

Mission or Empire, Word or Sword? The Human Capital Legacy in Postcolonial Democratic Development

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Why are some former colonies more democratic than others? The British Empire has been singled out in the debates on colonialism for its benign influence on democracy. Much of this scholarship has focused on colonialism's institutional legacies; has neglected to distinguish among the actors associated with colonialism; and has been nation-state focused. Our subnational approach allows us to isolate the democracy effects of key actors operating in colonial domains—Christian missionaries—from those of colonial powers. Missionaries influenced democracy by promoting education; education promoted social inclusivity and spurred social reform movements. To make our case, we constructed colonial and postcolonial period district datasets of India and conducted panel analysis of literacy and democracy variations backed by case studies. The findings challenge the conventional wisdom of the centrality of the effects of British institutions on democracy, instead also highlighting the missionaries' human capital legacies.

Do colonial institutional legacies trump those of human capital development in accounting for the stark democratic variation in former colonies? Recent scholarship on colonialism has leaned towards the institutional argument in the debate on the determinants of the diverging postcolonial pathways (Acemoglu, Johnson, and Robinson 2001; Bernhard, Reenock, and Nordstrom 2004; Porta et al. 1998; Sokoloff and Engerman 2000; Treisman 2000). Such a focus detracts from societal factors, which are bound to have a bearing on the sustainability of the wider institutional architecture for democracy. The hitherto widespread reliance on the “identity of the colonial power” analytical category would also complicate an effort to uncover the variable institutional and societal effects of political, economic, military, or religious actors subsumed under this

broader identity. So does the nation-state focus of much of the relevant work, whereby colonies are assumed to map uniformly onto territories of postindependence nation-states (Arat 1991; Barro 1999; Bernhard, Reenock, and Nordstrom 2004; Bollen and Jackman 1985; Lange 2004; Przeworski et al. 2000). This tendency is at odds with the historical record of the spatially and temporally uneven penetration of authority of succeeding colonial and other actors and their diverging institutional and human capital impacts (Abernethy 2000; Dirks 2001).

Our study shifts the debate from the generic “identity of the colonial power” to distinguishing among the impacts of key actors associated—rightly or wrongly—with colonialism; from a preoccupation with institutional foundations for democracy to a concern with its societal preconditions; and from a focus on the polity in its

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The authors are grateful to the British Academy and De Montfort University for providing funding for this research and to the Department of Politics and International Relations at Oxford University for providing access to superb research resources as part of its Visiting Research Fellow Programme. We are particularly grateful to the staff of the Indian Institute of the Bodleian Library for support in conducting research for this project. We are also grateful for advice on data and comments on earlier versions of the article, to Ed Morgan-Jones, Henry Hale, Dinshaw Mistry, Michael Phillips, Latika Chaudhary, Julia Chernova, and participants of the 2009 Second International Symposium of Comparative Research on Major Regional Powers in Eurasia, “Comparing the Politics of the Eurasian Regional Powers: China, Russia, India, and Turkey,” Hosei University, Tokyo, Japan. Jing Pan, Inga Saikkonen, and Alisa Voznaya provided excellent research assistance. All errors are solely our own. An electronic copy of the replication data will be posted on http://www.dmu.ac.uk/faculties/business_and_law/business/research/lgru/.

American Journal of Political Science, Vol. 56, No. 2, April 2012, Pp. 465–483

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DOI: 10.1111/j.1540-5907.2011.00550.x

present political-administrative contours to one more in tune with colonial-era administrative divisions.

British colonialism provides a good testing ground for refining existent theories. While many cross-national studies have found positive democratic effects of British colonialism (Barro 1999; Bernhard, Reenock, and Nordstrom 2004; Bollen and Jackman 1985; Przeworski et al. 2000), others have questioned this assumption (Arat 1991; Lipset 1963; Rueschemeyer, Stephens, and Stephens 1992). We address some of these ambiguities by hypothesizing that an important set of actors operating in the colonial domains—Christian missionaries—have had a crucial bearing on democracy through literacy initiatives.

Religion has featured prominently in debates on the historical determinants of democracy. Much of the debate has been couched in terms of the contrast between Western Christianity and its importations through European settlers in “neo-Europes” and other religions (Barro 1999; Bollen and Jackman 1985; Huntington 1996; Landes 1998; Lipset 1959). With few exceptions (Abernethy 2000; Bolt and Bezmer 2008; Gallego and Woodberry 2008; Posner 2003; Woodberry 2004), the effects of Christian mission enterprise in colonial domains have received scant attention. This omission is regrettable given that missionaries, Protestants in particular, provided the human development component wanting in the policies of colonial powers.

We make our case by conducting panel data and historical process-tracing analyses of subnational literacy and democracy variations in Britain’s most populous former colony, India. The article is structured as follows. Section one summarizes the relevant literature. Section two presents results of statistical analysis. Section three backs the statistical analysis with case studies of two states. The findings are then summarized in the concluding section.

British Legacies in the Balance Sheet of Colonialism

Numerous democracy studies have discussed the lasting effects of colonialism (Arat 1991; Barro 1999; Bernhard, Reenock, and Nordstrom 2004; Bollen and Jackman 1985; Lange 2004; Lipset 1963; Przeworski et al. 2000). When distinguishing among the democracy impacts of various colonizing powers, British colonialism has been singled out for its ostensibly benign effects on democracy (Bernhard, Reenock, and Nordstrom 2004; Bollen and Jackman 1985; Grier 1997; Lipset, Seong, and Torres 1993; Treisman 2000). There are nevertheless dissenting voices coming from scholars with more ambiguous findings.

Arat points out that only half of the 42 British colonies managed to sustain democracy, with the British average only slightly better than that of former Spanish colonies. Likewise, Acemoglu, Johnson, and Robinson (2001), while not specifically concerned with democracy, find that the identity of the colonizer does not affect institutional variation in postcolonial settings. Fish also does not find the British legacy control to be statistically significant in his cross-national study of religious impacts on democracy (Fish 2002). Przeworski et al. (2000) find that colonial status does not matter for the emergence of democracy, although in the former British colonies it is “somewhat” more likely to survive.

When it comes to uncovering the causal mechanisms behind the purported association between British colonialism and democracy, several pathways have been proposed. The widely held assumptions are the beneficial effects of Westminster-style institutions of electoral democracy (Abernethy 2000; Diamond, Linz, and Lipset 1989; Lipset, Seong, and Torres 1993; Weiner and Ozbudun 1987); common law (Porta et al. 1998; Treisman 2000; Young 1994); modes of colonial extrication (Bollen and Jackman 1985; Rueschemeyer, Stephens, and Stephens 1992; Smith 1978; Young 1994); and the training of native politicians in British colonies (Smith 1978; Weiner 1965; Young 1994). Recent theorizing on democracies “with adjectives” is a sobering corrective against assumptions that such state-level democratic institutionalization, legal institutional architecture, or elite training is sufficient for democracy (Collier and Levitsky 1997; O’Donnell 2001). Broader societal conditions that would make democracy *effective* and *meaningful* matter (Inglehart and Welzel 2005; Power and Gasiorowski 1997).

With respect to the societal underpinnings for democratic development, the record of British colonialism is not very laudable. Scholars have highlighted the ambiguous attitude of the British towards social modernization in non-European settler colonies (Woodberry 2004; Young 1994); their elitism and selectivity in granting education to colonized peoples (Lipset 1963; Sokoloff and Engerman 2000); the orientalization of society and conservation of backwardness (Dirks 2001; Mamdani 1997); racially based repression and exclusion (Rueschemeyer, Stephens, and Stephens 1992; Young 1994); the setting up of extractive institutions concentrating power in the hands of a narrow elite (Acemoglu, Johnson, and Robinson 2002); and the conservation of a despotic rural social order in British colonies (Irschick 1989; Panikkar 2007; Washbrook 1999).

