Minorities and Public Goods Provision: Evidence from Pakistan through Partition*

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Abstract

This study evaluates the impact on school provision of the expulsion of religious minorities from three regions of Colonial India that became part of Pakistan at partition. Prior to the partition the proportion of minorities varied considerably across districts within these regions. However, the partition–based along religious lines–substantially reduced these proportions almost immediately to negligible levels in all districts. I find that districts with a higher proportion of minorities prior to the partition experienced smaller increases in the number of schools per thousand persons after partition, relative to districts with a lower proportion of minorities. Hence, implying that the presence of minorities had a positive impact on school provision. The effect of minorities is in part explained by their higher pre-partition literacy rates. This does not, however, explain the whole of the influence of these groups. Other mechanisms, such as the occupational structure of minorities and the social capital sustained through their participation in shared religious festivals also mattered.

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1 Introduction

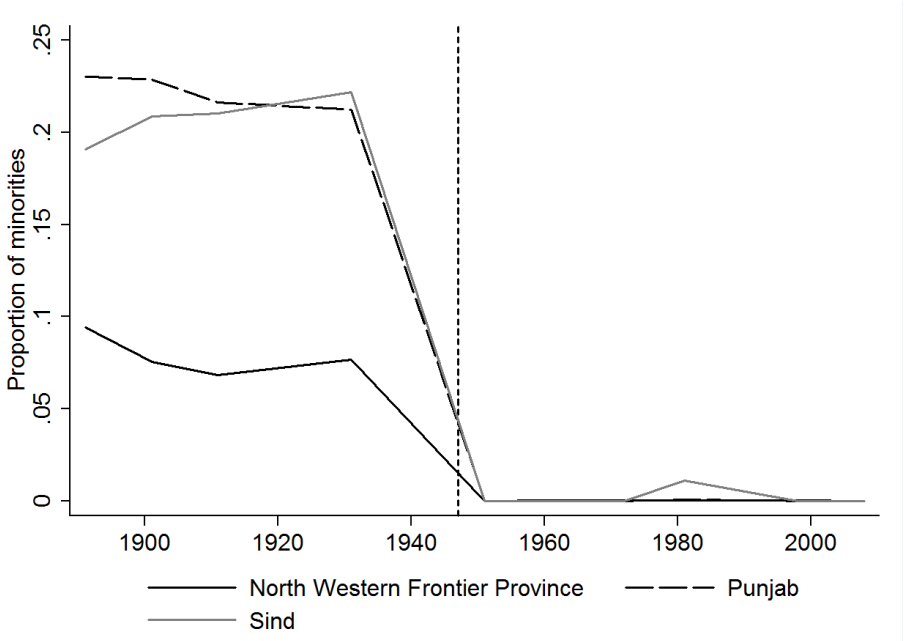
The partition of British India in 1947 was a landmark occasion in the history of the subcontinent that lead to an unprecedented mass migration of 17 million people, and involved nearly a million deaths in the wake of the communal riots that ensued between Hindus and Muslims on either side of the newly created India-Pakistan border (Bharadwaj and Mirza, 2016). What is surprising, however, is the dearth of studies that analyze the impact of such a monumental event on the economic development of post-Independence India and Pakistan. While there are papers (Bharadwaj, Khwaja, and Mian, 2009; Jha and Wilkinson, 2012; Bharadwaj and Fenske, 2012; Bharadwaj and Mirza, 2016) that contribute in important ways to our understanding of the demographic consequences of partition, the role of combat experience during WWII on ethnic cleansing during the partition, and the impact of partition-related migratory movement on jute cultivation and crop yields, none of them offer an explanation of the consequences of partition for public goods provision.

In this paper I, therefore, focus on the long-term impact of the partition induced expulsion of religious minorities (henceforth termed minorities) from Pakistan on one particular development outcome: the provision of schools. The minorities are either Hindus or Sikhs. My reason for including only the members of these two communities as minorities is because they formed almost the whole of non-Muslim population in the the three regions of Colonial India–Western Punjab, Sind and NWFP[1]–that later became part of Pakistan. Throughout the period before partition there was significant heterogeneity in the proportion of minorities across these regions. However, the mass exodus of the minorities in the wake of the communal rioting that took place around the time of partition substantially reduced these proportions almost immediately to negligible levels. Visually, this is corroborated by Figure 1. Such a sudden and universal drop in the proportion of minorities combines with the pre-partition differences in the proportion of minorities to allow for a treatment-control strategy that I use to identify the impact of the expulsion of minorities on school provision. As part of my identification strategy, I argue that the partition represents a plausibly exogenous source of variation in the proportion of minorities. This is because the decision to partition was a consequence of a religio-political struggle that expelled minorities from districts on both sides of the partition border irrespective of the economic characteristics or later potential for school expansion of those districts. Using

[1]North Western Frontier Province

pre-partition schooling data, I verify that this is indeed the case by showing that there is no systematic difference in the number of schools per thousand persons between districts that are on either side of the partition border prior to 1947.

FIGURE 1: Drop in proportion of minorities after partition



Notes: The figure excludes the 1941 census numbers that are widely regarded as being unreliable. Furthermore, most of the out migration of minorities shown in the figure took place in the brief period between 1947 and 1951.

I find that the expulsion of minorities had a statistically significant and negative impact on school provision after partition. Specifically, those districts that had a higher proportion of minorities prior to partition experienced smaller increases in the number of schools per thousand persons after partition, relative to districts with a lower proportion of minorities prior to partition. Hence, implying that the presence of minorities had a positive impact on the provision of schools. I find the result using a long panel dataset that brackets the date of partition. Furthermore, the result is not sensitive to the inclusion of several controls such as the log of population density, the interaction between post-partition dummy and average pre-partition rainfall between 1919 and 1923, the interaction between post-partition dummy and the literacy of in-migrants in 1951, the interaction between

post-partition dummy and the number of army personnel per thousand persons in 1931, district fixed effects, year fixed effects and region specific trends.

I argue that the demographic make-up of the minorities who left at partition played a role in terms of their positive contribution towards school provision. The minorities were more literate than both the majority who stayed behind and the in-migrants who replaced them. They were also concentrated in mercantile occupations. Given the positive association of adult literacy and mercantile occupations with school provision, I highlight the demographic changes induced by the expulsion of minorities at partition as a plausible mechanism for my result. Another explanation I offer for the influence of the minorities centres on their sustenance of social capital through participation in shared religious gatherings.

The identification strategy used in this paper is motivated from Bleakley (2007). The study uses differences in hookworm infection rates prior to a targeted public-health intervention campaign that substantially reduced hookworm infection to identify the impact of hookworm disease on school enrolment, attendance and literacy in the American South. Another methodologically related paper is Topalova (2010). The paper investigates the impact of trade-liberalization on poverty and inequality. It uses district level variation in the pre-liberalization composition of industries to identify the effect of the liberalization reforms on poverty incidence and depth across rural Indian districts. Finally, this paper is also methodologically similar to Acemoglu, Lyle, et al. (2004). The study exploits differences in the pre-World War II mobilization rates of men to identify the impact of female labour supply on wage structure post-World War II.

