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Impact of the right to education on school enrolment of children with disabilities

Evidence from India

Vinitha Rachel Varghese*

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Abstract: I evaluate the impact of the right to education from the passing of the Right to Education Act in India in 2009. This Act guaranteed free education to children aged 6–14 years, including children with disabilities. Given that the school participation deficit associated with disability is large, I provide results that are a relief to policy-makers. I use an event study estimation and an interrupted time series research design and find that the Right to Education Act led to a 60 per cent increase in schooling among children with disabilities within three years. The estimate is driven by enrolment across all grades. I also provide suggestive evidence that the estimate is not driven by an increase in the number of schools or in disability-friendly ramps within schools.

Key words: disability, children, education, enrolment, schooling

JEL classification: I24, I25, I28, I38

* PhD candidate, Department of Economics, University of Illinois, Chicago, USA; corresponding author: vvargh2@uic.edu

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Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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1 Introduction

Sustainable Development Goal 4 (SDG 4) of the UN's Education 2030 Agenda aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' by the year 2030. SDG 4 is rights-based and emphasizes the need to make education a fundamental human right around the world. With the passing of the Right to Education (RTE) Act in 2009, India joined over 130 other countries of the world in having a legal guarantee for free education. The RTE Act made it a fundamental right of every child aged 6–14 years to receive full-time free elementary education in a neighbourhood school. The RTE Act also laid out several norms and standards with the objective of ensuring that all schools are equitable and of satisfactory quality.

The implementation of the RTE Act is estimated to have cost a total of \$23 billion (INR1,710 billion) during the five-year period between 2010–11 and 2014–15 (Mehrotra 2012) and to have benefited close to four million children to date (Purkayastha 2021). Shah and Steinberg (2019), using event study estimates, show that school enrolment has increased and maths and reading scores have declined since the passage of the RTE Act. Although the RTE Act was aimed at making education equitable, prior literature suggests that it failed at achieving the same. One of the provisions of the RTE Act was that it mandated fee-charging private schools to reserve 25 per cent of their seats for socially and economically disadvantaged children and to provide them with free education. This was meant to narrow the quality gap in education between children from advantaged versus disadvantaged backgrounds. However, the take-up of these free private school seats by disadvantaged children was very low in practice, since potential households faced considerable barriers in securing these seats (Srivastava and Noronha 2016). Those children who managed to secure these seats could not make friends with the fee-paying non-RTE children, got low test scores (Joshi 2020), and were discriminated against by teachers and peers (Lafleur and Srivastava 2019). It has to be noted that none of the mentioned papers present causal estimates. Chatterjee et al. (2020) present causal evidence that the RTE Act, by increasing school enrolment, led to increased competition for college admission and thus to increased take-up of fee-charging private supplemental tutoring. This unintended effect is expected to disproportionately benefit children who are wealthy enough to afford private tutoring. This is the first paper, to the best of my knowledge, to causally estimate the impact of the RTE Act on school enrolment among children with disabilities (CWD).

School enrolment among CWD is well suited to studying the impact of the RTE Act. According to Filmer (2008), the school participation deficit associated with disability is often larger than deficits arising due to other factors such as gender, rural residence, or economic status differentials in developing contexts. In many countries around the world, persons with disabilities are less likely to have attended school than those without disabilities. A 2018 UNESCO study spanning 49 countries reports that, on average, only 77 per cent of persons with disabilities ever attended school versus 87 per cent among persons without disabilities (UNESCO Institute of Statistics 2018). There are countries where the gap in schooling between those with and without disabilities are even larger, including Viet Nam (44 vs. 97 per cent), Egypt (43 vs. 89 per cent), and Indonesia (53 vs. 98 per cent). According to the India Census 2011, 27 per cent of persons with disabilities have never attended any school. Some of this disability gap in schooling could be attributed to direct discrimination in school admission offers (Ahmed et al. 2021; Bergman and McFarlin Jr 2018). Some of it could be due to indirect discrimination, such as the absence of infrastructure or personnel or policies to make schooling accessible to CWD. The RTE Act, by making education a fundamental right and also by mandating several measures to improve the accessibility of quality education, can attenuate the direct and indirect discriminatory practices faced by CWD in school admissions and thus can lead to an increase in their school enrolment.

I use the District Information System for Education (DISE) database to obtain information on the number of schools and enrolments. DISE is an annual census of primary and middle schools in India. Children with one or more of ten types of disabilities (blindness, low vision, hearing, speech, locomotor, intel-

lectual disability, learning disability, cerebral palsy, autism, or more than one of these combined) are labelled as CWD in the DISE database, which is the same classification used in the rest of this paper. The DISE database does not provide any information about children who are not enrolled in schools. I use the Population Census 2011 to make indirect inferences about the total number of CWD in a region. I also make use of the National Sample Survey rounds 64 and 71, which provide information on how far schools are from each household.

In order to estimate the impact of the RTE Act, it would have been ideal if there were two random groups of CWD among which only one of the groups implemented the RTE Act. The RTE Act was, instead, implemented at the national level, potentially impacting every child in the country with the exception of a single state. However, the school enrolment trend among CWD remained constant until the implementation of the RTE Act, followed by a distinct change that was sustained over the years. I leverage this change in the trend right at the time of intervention to estimate the impact of the RTE Act using an event study estimation and an interrupted time series (ITS) research design.

Making education a fundamental right through the implementation of the RTE Act led to an increase in school enrolment among CWD in India. The ITS estimates indicate that the RTE Act increased school enrolment among CWD by 18 per cent in one year, by 39 per cent in two years, and by 60 per cent in three years. This implies that the RTE Act enabled 200 more CWD, on average, to enrol in school at the district grade level. I also show that the increase in school enrolment is not likely driven by any grade in particular. Since the RTE Act was a broad act with multiple provisions aimed at improving school enrolment and quality, it is difficult to disentangle the impact of each of those provisions. However, I provide supportive evidence that the increase in school enrolment is not driven by building more schools or by building disability-friendly ramps within schools.

The rest of the paper is organized as follows. Section 1 outlines the background. Section 2 discusses the conceptual framework. Section 3 details the data sources and sampling restrictions, and lists the primary variables of interest. Section 4 discusses the research design and the main results. Section 5 presents some additional results. Section 6 reports some exploratory results on the mechanisms. Section 7 concludes.

2 The education rights of CWD and the RTE Act

Education provision to CWD was regarded as a charity, around the world, until the late 1980s (Hernandez 2008). Education became a basic human right for CWD through multiple conventions and treaties of the UN.¹ Many countries of the world were obliged to meet the requirements of these conventions and treaties, including India. The UN's increased focus on people with disabilities, along with the rise of disability movements within India, helped to bring people with disabilities into public domain discussions in India from the 1990s.

The first formal step taken by India as a result was the passing of the Rehabilitation Council of India Act in 1992. This was followed by the passing of the Persons with Disabilities Act in 1995 and the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act in 1999. The most significant step was when India endorsed the UN Convention on the Rights of People with Disabilities of 2006. It is since then that there has been an increased demand within India to amend its laws regarding disability to shift from a welfare-based approach to a rights-based one. These

¹ UN Convention on the Rights of the Child of 1989, the UN Standard Rules on Equalization of Opportunities for Persons with Disabilities of 1993, the UNESCO Salamanca Statement of 1994, and the UN Convention on the Rights of People with Disabilities of 2006.

efforts culminated in the passing of the Rights for Persons with Disabilities Bill in India in 2016. The timeline of these policies indicates that there weren't any contemporaneous efforts in India to improve school enrolment of CWD around the time of the implementation of the RTE Act.

The RTE Act was passed in the Indian Parliament on 26 August 2009 and guaranteed free education in a neighbourhood school for all children aged 6–14 years. The RTE Act mandated that schools cannot deny admission or detain any child in any grade until the completion of elementary school (grades 1–8). Schools are now required to admit at an age-appropriate grade any out-of-school child seeking admission, and to provide the child with special training to catch up with their peers. In all neighbourhoods that did not yet have a school, a school was required to be established within three years from the commencement of the Act. The RTE Act also stipulated every school to have 'barrier free access', referring to the need to have ramps in addition to stairs for free movement of children who had physical limitations that affected climbing stairs.

