the department level (Tables B5 and B6). However, when clustering, results in Columns 3 and 6 are insignificant at the common significance levels, probably also related to the small sample size. Overall, the estimates in Columns 3 and 6, which use only children born to Venezuelan parents in Colombia but not targeted by the reform as a control group, are less stable, probably due to the small sample size.

Table 2: Birthright citizenship and participation rates

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.160*** | 0.0816*** | 0.0205*** | 0.215*** | 0.425*** | 0.0123 |
| | (0.00504) | (0.00412) | (0.00152) | (0.00829) | (0.0203) | (0.0223) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Notes: The table reports marginal effects from a difference-in-discontinuity design estimating the impact of birthright citizenship for children born in Colombia to Venezuelan parents on educational participation via a logit regression. Columns 1 to 3 report marginal effects for all children below six years old. Columns 4 to 6 report marginal effects for five to six-year-old children. I control for the birth of month fixed-effects. The control group varies by column. Standard errors are in parentheses. $^{*}$ $p < 0.10$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$. Source: LFS (2016-2021).

The alleviation of demand-side constraints could explain the positive effects in Table 2. Parents might react to perceived higher rates of return on parental investment as a consequence of the nationalization of their children. In fact, previous research shows that demand-side factors are a crucial constraint in limiting early childhood education (Bouguen et al. 2013) and education in conflict-affected settings (Justino 2016). Based on these findings, I argue that tackling statelessness addresses some of these demand-side constraints among displaced families.

I provide evidence for this mechanism using descriptive data from the National Quality of Life Survey. Descriptive evidence from the survey hints towards this mechanism potentially driving the results. Figure A2 plots an average yearly parental care index of Venezuelan parents in Colombia. I define the parental care index as an index that ranges from zero to

nine and measures nine dimensions of parental caregiving included in the survey, such as reading to a child, playing with a child, and going to the park with a child, among others. The figure reveals that the average parental care index increased over time, from 7.5 index points in 2019 to 8.5 index points in 2020. Although I cannot establish a direct link between this increase and the reform due to data limitations - the survey began collecting information on detailed migration backgrounds only from 2019 onwards - I argue that this descriptive evidence supports the thesis that parents increased their parental investment.

In addition, the removal of statelessness might also tackle important supply-side constraints. Previous research shows that stateless people are often subject to discrimination and xenophobia (Burki 2021). In addition, parents might lack the required documentation to enroll stateless children in educational facilities. Based on these insights, children targeted by the reform might face less discrimination and increased possibilities to participate in the formal schooling system in Colombia, now that they dispose of the necessary documentation.

# 5 Conclusion

In this paper, I analyze the impact of granting birthright citizenship on educational participation during early childhood. I exploit the introduction of such a reform in Colombia that was introduced as a response to an increasing number of stateless children born in the context of the Venezuelan refugee crisis. This unique policy setting not only allows me to analyze the causal effect of birthright citizenship on early childhood education in developing countries, an unanswered question to date, but also allows me to shed light on the impact of removing statelessness on displaced children. Answering these two questions is the main contribution of my paper.

I take advantage of the birth eligibility cutoff and the reform cutoff of the policy and employ a difference-in-discontinuity design to study the impact of the reform on participation rates in early childhood education. I use monthly labor force surveys that contain rich

information on migration backgrounds and family ties within households and complement this evidence with yearly household data on living conditions.

My results show that participation rates increase for children below six years old. The results hold when restricting the sample to children subject to compulsory schooling. I explain these results by demand- and supply-side factors. First, parents might perceive increased returns to parental investments after nationalization. I demonstrate that this channel likely contributes to the positive effect through descriptive evidence from living condition surveys. These surveys indicate that parental care investments increased among Venezuelan parents after the introduction of birthright citizenship. Second, the removal of statelessness likely also tackled supply-side constraints. Targeted children might face less discrimination and increased possibilities to access the formal education system in Colombia after the reform.

My results offer several important insights for policymakers. First, removing statelessness is an effective policy tool to increase displaced children's participation in early childhood education. These positive effects most likely translate into longer-term benefits in their human capital accumulation and labor market integration. Second, compulsory schooling, also during early childhood, could further increase participation rates, especially among vulnerable children. Granting displaced children birthright citizenship might be especially effective when complemented with compulsory schooling.

My work also raises interesting questions for future research. Further understanding the barriers to education faced by displaced children, especially within the family system, might generate valuable insights on how to best tackle these. The decision-making processes within displaced families might be influenced by a multitude of factors, including individual beliefs, socioeconomic circumstances, cultural values, and community dynamics. Disentangling them is crucial to identify the most effective policies. Future research could also estimate the impact of removing statelessness on educational participation and outcomes at later stages, as well as investigate outcomes during adulthood.