This paper extends the literature on the long term impacts of historical events on contemporary economic outcomes (see Nunn (2009) for a review). A closely related study is Acemoglu, Hassan, and Robinson (2010). The study utilizes pre-World War II heterogeneity in the proportion of the population that is Jewish to identify the long-term impact of the holocaust on economic and political outcomes in post-World War II Russia. Another relevant paper is McQuoid (2011). The paper examines the effect of the mass in-migration of Jews after the collapse of the Soviet Union on local public goods expenditures in Israel. In yet another related study Bhalotra and Clots-Figueras (2014) show how differences in the participation of women in state legislatures across India are related with improvements in the provision of antenatal and childhood health services. Although these papers offer valuable insights into effect of a highly skilled workforce on various economic development outcomes none of them focus, specifically, on the provision

of public goods. This paper fills such a gap by emphasizing the role played by a highly skilled minorities in the provision of public goods.

This study also makes an important contribution to the literature on the relationship between diversity and economic development (Easterly and Levine, 1997; Miguel and Gugerty, 2005; Alesina, Baqir, and Easterly, 2000; Alesina and La Ferrara, 2005). By showing that districts with a higher pre-partition proportion of minorities suffered more from the expulsion of minorities in terms of school provision this paper provides evidence for diversity being beneficial to the provision of public goods. Such evidence is contrary to the conventional explanation offered in the literature, according to which an increase in diversity hampers collective action and leads to fewer public goods being provided.

The rest of this paper is organized as follows. Section (2) provides a summary of the main developments in the educational system both during the colonial era and in post-partition Pakistan. Section (3) describes the data and provides descriptive statistics. Section (4) explains the identification strategy and the empirical specification. Section (5) presents the results and discusses the outcome of a series of robustness exercises. Section (6) highlights the mechanisms that explain the results. Finally, Section (7) concludes the paper.

2 The Educational System

2.1 Colonial Era

An exhaustive review of the education in colonial India has already been provided in (Chaudhary, 2007, 2012; Nurullah and Naik, 1951; Agrawal, 1986). Therefore, I will only focus on the key developments in education during the colonial era. Broadly speaking, the history of education in British India can be divided into four distinct periods. The first covers the early part of the 19th century during which the pre-existing indigenous schooling system was replaced with the new state system of education introduced by the East India Company. Later on, beginning in the 1860s, the British Crown took over and brought the system under the direct control of the central colonial government. Then, after the Montague-Chelmsford reforms of 1919 the system was handed over to elected Indian ministers from the provinces under Dyarchy rule (Chaudhary, 2007). Finally, after the passing of the Government of India Act of 1935 that signalled the end of Dyarchy

rule, changes were made to increase the direct control of elected Indian ministers over the system.

It was at the start of the third phase with the advent of Dyarchy rule that the foundations for a system of mass education were laid for the first time in British India. The various Primary Education Acts that were passed in most of the British Indian provinces were the most significant pieces of legislation relating to this phase. The Acts were introduced in the Punjab in 1919 and in Sind in 1923. Although the Acts made Indian minsters elected at the provincial level responsible for the overall educational policy the actual control and administration of schools was left up to the sub-provisional local authorities. The local authorities were given the task for examining the educational needs of their areas and for preparing schemes for the expansion and development of primary education within their jurisdiction. They were also to share the burden of the cost of providing schools with the central government. As per the cost sharing agreement the local authorities were to levy an educational tax to meet their own share of the cost of providing schools. They were also to be given public subsidies by the central government, known as grant-in-aid, to partially support schools that fulfilled certain criteria[2].

The phase under Dyarchy rule witnessed a rapid expansion of the educational infrastructure overseen by the local authorities. For instance during the 1922-1927 quinquennium the number of recognised primary schools for British India increased from 160,072 in 1922 to 189,348 in 1927[3]. Such figures represent an unprecedented 15.5% increase in the number of schools in just five years. The Hartog (1929) committee report that reviewed the growth of education in British India after the Dyarchy reforms noted that all provinces had contributed to a greater or lesser extent towards the rapid expansion in schools[4]. However, the increase in educational infrastructure did not translate into a corresponding increase in the literacy rate of the population. This is clear from the figures given in the Hartog (1929) committee report. As per the report a literate person was someone who managed to achieve success up to Class IV in school. Using such a definition the report noted that for every hundred students who were enrolled in Class I at the start of the

[2]The criteria were that schools had to follow a secular curriculum, they had to be under private management, and they had to be open to public inspection

[3]Hartog, P.J., 1929. Interim Report of the Indian Statutory Commission: Review of Growth of Education in British India by the Auxiliary Committee Appointed by the Commission . Vol. 3407. HM Stationery Office. Page 41

[4]Hartog, P.J., 1929. Interim Report of the Indian Statutory Commission: Review of Growth of Education in British India by the Auxiliary Committee Appointed by the Commission . Vol. 3407. HM Stationery Office. Page 40

1922-1927 quinquennium only eighteen were enrolled in Class IV in 1925-26. Such a low level of literacy despite the investment in schools was looked upon as being 'very disturbing' by the Hartog (1929) committee report[5]. In summary, the years of Dyarchy rule was characterised by a rapid expansion in educational infrastructure without a corresponding increase in the literacy rate.

The fourth and final phase of educational development in colonial India begins with the passing of *The Government of India Act* in 1935 and ends with the outbreak of the World War II in 1939. There are no significant developments to report in this brief phase and trends in education remained much the same as in the previous phase.

2.2 Post-Partition

The period immediately following the partition paints a dire picture of the state of the education in Pakistan. There was a severe dislocation of educational infrastructure in the newly created nation. For instance, Raychaudhuri, Habib, and Kumar (1983) when discussing the aftermath of partition in Pakistan observe that the event caused a severe dislocation of the educational institutions in the country[6]. The First Five Year Plan of the Planning Commission of Pakistan notes that on gaining independence the country was faced with the immediate task of saving the education system from collapse, a task that *was made difficult by the loss of supervisory and teaching personnel* who came mainly from the Hindu and Sikh minority communities[7]. In yet another reference to the grim state of education the 1951 census of Pakistan observes that the partition caused *wide gaps* to occur in the educational institutions of the country[8].

Once the period immediately following the partition was over successive attempts were made by the Pakistani state to revive the education sector in the country. A list of such attempts covering most of the period since partition is provided in Table 7. Unfortunately,

[5]Hartog, P.J., 1929. Interim Report of the Indian Statutory Commission: Review of Growth of Education in British India by the Auxiliary Committee Appointed by the Commission . Vol. 3407. HM Stationery Office. Page 44

[6]Raychaudhuri, Tapan, Irfan Habib, and Dharma Kumar, eds. The Cambridge economic history of India. Vol. 2. CUP Archive, 1983. Page 998

[7]Planning Commission. Government of Pakistan. The First Five Year Plan 1955-60. (1957). Page 539

[8]Pakistan, M. H. Census of Pakistan. Punjab and Bahawalpur State. Volume 5. (1951). Page 34

despite all the attempts at improving education the fact remains that as late as 2012 there were 49.5 million illiterate adults in the country - the third largest illiteracy rate globally[9].