India's education system is often criticized for the presence of inequalities in access, completion, and quality (UNESCO 2020), and the implementation of the RTE Act is critical in reducing some of these inequalities. Table 1 presents summary statistics of the status of education in 2004, five years before the passing of the RTE Act. In 2004, which is the first year for which data is publicly available, each district on average had 309 CWD in each grade, which translates into 0.89 per cent of the total number of children enrolled in each grade. This share is quite low in comparison to developed countries such as the United States, where CWD comprise 11–14 per cent of the public school enrolment (Schaeffer 2020). There are around 1,800 schools in every district, 1,590 of which are in rural areas. Only 16 per cent of the schools had ramps in addition to stairs to assist in easy movement of children with limited mobility. More than half of the children in every district were enrolled in government schools. Fewer than half of the schools had separate toilets for each gender. Each district had around 7,200 teachers and fewer than half of them received any type of in-service training in the past year. Overall, 93 per cent of the children passed the grade 5 exam and 87 per cent passed the grade 8 exam.

Table 1: District-level summary statistics at baseline (2004)

	Mean	SD
School-enrolled CWD in each grade	309.06	743.79
School-enrolled children in each grade	34,602.68	28,704.14
Number of schools	1,828.51	1,122.64
Number of rural schools	1,590.96	985.23
Percentage of schools with ramps*	16.14	14.85
Number of teachers	7,213.75	5,171.59
Percentage of students enrolled in government schools	62.38	20.12
Percentage of schools with sex-specific toilets	47.10	21.95
Percentage of teachers who received in-service training	44.68	7.01
Percentage of students who passed the grade 5 exam	93.42	7.56
Percentage of students who passed the grade 8 exam	86.93	12.74

Note: this table shows the mean and standard deviations of district-level variables at baseline (2004) for 555 districts of India, except where otherwise specified. *This variable is based on 2006 state-level DISE data.

Source: author's compilation based on district-level DISE data.

3 Conceptual framework

According to Glewwe and Muralidharan (2016), there are two pertinent questions that drive education policy and research in developing contexts. The first is how to increase school enrolment and attendance among students and the second is how to translate increases in student enrolment and attendance into improvements in skills and human capital'. This paper primarily addresses part of the first question among a group of children who are particularly at a greater disadvantage.

Following Becker (1962) and Ben-Porath (1967), households will choose to send their child to school only if the present discounted value of the expected increase in benefits exceeds the costs of doing so. To keep it simple, we start with a two-period model. In the first period the household has to decide whether or not to send their child with disability to school. In the second period the child with disability who went to school would have either graduated or dropped out.

In the first period, a household's decision on whether to send a child to school may be governed by several factors, regardless of whether the child has a disability or not. However, in this section I focus on those factors that affect a household's decision, particularly about a CWD. Some exogenous factors include the degree of direct and indirect discrimination that exists in the household's neighbourhood. Direct discrimination arises if the neighbourhood school refuses to enrol the child because they have a disability. Indirect discrimination arises if there is no school in the neighbourhood or if the school doesn't have the infrastructure or personnel to provide supplemental support that a CWD may require. Indirect discrimination can also arise if the school's practices disproportionately discourage a CWD from enrolling. An example of this is if the school does not provide any extra time to a child who has low vision in order to finish an exam. Another example is if the school keeps the same threshold for failing a grade for a child with a learning disability as for a child without any disabilities. Beyond these exogenous factors, households may face endogenous factors when making a decision on whether to send their CWD to school. Endogenous factors refer to household inputs that are needed to support and supplement school education for a CWD.

The RTE Act, by making education a fundamental right and by mandating policies aimed at improving access and quality of education, is expected to influence the exogenous factors mentioned above. Making education a fundamental right for every child may lead to a decline in the number of schools that practise direct discrimination. A decline in the number of CWD who are denied school admission can lead to an increase in the number of CWD who are enrolled in school. The RTE Act mandated every neighbourhood to have a school within three years of its implementation. Having a school in one's neighbourhood can encourage the household to send their CWD to school and this can lead to an increase in school enrolment among CWD.

The RTE Act mandated every school to have 'barrier free access'. Every school was required to create ramps in addition to stairs for free movement of children with limited physical mobility. Children with difficulties seeing or walking are expected to benefit from this provision. As per the 2001 census, more than three-quarters of India's disabled population are categorized as having a disability in either seeing (49 per cent) or in mobility (28 per cent). Although having ramps does not seem to be a game-changer, it can encourage some households to send their CWD to school and thus can lead to an increase in the number of CWD who are enrolled in school.

The RTE Act allowed out-of-school children to enrol in age-appropriate grades and also mandated that schools have to provide every support and training to help these children catch up with their peers. Previous studies provide evidence that CWD are more likely to remain out of school (Filmer 2008; Lamichhane and Kawakatsu 2015; Mizunoya et al. 2018; Trani and Cannings 2013), and hence a household's decision about sending a CWD to school can be influenced by this provision. The RTE Act also ordered that schools cannot detain any child in any grade until the completion of grade 8. If households had decided against enrolling their CWD at school prior to this, these provisions of the RTE Act could encourage them to reconsider their decisions. The households now have a guarantee that their CWD can complete elementary education without having to spend more years than their non-disabled previously school-enrolled contemporaries. This can encourage households to enrol their CWD at school and thus can lead to an increase in school enrolment among CWD.

The provisions of the RTE Act are expected to change the exogenous factors that influence a household's decision in the first period on whether to send a CWD to school and also to increase the probability that

the child would complete elementary education in the second period. We can thus expect that the RTE Act would lead to increased school enrolment among CWD.

4 Data

The primary data for this study is administrative records about all schools in India, which are reported in the DISE. The publicly available DISE data is an annual census of all schools in the country and reports the number of schools, enrolment, number of teachers, status of school infrastructure, etc. at the district level.² One of the advantages of this dataset is that it provides information on the number of school-enrolled CWD at the district–grade level from grades 1–8. Beyond providing causal estimates on the impact of the RTE Act on school enrolment among CWD, I also attempt to shed some light on the mechanisms driving the estimates. The RTE Act mandated schools in every neighbourhood, and thus having a school closer to home may affect school enrolment among CWD. One disadvantage of the DISE data is that it does not have information about distance from each household to the nearest school, without which it is difficult to explore the above-mentioned mechanism. A second drawback of the DISE data is that it does not provide information on the total number of CWD in a region who could potentially attend schools.

I supplement the DISE data with three other datasets: the National Sample Survey (NSS) round 64, NSS round 71, and the Decennial Population Census 2011 in order to address the two mentioned drawbacks of the DISE data. The NSS rounds 64 and 71 provide information about the average distance of the nearest school from a household by school type (primary, upper primary, or secondary) in 2008 and 2014, respectively. The Decennial Population Census 2011 provides information about the total number of CWD by age group at the state level, and I use this to make inferences about the rate of enrolment among CWD at the state level.

The primary outcome of interest in this paper is school enrolment among CWD. It would be interesting to study whether the RTE Act led to any changes in learning outcomes among CWD. Unfortunately there is no data available on learning outcomes among CWD in India. The DISE data captures two measures on learning outcomes: the proportion of children who pass grade 5 exams and the proportion of children who pass grade 8 exams. However, these measures among CWD are not reported. An alternative data source to understand changes in learning outcomes in India is the ASER (Annual Status of Education Report) surveys, which report on children’s reading and basic arithmetic skills. Unfortunately, ASER surveys also do not report learning outcomes among CWDs.