We argue that the ambiguity stems from a conceptual neglect of mission actors filling in the human capital component of democratic development. Missionaries

feature prominently in colonial historiography as “lobbyists for empire” and training agents of “collaborators” (Abernethy 2000, 222, 237); or alternatively, as benign crusaders for social reform (Cox 2002; Porter 1999); as destroyers of the traditional social order (Hardgrave 1970); or, contrariwise, as obsessive gatherers of ethnographic material on colonized peoples, rigidifying indigenous hierarchies (Bayly 1989; Dirks 2001). The richness of this scholarship notwithstanding, we have yet to systematically test the democracy effects of these actors.

Our call to isolate the impact of missionary activity from that of colonial authority rests on the role of Christian missions in the promotion of education. There is a prominent theoretical tradition of linking education to democracy going back to modernization theorizing (Jackman 1973; Kamens 1988; Lerner 1958; Lipset 1959). This link has been restated in a large number of recent empirical studies (Barro 1999; Boix 2003; Krishna 2008; Przeworski et al. 2000). Even basic literacy skills could help foster democracy in otherwise underdeveloped settings (Arat 1991; Sen 1999). Literacy is but one element in the extensively theorized causal link between education and democracy, however. Missionary schooling may have had multiple indirect, and even unintended effects on democracy because it spurred indigenous social reform movements both from among the hitherto underprivileged groups and the native elite threatened by conversions (Bellenoit 2007; Blouet 1990; Frykenberg 2003; Porter 1999). Theorists who have touched upon the importance of colonial-era education for democracy have tended to attribute it to colonial powers (Barro 1999; Brown 2000; Lipset, Seong, and Torres 1993); however, they have not incorporated the possible missionary effects into their analyses (but see Woodberry 2004).

India illustrates how our framework could be fruitful for explaining democratic variation in postcolonial settings. Hailed as a “puzzle” of democratic resilience against the odds of underdevelopment (Lijphart 1996), it is also a nation of stark subnational developmental and democratic variations (Heller 2000; Lijphart 1996; Sinha 2005; Varshney 2002). While several widely cited national-level studies have attributed India’s democracy to Westminster-style institutions and common law tradition (Diamond, Linz, and Lipset 1989; Weiner and Ozbudun 1987), those on subnational democracy have been largely couched in terms of state-level variations in caste constellations, religious tradition, civil society, party-political factors, or governance (Crook and Manor 1998; Heller 2000; Kothari 1970; Varshney 2000; Wilkinson 2004). Although missionary Christianity’s contri-

bution to literacy has been discussed elsewhere (Desai 2005; Rudolph and Rudolph 2008; Weiner 1991; Woodberry 2004), we are not aware of other scholars linking missionary activity and democracy in India through cross-sectional time-series analysis. Several studies have pointed to the role of colonial legacies in accounting for subnational human capital variations; however, they do not systematically consider missionary impacts (Banerjee and Iyer 2005; Chaudhary 2009; Iyer 2010). In order to examine the effect of missionary activities on literacy, and subsequently, on democracy, in the following section we start by conducting statistical analysis of these relationships.

Statistical Analysis

Two district-level datasets have been assembled. The first dataset will help uncover the relationship between missionary activity as measured by the population share of Christian adherents (independent variable) and literacy (dependent variable) in the colonial period. The second dataset will help establish the path-dependent effects of literacy (independent variable) on democracy (dependent variable) in postcolonial India. District-level data allow us to link observations from the two periods in a way that would not be possible with state-level data because of the 1950s linguistic reorganization and the India-Pakistan partition (Government of India 1955). We matched the colonial districts with the postcolonial ones using the *India Administrative Atlas, 1872–2001* (Singh and Banthia 2004). We note that our analysis seeks to capture both the direct effects of missionaries on literacy and their indirect effects on education and democracy through the development of indigenous schools that emulated missionary institutions, as well as through social reform movements that their activities spurred. We are not able to quantify these indirect influences, so we discuss them in the case study part of the article.

Data for the first dataset, which has 207 districts,¹ are based on the censuses for 1901, 1911, 1921, and 1931, which provide the most comprehensive data for the decades leading up to India’s independence as the Second World War limited the scope of the 1941 census. We exclude districts that are now in Pakistan, Burma,

¹ These districts are in the following administrative territories: Ajmer-Merwara, Assam, Baroda, Bengal proper, Berar, Bihar, Bombay, Central India Agency, Central Provinces, Chota Nagpur, Cochin State, Coorg, Hyderabad, Kashmir, Madras, Mysore, North-West Frontier Province and Punjab, Orissa, Rajputana Agency, Travancore, United Provinces of Agra, and Oudh.

and Bangladesh. To ensure consistency between the two datasets, Portuguese- and French-ruled districts were also excluded.² Some districts with missing data also had to be excluded.

The measure for the key independent variable in the colonial analysis is the percentage of Christians in the total population. Since we are using cross-sectional data from four decades, we want to ascertain that there is enough variability in Christianity in the districts over this time period. In order to examine such variability we have employed the coefficient of variation (CV), defined as the ratio of standard deviation to the mean. Distributions with $CV < 1$ are considered low variance, while those with $CV > 1$ are considered high variance. The coefficient of variation for Christianity in the 1901–31 period is 2.8, which supports the appropriateness of employing panel data estimators using cross-sectional data observed over time. Censuses do not consistently disaggregate Christian populations by denominational affiliation. While the denominational nuance may be lost, our generic Christianity measure permits systematic district-level analysis. Nevertheless, we have the breakdown of Christians by denomination at the start of the period we are analyzing. We present this in the online Supporting Information (SI) Table 9.

In the analysis, the control variables are the percentage share of urban population; of what the census lists as “European and allied races” (henceforth referred to as “Europeans”) and of Muslims; state-level per capita expenditure on education;³ whether the district belongs to South India; and British colonial status. Urbanization is employed as a proxy for modernization, which has been linked to literacy. District-level GDP data over time are not available from colonial sources, and in any case, there are known issues of endogeneity in employing GDP with literacy (Barro 1991; Easterly and Levine 1997; Hanson 1989). We include “Europeans” because of hypothesized links between European settlement and better institutions (Acemoglu, Johnson, and Robinson 2001; Lange 2004), which could have a bearing on literacy. We include Islam because of the lower levels of recorded literacy among Muslims (Hutton 1933). The colonial status variable will help assess the impacts of colonial rule on directly ruled territories subject to British sovereignty as distinct from princely states and agencies, formally outside of it, but maintaining treaty or other association with the British Raj (for an administrative map

of colonial India, see Figure 1, SI). Although a British resident was normally stationed in the states and agencies, and there was often interference in their political affairs, these entities had not been consistently subjected to British policy in the same way that the provinces had been (Desai 2005; Fisher 1991; Menon 1985). In directly ruled territories, the British set up embryonic institutions of popular representation (Chaudhary 2009). Including this variable allows us to control for the hypothesized association between the British institutional component of colonialism and human capital. The variable takes the value of 1 for directly ruled territories and 0 otherwise. Because district-level data on per capita expenditure on education are not consistently available, state-level spending data were employed to control for state educational policy, such as that of progressive native rulers (Bhagavan 2003; Kooiman 2002). Another control for which only state-level panel data were available is the combined share of the population that belongs to the “exterior castes” and tribal group census categories. The variable will help account for the effects of the lower literacy of these disadvantaged groups who converted en masse to Christianity in some districts (Bayly 1989; Dirks 2001; Hardgrave 1970). Finally, we employ the South variable because of hypothesized links between the Southern caste structure, social mobilization, and human capital in districts now part of Andhra Pradesh, Tamil Nadu, Kerala, and Karnataka (Subramanian 1999; Varshney 2000). The variable takes the value of 1 for South and 0 otherwise.