3 Data

For the empirical analysis I constructed a panel dataset at the district level from 1891 to 2008. To construct the panel, I used data sources from both the pre and post-Partition periods. The following paragraphs describe my data sources and the method I used in constructing the variables in my analysis.

3.1 Dependent Variable: Schools per thousand persons

For constructing my dependent variable, I aggregated the number of schools across gender (i.e. male and female) and across type (i.e primary, middle and high) to arrive at the total number of schools at the district level. I then divided the total number of schools in each district by the district population and multiplied the resulting ratio with a 1000 to calculate my dependent variable: the number of schools per thousand persons. The pre-partition data on the number of schools, which covers the years 1891, 1901, 1911 and 1931, come from the Colonial District Gazetteers. The Gazetteers are a rich source of data that record the number of primary, middle and high schools for each district for both males and females. Additionally, they have information on enrolment in and expenditure on schools. The data on enrolment and expenditure is hard to collect as it exists across several tables, each given in a separate Gazetteer. The post-partition data on the number of schools at the district level come from the District Census Reports of Pakistan that cover the years 1961, 1972, 1981 and 1998 and the 2008 Provincial Development Statistics of Pakistan.

Moreover, I use the Colonial Census Reports to get the numbers on district population for the pre-partition period. The Census Reports date back to 1872, when the first systematic attempt to record the Indian population using modern methods was made. However, it was not until 1881 that the first synchronous census, covering both British India and the Princely States, was held. After 1881 a census was held uninterruptedly at ten year intervals until 1941 - the last year before the partition. Each census, aside from

[9]UNESCO, E., 2012. Education for All Global Monitoring Report 2012 Fact Sheet: Education in Pakistan. Page 1

the one of 1941, covers a wide range of information relating to the population such as age, sex, religion, literacy, marital status, civil condition, occupation, caste, language and migration. Finally, I extract the numbers on district population for the post-partition period from the District Census Reports of Pakistan.

3.2 Explanatory Variable: Post X Pre-Partition Proportion of Minorities

For my main explanatory variable I aggregate the number of Hindus and Sikhs at the district level for the pre-partition years of 1891, 1901, 1911 and 1931. I then divide the sum by the district population to compute the proportion of minorities for each of the years. Finally, I multiply the pre-partition proportion of minorities with the post-partition dummy (i.e. an indicator variable that takes a value one if the year is greater than or equal to 1947 and 0 otherwise) to construct my main explanatory variable– $Min_i^{Pre} \times Post_t$. I use the Colonial Census Reports to get the district population and the population of Hindus and Sikhs in each district.

3.3 Control Variables

In addition to including district fixed effects, year fixed effects and region specific trends, my specification includes several control variables. The first is the log of population density. The second is the interaction between pre-partition average annual rainfall and the post-partition dummy, $Rain_i^{Pre} \times Post_t$. I included such an interaction to control for the initial economic development of the districts[10]. Third is the interaction between the number of army personnel per thousand persons in 1931 and the post-partition dummy, $Army_i^{1931} \times Post_t$. Such an interaction term controls for the influence of partition-related violence on local development[11]. Finally, I included the interaction between the literacy rate of in-migrants in 1951 and the post-partition dummy, $MigLit_i^{1951} \times Post_t$, to control for the influence of the literacy of in-migrants at partition on school provision post-partition. I use the 1951 census of Pakistan to extract the literacy rates for in-migrants

[10] According to (Bloom, Sachs, Collier, and Udry, 1998) districts' geographical characteristics, such as rainfall, are important determinants of their development trajectories

[11] Jha and Wilkinson (2012) in their paper show that military experience prior to the partition increased the propensity for ethnic cleansing at the time of partition

at partition. The census provides literacy rates for displaced in-migrants that arrived in each district.

3.4 Other Variables

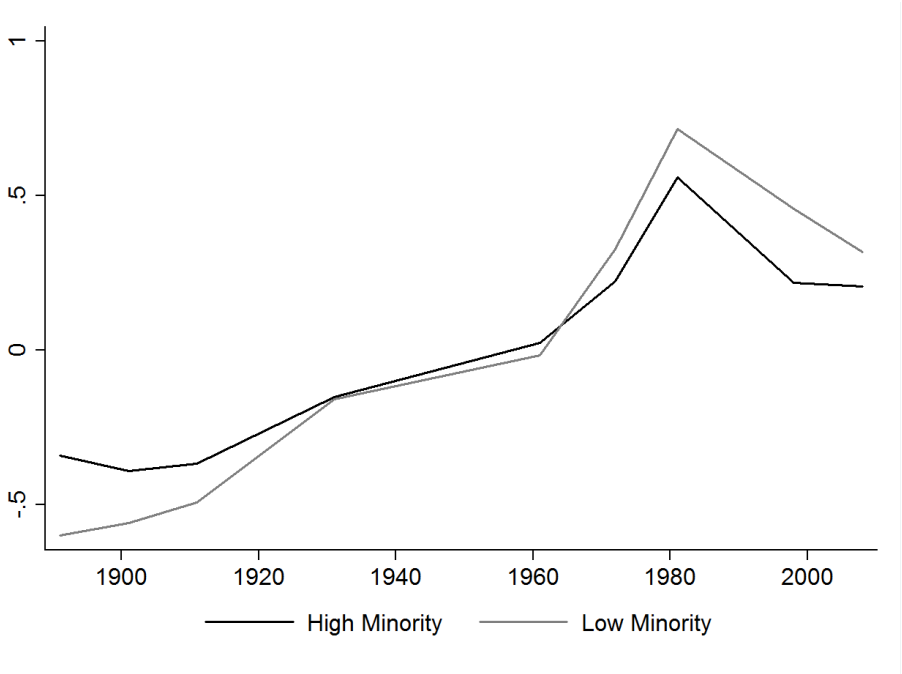
I also calculate the literacy rate of the minority and majority communities for the pre-partition period. In the case of the minority community I aggregate the number of literate persons who are either Hindu or Sikh at the district level for the pre-partition years of 1891, 1901, 1911 and 1931. I then divide the sum by the district population to calculate the proportion of literate minorities for each of the years. I repeat the same exercise to calculate the literacy rate of the Muslims for the same pre-partition years. I use the data on the literacy rates of the different religious communities to draw Figure 3. Additionally, I use the 1931 Colonial Census Report to record the traditional occupations that are followed in the Hindu, Sikh and Muslim communities. The 1931 Census Report provides data on caste of persons who come from each religion. The castes covered are of a wide variety and each one of them has a traditional occupation associated with it. I use the information on the traditional occupation of each caste to create broader occupational categories for each religion. The occupational categories I create are agricultural, religious, mercantile, artisan, menial and outcast and other. I use the data on the occupational categories for each religion in Table 6.