4.1 Sampling

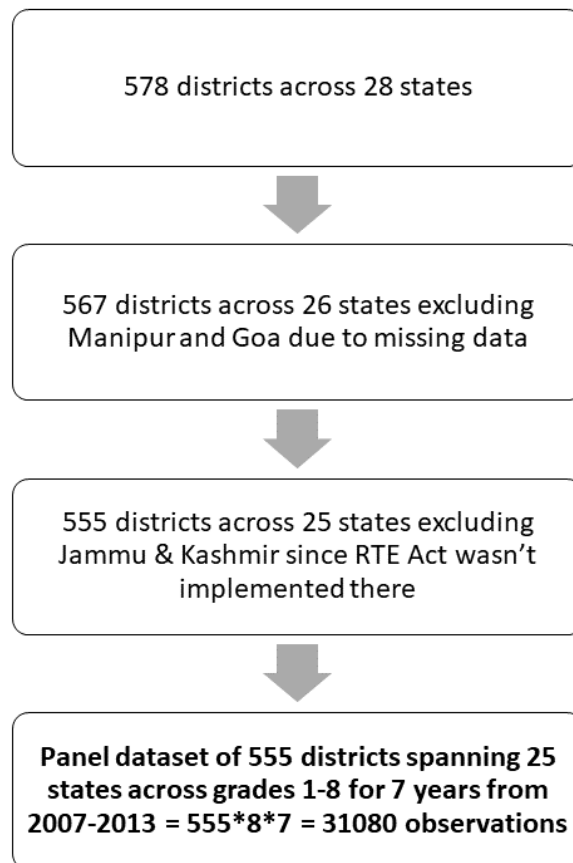
I impose slightly different sampling restrictions across the two empirical strategies. During the period of analysis, India was divided into 28 states.³ I have excluded two states (Manipur and Goa) from the analytical sample due to missing data in some years. My first empirical strategy is an event study estimation of the impact of the RTE Act on school enrolment among CWD. In this strategy, I have further excluded the state of Jammu & Kashmir from the analytical sample since the RTE Act wasn’t implemented in this state due to its autonomous status. The event study estimates are thus based on a sample consisting of 44,400 district–grade level observations from grades 1 through 8 across 555 districts of 25 Indian states for ten years from 2004 to 2013.

² Districts are administrative divisions within a state and are equivalent to counties in the United States.

³ In 2014 a new state called Telangana was created, and later in 2019 the state of Jammu & Kashmir was split into two union territories, namely Jammu & Kashmir and Ladakh. At present, India has 28 states and 9 union territories.

My second and most preferred empirical strategy is an ITS estimation. Since the year 2005 shows a non-zero coefficient in my event study framework, I further restrict my analytical sample to the years since 2007. The ITS estimates are thus based on a sample consisting of 31,080 district–grade level observations from grades 1 through 8 across 555 districts of 25 Indian states for seven years from 2007 to 2013. Figure 1 presents how the sampling was done for the ITS estimation.

Figure 1: Sampling illustration



Note: the figure shows how the sample was constructed from the publicly available DISE data.

Source: author's illustration.

4.2 Primary variables

Post-policy: The RTE Act was passed in August 2009, when the academic year had already started. Thus, the RTE Act is expected to affect school enrolment only from 2010. Across all analyses in the paper I have considered every year from 2010 as post-intervention years and every year until then as pre-intervention years.

School enrolment among CWD: The DISE data reports the number of school-enrolled CWD in each grade from 1 through 8 in the current academic year, at the district level. I use this measure as the primary outcome variable. Until 2016, DISE did not report enrolment numbers separately for each type of disability. If this information were available during the study period, I could have attempted to provide some insights into the heterogeneous impact of the RTE Act, based on the type of disability. Children with one or more of ten types of disability (blindness, low vision, hearing, speech, locomotor, intellectual disability, learning disability, cerebral palsy, autism, or more than one of these combined) are labelled as CWD in the DISE data. The DISE data is reported annually by teachers from school and

households, in addition to which children identified as disabled are diagnosed for type and degree of disability by a medical team (Gupta 2016).

School enrolment among non-disabled children: The DISE data reports the number of school-enrolled children in each grade from 1 through 8 in the current academic year, at the district level. As mentioned earlier, DISE also reports the number of school-enrolled CWD in each grade from 1 through 8, in the current academic year, at the district level. The difference between the former and latter measures yields the number of non-disabled children enrolled in grades 1–8 at the district level. I use this measure as an outcome variable in some additional analyses in the latter part of the paper.

Number of schools: The DISE data reports the number of government and private schools catering to each grade from 1 through 8, at the district level. The sum of these two measures at the district–grade level generates the measure of the total number of schools in a district catering to each grade from 1 through 8. I use this variable in my exploratory analysis of one of the potential mechanisms.

Schools with ramps: The DISE data reports the total number of schools with ramps, at the state level. I use this variable in my exploratory analysis of another of the potential mechanisms.

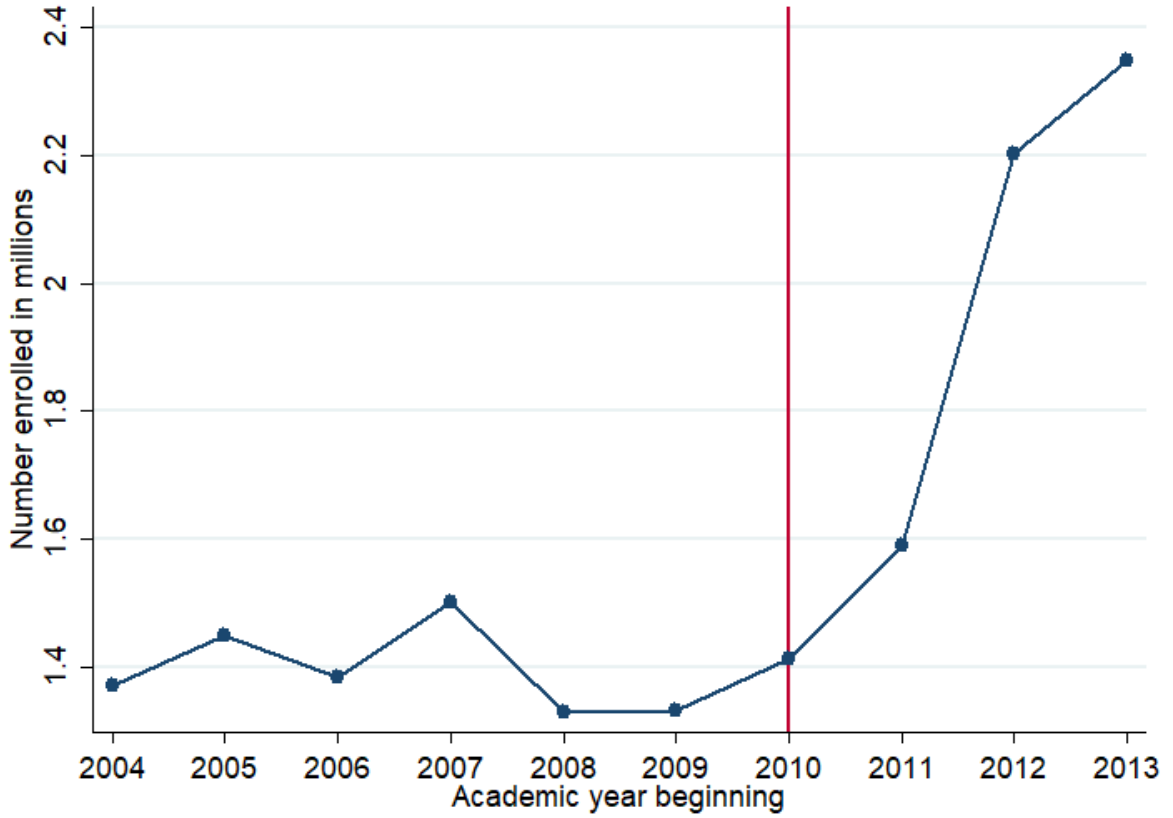
5 Impact of the RTE Act

An ideal experiment to assess the impact of the RTE Act would randomly assign CWD into two groups where only one of the groups implemented the RTE Act. This would ensure that (1) potential enrolment outcomes of CWD are balanced across the two groups and that (2) any other factor that would affect school enrolment among CWD is not correlated with their exposure to the RTE Act. The RTE Act was, however, implemented at the national level, potentially impacting every child in the country with the exception of a single state. Given the absence of an ideal experiment, I leverage two quasi-experimental strategies to estimate the impact of the RTE Act. I describe the two empirical strategies and present their analyses results in this section. Both strategies show a consistent pattern that the RTE Act significantly increases school enrolment among CWD.