The dependent variables, in the first stage of the analysis, are the percentage shares of total, male, and female literates. Literacy pertains to that in any language and is defined as “the ability to write a letter and to read the answer to it.” The definition excludes those who can read but not write, such as many Muslims at the time, taught to read the Quran in Arabic, but not writing (Hutton 1933, 324). An alternative measure of missionary effects on literacy would have been the number of mission-run schools, given that they were open to non-Christians. Over time data are not available on these schools; however, the SI Tables 10–12 contain figures for schooling and teacher training in Christian schools and literacy by religion.

For the postcolonial period dataset we employed the Vanneman and Barnes (2000) Indian District Data, supplementing them with author-gathered data on the variables of interest. The 1951 census year is not in the dataset since only limited data are available for this immediate postindependence period. The data are taken from cross-sections for four periods, corresponding to the census years of 1961, 1971, 1981, and 1991. The data for the

² Goa, Daman and Diu, Dadra and Nagar Haveli, and Pondicherry.

³ Missing data on educational expenditure are taken from the University of Chicago Digital South Asia Library <http://dsal.uchicago.edu/> (June 15, 2010).

dependent variable democracy are from the electoral period of 1971–91.

The main independent variables in this second stage of the analysis are the overall share of literates and male and female literates. Urbanization data are not available from the Vanneman and Barnes (2000) dataset. As an alternative, we employ data on the percentage share of people employed in manufacturing. The control variables of the percentage share of scheduled castes and tribes in a state's population, South, and state-level per capita educational expenditures were also employed.⁴ To instrument for the path-dependent effects of British colonial and missionary activity, we employ additional controls of colonial status and literacy in 1931. We follow Iyer's strategy (2010) in dealing with the reality that some postcolonial districts contain areas from both the British Empire and native states by coding the district as colonial if the major part of it was under British direct rule. The SI Tables 1 and 3 present summary statistics for the two datasets.⁵

Democracy

A widely cited democracy definition is employed here with democracy assessed by the degree to which subnational jurisdictions correspond to a system "that hold[s] elections in which the opposition has some chance of winning and taking office" (Przeworski et al. 1996, 39). Efforts to employ wider definitions are plagued by data scarcity and measurement validity challenges (Beetham 2004). The more diverse the contexts studied, the more difficult it might be to come up with a multidimensional indicator, particularly for the district level. The Przeworski et al. definition is rooted in liberal theory that considers elections as barometers of the quality of democratic institutions and the wider environments that enable free and fair competition for office (Bollen and Paxton 2000; Dahl 1971; Lipset 1959; Przeworski et al. 2000; Schumpeter 1950). Accordingly, elections are the preferred measures in many democracy indices (Altman and Perez-Linan 2002; Gleditsch and Ward 1997; Hadenius and Teorell 2005; Przeworski et al. 2000). Minimalist indices, such as those based on turnout and competitiveness, are often highly correlated with more complex indicators, such as those of Freedom House (Coppedge 2005; Gleditsch and Ward 1997). The strong associations suggest that the indicators measure the same systematized concept, thereby

providing "convergent validation" (Adcock and Collier 2001).

Our democracy index is based on the Vanhanen measures employed in a previous study of democratic variation in Indian states, which capture the participation and competitiveness dimensions of elections (Beer and Mitchell 2006; Vanhanen 2007). The first measure is electoral turnout (poll percentage), while the second one is 100 minus the winning party's vote percent. To ensure equal weight for the two variables, they are multiplied and the outcome is divided by 100. Similar to other democracy indices, the Vanhanen Index, which employs Dahl's criteria of "polyarchy," has been criticized for its focus on procedural aspects of democracy (Berg-Schlosser 2007). We are fully aware of the limitations of this measure. Unfortunately, more nuanced data for other, substantive aspects of democracy are hard to come by. This is particularly true for the subnational level. However imperfect, the Vanhanen procedural measures make systematic subnational analysis of the kind we are undertaking feasible.

For the index we gathered State Assembly elections data. Unlike the Lok Sabha constituencies, State Assembly constituencies are mostly contained within district boundaries (Election Commission of India 1976). Because there are usually multiple constituencies per district, district averages for some 4,000 constituencies were calculated. State Assembly elections are not all held in the same year. We identified an election period of one to three years corresponding to the end or beginning of a decade in which most of the states held elections. Two moving average scores were then computed, corresponding to the 1970s–1980s and 1980s–1990s electoral periods. This technique, also called "exponentially mapped past average," is commonly used to reduce stochastic noise effects, which might otherwise complicate the uncovering of underlying trends (Fan and Yao 2003). The average is adjusted to eliminate cyclical variations, which reduces random fluctuations. The data were lagged such that the time-variant data for the independent variables for the 1971 census period were used to analyze democracy outcomes in the 1970s–1980s, and those in 1981 for outcomes in the 1980s–1990s.

Colonial Period

A colonial period bivariate correlation matrix is presented in Table 2, SI. We begin by exploring our hypothesized relationship between literacy and the combined range of factors that influence its levels. For this purpose, we specify a log-linear model where the logged values of the

⁴ There are missing data on postcolonial educational expenditure in Kashmir.

⁵ There are more districts in this dataset (270) as compared to the colonial one (207) because some districts were split in the postcolonial period.

TABLE 1 GEE Colonial Period Models 1–6, 621 Observations, 207 Groups

| Variables | Literacy Model 1 | | Male Literacy Model 2 | | Female Literacy Model 3 | |
|-----------------|-----------------------|----------------|-----------------------|----------------|-------------------------|----------------|
| | Coefficient Estimates | Standard Error | Coefficient Estimates | Standard Error | Coefficient Estimates | Standard Error |
| Colonial Status | 0.150 | 0.088* | 0.167 | 0.085** | −0.011 | 0.128 |
| Muslim | 0.021 | 0.029 | 0.022 | 0.028 | 0.076 | 0.047 |
| Christianity | 0.061 | 0.009** | 0.053 | 0.009** | 0.157 | 0.018** |
| Europeans | −0.010 | 0.008 | −0.011 | 0.007 | −0.007 | 0.016 |
| Caste & Tribes | −0.052 | 0.012** | −0.044 | 0.011** | −0.117 | 0.026** |
| Education Exp. | 0.020 | 0.007** | 0.014 | 0.007** | 0.082 | 0.016** |
| South | 0.108 | 0.092 | 0.098 | 0.089 | 0.082 | 0.132 |
| Urbanization | 0.033 | 0.013** | 0.031 | 0.013** | 0.067 | 0.021** |
| Constant | 2.031 | 0.120** | 1.913 | 0.115** | −0.396 | 0.190** |

| Variables | Literacy Model 4 | | Male Literacy Model 5 | | Female Literacy Model 6 | |
|----------------|-----------------------|----------------|-----------------------|----------------|-------------------------|----------------|
| | Coefficient Estimates | Standard Error | Coefficient Estimates | Standard Error | Coefficient Estimates | Standard Error |
| Christianity | 0.062 | 0.008** | 0.055 | 0.008** | 0.153 | 0.015** |
| Urbanization | 0.033 | 0.013** | 0.031 | 0.012** | 0.075 | 0.020** |
| Education Exp. | 0.021 | 0.007** | 0.015 | 0.007** | 0.082 | 0.016** |
| Caste & Tribes | −0.053 | 0.012** | −0.045 | 0.011** | −0.117 | 0.026** |
| Constant | 2.258 | 0.050** | 2.158 | 0.048** | −0.216 | 0.082** |

With the exception of dummy variables, all variables have been logged.