4 Descriptive Statistics

There are two outcomes that are consistent with the expulsion of minorities at partition having a negative impact on school provision after partition. Firstly, the high-minority districts would have to have a greater number of schools per thousand persons relative to low-minority districts prior to partition. Secondly, the increase in schools per thousand persons would have to be smaller for high-minority districts relative to low-minority districts after partition. Both Table 1 and Figure 2 show that this is indeed the case. Table 1 shows smaller increases in schools per thousand persons between 1891 and 2008, alongside lower average number of schools per thousand persons in 1891, in the high-minority districts relative to the low-minority districts. Figure 2 shows that high-minority districts have more schools per thousand persons relative to the low-minority districts prior to partition, but then the trend switches to low-minority districts having greater schools

per thousand persons relative to high-minority districts throughout most of the period after partition. It is important to note here that Figure 2 *does* take into account district fixed effects. The high-minority districts were also different along other dimensions in 1891. As shown in Table 1, they had higher population density, lower average annual rainfall and fewer army personnel per capita during pre-partition.

FIGURE 2: Minority presence and school provision



Notes: The variable on the y-axis which is the predicted residuals for the annual number of schools per thousand persons has been stripped of district fixed effects. To do so I first regressed the number of schools per thousand persons on district dummies. I then predicted the residual values for schools per thousand persons and plotted these residuals by year, distinguishing between high and low minority districts as based on the 1891 sample of districts.

5 Empirical Framework

5.1 Identification

The identification strategy that I use in this paper has three main components. Firstly, as shown in Figure 1 there is substantial variation in the proportion of minorities across districts during pre-partition. For instance, the proportion of minorities varies from

thirty nine percent in the district with highest proportion of minorities to five percent in the district with the lowest proportion of minorities in 1891. Such heterogeneity allows for a treatment-control strategy in identifying the impact of the expulsion of minorities on school provision post-partition. Secondly, the partition of India was the result of a political struggle that removed minorities from districts irrespective of their economic characteristics or their potential for school expansion. Therefore, the partition should not be thought of as being endogenous with respect to pre-partition differences in economic development. I carry out two empirical exercises to show that this is the case. In Table 2, I compare schools per thousand persons between Pakistani and Indian districts that are contiguous to the border to show that they are similar during pre-partition. Additionally, in Table 3, I regress pre-partition schools per thousand persons on a dummy variable for the selection of a district into India[12]. It is clear that schools per thousand persons are not significantly correlated with the selection into the Indian side of the partition border. Finally, the partition led to the expulsion of minorities within a short span of time. Bharadwaj, Khwaja, and Mian (2008) show that most of the minorities had been expelled from the regions that became part of Pakistan within the first four years after partition. This is a sudden and sharp decline in the proportion of minorities on the long time scale upon which I examine school provision and as such represents a shock treatment to religious diversity.

5.2 Specification

I use the following reduced form equation to estimate the impact of the expulsion of minorities on school provision:

$$Y_{it} = \delta + \beta(Minorities_i^{Pre} \times Post_t) + \gamma_t + \mu_i + \eta X_{it} + \zeta_j \times t + \epsilon_{it} \tag{1}$$

Y_{it} represents the outcome of interest (i.e. numbers of schools per thousand persons) in district i at time t. γ_t are year dummies controlling for calendar year fixed effects, μ_i are district dummies controlling for district fixed effects, and $\zeta_j \times t$ are region-specific time trends controlling for region-specific time varying characteristics. X_{it} is a vector of time varying control variables. The interaction between the pre-partition proportion of minorities and the post-partition dummy, $Minorities_i^{Pre} \times Post_t$, is the main variable

[12]For both Tables 2 and 3 the sample is restricted to the Punjab state that was bifurcated at partition and was the most contested.

of interest. It assesses the impact of the expulsion of minorities over observed changes in school provision across districts post-partition. Given the panel nature of the data, I cluster standard errors at the district and year levels.

6 Results

6.1 Full Sample

In this subsection, I estimate the impact of the partition induced expulsion of minorities on school provision using equation (1) above. The results from estimating equation 1 are presented in Table 4. They are organized into four Panels. Panel A displays the estimates of the variable of interest, $Minorities_i^{1891} \times Post_t$, based on the pre-partition year 1891. Panels B, C and D show the estimates of the variable of interest based on the pre-partition years of 1901, 1911 and 1931, respectively. The choice of four separate pre-partition years was to show the robustness of the results throughout the pre-partition period. Column 1 shows the estimate for the most parsimonious specification that includes only the district dummies, year dummies and region specific trends. Column 2 includes the log of population density, the interaction between post-partition dummy and number of army personnel per thousand persons in 1931 and the interaction between post-partition dummy and average annual rainfall in millimetres between 1919 and 1923. Finally, column 3 adds the interaction between post-partition dummy and proportion of literate in-migrants in 1951 to the specification in Column 2.

I find a reduction in schools per thousand persons in the post-partition period for districts that had a higher proportion of minorities prior to partition. This is true for all the specifications and for each of the four pre-partition years upon which the variable of interest is based. Such results are reassuring as they indicate that the estimates are robust to the variable of interest being based on any of the four pre-partition years. Specifically, the point estimate of -0.911 on $Minorities_i^{1891} \times Post_t$ in Column 3 of Panel A implies that a 10-percentage point increase in the proportion of minorities in 1891 translates into a 0.0911 decrease in the number of schools per thousand persons in the post-partition period. The coefficient estimate should be considered in comparison to: a mean of 0.22 and a standard deviation of 0.27 schools per thousand persons in 1891, a mean of 0.95 and a standard deviation of 0.42 schools per thousand persons in 2008 and

a mean of 0.99 and a standard deviation of 0.42 schools per thousand persons for the post-partition period.

6.2 Subsamples

The estimated relationship between pre-partition minorities and post-partition school provision exhibited noteworthy differences across various subsamples. Firstly, there were differences in the way in which male and female schools were affected by pre-partition minorities. I ran separate regressions using male and female schools per thousand persons as the dependent variable. The results, not presented here, show a negative and significant impact of pre-partition minorities on male schools per thousand persons, however, the impact on female schools per thousand persons is not significant. Secondly, primary schools were impacted differently relative to middle and high schools by pre-partition minorities. I ran separate regressions using primary, secondary and high schools per thousand persons as my dependent variable. The results, not presented here, show a significant and negative impact of pre-partition minorities on primary school provision but no impact on either middle or high school provision.

6.3 Robustness

6.3.1 Difference-in-Differences

To reinforce my results I utilize an alternative specification–see equation 2 below–where I regress the number of schools per thousand persons in district i at time t, Y_{it}, on the proportion of minorities in district i at time t, $Minorities_{it}$, along with the controls and the fixed effects for the whole panel. The results of the regression are presented in Table (6). The sign on the coefficient of the proportion of minorities variable, $Minorities_t$, is both positive and significant. This provides further evidence that the positive influence of minorities in increasing the number of schools per thousand persons persists throughout the whole period of my panel from 1891 to 2008.

$$Y_{it} = \delta + \beta(Minorities_{it}) + \gamma_t + \mu_i + \eta X_{it} + \epsilon_{it} \tag{2}$$

6.3.2 Other Robustness

An important concern with my results is that they could be due to mean reversion rather than due to the minorities. In other words, those districts that had fewer schools because of a temporary shock in the pre-partition period could have experienced greater increases in schools per thousand persons post-partition, even if the removal of minorities had not influenced school provision. I controlled for such mean reversion by including region-specific trends in all my regressions.