5.1 Empirical strategy 1: event study

Identification: My first empirical strategy is an event study estimation motivated by Figure 2. This figure presents the number of CWD who are enrolled in school (in millions) from grades 1–8 across the 25 states of the primary sample, over the years 2004–13. Until the implementation of the RTE Act in 2010, the number of CWD who were school-enrolled stayed stagnant at around 1.4 million. After 2010, there is a sharp increase in the number of CWD who are school-enrolled. In my first empirical strategy I compare the school enrolment among CWD in each year to the year 2009, which was one year before the RTE Act was implemented. The identifying assumption is that the number of CWD who are school-enrolled would have remained the same as it was in 2009, in the absence of the RTE Act. It would have been ideal to have a counterfactual group to see if this assumption holds true. Unfortunately, the RTE Act was implemented across all states of the country except one, which makes it difficult to provide supportive evidence for this assumption. However, I use the omitted state as a comparison group in Section 6 and provide suggestive evidence that there was no increase in school enrolment among CWD in the absence of the RTE Act.

Figure 2: Enrolment of CWD in schools at grades 1–8 over the years 2004-13



Note: this figure presents the number of total CWD enrolled in grades 1–8 across 555 districts of India in each year from 2004 to 2013.

Source: author's illustrations based on district-level DISE data.

Empirical specification: My empirical specification takes the following form:

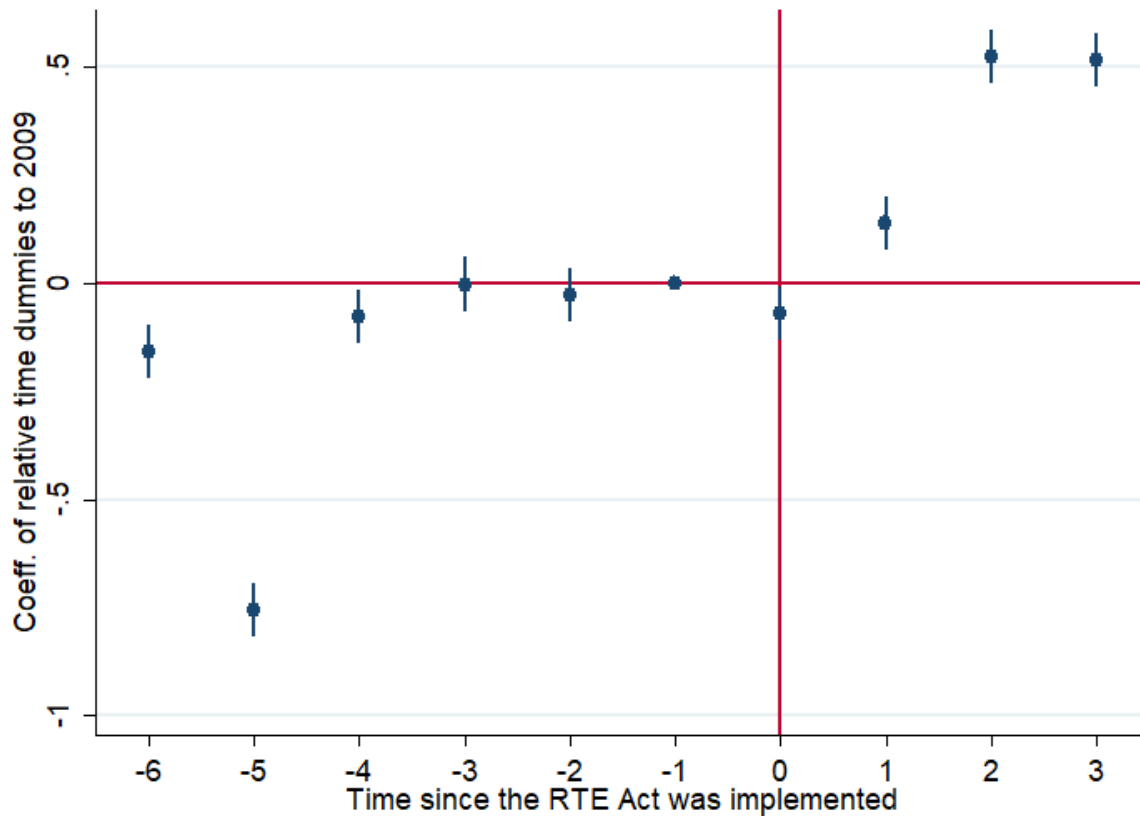
$$Y_{gdt} = \alpha + \sum_{j=-6}^{-2} \beta_j D_{gd,2010+j} + \sum_{j=0}^3 \beta_j D_{gd,2010+j} + \varepsilon_{gdt} \quad (1)$$

where Y is the outcome (e.g. inverse hyperbolic sine (IHS) of school-enrolled CWD) corresponding to grade g in district d in year t . $D_{gd,2010+j}$ are indicators equal to 1 if year t is j years after (or before if j is negative) the year of implementation of the RTE Act. The β_j s with $j = \{1, 2, 3\}$ are the coefficients of interest which identify the impact of the RTE Act on the outcome in year $t + j$ relative to the year before the RTE Act was implemented. It is desirable to have coefficients β_j s being equal to 0 for all negative values of j since that will indicate that the outcome was no different in j years before the RTE Act was implemented as it was one year before the implementation of the RTE Act.

Results: Figure 3 presents the event study estimates of the impact of the RTE Act on the IHS of the number of CWD who are enrolled in school, at the district–grade level. The IHS function approximates the log function and I use it in lieu of the log function since it accommodates zeros. The β_j s are close to 0 for all negative values of j except $j = -5$. This indicates that the number of CWD enrolled in school across all the pre-intervention years are similar to one year before the RTE Act was implemented, except for $j = -5$. $j = -5$ corresponds to the year 2005, for which the number of observations with zero values are disproportionately high (nine times the average number of zero observations in the remaining five pre-intervention years). Given this data concern, I restrict the pre-intervention years to years beginning from 2007 in my second empirical strategy. The β_j s with $j = \{1, 2, 3\}$ are the coefficients of interest and the results imply that the RTE Act led to a 14 per cent increase in school enrolment among CWD at the

district–grade level in the first year and a 52 per cent increase in the second year, which was sustained in the third year. The event study estimates are statistically significant at the 1 per cent significance level.

Figure 3: Impact of the RTE Act on IHS of school enrolment of CWD in comparison to one year before the implementation



Note: this figure shows coefficient estimates from regressing the IHS of school enrolment of CWD on a set of indicator variables indicating the number of years before and after the RTE Act was implemented. The estimating equation is equation 1. Year 0 corresponds to 2010, when the RTE Act was implemented. School enrolment of CWD in each year is compared to that in 2009. 95 per cent confidence intervals are displayed around each point estimate. Since the year 2005 shows a non-zero coefficient, I chose to include only pre-period years since 2007 in estimating the time trend.

Source: author's calculations.

5.2 Empirical strategy 2: ITS

Identification: In the previous section I used the event study empirical strategy where I compared the school enrolment among CWD in each year to the year before the RTE Act was implemented. In this section I use an ITS estimation strategy. In this alternative strategy I project the pre-intervention trend into the treatment period to serve as the counterfactual trend. I then compare the actual post-intervention trend to the counterfactual trend. The identifying assumptions of the ITS model are as follows.

Assumption B.1 (Independence): The pre-intervention trend has to be constant, followed by a significant change in the trend immediately following the implementation of the RTE Act, which is sustained over time.

Assumption B.2 (Exclusion): There are no other policy shifts in the same time window in which the RTE Act was implemented which could affect school enrolment among CWD.

Figure 2 provides credibility to the independence assumption. I also empirically assess this assumption later in this section. For Assumption B.2 I cannot rule out the possibility of its violation, but Section 1, where I list all global and India-specific policies that may influence school enrolment among CWD, is supportive of this assumption.