** statistically significant at the 5% level and * at the 10% level.

various measures of literacy are postulated to be functions of logged values of various combinations of Christianity, urbanization, Europeans, exterior castes and tribes, education expenditure, South, and colonial status. In particular, the model takes the form $lliter_{it} = \alpha_i + x_{it}\beta + \varepsilon_{it}$, $i = 1 \dots N$, $t = 1 \dots T$, where the term on the left-hand side is the log of literacy, x is the logged values of the various explanatory variables, α and β are model parameters, ε is the stochastic term that captures random noise, and i and t subscripts are district and time period, respectively.

In the colonial period, we have a balanced panel data with 621 observations, consisting of 207 districts or cross-sections and three time periods. To estimate our model using this dataset, we use a panel data estimator. It is well known that random effect (RE) estimators are both consistent and efficient when regressors are uncorrelated with the cross-sectional heterogeneity or effect terms that are specified as part of the error term of a model, whereas fixed effect (FE) estimators are consistent but not efficient. In cases where the regressors are correlated with the panel-specific effects, the RE estimator is no longer consistent and FE can be used to estimate the panel model. The major drawback of the FE estimator is that it does not

permit the inclusion of time-invariant regressors. As an alternative, it is possible to use the Hausman-Taylor panel estimator, where a subset of the regressors is assumed to be correlated with the composed-error term while the rest are assumed uncorrelated (Hausman and Taylor 1981). It is, however, not always evident which variables should receive the former versus the latter treatment. Therefore, we fit population-averaged (PA) panel data models in order to bypass the shortcomings of the former models. For comparison, we also illustrate the phenomena we examine using the basic FE panel data estimator, which is always consistent even if not efficient under certain conditions. These results are presented in Tables 5–7, SI.

The PA panel data estimator, also known as the generalized estimation equations (GEE), combines the desirable properties of the fixed and random effects estimators by controlling for panel-effects as well as possible effects-regressor correlations. It does this by averaging the panel-specific effects across all panels. The resulting estimates of the effects are not correlated with regressors, but neither are they cross-section or panel specific; instead, they are estimates of the average effects across all panels or cross-sections (Harrison 2007).

TABLE 2 Colonial Period Two-Sample T-Tests

| Literacy Two-Sample Test | | |
|-------------------------------------|--------------------|------------------------|
| | <i>Direct Rule</i> | <i>Princely States</i> |
| Mean | 117.50 | 88.40 |
| Variance | 7056.00 | 7056.00 |
| Standard Deviations | 84.00 | 84.00 |
| Observations | 15.00 | 22.00 |
| Hypothesized Mean Difference | 0.00 | |
| Df | 22.00 | |
| t Stat | 1.03 | |
| P(T < = t) one-tail | 0.16 | |
| t Critical one-tail | 1.72 | |
| P(T < = t) two-tail | 0.31 | |
| t Critical two-tail | 2.07 | |
| Christianity Two-Sample Test | | |
| | <i>Direct Rule</i> | <i>Princely States</i> |
| Mean | 179.10 | 538.00 |
| Variance | 17, 415.00 | 1, 074, 102.00 |
| Standard Deviations | 132.00 | 1, 036.40 |
| Observations | 15.00 | 21.00 |
| Hypothesized Mean Difference | 0.00 | |
| Df | 21.00 | |
| t Stat | -1.57 | |
| P(T < = t) one-tail | 0.07 | |
| t Critical one-tail | 1.72 | |
| P(T < = t) two-tail | 0.13 | |
| t Critical two-tail | 2.08 | |

In particular, unlike fixed and random effects estimators that produce subject-specific (SS) estimates, GEE produces PA estimates. The former indicate the effect of a covariate on any given individual while the latter show the effect of a covariate on an average individual or cross-section. For instance, in the FE model, our SS fixed-effects estimator would show how the level of Christianity affects literacy in individual provinces. The PA estimator, on the other hand, allows us to infer whether literacy, on average, depends on Christianity. Like the SS panel estimators, the PA estimator takes account of within-panel, or district, correlation as well as among-panel, or between-district, heterogeneity when estimating a given model. In essence, SS estimators fit models based on patterns of each individual i 's covariance matrices of α and ϵ , whereas the

PA estimator fits models as if it is averaging these over all individuals⁶ (Hardin and Hilbe 2003).

The independent variables were lagged to correspond to the subsequent census year dependent variable. Thus, the time-variant right-hand variables in 1901 are postulated to affect literacy in 1911, those in 1911 to affect literacy in 1921, and so forth. Model 1 (Table 1) shows that for every 1% increase in the share of Christians, there is a .061% increase in literacy, holding all else constant. Urbanization and educational expenditure are also positive and statistically significant. For every 1% increase in urbanization, there is a .033% increase in literacy, while for every 1% increase in expenditure on education there is a .020% increase in literacy. Exterior castes and tribes have a statistically significant and negative effect on literacy: for every 1% increase in their share, there is a .052% decrease in literacy. Colonial status has a statistically significant and positive impact on literacy; literacy in provinces under direct rule is 15% higher than in those under indirect rule. Islam, Europeans, and South are not statistically significant. Next, we fit the same model by gender (Models 2 and 3) and find broadly similar results with the exception of colonial status, which has a positive and statistically significant effect on male literacy in Model 2, but no effect on female literacy in Model 3. The coefficient for Christianity is substantially higher in the female literacy Model 3 as compared to the overall literacy Model 1. For every 1% increase in the share of converts, there is a .157% increase in the share of female literates. In Models 4–6 for overall, male, and female literacy, we exclude the variables that were not significant in the above models. We note that the coefficient for Christianity remains virtually unchanged. Comparing the male and female literacy models, we see that while directly ruled territories seemed to have experienced beneficial effects of colonial rule on male literacy, there are no discernible effects on female literacy. This result echoes colonial scholarship on the utilitarian approach of the British to human capital: unlike missionaries, who were keen on social reform, colonial officials were

⁶ The variance components of the PA covariance matrix can take several forms. The simplest is the independent model that characterizes the within-panel correlation as the identity matrix. This can be modified by assuming that all within-panel observations have the same correlation resulting in the exchangeable model. If within-panel observations are temporal, an autoregressive correlation matrix may be used to fit the correlation structure. It is also possible to fit an unstructured model, though such models often have difficulty converging. We fit our model using the more general exchangeable, rather than autoregressive, correlation matrix because we have decade and not annual time-series-based cross-sectional data. As detailed in Zorn (2001) and others, the resulting GEE estimates are consistent even if the within-group correlation matrix is misspecified.

narrowly concerned with training male officialdom to service industries or staff the Raj (Oddie 1999; Weiner 1991).

Because we had to exclude some districts from the panel data analysis due to missing data, as a further robustness check on the findings on colonialism and literacy we perform a two-sample t-test on state-level data, with 38 observations corresponding to all territories listed in the 1931 census, the most comprehensive one prior to India's independence (Table 2). For literacy, the mean literacy rate⁷ was 117.5 for the 15 directly administered territories and 88.4 for the 22 princely states and agencies.⁸ Both groups have a standard deviation of 84.0. The first group of British territories has a higher average literacy rate than the second group. The two-sample t-test revealed, however, that there was no statistically significant difference in the mean rates for the two groups, and we fail to reject the null of equal means with a p-value of 0.16.