Another concern is the relabelling of schools from being secular (ie, religiously neutral) to religious during the post-partition period[13]. If in the districts that had a higher proportion of minorities during pre-partition more secular schools were relabelled as being religious during the post-partition period then my results would be driven by a substitution rather than a levels effect. I show that this is not the case by providing the ratio of religious schools to secular schools for the post-partition period from 2005-06 to 2007-08 in two provinces of Pakistan in Table 5. The ratio remains consistently small throughout the period in both provinces.

7 Mechanisms

The results of this paper show that areas that experienced greater out-migration of minorities at partition suffered more in terms of school provision after partition. Hence, implying that the presence of minorities had a positive influence over the supply of schools. However, the channels through which such an influence operated have not been explored thus far. This section will, therefore, highlight three such channels. Firstly, the minorities formed a highly literate community that was important to the day to day running of schools. Secondly, because of their concentration in mercantile occupations they formed a constituency for whom the education provided in schools was a highly valued commodity. Finally, by participating actively in mixed religious gatherings they sustained the social capital that was crucial to the provision of schools. There are other channels through which it could be argued that the minorities had an impact on schooling that are not included in this paper. This section, therefore, does not offer a comprehensive explanation for the influence of minorities. Instead it documents in detail three channels that are important.

[13]Note that I only include secular schools in my panel dataset

7.1 Minorities and Literacy

Figure 3 compares the literacy rate of the minorities with that of the majority in each of the three colonial regions that became part of Pakistan for the pre-partition census years of 1901, 1911, 1921 and 1931. The Hindus and Sikhs had a much higher literacy rate relative to the Muslims throughout the four census years. The educational ascendency of minorities, however, is not just restricted to trends in the data. It is also apparent in the observations of colonial administrators given in official documents. The 1881 census observed that the proportion of Hindus and Sikhs at school or already educated was higher in the districts where they formed a minority community[14]. The 1907 gazetteer of the Attock district noted that literacy was highest amongst Hindus and Sikhs. The 1883-84 gazetteer of the Lahore district termed the pre-eminence of the Hindus in education as remarkable and acknowledged the considerable progress that had been made in the education of Sikh males[15]. Even in the Rawalpindi district where the overall literacy rate was low compared to other districts, the Sikhs and Hindus were had a better position in terms of their education relative to the Muslims[16]. Moreover, in a study on Hindu-Muslim literacy differences in colonial India Chaudhary and Rubin (2011) show that the Hindu lead over Muslims in terms of literacy persisted throughout the colonial era.

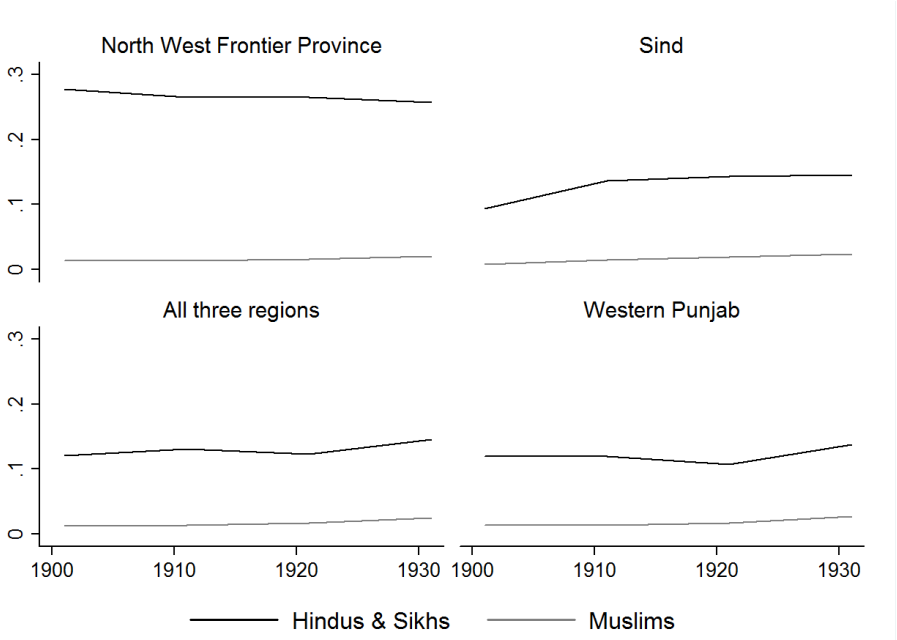
Both the trends in literacy and the observations of colonial administrators summarised above suggest that the minorities did indeed represent a highly literate constituency. However, what remains to be shown is how the literacy of the minorities impacted school provision. Here I turn to the literature in economics that argues for the positive externalities of adult literacy in terms of education. There are two strands of such a literature. The first links adult literacy with the demand for education. It shows that literate parents are more likely to enrol their children into schools and take an active interest in their education. For instance, Behrman, Khan, Ross, and Sabot (1997) find that the education of fathers improves the performance of children on various tests at schools in rural Pakistan. Moreover, Brown (2006); Lavy (1996); Tansel (1997); Mincer (1974); Becker (1975); Arrow (1973); Riley (1976, 1979) all find that educational outcomes are positively associated with the parental education in the context of other developing countries.

[14]Punjab (India), and Sir Denzil Ibbetson. Report on the Census of the Panjab Taken on the 17th of February 1881. Superintendent of Government Printing Press., 1883. Text and Appendices. Page 405

[15]Gazetteers, Punjab District. Gazetteer of the Lahore District, 1893-94. Page 84

[16]Gazetteers, Punjab District. Gazetteer of the Rawalpindi District, 1883-84. (1884). Page 98

FIGURE 3: Hindu, Sikh and Muslim literacy prior to Partition



Notes: Since the literacy rate for the Khairpur Princely State is not available on a consistent basis throughout pre-partition it is excluded from the line graph for Sind

There are several statements in the colonial reports from the pre-partition period that point to the eagerness with which the literate minorities sought education for their children. For instance, the 1929 Muzaffargarh district gazetteer when referring to the Hindus and Sikhs observes that no special measures were necessary in case of promoting literacy amongst these groups as they were ready to take advantage of every opportunity of providing education to their children[17]. Similarly, the 1921 gazetteer of the Gujrat district points out that the Hindus were quick to take advantage of the education offered in schools and had successfully managed to secure jobs in government departments[18].