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# Online Appendix

# A Figure Appendix

Figure A1: Share of undocumented Venezuelan children (2019-2021)

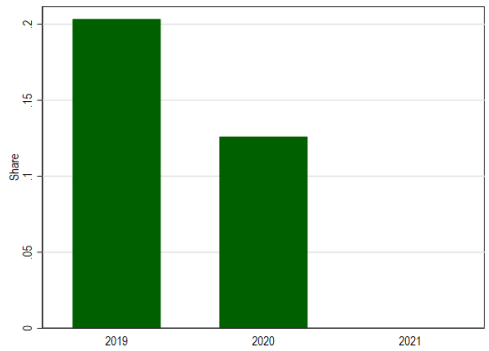
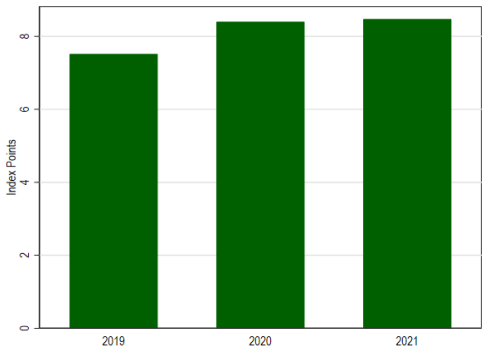



Figure A2: Average care index of Venezuelan parents (2019-2021)




Notes: The left panel plots the share of undocumented children born to Venezuelan parents residing in Colombia between 2019 and 2021. The right figure plots the average yearly parental care index of these parents. I define the parental care index as an index that ranges from zero to nine and measures nine dimensions of parental caregiving, such as reading to a child, play with a child, go to the park with a child, among others. Source: ECV (2019-2021)

# B Table Appendix

Table B1: Summary Statistics

| | (1) All | | (2) Venezuelan | | (3) Born to Ven. parents | |
|---|---|---|---|---|---|---|
| | mean | sd | mean | sd | mean | sd |
| Undocumented | 0.03 | 0.16 | 0.32 | 0.47 | 0.07 | 0.26 |
| Parental Care Index | 7.86 | 1.19 | 8.28 | 1.18 | 8.32 | 0.54 |
| Age | 2.57 | 1.70 | 3.26 | 1.39 | 0.95 | 1.19 |
| Female | 0.49 | 0.50 | 0.48 | 0.50 | 0.49 | 0.50 |
| HH members | 4.73 | 1.88 | 5.07 | 2.00 | 5.10 | 1.97 |
| Single parent | 0.35 | 0.48 | 0.39 | 0.49 | 0.12 | 0.32 |
| Children in HH | 2.12 | 1.14 | 2.35 | 1.15 | 2.24 | 1.11 |
| Father with primary educ. or less | 0.09 | 0.29 | 0.12 | 0.32 | 0.03 | 0.17 |
| Father with tertiary educ. | 0.02 | 0.14 | 0.02 | 0.13 | 0.00 | 0.02 |
| Mother with primary educ. or less | 0.01 | 0.11 | 0.01 | 0.10 | 0.00 | 0.06 |
| Mother with tertiary educ. | 0.00 | 0.05 | 0.00 | 0.04 | 0.00 | 0.00 |
| Observations | 110652 | | 3822 | | 900 | |

Notes: The parental care index is an index ranging from zero to nine that measures nine dimensions of parental care included in the ECV, such as reading to a child, playing with a child, and going to the park with a child, among others. Age is reported in years. Source: ECV (2019-2021).

Table B2: Birthright citizenship and participation rates

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.156*** | 0.0835*** | 0.0194*** | 0.228*** | 0.394*** | 0.00698 |
| | (0.00374) | (0.00317) | (0.00144) | (0.00804) | (0.0169) | (0.0222) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Standard errors in parentheses

Source: LFS (2016-2021)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B3: Birthright citizenship and participation rates (with survey year fixed-effect)

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.196*** | 0.109*** | 0.0199*** | 0.217*** | 0.426*** | 0.148*** |
| | (0.00500) | (0.00403) | (0.00152) | (0.00828) | (0.0202) | (0.0212) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Standard errors in parentheses

Source: LFS (2016-2021)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B4: Birthright citizenship and participation rates (with controls and survey year fixed-effect)

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.200*** | 0.112*** | 0.0190*** | 0.200*** | 0.376*** | 0.0499** |
| | (0.00493) | (0.00398) | (0.00144) | (0.00821) | (0.0200) | (0.0226) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Standard errors in parentheses
Source: LFS (2016-2021)
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B5: Birthright citizenship and attendance rates (with survey year fixed-effect and clustered SE)

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.196*** | 0.109** | 0.0199 | 0.217*** | 0.426*** | 0.148 |
| | (0.0666) | (0.0545) | (0.0233) | (0.0574) | (0.139) | (0.133) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Standard errors in parentheses
Source: LFS (2016-2021)
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B6: Birthright citizenship and attendance rates (with controls, survey year fixed-effect and clustered SE)

| | All | Venezuelans | Born to Ven. parents | All (5-6) | Venezuelans (5-6) | Born to Ven. parents (5-6) |
|---|---|---|---|---|---|---|
| Treated | 0.200*** | 0.112** | 0.0190 | 0.200*** | 0.376*** | 0.0499 |
| | (0.0656) | (0.0535) | (0.0179) | (0.0554) | (0.123) | (0.104) |
| Mean (Dep. Var) | .289 | .205 | .034 | .904 | .669 | .772 |
| St. Dv. (Dep. Var.) | .453 | .403 | .182 | .294 | .471 | .421 |
| N | 354,613 | 17,670 | 2,931 | 124,949 | 6,567 | 134 |

Standard errors in parentheses
Source: LFS (2016-2021)
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$