Were British territories more likely to be more Christian? The mean rate for Christianity was 179.0 per 10,000 persons for the directly administered territories and 538.0 for the princely states and agencies. Thus, the first group of territories under British sovereignty has a lower average share of Christian populations than the second group. The variation in both groups was very dissimilar, with the first group of directly administered territories having a standard deviation of 132.0 and the second group having a value of 1036.4. The Levine's test, which seeks to test the hypothesis that group variances are equal, has a significance value of 0.001, which refutes the null hypothesis that the variances are not significantly different. The two-sample t-test was again employed to compare the two groups of territories. Unlike in the first case of literacy, this difference in the variation within the two groups has to be taken into consideration. Therefore, the t-test employs the assumption of unequal variances. The test revealed that there is statistically significant difference in the mean rates for the two groups with a p-value of 0.07.

These results indicate that directly administered territories did not have, on average, higher literacy rates. On the other hand, on average, these territories had a lower share of Christian populations. They are also more homogenous in terms of shares of Christians as compared to the heterogeneity in the princely states and agencies, as can be seen from the standard deviations reported above.⁹ We note that these results do not suggest

educational achievement, as measured by literacy, is independent of the shares of Christians present as the t-test only looks at difference in average levels. By contrast, in the regression setting, the impacts of varying levels of Christianity on varying levels of literacy are assessed, and thus we are able to identify the effect of Christianity on literacy on the overall average.

Postcolonial Period

Next, we seek to ascertain the effects of colonial-era missionary activity on democracy in the postcolonial period. Again, we specify log-linear models, which we estimate using both the GEE and fixed-effects estimators. In particular, we hypothesize $ldemo_{it} = \alpha_i + x_{it}\beta + \varepsilon_{it}$, $i = 1 \dots N$, $t = 1 \dots T$. As before, α and β are model parameters, and ε is random noise. $ldemo$ is the log of the democracy measure while x is a matrix of explanatory variables, including the key independent variable literacy and the control variables of South, colonial status, Muslim, manufacturing, and scheduled castes and tribes. Because for the dependent variable democracy, we have two moving average scores corresponding to the 1970s–1980s and 1980s–1990s electoral periods, the panel dataset consists of 540 observations and 270 groups. Summary statistics and bivariate correlation matrix for these data are presented in SI Tables 3 and 4. The regressions results are presented in Table 3, Models 7–9.

In the PA Model 7, overall literacy has a statistically significant and positive effect on democracy. For every 1% increase in literates, there is a .073% increase in the democracy score. The variables South and Islam also have a positive and statistically significant effect on democracy. For instance, Southern states are 9% more democratic than their counterparts. Colonial status and scheduled castes and tribes are not statistically significant. In the next two male and female PA literacy Models 8 and 9, these results hold except that manufacturing is significant in the male literacy Model 8 and the coefficients for literacy are slightly lower in both the male and female literacy Models 8 and 9.

Next, we seek to better ascertain the path-dependent effects of colonial status and Christianity on postcolonial literacy. States vary in the amount of expenditure on education coming from various sources; some of the heavily Christianized Northeastern states with high literacy levels (SI Figures 2 and 3) in particular have been recipients of large national fiscal transfers, which could aid educational development. These effects have to be taken into account. We also ought to distinguish between postcolonial changes in

⁷ As measured per mille for individuals aged five and over.

⁸ There was one missing value for princely states and agencies and one for provinces.

⁹ We performed similar tests for Christianity for 1901, 1911, and 1921 and found the results comparable with an increasing upward trend over time in the averages for both groups.

TABLE 3 GEE Postcolonial Period Models 7–9, 540 Observations, 270 Groups

| Democracy Model 7 | | | Democracy Model 8 | | |
|-------------------|-----------------------|----------------|-------------------|-----------------------|----------------|
| Variables | Coefficient Estimates | Standard Error | Variables | Coefficient Estimates | Standard Error |
| Literacy | 0.073 | 0.024** | Male Literacy | 0.067 | 0.040* |
| South | 0.096 | 0.025** | South | 0.094 | 0.025** |
| Colonial Status | −0.017 | 0.022 | Colonial Status | −0.017 | 0.022 |
| Muslim | 0.006 | 0.002** | Muslim | 0.005 | 0.002** |
| Manufacturing | 0.021 | 0.016 | Manufacturing | 0.040 | 0.015** |
| Caste & Tribes | −0.010 | 0.008 | Caste & Tribes | −0.008 | 0.008 |
| Constant | 3.478 | 0.093** | Constant | 3.507 | 0.148** |

| Democracy Model 9 | | |
|-------------------|-----------------------|----------------|
| Variables | Coefficient Estimates | Standard Error |
| Female Literacy | 0.066 | 0.022** |
| South | 0.084 | 0.026** |
| Colonial Status | −0.021 | 0.022 |
| Muslim | 0.006 | 0.002** |
| Constant | 3.579 | 0.064** |

With the exception of dummy variables, all variables have been logged.

** statistically significant at the 5% level and * at the 10% level.

the share of Christians (recent spatial variations in Christianity are illustrated in SI Figure 3) and colonial-era missionary activity, given that our hypothesized channels of influence on literacy are the missionary-laid and -influenced human capital foundations in the colonial period. We estimate additional PA Models 10–13 (Table 4). We hypothesize that although postcolonial share of Christian adherents is likely to positively affect postcolonial literacy, colonial-era foundations have a path-dependent effect on postcolonial literacy. We begin by estimating the effects on postcolonial literacy of colonial status, South, lagged values of share of Christians in the postcolonial period, Islam, educational expenditures, and scheduled castes and tribes.¹⁰ Model 10 shows that postcolonial Christianity has a positive and statistically significant effect on literacy. For every 1% increase in Christians, literacy increases by .006%. Colonial status, South, and educational expenditures have a statistically significant and positive effect on literacy, while Islam and scheduled castes and tribes have a statistically significant and negative impact on literacy. In the next PA literacy

Model 11 where we substitute postcolonial Christianity with Christianity in 1931, we find that it has a statistically significant positive effect on postcolonial literacy, and the coefficient is considerably higher as compared to that for postcolonial Christianity in the previous Model 10. For every 1% increase in the share of Christians in 1931, there is a .052 increase in postcolonial literates. South is not statistically significant, which suggests that in Model 10 it may have been proxying the effect of 1931 Christianity. The other variables perform as in the previous model, and their coefficients remain virtually unchanged except for that of colonial status, which drops from .16 to .073. When we run the model by gender, in the male literacy Model 12, both Christianity and colonial status are positive and statistically significant, while in the female literacy Model 13, colonial status is not statistically significant and the coefficient of .094 for 1931 Christianity is substantially higher than that of .033 in the male literacy Model 12. The South is not statistically significant in the male literacy Model 12.

These models suggest that Christianity has a positive effect on literacy, female literacy in particular, and that it also has a robust association with democratic outcomes. At the same time, we find that British colonial institutions

¹⁰ Manufacturing could not be included in the models alongside educational expenditures because of high positive correlation between the two variables.