Empirical specification: The empirical specification in this strategy takes the following form:

$$Y_{gdt} = \beta_0 + \beta_1 Year_t + \beta_2(Post\ policy_t) + \beta_3(Post\ policy_t * Year_t) + \varepsilon_{gdt} \quad (2)$$

where Y is the outcome (e.g. IHS of school-enrolled CWD) corresponding to grade g in district d in year t . $Year_t$ is a trend variable equal to the year corresponding to the observation minus the year in which the RTE Act was implemented; $Post\ policy_t$ is an indicator equal to 1 if year t is after the RTE Act was implemented. $Post\ policy_t * Year_t$ is an interaction term of the $Post\ policy_t$ indicator and the $Year_t$ variable. β_1 is the pre-intervention trend or the trajectory of the outcome until the implementation of the RTE Act. β_1 being equal to 0 provides empirical credibility to Assumption B.1. β_2 is the instantaneous change in the outcome and β_3 is the difference between pre-intervention and post-intervention slopes or difference in trends of the outcome before and after the implementation of the RTE Act. The coefficient of interest j years after the implementation of the RTE Act is $\beta_2 + (\beta_3 * j)$.

Results: Table 2 reports the results from the ITS estimation. Similar to the event study analysis, the results show a significant effect of the RTE Act implementation in increasing school enrolment among CWD. Column (3) corresponds to IHS of school enrolment among CWD. The β_1 being equal to 0 indicates that the trend in school enrolment among CWD remained constant until the implementation of the RTE Act. As mentioned before, the coefficient of interest j years after the implementation of the RTE Act is $\beta_2 + (\beta_3 * j)$. The results imply that the RTE Act led to an 18 per cent increase in school enrolment among CWD at the district–grade level in the first year, 39 per cent in the second year, and 60 per cent in the third year. This corresponds to an increase of 200 more CWD enrolled in school in each grade in each district within three years after the implementation of the RTE Act. I present the impact of the RTE Act on the level and log of school enrolment among CWD in columns (1) and (2), which are also substantial and statistically significant.

Table 2: Impact of the RTE Act on school enrolment of CWD in grades 1–8

	(1) Level	(2) Log	(3) IHS
Year (β_1)	-19.04*** (4.72)	-0.02 (0.01)	0.00 (0.01)
Post-policy (β_2)	35.44** (11.64)	0.01 (0.03)	-0.04 (0.03)
Post-policy \times year (β_3)	95.95*** (5.59)	0.24*** (0.01)	0.21*** (0.02)
Impact_Year1	131.38	0.25	0.18
Impact_Year2	227.33	0.48	0.39
Impact_Year3	323.28	0.72	0.60
Baseline mean	338.16	338.16	338.16
N	31,080	30,650	31,080

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on school enrolment of CWD in grades 1–8 at the district–grade level. The estimated values of β_1 , β_2 , and β_3 of equation 2 are presented in the first three rows, respectively. Each of the columns corresponds to different specifications of the dependent variable. The outcome is in levels in column (1), in log in column (2), and in IHS in column (3). Column (3) is the preferred transformation.

Source: author's calculations.

6 Additional results

6.1 Comparative interrupted time series (CITS)

The ITS results presented in the previous subsection may be criticized due to lack of a comparison group. The RTE Act was implemented throughout the country with the exception of a single state, thereby limiting the scope to find a comparison group. The only state where the RTE Act was not implemented was Jammu & Kashmir, which was excluded due to its autonomous status. There are only 12 districts in this state, in comparison to 555 districts in the treated sample. Power issues arising due to the low sample size in this state prevent using it as a comparison group in my main specification. However, in this subsection I have used this excluded state of Jammu & Kashmir as a comparison group to all the other treated districts in a comparative ITS specification.

Summary statistics of district-level variables at baseline for the 555 districts in the treated states and for the 12 districts in the comparison state are presented in Table 3. There are 309 CWD in each grade in each treated district versus 238 in each grade in each comparison district. The number of school-enrolled children (disabled and non-disabled combined) in each grade is 34,603 in each treated district, and around 14,802 in each comparison district. There are 1,829 schools, on average, in each treated district versus 1,327 in each comparison district. Out of the total schools present, there are around 1,591 rural schools in each treated district versus around 1,179 in each comparison district. Around 16 per cent of schools in the treated states have ramps, which serves as a proxy for disability-friendly infrastructure, versus 2 per cent in the comparison state. There are 7,214 teachers in each treated district versus 5,932 in each comparison district. A total of 47 per cent of schools in each of the treated districts have sex-specific toilets versus 26 per cent in each of the comparison districts; 62 per cent of students in each of the treated districts are enrolled in government schools versus 73 per cent in each of the comparison districts; 45 per cent of teachers have received in-service training in each of the treated districts versus 47 per cent in each of the comparison districts; 93 per cent of students have passed the grade 5 exam in each of the treated districts versus 96 per cent in each of the comparison districts; and 87 per cent of students have passed the grade 8 exam in each of the treated districts versus 88 per cent in each of the comparison districts.

Figure 4 presents the pre- and post-RTE trend of the average number of CWD enrolled in each grade in the treated districts as well as in the comparison districts. The average number of CWD in each grade at the district level remained static at around 300 for the treated districts in the few years before the RTE Act was implemented and at around 120 for the comparison districts. The pre-trend of the districts in the comparison group matches with that of the districts in the treated group.

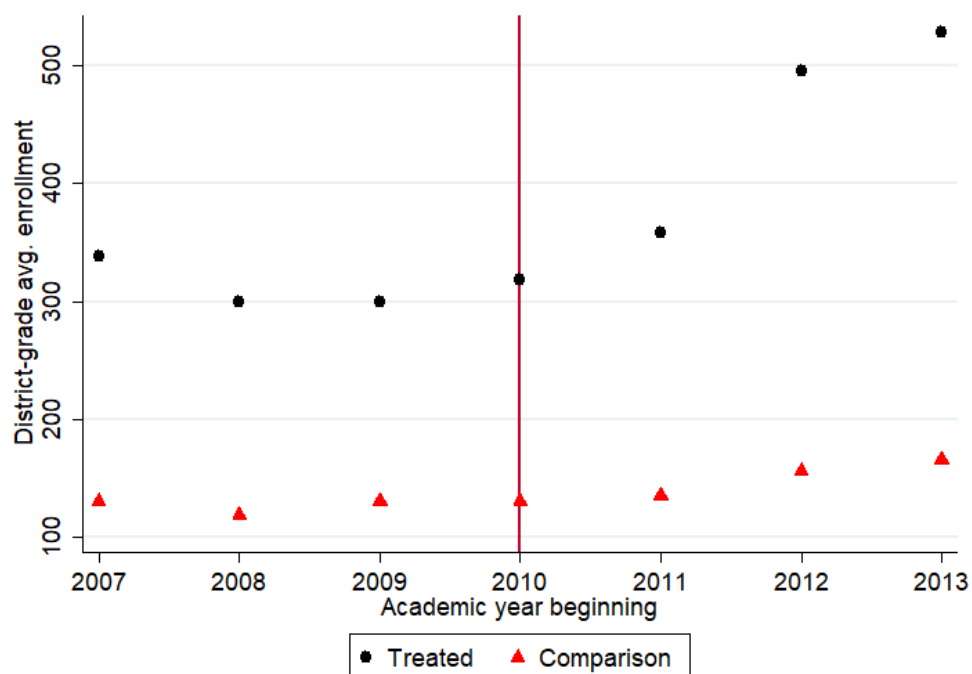
The identifying assumption in making causal inferences from a CITS estimate is that the deviations from trends in the comparison group will reflect other hard-to-observe and potentially confounding factors that may have influenced the school enrolment of CWD (Dee et al. 2013). The short CITS design, which is frequently implemented in education research and is suggested by Bloom (2003) when there are 3–20 pre-treatment measures of the outcome variable, is used here.

Table 3: District-level summary statistics of treated and comparison districts at baseline (2004)

	Treated states	Comparison state
	Mean (SD)	Mean (SD)
School-enrolled CWD in each grade	309.10 (743.80)	237.90 (183.30)
School-enrolled children in each grade	34,602.70 (28,704.10)	14,081.90 (7,390.60)
Number of schools	1828.50 (1,122.60)	1327.10 (522.40)
Number of rural schools	1,591.00 (985.20)	1,178.60 (495.50)
Percentage of schools with ramps*	16.14 (14.85)	2.00 (.)
Number of teachers	7,213.70 (5,171.60)	5,931.80 (3,244.20)
Percentage of schools with sex-specific toilets	47.10 (21.95)	26.48 (14.91)
Percentage of students enrolled in government schools	62.38 (20.12)	73.28 (15.74)
Percentage of teachers who received in-service training	44.68 (7.01)	47.34 (4.46)
Percentage of students who passed the grade 5 exam	93.42 (7.56)	95.63 (2.24)
Percentage of students who passed the grade 8 exam	86.93 (12.74)	88.49 (4.27)
<i>N</i>	555	12

Note: the table shows the mean and standard deviations of district-level variables at baseline (2004) for the 555 treated districts and 12 districts of the comparison state, Jammu & Kashmir. *This variable is based on 2006 state-level DISE data. Source: author's compilation based on district-level DISE data.