Another strand of the literature argues that higher adult literacy reduces the constraints on the supply of schools by increasing the pool of teachers that are available in the local population. This is especially relevant in the case of rural areas in developing countries where school teachers have to be hired locally due to lower occupational mobility and higher relocations costs. Two relevant studies here are (Andrabi, Das, and Khwaja, 2013) and (Andrabi, Das, and Khwaja, 2008). Both show a positive impact of adult female education on educational access in rural Pakistan. They find that schools are more likely to emerge in villages that have a government girls' secondary school as opposed to those that don't. The reason given is that villages with girls' secondary school have a readily available supply of low-cost teachers in form of educated adult females who are crucial to the functioning of schools.

Anecdotal evidence referring to the pre-partition period clearly points to the abundance of the literate minorities in the teaching profession. For instance, Raychaudhuri, Habib, and Kumar (1983) when discussing the aftermath of partition in Pakistan observe that the event dislocated educational institutions in the country by causing the sudden departure of teachers and instructors who mainly came from the Hindu and Sikh populations[19]. Additionally, the First Five Year Plan of the Planning Commission of Pakistan acknowledged the damage caused to the educational sector by the *sudden departure of Hindu teachers and instructors* at partition who had manned the staff of the technical institutions, schools, colleges and universities[20]. However, the most vivid illustration of the involvement of minorities in provision of schools is given in the Hartog (1929) committee report that reviewed the growth of education during the Dyarchy years between 1919

[17]Gazetteers, Punjab District. Gazetteer of the Muzaffargarh District, 1929. Page 291

[18]Gazetteers, Punjab District. Gazetteer of the Gujrat District, 1921. Page 50

[19]Raychaudhuri, Tapan, Irfan Habib, and Dharma Kumar, eds. The Cambridge economic history of India. Vol. 2. CUP Archive, 1983. Page 998

[20]Planning Commission. Government of Pakistan. The First Five Year Plan 1955-60. (1957). Page 7

and 1930. The report states that in the Punjab and the North-West Frontier Province, the Hindu and Sikh minority communities did *good service to the cause of education by the maintenance of a large number of schools and colleges*[21]. It goes on to state that the subscriptions and donations raised by the Hindus and Sikhs represented the *nucleus of the financial resources* of the schools in the two regions[22]. Such dominance of the educational sector by the minorities meant that their expulsion at partition resulted in a constraint being imposed on the supply of schools.

The above paragraphs have described how the minorities made a positive contribution to school provision by virtue of their higher literacy rates. I now investigate the extent to which the higher literacy of minorities can account for their impact on school provision described in my main results in section (6). To do so I first estimate equation 2 below with both the interaction term based on the pre-partition literacy rate, $Literacy_i^{Pre} \times Post_t$, and the interaction term based on pre-partition proportion of minorities, $Minorities_i^{Pre} \times Post_t$, on the right hand side.

$$Y_{it} = \delta + \beta(Minorities_i^{Pre} \times Post_t) + \lambda(Literacy_i^{Pre} \times Post_t) + \gamma_t + \mu_i + \eta X_{it} + \zeta_j \times t + \epsilon_{it} \quad (3)$$

I then compare the estimates of equation 2 with the estimates of equation 1. For ease of comparison I have reported the estimates of equation 2 alongside those of equation 1 in the last column of Table 4. Once the impact of pre-partition literacy on post-partition school provision has been controlled for the impact of pre-partition minorities on post-partition school provision goes down somewhat in both magnitude and significance. This suggests that the positive influence of the minorities on schooling was at least in part mediated through their contribution towards literacy.

7.2 Minorities and Occupation

Aside from their higher literacy rates the Hindus and Sikhs also differed in terms of their occupations in the regions that became part of Pakistan. Large proportions of them belonged to traditional mercantile castes that were involved in small-scale money

[21]Hartog, P.J., 1929. Interim Report of the Indian Statutory Commission: Review of Growth of Education in British India by the Auxiliary Committee Appointed by the Commission . Vol. 3407. HM Stationery Office. Page 246

[22]Hartog, P.J., 1929. Interim Report of the Indian Statutory Commission: Review of Growth of Education in British India by the Auxiliary Committee Appointed by the Commission . Vol. 3407. HM Stationery Office. Page 246

lending to farmers for agricultural purposes[23]. Almost every village in western Punjab had a traditional moneylender who was either a Hindu or Sikh and who provided a *much needed source of credit for cultivation* (Raychaudhuri, Habib, and Kumar, 1983). Table 6 provides evidence for the predominance of the minorities in mercantile occupations during pre-partition. It shows the occupational distribution of the majority Muslim and the minority Hindu and Sikh communities for each district of Punjab in 1931 that became part of Pakistan. In a clear majority of the districts the proportion of Hindus and Sikhs in mercantile castes is higher than the proportion of Muslims. As was the case with their dominance in terms of literacy the higher concentration of the minorities in commercial occupations was also noted by colonial administrators in official publications. For instance, the 1881 census of the Punjab states that the Hindus and Sikhs were mostly traders in those districts where they formed a minority[24]. According to the 1884 gazetteer of the Muzzaffargarh district almost the whole of the trade, moneylending, and banking was in the hands of the Hindus from the Arora caste[25]. The Hindu Aroras were also the chief moneylenders and capitalists and the chief creditors of the agriculturists in the Jhang district[26]. The Hindu and Sikh Aroras controlled the moneylending business in the Montgomery district[27]. The three most numerically important Hindu castes in the district of Attock were said to have divided amongst themselves almost the whole trade and money-lending business[28]. These statements and others like them provide ample evidence for the fact that the minorities had a substantial presence in commercial occupations in the districts from which they were expelled at partition.

Having established the high concentration of minorities in mercantile castes I now argue that mercantile occupations are indeed important for schooling. The demand for schooling, and more broadly educational demand, is higher in occupations where the expected market returns to education are high. The strong positive correlation between market returns to education and the demand for education is corroborated by several studies (Nguyen, 2008; Jensen, 2010; Attanasio and Kaufmann, 2009). In mercantile occupations, where the market returns to academic skills such as numeracy and literacy are high, education plays a crucial role. It was the mercantile castes, composed largely of the

[23]The three main commercial castes of the Khatris, Aroras and Baniahs were all either Hindu or Sikh

[24]Punjab (India), and Sir Denzil Ibbetson. Report on the Census of the Panjab Taken on the 17th of February 1881. Superintendent of Government Prtg., 1883. Text and Appendices. Page 125

[25]Gazetteers, Punjab District. Gazetteer of the Muzaffargarh District, 1883-84. (1884). Page 70

[26]Gazetteers, Punjab District. Gazetteer of the Jhang District, 1883-84. (1884). Page 68

[27]Gazetteers, Punjab District. Gazetteer of the Montgomery District, 1883-84. (1884). Page 69-70

[28]Gazetteers, Punjab District. Gazetteer of the Attock District, 1930. Page 115

minority Hindu and Sikh communities, that took a keen interest in education throughout the colonial period. For instance, the 1883-84 Jhang gazetteer notes that the Hindu mercantile castes of Khatris and Aroras chiefly availed themselves of the means of education in the district[29]. The 1929 Muzaffargarh gazetteer observes that the commercial castes of the district comprising mainly of Hindus had eagerly accepted education[30].