TABLE 4 GEE Postcolonial Period Models 10–13, 527 Observations, 264 Groups

| Literacy Model 10 | | | Literacy Model 11 | | |
|------------------------|-----------------------|----------------|------------------------|-----------------------|----------------|
| Variables | Coefficient Estimates | Standard Error | Variables | Coefficient Estimates | Standard Error |
| Christianity | 0.006 | 0.003* | Christianity 31 | 0.052 | 0.009** |
| South | 0.210 | 0.048** | South | 0.066 | 0.052 |
| Colonial Status | 0.160 | 0.043** | Colonial Status | 0.073 | 0.043* |
| Muslim | −0.006 | 0.002** | Muslim | −0.007 | 0.002** |
| Education Expenditures | 0.163 | 0.006** | Education Expenditures | 0.165 | 0.006** |
| Caste & Tribes | −0.035 | 0.014** | Caste & Tribes | −0.038 | 0.013** |
| Constant | 3.788 | 0.056** | Constant | 3.944 | 0.060** |

| Male Literacy Model 12 | | | Female Literacy Model 13 | | |
|------------------------|-----------------------|----------------|--------------------------|-----------------------|----------------|
| Variables | Coefficient Estimates | Standard Error | Variables | Coefficient Estimates | Standard Error |
| Christianity 31 | 0.033 | 0.007** | Christianity 31 | 0.094 | 0.013** |
| South | 0.031 | 0.042 | South | 0.136 | 0.081* |
| Colonial Status | 0.076 | 0.034** | Colonial Status | 0.082 | 0.066 |
| Muslim | −0.004 | 0.002** | Muslim | −0.011 | 0.003** |
| Education Expenditures | 0.137 | 0.005** | Education Expenditures | 0.232 | 0.009** |
| Caste & Tribes | −0.034 | 0.011** | Caste & Tribes | −0.056 | 0.020** |
| Constant | 3.588 | 0.049** | Constant | 2.703 | 0.092** |

With the exception of dummy variables, all variables have been logged.

** statistically significant at the 5% level and * at the 10% level.

These models are estimated with 264 groups and 527 observations due to missing data on educational expenditure for Kashmir's districts.

captured by our colonial status variable matter for male education, but not for female education outcomes. British colonial institutions do appear to have *indirect* effects on democracy. Our models show that male literacy outcomes were better in British India, and, as we have established, literacy in turn has strong democracy effects. When it comes to *direct* effects on local democracy, human capital trumps British institutions, however. These results were confirmed when additional robustness checks were performed with only key variables of interest (reported in SI Table 8).

Our analysis echoes recent scholarship, which interrogates the assumptions of positive links between British colonialism and democracy. Chaudhary found that the Brahmin-dominated local government institutions that the British set up in directly ruled states did not consistently promote literacy, while the lower caste and tribal groups were too marginalized to secure higher expenditures on education (Chaudhary 2009). Iyer found that directly ruled territories had fewer schools in the postcolonial period than those under native rule because the British tended to invest into agriculture while neglect-

ing human capital (Iyer 2010). And Banerjee and Iyer's groundbreaking study has shown that some land tenure systems that the British put in place in India have had negative effects on postcolonial public goods provision (Banerjee and Iyer 2005).

Mission and Empire in Education and Democracy in India

The historical survey and two case studies presented in this section further illuminate the role of missionaries in education, as distinct from that of colonial powers and the effects of their education initiatives on colonial and postcolonial democracy.

For much of the British Raj, colonial policy in education was colored by Orientalism and Victorian-era elitist "downward filtration" theories. Stellar centers of advanced learning were founded for the propagation of Oriental knowledge, but limited to the Hindu and Muslim elite (Nurullah and Naik 1951; Oddie 1999). A turning point was the 1854 Education Dispatch. It provided

for a grants-in-aid system whereby private, including missionary, schools received subsidy; the government also committed itself to broadening vernacular education to include all groups in society (Nurullah and Naik 1951). Nevertheless, colonial policy in education had come to be regarded as a failure.

In 1916, less than 3% of the population of British India had received elementary education (Commission of Inquiry 1920). The few fee-paying government schools were not accessible to the socially marginal (Oddie 1999); most of the grants-in-aid were provided to higher-class schools to the financial neglect of basic education; and the education system was largely geared towards the training of an indigenous male elite to staff colonial bureaucracy (Bellenoit 2007). Between 1835 and 1931, national literacy rates had gone down by an estimated .5%, while a more optimistic estimate is that they increased by a mere 1.75% (Nurullah and Naik 1951).

Much of the education initiative came from Christian missionaries, who were often harassed by colonial officials fearing anti-Western social unrest (Bellenoit 2007; Mani 1998; Porter 1999). Scholars trace the origins of mass literacy to Evangelical conversions of untouchable groups by Danish missionaries in the South in the early eighteenth century. This work inspired successive generations of Western Protestant missionaries, who were part of a modern ecumenical and transnational movement in reformist Christianity of the eighteenth–early twentieth centuries bent on the worldwide propagation of the Gospel (Frykenberg 2003; Stanley 1990). The work of these missions differed from that of earlier Eastern Christian communities and those associated with Portuguese and French conquests (Frykenberg 2003). Education became central to Protestant missionaries' work because of their faith in its social reform potential and the need to provide converts with the tools for understanding the Gospel. Despite the elitism of some, Protestant missionaries were known for their abhorrence of the caste system; most converts were drawn from lower caste and tribal groups eager to escape the oppression of their status.

Missionary education also had multiple democratic implications, though one would be hard-pressed to find direct references to democracy in mission work (Stanley 1990). Protestant missionaries in particular stressed the potential benefits of Christian schooling by associating it with science and economic progress (Bellenoit 2007; Sengupta 2003; Woodberry 2004). They were among the first to adapt progressive Western ideas on pedagogy, such as the "object theory" of the Swiss educator Johann Pestalozzi. According to this method, students were encouraged to link objects to ideas and thereby develop abstract reasoning and critical thinking

(Sengupta 2003). Admittedly, some missionaries crudely juxtaposed Protestantism's abstract reasoning to the ostensibly "childish" object thinking that they associated with Hindu idols (Mani 1998; Sengupta 2003). Nevertheless, in promoting critical thinking, reflective debate on the moral and spiritual foundations of Indian and Christian faiths, and mass literacy in the vernaculars that enabled a personal interpretation of texts, Protestant schooling was a far cry from rote memorization and the feeding of "ready-made answers" (Sengupta 2003, 102) characteristic of both established Western and native schooling systems (Bellenoit 2007; Mani 1998).

Mission schools also served as hubs for missionary organizational activity that contributed to the development of civil society and political activism. Protestant missions taught the notion that an individual's salvation is bound with his or her community (Mayhew 1968). Mission teachers, often through personal example, propagated the humanistic values of the public sphere, public morality, and "effective knowledge" that focused more on action than doctrine (Bellenoit 2007, 87); they challenged Indian pupils to pursue such social projects as medical aid, child welfare, and adult literacy (Sushil 2009). Unlike in British government schools, which often preserved caste segregation to avoid upsetting higher-caste sensibilities, missionaries insisted on communal and caste integration in their schools and hostels. They thereby contributed to unifying tendencies which scholars have linked to the development of Indian political consciousness (Bellenoit 2007). The vernacular education that missionaries pioneered—they compiled dictionaries and grammar textbooks for scores of languages—likewise had democracy implications (Mayhew 1968). Missionary presses in the vernaculars became active sites of polemics on social progress (Woodberry 2004).

Two princely states, Travancore and Baroda, now in Kerala and Gujarat, further illustrate the importance of missions for education and democracy. These states, similar in many ways, also both boasted progressive education policies. Yet, while Kerala has achieved universal literacy and is among the most democratic of Indian states, Gujarat has lagged behind (SI Tables 14 and 15).