Figure 4: Average enrolment of CWD in each grade at the district level in the treated states and comparison state over years



Note: this figure shows average enrolment of CWD in each grade at the district level over time for the 25 treated states and for the comparison state, Jammu & Kashmir, which is the only Indian state where the RTE Act was not implemented due to its autonomous status.

Source: author's illustration.

The CITS estimator is defined by the following equation:

$$Y_{gdt} = \beta_0 + \beta_1 Year_t + \beta_2(Post\ policy_t) + \beta_3(Post\ policy_t * Year_t) + \beta_4(Treated_d * Year_t) + \beta_5(Treated_d * Post\ policy_t) + \beta_6(Treated_d * Post\ policy_t * Year_t) + \varepsilon_{gdt} \quad (3)$$

where Y is the outcome variable, namely school enrolment of CWD measured in grade g in district d at time t . $Year_t$ is a trend variable equal to year corresponding to the observation minus year in which the intervention was implemented; $Post\ policy_t$ is an indicator variable representing the intervention, with a value of 0 indicating pre-intervention years and a value of 1 indicating post-intervention years; and $Post\ policy_t * Year_t$ is an interaction term as in the ITS analysis estimated by equation 2. There are three additional terms here to account for the addition of the comparison group. $Treated_d$ is a time-invariant district-level indicator variable representing the treatment status of the district, with a value of 0 indicating districts of the comparison state and a value of 1 indicating districts of all the treated states, which is interacted with the first three terms.

In the above model, β_5 captures the instantaneous increase in the number of school-enrolled CWD in the year of implementation of the RTE Act in the treated districts relative to the comparison ones and β_6 captures the change in the trend or trajectory of the disabled school enrolment before and after the RTE Act was implemented in the treated districts, relative to the comparison ones. Table 4 presents the CITS estimates of the impact of the RTE Act on school enrolment of CWD, estimated using equation 3. The CITS estimates indicate that the RTE Act led to a 78 per cent increase in school enrolment among CWD in one year, a 112 per cent increase in two years, and a 146 per cent increase in three years. These estimates are statistically significant as well. This is similar to the main results, although these are larger in magnitude. This indicates that estimates from the preferred ITS specification are robust to adding a comparison group.

Table 4: Impact of the RTE Act on IHS of school enrolment among CWD in grades 1–8: CITS estimates

	(1) Outcome
Year	0.21*** (0.04)
Post-policy	-0.46*** (0.11)
Post-policy \times year	-0.12 (0.07)
Treated \times year	-0.21*** (0.04)
Treated \times post-policy	0.43*** (0.11)
Treated \times post-policy \times year	0.34*** (0.07)
Impact_Year1	0.78
Impact_Year2	1.12
Impact_Year3	1.46
Treated N	31,080
Comparison N	672
Total N	31,752

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports CITS estimates of the impact of the RTE Act on the IHS of school enrolment of CWD in grades 1–8 at the district level, estimated using equation 3. The state of Jammu & Kashmir, where the RTE Act was not required to be implemented, is the comparison group.

Source: author's calculations.

6.2 Longer pre-trend

As mentioned earlier, ITS estimation makes assumption about the counterfactual post-intervention trend from the pre-trend. Having only three pre-intervention years from 2007 to 2009 may disrupt the accuracy

of this assumption. This concern has been addressed by re-running the main specification on a longer pre-intervention period from 2004 until 2009. The results are presented in Table 5. The results here are substantial and statistically significant, like the main results except that the estimates are of a lower magnitude while incorporating longer pre-trends.

Table 5: Impact of the RTE Act on IHS of school enrolment of CWD in grades 1–8: longer pre-trend

	(1) Outcome
Year	0.09*** (0.01)
Post-policy	-0.18*** (0.03)
Post-policy × year	0.13*** (0.01)
Impact_Year1	-0.05
Impact_Year2	0.08
Impact_Year3	0.20
Baseline mean	309.06
N	44,400

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on IHS of school enrolment of CWD at the district level, estimated using equation 2 for a longer period. In contrast to the main results estimated from the years 2007–13, this table reports results from 2004–13.

Source: author's calculations.

6.3 Enrolment of non-disabled children

One may be concerned that the increased enrolment among CWD happened at the cost of non-disabled children. In this subsection, this concern is empirically tested by examining how the RTE Act affected school enrolment among non-disabled children. If it were the case that the enrolment of CWD happened at the cost of the non-disabled children, there would be a corresponding decline in the reporting of school enrolment among non-disabled children. Table 6 reports that this is not the case. The impact of the RTE Act on school enrolment of non-disabled children is still positive even though it is not sustained over years.

Table 6: Impact of the RTE Act on IHS of school enrolment of non-disabled children in grades 1–8

	(1) Outcome
Year	0.01 (0.01)
Post-policy	0.10** (0.03)
Post-policy × year	0.00 (0.01)
Impact_Year1	0.10
Impact_Year2	0.10
Impact_Year3	0.10
Baseline mean	39,611.05
N	31080

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on IHS of school enrolment of non-disabled children at the district level, estimated using equation 2.

Source: author's calculations.

6.4 Prevalence or reporting of disability

One could argue that the results may reflect an increase in prevalence or reporting of disability after the RTE Act was implemented, and not necessarily be due to an increase in the rate of school enrolment. The DISE database is inadequate to address this concern as it doesn't have data on the number of CWD.

The Population Census 2011, which provides cross-sectional data on the total number of school-aged CWD at the state level by age, is thus used to impute the total number of CWD in each grade across years in each state. Table 7 presents the results of running ITS estimation on the total number of CWD. The total number of CWD has not increased in a differential trend in the post-intervention years compared to the pre-period, thus ruling out this concern.

Table 7: Impact of the RTE Act on IHS of the total number of CWD aged 6–14

	(1) Outcome
Year	-0.01 (0.09)
Post-policy	-0.02 (0.22)
Post-policy × year	-0.01 (0.10)
Impact_Year1	-0.03
Impact_Year2	-0.04
Impact_Year3	-0.06
Baseline mean	17,907.33
<i>N</i>	1,400

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on IHS of total number of CWD at the state level, estimated using equation 2. Since information on the total number of CWD was not available in the DISE database, the Population Census 2011, which is at the state level, has been used for this analysis.

Source: author's calculations.

7 Mechanisms

The RTE Act paved the way for a rights-based approach to school enrolment of children. It also encompassed several provisions to improve access and quality of schooling. It thus becomes imperative to disentangle the several channels by which the RTE Act could have led to the substantial improvement in school enrolment among CWD.

7.1 Right to schooling

The first mechanism is that the RTE Act made schooling a right of every child by mandating that no child could be denied admission or detained in any grade until completion of elementary school (grades 1–8). Schools were now required to admit any out-of-school child to an age-appropriate grade and to provide them with special training to catch up with their peers. In the absence of this provision, an increase in school access or quality would have only led to an increase in school enrolment among grade 1 children.

The results aren't driven by grade 1 school enrolment, as is evident from Table 8. The fact that every out-of-school CWD now has a right to be admitted to an age-appropriate grade and the certainty that no child has to drop out of a grade may be the reasons why there is an increase in school enrolment across every grade.

7.2 Increased school availability

The second mechanism is that the RTE Act had provisions to ensure the availability of schools in every neighbourhood. Every household was now expected to have a primary school within 1 km (0.62 miles) and an upper primary school within 3 km (1.9 miles) by 2013. This could lead to an increase in school enrolment among CWD, given the increased availability of schools near their home. The NSS rounds

64 and 71, which provide information on the distance to the nearest school from every household, are used to test if this mandate was put into practice.