7.3 Minorities and Social Capital

Minorities were also important in sustaining the social capital that was crucial for school provision. Their presence at mixed religious gatherings in the various holy places–*shrines, temples and gurduwaras*–of Punjab, Sind and NWFP contributed towards the promotion of local social capital. Most of the mixed religious gatherings took place at the shrines of various Muslim saints. These saints were held in great regard equally by Hindus, Sikhs and Muslims. The chief reason for this was the peculiar form that popular religion took in the consciousness of the populace. Hinduism, Islam and Sikhism in these regions in their popular form, were based on the common practice of saint veneration as opposed to a deeper understanding of the holy scriptures and theology. The work of Mir (2010) on culture in the colonial Punjab argues that the discourse on piety in Punjab was inextricably linked to the worshipping of sufi saints, a practice that attracted people of *diverse religious and class affiliations*[31]. Perhaps, the most salient example of the shared worship of saints was the cult of the Panj Pir (ie, Five Pirs). The Panj Pir was a term used for a collection of five saints that were worshiped by all Punjabis, regardless of their religion. However, who exactly the five saints were was always a matter of contention. They invariably contained a mixture of the famous personalities from all religions such as Guru Gobind Singh (Sikh), Sakhi Sarwar (Muslim), Baba Fariduddin Ganj-i-Shakar (Muslim), Vishnu (Hindu) and Durga (Hindu).

Aside from the worship of the Panj Pir there are several other references in colonial documents, which show that the worship of sufi saints was common amongst Punjabis from all religious backgrounds. Maclagan (1892) when discussing the Muslim saints of Punjab wrote that they were *worshipped indifferently by Musalmans and Hindus*[32]. On the other

[29]Gazetteers, Punjab District. Gazetteer of the Jhang District, 1883-84. (1884). Page 52-53

[30]Gazetteers, Punjab District. Gazetteer of the Muzaffargarh District, 1929. Page 133-134

[31]Mir. Farina. The social space of language: vernacular culture in British colonial Punjab. Vol. 2. University of California Press, 2010.Page 175

[32]E.D Maclagan, Census of India 1891, Vol XIX, The Punjab and its Feudatories, Part I, The Report on the Census. Page

hand, Ibbetson (1883) noted that Hindus and Muslims alike revered Muslim saints with the *most absolute impartiality*[33]. In another instance he expressed his bewilderment at the way in which the *various observances and beliefs* that distinguished the followers of the major faiths of the Punjab *in their purity were so strangely blended and intermingled* that it was often *impossible to decide* in what category the people were to be classed[34].

The District Gazetteers provide a rich illustration of the inter-religious gatherings at shrines across the Punjab. In the Dera Ghazi Khan district the court appointed trustee of the Sakhi Sarwar shrine whilst commenting on its popularity stated that *men, women and children, Sikhs, Hindus and Mohammedans alike* flocked to it from *all the districts in the Punjab*[35]. Ibbetson (1883) also singled out the same shrine as an example of a place where *religions intermingled in an extraordinary manner*[36]. Even in the Attock district of Northern Punjab, not known for its saints, both Hindus and Muslims attended the fair at the shrine of Sultan Sadr Din Bukhari in their thousands[37]. The shrine of Barri Latif Shah in Rawalpindi district attracted around 20,000 people, Hindus as well as Muslims, to its annual fair[38]. The shrine of the saint Shah Chan Charagh in the same district was also the scene of a gathering of both Hindus and Muslims every Thursday, with the size of the crowd being largest between the months of July and August[39]. At the shrine of Musa Nawab in the Bahawalpur State both Hindus and Muslims congregated in large numbers at a fair every Sunday to make offerings to the dead saint[40]. At Uch Sharif in the same state, known for the popularity of the tombs of saints that are buried there, both Hindu and Muslim pilgrims regularly came to the shrine of Bukhari Makhdum to make all kinds of vows[41]. Perhaps the largest inter-religious gathering took place at the *Gullu Shah* shrine in Sialkot district where some 50,000 to 70,000 people attended the annual fair.

[33]Denzil. Ibbetson, Outlines of Panjab Ethnography: Being Extracts from the Panjab Census Report of 1881, Treating Religion, Language and Caste. Page 115

[34]DenzilIbbetson, Outlines of Panjab Ethnography: Being Extracts from the Panjab Census Report of 1881, Treating Religion, Language and Caste. Page 101

[35]Audrey OBrien, Mohammedan Saints of the Western Punjab. The Journal of the Royal Anthropological Institute of Great Britain and Ireland. Volume 41. Page 519

[36]DenzilIbbetson, Outlines of Panjab Ethnography: Being Extracts from the Panjab Census Report of 1881, Treating Religion, Language and Caste. Page 115

[37]Gazetteers, Punjab District.Gazetteer of the Attock District, 1907. Volume A. Page 145

[38]Gazetteers, Punjab District. Gazetteer of the Rawalpindi District, 1907. Volume XXVIII - A. 1907. Page 102-103

[39]Gazetteers, Punjab District.Gazetteer of the Rawalpindi District, 1907.Volume XXVIII - A. 1907. Page 102-103

[40]Gazetteers, Punjab States. Gazetteer of the Bahawalpur State, 1904

[41]Gazetteers, Punjab States. Gazetteer of the Bahawalpur State, 1904

In addition to the fairs and festivals at shrines there were other public festivals and carnivals *melas* in which mixed-religious gatherings were also the norm. Oberoi (1994) argues that the *melas* were a *motley assemblage of people from different neighbourhoods, villages and regions that diluted the codes of class, caste and religious differences*[42]. Foremost amongst these *melas* was the festival of *Baisakh* that was held to celebrate the arrival of spring in the Punjab. In the Multan district that had a long tradition of a culture of tolerance towards its minorities, all communities including Hindus and Muslims joined or freely in each others festivals. Indeed, so widespread was the practice that it was even expressed unintentionally in a famous local proverb of the time: *Guzri Holi RahmatullaKhede* (i.e. The Holi is over, yet Rahamatullah (a Muslim) goes on playing)[43].

The above paragraphs have shown that the gatherings represented a platform where shared experience amongst the populace was most regular and repetitive. They were occasions upon which the common values of people came to the fore. Most importantly, however, they provided an environment where the collective action that was crucial to school provision could be nurtured. At them individuals from different religions interacted in a way that transcended religious and caste boundaries. In a society that was otherwise blighted by fissures along several lines it was through such interactions that the raw materials for creating a common identity were formed. These raw materials were then built upon by the populous to further their agenda of educational, social and political reform.