Located close to coastal trade routes of Malabar and the Persian Gulf, the two states had been crucial nodes in the commercial links between Europe, the Middle East, and Southeast Asia (Kooiman 2002). In the nineteenth century, their rulers entered into semiautonomous British paramountcy arrangements common for princely territories at the time (Kooiman 2002). In neither state did the British assume responsibility for native education. Mission presence, however, had been massive in Travancore and negligible in Baroda. The same could be said for the

other parts of the state of Kerala formed in 1956, Cochin, and the Malayalam-speaking Malabar regions, formerly part of the Madras Presidency. In terms of Christian penetration, they contrasted with the princely and Bombay Presidency districts, merged in 1960 to form the state of Gujarat. While Kerala is representative of a Southern state where missions have a centuries-long history—Tamil Nadu would be another example—Gujarat is an example of a Northern state with a historically weak mission presence.¹¹ Our selection of otherwise comparable cases, which are, however, situated at polar ends of the continuum of mission activity, would thus also illustrate how missions may have influenced some of the hitherto observed North-South variations in human capital and democracy (Subramanian 1999; Varshney 2000).

Travancore and Kerala

Travancore has fascinated scholars for its enlightened native policy in education (Desai 2005; Mathew 1999). In 1817, its female ruler, the Rani Gouri Parvathi Bhai, issued an edict commanding “that the state should defray the entire cost of the education of its people in order that there might be no backwardness in the spread of enlightenment among them” (Travancore, Census of India 1931, 301). In practice, groups comprising the vast majority of Travancore’s population remained excluded from these initiatives—the untouchables, tribal communities, and women. Now lauded as socially egalitarian and progressive, at the time Travancore was “a highly conservative, hierarchical, and caste-ridden society” (Mathew 1999, 2817). Although a small percent of Brahmin and other high-status women had access to education, most women and the lower-status groups remained overwhelmingly illiterate (Mathew 1999).

Evangelical missionaries were the first to introduce modern primary education to the backward castes and women. Kerala stands out in terms of the scope of this effort because of the historical record of indigenized Syrian Christianity, which dates back to at least the fourth century AD and is associated with privileged groups in Kerala society constituting nearly a third of the state’s population. The Syrians maintained caste hierarchy in church practice, while the limited accessibility of the liturgical

language Syriac to the learned few reinforced the historical association of Syrian Christianity with elite groups (Frykenberg 2003). Despite differences in doctrine and practice, the Syrian Church played a pivotal role in the establishment and spread of Evangelical Protestant missions (Bayly 1989; Kooiman 2002). The Evangelicals’ abhorrence of the caste system over time led to divisions among Syrian Christians, many of whom associated themselves with Protestants, forming the Mar Thoma Church, while others, the orthodox Jacobites, retained traditional allegiance to the Eastern Church (Bayly 1989; Kooiman 2002).

The Church Missionary Society (CMS) and the London Missionary Society (LMS) led the effort to eradicate illiteracy among disadvantaged groups (SI Table 13). By 1920, CMS and LMS ran some 700, or 27%, of the 2,581 schools (Mathew 1999). Missionaries were the first to bring the low-status communities, until 1910 not allowed into government schools, into the educational system. Mission schools were recognized as providing better-quality education and hence a preferred educational option for caste Hindus as well (Desai 2005; Mathew 1999). In a hitherto rigidly stratified society with its barriers to interaction between caste Hindus and the untouchables, this provided incentives for the eventual tolerance of integration. Missions also led the way in the eradication of female illiteracy. The first mission girls’ school was set up in 1819, while the first native school for girls was opened decades later, in 1859, and it was a Brahmin girls’ only school. The missionaries also set up the first girls’ teacher training school in 1848. In 1903–04, of the 182 girls’ schools, the majority were missionary-run (Mathew 1999). Some colonial officials, like the fervent Christian Resident of Travancore and Cochin (1810–19) Colonel John Munro, actively aided mission work. It is the missionaries, however, who took the lead and consistently promoted education transcending short-term support of individual native or British rulers (Bayly 1989; Frykenberg 2003).

Mass literacy in turn fed the growing demand for printing press. Until the end of the nineteenth century, Travancore’s only newspaper was a missionary publication (*Imperial Gazetteer* 1908). By the 1930s, Travancore boasted over 100 periodicals (Kooiman 2002). A mass reading public in turn contributed to that other famous Kerala institution, the reading club, originally set up as a political and social discussion forum by caste associations and now lauded as an indicator of the vibrancy of Kerala’s democracy (Desai 2005; Varshney 2002).

By the late nineteenth century, educational expansion led to greater social awareness among lower-status groups, spurring social reform movements (Dirks 2001;

¹¹ Substantial variation existed in missionary penetration within South India as well. Mysore, whose literacy lagged behind Travancore and Cochin, had a weak Christian presence compared to Travancore although it was influenced by missionary activity (such as missionary vernacular press in Kannada language) of the other neighboring territories in the Madras Presidency.

Hardgrave 1970). Their leaders, like the founder in 1903 of the Sree Narayana Dharma Paripalana (SNDP) Yogam, a beneficiary of LMS training, deplored the continued denial of government education to his fellow ezhavas (Mathew 1999). The caste Hindus also started lobbying the government to open more lower-caste Hindu schools to stem the tide of Christian conversions (Bayly 1989; Oddie 2003). Social pressures from both the backward groups and the privileged Hindu and Christian elements in 1909–10 forced the government to adopt an Education Code, which called for setting up schools “without distinction of class or creed” (cited in Desai 2005, 471). By 1929–30, only 12 of Travancore’s recognized 3,641 schools excluded the untouchables (Mathew 1999).¹²

Postcolonial governments appropriated and built on this legacy, placing educational equality at the center of Kerala’s developmental agenda. Kerala’s private schools, many of which trace their origins to the colonial period, had also come to constitute powerful lobbies shaping state policy in education (Desai 2005; Mathew 1999; Nossiter 1982).

Baroda and Gujarat

Pioneering and ambitious educational reform was also pursued in Baroda. Yet, while Kerala entered the twenty-first century boasting universal literacy, Gujarat, including the Baroda districts, had lagged behind Kerala. The missing elements in Baroda were (1) a sociocultural change in values and attitudes towards education for women and the “backward” groups brought about by missionary involvement; and (2) an integrated public school system which would ensure the durability and intergenerational transmission of mass access to literacy.

Christianity had no historical roots in Baroda; even at the height of Evangelical proselytizing in colonial India, Christians constituted less than 1%. Baroda’s rulers did

not permit the operation of missionaries on its territory (Kooiman 2002). Between 1921 and 1931, there had been a 2.1% decline in the share of Baroda’s Christians against a 25.4% increase India-wide (Census 1931).

Baroda’s education had been pioneered by the enlightened ruler Sayaji Rao Gaekhwad. In 1906, the Prince adopted a law on compulsory free schooling for boys and girls (Bhagavan 2003). By 1946, the state boasted 2,563 government primary and 41 secondary schools. Provisions were also made for backward castes’ access to schooling (Imperial Gazetteer 1908; Kooiman 2002).

Why then did Baroda, despite the compulsory nature of its system, succeed in having far fewer literates than Travancore, where education was voluntary? Baroda’s apparent success conceals within-group discrepancies in access to education and literacy retention over time, with Christians by far surpassing the Hindus and Muslims (SI Table 12 and annotations). Unlike in Travancore, Baroda’s Christian population represented a tiny minority. The American Methodist Episcopal Church, which between 1895 and 1906 scored close to 14,000 Gujarati converts (Hardiman 2007), did not have the option of building alliances with a nonexistent native Christian Church. Christian schooling in Baroda could thus have marginal effects on existent socioeconomic inequalities. Reaching out to far fewer people, it failed to spur a mass-based grassroots movement of social reform, and the development of such democratic values as civic consciousness and caste and religious tolerance characteristic of Travancore.