Table 8: Impact of the RTE Act on IHS of school enrolment of CWD in each grade at the district level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Year	-0.05 (0.04)	-0.04 (0.04)	-0.00 (0.04)	-0.00 (0.04)	0.02 (0.04)	0.01 (0.04)	0.03 (0.04)	0.03 (0.05)
Post-policy	-0.15 (0.08)	-0.23** (0.08)	-0.31*** (0.08)	-0.31*** (0.08)	-0.30*** (0.08)	-0.29*** (0.08)	-0.32*** (0.08)	-0.08 (0.10)
Post-policy × year	0.15*** (0.04)	0.22*** (0.04)	0.21*** (0.04)	0.22*** (0.04)	0.20*** (0.04)	0.20*** (0.04)	0.20*** (0.04)	0.29*** (0.05)
Impact_Year1	0.01	-0.01	-0.09	-0.09	-0.10	-0.08	-0.12	0.20
Impact_Year2	0.16	0.22	0.12	0.13	0.10	0.12	0.08	0.49
Impact_Year3	0.32	0.44	0.34	0.35	0.30	0.32	0.28	0.78
Baseline mean	459.83	407.00	416.86	389.28	350.17	268.35	239.81	174.02
N	3,885	3,885	3,885	3,885	3,885	3,885	3,885	3,885

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on IHS of school enrolment of CWD at the district level, estimated using equation 2 for each grade.

Source: author's calculations.

Table 9 compares the average distance to the nearest school from a household and also the proportion of households with a school close to their home in 2008 and 2014, the two years for which data is available. Panel A shows that the average distance to the nearest primary school was 0.7 miles in 2008, which has now declined by 0.05 miles; to the nearest upper primary school was 1.3 miles in 2008, which has now declined by 0.4 miles; and to the nearest secondary school was 2 miles, which has now declined by 0.8 miles. Primary schools cater to grades 1–5, upper primary schools cater to grades 6–8, and secondary schools cater to grades 9–10.

Table 9: Average distance to the nearest school and proportion of households with a school within two miles

	(1)	(2)	(3)
	2008	2014	Difference
Panel A			
Distance to nearest primary school (miles)	0.721 (0.343)	0.677 (0.213)	-0.045*** (0.000)
Distance to nearest upper primary school (miles)	1.296 (0.521)	0.886 (0.520)	-0.410*** (0.000)
Distance to nearest secondary school (miles)	2.024 (0.758)	1.226 (0.777)	-0.798*** (0.000)
Panel B			
Proportion of HHs with a primary school within two miles	0.997 (0.057)	0.998 (0.048)	0.001*** (0.001)
Proportion of HHs with an upper primary school within two miles	0.936 (0.244)	0.960 (0.197)	0.024*** (0.000)
Proportion of HHs with a secondary school within two miles	0.449 (0.497)	0.858 (0.349)	0.409*** (0.000)
N	90,494	56,797	147,291

Note: the table shows the average distance from a household to the nearest school in miles and the proportion of households with a school within two miles for the years 2008 and 2014 (the two years for which this information was available). The first row of each panel corresponds to primary school, which caters to grades 1–5, the second row of each panel corresponds to upper primary school, which caters to grades 6–8, and the third row of each panel corresponds to secondary school, which caters to grades 9–10.

Source: author's compilation based on the NSS rounds 64 and 71, restricted to the 25 sample states of this paper.

Panel B shows that the decline in average distance to the nearest school has mechanically led to a higher proportion of households that have a school closer to home. Close to 100 per cent of households already had a primary school within its two-mile radius back in 2008; 93 per cent of households had an upper primary school within its two-mile radius in 2008, which has now increased by 0.02 per cent. On the contrary, only 45 per cent of households had a secondary school within two miles in 2008, which has

now increased by 41 per cent. These indicate that there has been an increase in the availability of secondary schools and upper primary schools between 2008 and 2014, which could positively influence the school enrolment among CWD.

A heterogeneity analyses is done to examine whether the RTE Act had differential impacts in districts where there was an increase in the number of schools versus those where there wasn't. DISE data provides information on the number of schools in each district over the years by type of school. There are several types of schools based on the grades to which they cater. There are primary (P) schools which cater to grades 1–5; there are upper primary (UP) schools, which cater to grades 6–8; there are primary and upper primary (PUP) schools, which cater to grades 1–8; there are upper primary and secondary (or higher secondary) schools, which cater to grades 6–10 (6–12) which are referred to as full schools except primary (FSEP); and there are full schools (FS), which cater to all grades 1–10 (1–12).

If the main results of the paper were driven by increased school availability, the estimates would be higher in districts where the number of schools have increased. Table 10 presents the results of the heterogeneity analyses based on whether the number of schools increased or not in a district between 2009 and 2012. There is no differential impact of the RTE Act in districts where FSEP or PUP schools increased versus those where they did not increase. While comparing districts where FS or UP schools increased versus those where there was no increase, we see a higher impact of the RTE Act in districts where schools already existed. This provides evidence that CWD are not increasingly enrolling in districts with new schools but rather are increasingly enrolling in districts where schools already existed. This is not surprising, given that it may be easier for already established schools to provide sufficient support to CWD to catch up with their peers, compared to new schools.

Comparison of districts where primary schools increased versus where primary schools did not increase is an exception to this pattern. However, this would not contradict our finding since we know from Table 9 that an increased number of primary schools wasn't a margin where we expected correlation between school availability and school enrolment among CWD since close to 100 per cent of households already had a primary school close to their home at baseline. It can thus be ruled out that the substantial impact of the RTE Act on school enrolment among CWD is driven by increased school availability.

Table 10: Impact of RTE Act on IHS of school enrolment of CWD in Grades 1-8 where schools increased versus where they did not increase

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	FS-no inc	FS-inc	FSEP-no inc	FSEP-inc	PUP-no inc	PUP-inc	UP-no inc	UP-inc	P-no inc	P-inc
Year	0.01 (0.03)	0.02 (0.03)	-0.03 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.02)	-0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	0.00 (0.02)
Post-policy	0.04 (0.07)	0.06 (0.07)	-0.07 (0.05)	0.08 (0.04)	0.03 (0.05)	-0.06 (0.04)	-0.07 (0.04)	-0.01 (0.04)	-0.14** (0.05)	-0.08 (0.05)
Post-policy × year	0.23*** (0.03)	0.15*** (0.03)	0.26*** (0.03)	0.22*** (0.02)	0.17*** (0.02)	0.21*** (0.02)	0.24*** (0.02)	0.18*** (0.02)	0.21*** (0.02)	0.25*** (0.02)
Impact_Year1	0.27	0.22	0.19	0.30	0.20	0.15	0.16	0.17	0.07	0.16
Impact_Year2	0.50	0.37	0.45	0.51	0.36	0.35	0.40	0.35	0.28	0.41
Impact_Year3	0.73	0.52	0.71	0.73	0.53	0.56	0.64	0.53	0.49	0.66
Baseline mean	440.31	407.35	378.78	378.08	363.33	304.36	310.14	310.88	302.21	318.99
N	7,728	8,960	12,488	14,728	13,440	23,352	22,120	18,592	16,352	17,640

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on log enrolment of CWD in grades 1–8 in districts where number of schools increased versus districts where number of schools did not increase, estimated using equation 3. Columns (1) and (2) present estimates for full schools, which cater to grades 1–10 or 1–12 (FS). Columns (3) and (4) present estimates for full schools except primary grades, which cater to grades 6–10 or 6–12 (FSEP). Columns (5) and (6) present estimates for primary and upper primary schools, which cater to grades 1–8 (PUP). Columns (7) and (8) present estimates for upper primary schools, which cater to grades 6–8 (UP). Columns (9) and (10) present estimates for primary schools, which cater to grades 1–5 (P)

Source: author's calculations.

7.3 Ramps within schools

The third mechanism is that the RTE Act stipulated every school to have ‘barrier free access’. This refers to the need to have ramps in schools in addition to stairs to allow free movement of children with physical limitations.