8 Conclusion

This study uses the partition induced expulsion of religious minorities as an identification strategy to determine the impact of religious diversity on school provision. Its results show that those areas that had a higher proportion of minorities prior to partition suffered more in terms of school provision after partition. Thus implying that minorities had a positive influence over the supply of schools that the partition managed to remove. The positive impact of the minorities was in part due to them being more literate and having a better understanding of the material advantages to be gained from education. It was also because of their concentration in mercantile occupations where academic skills such

[42]Oberoi, Harjot. The construction of religious boundaries: Culture, identity, and diversity in the Sikh tradition. University of Chicago Press, 1994. Page 189-190

[43]Gazetteers, Punjab District. Gazetteer of the Multan District, 1923-24. Page 103

as numeracy and literacy were considered desirable. Finally, the destruction of the social capital sustained by the minorities during pre-partition that could have facilitated school provision also had a role to play.

The study makes an important contribution to the literature on the relationship between diversity and public goods provision in two important ways. Firstly, it makes use of an effective identification strategy to examine the impact of religious diversity on school provision. The strategy relies on the use of the partition induced expulsion of minorities as an exogenous source of variation in religious diversity. Moreover, its result shows that districts that experienced a greater reduction in religious diversity at partition suffered more in terms of school provision after partition. Such a result is contrary to the conventional explanation offered in the literature, according to which a reduction in diversity should have been beneficial to schooling.

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Table 1

	By pre Partition proportion of minorities			
	Whole Sample	High minorities	Low minorities	Source
Proportion of minorities (1891)	0.173	0.250	0.112	Census of India (1891)
Schools per capita (1891)	0.222	0.352	0.118	Indian District Gazetteers
Change in schools per capita (1891 to 2008)	3.288	1.517	7.514	Author's calculations
Population Density (1891)	0.012	0.013	0.012	Census of India (1891)
Average Annual Rainfall (1919-1923)	13.623	9.333	17.055	Indian District Gazetteers
Army Personnel per capita (1931)	4.292	1.613	6.435	Census of India (1931)
In-Migrant Literacy (1951)	0.275	0.269	0.279	Census of Pakistan (1951)
Number of observations	27	12	15	

Notes: The high minority districts are the ones where the proportion of minorities is above the mean level based on the 1891 sample of districts. Similarly, 'low minority' districts are the ones where the proportion of minorities is below the mean level based on the 1891 sample of districts.

Table 2

	Number of schools per capita		
	(1)	(2)	(3)
Districts	1901	1911	1931
Contiguous to Pakistani border			
Lahore	0.13	0.15	0.30
Montgomery	0.15	0.15	0.43
Gujranwala	0.16	0.23	0.49
Sialkot	0.19	0.25	0.45
Contiguous to Indian border			
Gurdaspur	0.23	0.25	0.43
Amritsar	0.17	0.19	0.48
Jullundhur	0.20	0.11	0.49
Ferozepur	0.11	0.17	…
Hoshiarpur	0.16	0.24	0.45

Notes: The sample is restricted to the Punjab state that was bifurcated at Partition and was the most contested. The source for the data is the Punjab District Gazetteer Series.

Table 3

	Number of schools per capita
	(1)
Dummy for Indian district	0.003
	(0.021)
Mean Outcome	0.322
No. of observations	140

Notes: This table shows the regression of the number of schools per capita for the pre-Partition period 1891 to 1931 on the dummy variable for an Indian district. The regression includes district fixed effects and year fixed effects. The years upon which the panel for the regression is based are 1891, 1901, 1911, 1921 and 1931. All the districts in the panel come from the Punjab state. * $p < .10$, ** $p < .05$, *** $p < .01$. Two-way clustering by district and year. Clustered standard errors in parentheses.

Table 4

	Number of schools per capita			
	(1)	(2)	(3)	(4)
			Panel A	
Post Partition Dummy X Proportion of Minorities (1891)	-0.988**	-0.905***	-0.911***	-0.849***
	(0.430)	(0.350)	(0.318)	(0.302)
Post Partition Dummy X Proportion of Literates (1891)				-10.233**
				(4.958)
			Panel B	
Post Partition Dummy X Proportion of Minorities (1901)	-1.009***	-0.887***	-0.937***	-0.972***
	(0.360)	(0.310)	(0.266)	(0.238)
Post Partition Dummy X Proportion of Literates (1901)				-4.229**
				(2.121)
			Panel C	
Post Partition Dummy X Proportion of Minorities (1911)	-1.127***	-0.986***	-1.035***	-0.874***
	(0.359)	(0.324)	(0.288)	(0.216)
Post Partition Dummy X Proportion of Literates (1911)				-3.345*
				(1.770)
			Panel D	
Post Partition Dummy X Proportion of Minorities (1931)	-1.379***	-1.207***	-1.314***	-0.885**
	(0.391)	(0.366)	(0.310)	(0.400)
Post Partition Dummy X Proportion of Literates (1931)				-2.938
				(2.258)
Number of observations	242	242	242	234

Notes: Column 1 of this table shows the regression of annual schools per capita for the period 1891 to 2008 on the interaction terms based on the pre Partition proportion of minorities in 1891, 1901, 1911 and 1931, respectively. Additionally, Column 2 includes log of population density, the interaction between post-Partition dummy and number of army personnal per capita in 1931 and the interaction between post Partition dummy and average rainfall in millimetres in the period 1919 to 1923. Column 3 adds the interaction between post Partition dummy and proportion of literate in-migrants in 1951 to the model in Column 2. Finally, Column 4 adds the interaction terms based on the pre Partition proportion of literates in 1891, 1901, 1911 and 1931, respectively, to the model in Column 3. All the above models include district fixed effects, year fixed effects and state-specific time trends. * $p < .10$, ** $p < .05$, *** $p < .01$. Two-way clustering by district and year. Clustered standard errors in parentheses.

Table 5

Year	Ratio of religious schools to secular schools	
	Punjab	NWFP
2005-06	0.099	0.090
2006-07	0.102	0.100
2007-08	0.087	0.104

Notes: The data sources are the Education Census of Pakistan (2005-06), the Punjab Development Statistics (2006-07 and 2007-08) and the NWFP Development Statistics (2006-07 and 2007-08).

Table 6

	Number of schools per capita (1)
Proportion of minorities	1.100*
	(0.638)
Mean Outcome	0.653
No. of observations	213

Notes: This table shows the regression of the number of schools per capita for each census year on the proprotion of minorities in that year for the period 1891 to 1998. Both district fixed effects and year fixed effects are included. * p < .10, ** p < .05, *** p < .01. Two-way clustering by district and year. Clustered standard errors in parentheses.

Table 7

Attempt at improving Education	Period
National Education Conference	1947-54
First Five Year Plan: 1955-60	1955-59
Second Five Year Plan	1960-64
Third Five Year Plan	1965-69
The New Education Policy	1970-71
The Education Policy	1972-77
Fifth Five Year Plan	1978-82
Literacy and Mass Education Commission	1981
The 10-Point Programme	1983
Sixth Five Year Plan	1983-87
National Literacy Plan	1984-86
Drop-In Schools	1986-89
Nationwaide Literacy Programme	1986-90
Nai Roshni Schools	1986-90
Seventh Five Year Plan	1988-92
Eight Five Year Plan	1993-97
National Education Policy	1998-2010

Source: Bengali, K., 1999. History of educational policy making and planning in Pakistan. Sustainable Development Policy Institute.