DISE data provides information on the number of schools with ramps at the state level, which is used to examine whether the RTE Act led to an increase in the proportion of schools with ramps. Table 11 presents the ITS estimates of the impact of the RTE Act on the proportion of schools with ramps. This analysis shows that there hasn’t been any substantial change in the proportion of schools with ramps due to the RTE Act. It can thus be ruled out that building ramps within schools was one of the causes for the increase in school enrolment among CWD.

Table 11: Impact of the RTE Act on the proportion of schools with ramps

	(1) Outcome
Year	0.05 (0.03)
Post-policy	-0.03 (0.07)
Post-policy × year	-0.03 (0.04)
Impact_Year1	-0.06
Impact_Year2	-0.09
Impact_Year3	-0.13
Baseline mean	0.31
<i>N</i>	150

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table reports ITS estimates of the impact of the RTE Act on the proportion of schools with ramps, at the state level. The year 2013 has been omitted since the variable wasn’t comparable to previous years.

Source: author’s calculations.

The results presented in this section rule out that the increase in school enrolment of CWD is driven by the increased availability of schools or by building ramps within schools.

8 Conclusion

There is no denying the fact that the developing world has been making strong progress towards making education accessible. It is very close to achieving universal primary education, with 91 per cent of children enrolled in primary schools as of 2015. Even while making these strides, CWD have largely been excluded from many of these efforts. Male and Wodon (2017) suggest that the gaps between disabled and non-disabled children have increased substantially over the last 30–40 years. Three in ten CWD have never been to school according to this report. There is a 15 percentage points gap in primary school completion between disabled and non-disabled children for girls and an 18 percentage points gap for boys, which is further widened in higher grades.

This paper provides the first empirical evidence of the impact of the right to education on school enrolment among CWD. Using an ITS research design, I provide suggestive evidence that India’s RTE Act increased school enrolment of CWD by 18 per cent in one year, 39 per cent in two years, and 60 per cent in three years. While exploring mechanisms, I provide suggestive evidence to rule out the role of the increase in the number of schools or building ramps within schools in driving the estimates.

This understudied area has much scope for further research. While this paper estimated the immediate impact of the right to education on school enrolment among CWD, it would be interesting to look at

whether this impact was sustained over longer periods of time. Going back to the discussion in Section 3, this paper addresses part of the first of two pertinent questions that drive education policy and research in developing contexts. Further research is needed to explore how to make sure that enrolled CWD attend classes and how to translate increased student enrolment and attendance into improvements in skills and human capital.

References

- Ahmed, A., M. Hammarstedt, and K. Karlsson (2021). 'Do Schools Discriminate Against Children with Disabilities? A Field Experiment in Sweden'. *Education Economics*, 29(1): 3–16. <https://doi.org/10.1080/09645292.2020.1855417>
- Becker, G.S. (1962). 'Investment in Human Capital: A Theoretical Analysis'. *Journal of Political Economy*, 70(5): 9–49. <https://doi.org/10.1086/258724>
- Ben-Porath, Y. (1967). 'The Production of Human Capital and the Life Cycle of Earnings'. *Journal of Political Economy*, 75(4): 352–65. <https://doi.org/10.1016/j.ijedudev.2020.102228>
- Bergman, P., and I. McFarlin Jr (2018). 'Education for All? A Nationwide Audit Study of School Choice'. Working Paper 25396. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w25396>
- Bloom, H.S. (2003). 'Using "Short" Interrupted Time-Series Analysis to Measure the Impacts of Whole-School Reforms: With Applications to a Study of Accelerated Schools'. *Evaluation Review*, 27(1): 3–49. <https://doi.org/10.1177/0193841X02239017>
- Chatterjee, C., E.A. Hanushek, and S. Mahendiran (2020). 'Can Greater Access to Education be Inequitable? New Evidence from India's Right to Education Act'. Working Paper 27377. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w27377>
- Dee, T.S., B. Jacob, and N.L. Schwartz (2013). 'The Effects of NCLB on School Resources and Practices'. *Educational Evaluation and Policy Analysis*, 35(2): 252–79. <https://doi.org/10.3102/0162373712467080>
- Filmer, D. (2008). 'Disability, Poverty, and Schooling in Developing Countries: Results from 14 Household Surveys'. *World Bank Economic Review*, 22(1): 141–63. <https://doi.org/10.1093/wber/lhm021>
- Glewwe, P., and K. Muralidharan (2016). 'Improving Education Outcomes in Developing Countries: Evidence, Knowledge Gaps, and Policy Implications'. In E.A. Hanushek, S. Machin, and L. Woessmann (eds), *Handbook of the Economics of Education*, volume 5. Amsterdam: Elsevier. <https://doi.org/10.1016/B978-0-444-63459-7.00010-5>
- Gupta, V. (2016). 'Educational Planning: Dropout of CWSN and SLD Children in India'. *IAFOR Journal of the Social Sciences*, 2: 61–70. <https://doi.org/10.22492/ijss.2.2.05>
- Hernandez, V.T. (2008). 'Making Good on the Promise of International Law: The Convention on the Rights of Persons with Disabilities and Inclusive Education in China and India'. *Pacific Rim Law & Policy Journal*, 17: 497.
- Joshi, R. (2020). 'Can Social Integration in Schools be Mandated: Evidence from the Right to Education Act in India'. *International Journal of Educational Development*, 77: 102228. <https://doi.org/10.1016/j.ijedudev.2020.102228>
- Lafleur, M., and P. Srivastava (2019). 'Children's Accounts of Labelling and Stigmatization in Private Schools in Delhi, India and the Right to Education Act'. *Education Policy Analysis Archives*, 27: 135. <https://doi.org/10.14507/epaa.27.4377>
- Lamichhane, K., and Y. Kawakatsu (2015). 'Disability and Determinants of Schooling: A Case from Bangladesh'. *International Journal of Educational Development*, 40: 98–105. <https://doi.org/10.1016/j.ijedudev.2014.11.001>
- Male, C., and Q. Wodon (2017). 'Disability Gaps in Educational Attainment and Literacy'. World Bank Brief. Washington, DC: World Bank.

- Mehrotra, S. (2012). 'The Cost and Financing of the Right to Education in India: Can We Fill the Financing Gap?'. *International Journal of Educational Development*, 32(1): 65–71. <https://doi.org/10.1016/j.ijedudev.2011.02.001>
- Mizunoya, S., S. Mitra, and I. Yamasaki (2018). 'Disability and School Attendance in 15 Low-and Middle-Income Countries'. *World Development*, 104: 388–403. <https://doi.org/10.1016/j.worlddev.2017.12.001>
- Purkayastha, M. (2021). 'Why the Right to Education Law Hasn't Worked Wonders'. *Deccan Herald*. Available at: <https://www.deccanherald.com/opinion/panorama/why-the-right-to-education-law-hasnt-worked-wonders-998655.html> (accessed 17 August 2022).
- Schaeffer, K. (2020). 'As Schools Shift to Online Learning Amid Pandemic, Here's What We Know About Disabled Students in the U.S.'. Pew Research Center. Available at: <https://www.pewresearch.org/fact-tank/2020/04/23/as-schools-shift-to-online-learning-amid-pandemic-heres-what-we-know-about-disabled-students-in-the-u-s/> (accessed 17 August 2022).
- Shah, M., and B. Steinberg (2019). 'The Right to Education Act: Trends in Enrollment, Test Scores, and School Quality'. *AEA Papers and Proceedings*, 109: 232–38. <https://doi.org/10.1257/pandp.20191060>
- Srivastava, P., and C. Noronha (2016). 'The Myth of Free and Barrier-Free Access: India's Right to Education Act – Private Schooling Costs and Household Experiences'. *Oxford Review of Education*, 42(5): 561–78. <https://doi.org/10.1080/03054985.2016.1220087>
- Trani, J.-F., and T.I. Cannings (2013). 'Child Poverty in an Emergency and Conflict Context: A Multidimensional Profile and an Identification of the Poorest Children in Western Darfur'. *World Development*, 48: 48–70. <https://doi.org/10.1016/j.worlddev.2013.03.005>
- UNESCO Institute of Statistics (2018). 'Education and Disability: Analysis of Data from 49 Countries'. Information Paper 49. Paris: UNESCO.
- UNESCO (2020). 'Global Education Monitoring Report 2020: Inclusion and Education – All Means All'. Report. Paris: UNESCO.