The Hindu organisation Arya Samaj, formed to combat Christian missionary influence, became the key nonstate educational provider in Baroda, patronized by the native ruler. Militant anti-Christian, anti-Muslim Hinduism plagued its education policy with numerous contradictions (Hardiman 2007; Jones 1968). While apparently embracing modern and inclusive education, the Samaj advocated the sole usage of Vedic texts. Although it voiced support for backward caste education, it infused its work with rituals of purity echoing caste hierarchies. Despite the proclaimed goal of women’s education, some of the Samaj groups exclusively focused on the education of Hindu boys (Hardiman 2007). Mahatma Gandhi, who returned to Gujarat in 1915, attracted some of the moderate Samaj groups into his social movement; the Samaj militant wing remained strong, however, and was responsible in the 1920s for a string of Hindu-Muslim riots.

The Samaj legacy has been in evidence throughout Gujarat’s postcolonial history. By the 1980s, the state acquired nation-wide notoriety as a seat of caste and religious violence (People’s Union for Civil Liberties [PUCL]

¹² North-South caste peculiarities are usually discussed as key factors affecting the nature and scope of social mobilization (Subramanian 1999; Varshney 2000). Compared to North India, a larger share of the populations in the South had been in the lower-caste “polluting” category both in status and treatment that they received from higher caste groups (Rudolph and Rudolph 1967). The caste factor in itself would not have been sufficient to spur lower-caste mobilization for social advancement. Even scholars who have highlighted the role of caste in the South in promoting lower-caste social mobilization acknowledge that, for instance, in Tamil Nadu, where colonial policy in employment and education disproportionately favored the Brahmin caste, missionaries were the first to incorporate anti-Brahminism into a systematic ideology that also stressed the more socially inclusive Dravidian identity (Subramanian 1999, 82, 89). Missionary work with lower-status groups could be, therefore, regarded as a contributing factor in fuelling caste consciousness (Dirks 2001; Hardgrave 1970; Rudolph and Rudolph 1967; Subramanian 1999).

2007; Sushil 2009). In 1954, Gujarat outlawed private schools and took over the few surviving mission schools, thereby eliminating Christian presence in the educational system. Much like the Samaj with its Vedic texts, government functionaries rarely learned vernacular non-Gujarati languages to facilitate outreach to the underprivileged groups in the same way that missionaries did. The mediocre quality of state education by the 1970s led some local councils to invite missionaries to set up a handful of Christian schools in the most deprived areas (Sushil 2009).

One hundred years into Baroda's educational reform, the inequalities in access to education continue to be reproduced (Hirway and Mahadevia 2002; Sushil 2009) (SI Table 14). And, in what is a marked contrast to moderate politics in Kerala which had long accepted caste integration (Varshney 2002), the lower-status groups have been targets of violence in response to government policies of affirmative action in jobs and schooling (PUCL 2007). The association between education and democracy is more systematically explored, and additional robustness checks on the democracy measure performed, in SI (Tables 15 and 16 and annotations).

Conclusion

Our analysis has demonstrated that colonial-era missionary activity is an important influence on human capital in Indian states. There are also clear links between mission work and democracy in postcolonial India. One straightforward and easily quantifiable causal factor linking Christianity to democracy in India is literacy. Missionaries set up the foundations for a more literate, and hence more competent, electorate. Literacy, however, is but one among a number of factors related to missionary involvement that contributed to the democratization of the electorate. Protestant mission curricula, which included modern subjects and put a premium on critical and abstract thinking, was a departure from uncritical rote memorization of classical texts characteristic of traditional schooling in both metropolitan and colonial settings. It helped equip the most downtrodden—women, the lower caste, tribal, and untouchable groups—with practical skills and confidence to escape the clutches of a hierarchy that had kept them at the bottom. The inclusivity of mission schooling alone had a devastating effect on existent social inequalities. In turn, this practice, along with the missionaries' message of brotherly love, equality of all before God, and responsibility for the welfare of the community, contributed to the development of social activism. Mission activity also stimulated a defensive

reaction among native groups threatened by conversions and demanding that native governments provide schooling of similar quality. Where missions had been active, mission schooling thus had human capital, social mobilization, and civic activism effects extending far beyond the community of converts.

This account differs from what had become conventional truisms on why some Indian states and not others boast better literacy and democracy outcomes. We are able to demonstrate that the causal links between Christianity, education, and democracy hold throughout India. We therefore challenge the validity of the oft-repeated association between such state-specific factors as communist government, matriliney, or progressive native rulers as central to the success of some states like Kerala in combating illiteracy, elevating the status of women, and maintaining quality democratic governance (Bhagavan 2003; Heller 2000; Jeffrey 1987). We also interrogate the causal effect on social mobilization and democracy of such broader factors as the historically determined peculiarities of caste structure in the South (Subramanian 1999; Varshney 2000). While we do not negate the importance of such state- or region-specific factors, our analysis suggests that their effects may have been exaggerated because of omitted variable bias. This is an intriguing omission. Despite overwhelming historical evidence of the prominent role of missions in colonial India, we are not aware of comparative analyses of democracy and development in Indian states that have systematically studied their effects along with such conventionally employed variables as caste, communalism, state party systems, or socioeconomic factors.

Our work, however, has much wider implications for comparative scholarship transcending the debates on the determinants of national and subnational democracy in India. Our analysis should help refocus the emphasis of much of the scholarship on colonialism from colonial powers to other actors operating in colonial domains. We also draw attention to the hitherto undertheorized human capital dimension of colonialism, which is distinct from the institutional focus of much of the existing scholarship. Although as our statistical analysis shows, British rule may have had *indirect* effects on democracy through the human capital variable of male literacy, we also demonstrate that better literacy outcomes are more consistently attributable to missionary involvement than to British colonial institutions. This is because unlike colonial effects, which are limited to male literacy, Christianity has had consistently strong effects on both male and female literacy outcomes. We found no evidence of *direct* links between British rule and democratic outcomes in Indian states. In India's

subnational contexts, the human capital effects of colonialism therefore trump its institutional effects.

Admittedly, subnational evidence from one British colony does not negate the findings on the ostensibly beneficial literacy and democracy effects of British colonialism in cross-national studies, although it does help explain some of the ambiguities in their findings. In terms of neglect of basic, particularly female, education, other colonial powers may well have performed even more dismally than the British. At the same time, national-level parliamentary institutions that the British set up in their colonies are likely to be more important for democracy than the embryonic popular representation bodies that they set up at the subnational level. Our methodological strategy does not allow us to establish to what extent such institutions are superior to those of other colonial powers in terms of lasting democracy effects. Nevertheless, we still do not know whether British colonialism comes out in a favorable light because of British colonial institutional and human capital factors, or because of the nature of missionary endeavors in British colonies. Robert Woodberry's masterful analysis of missionary activity worldwide suggests that it is the latter, largely neglected, factor that helps explain at least some of the observed variation between British and other European colonies. The nature of Britain's church-state relationships, domestic liberal climate, and free press facilitated Protestant missionary activity in the colonies (Woodberry 2004; Woodberry, forthcoming). The emphasis on domestic factors is distinct from accounts that equate missions with colonialism—the vibrancy of British democracy at home and the strength of revivalist Protestant movements simply made it impossible for colonial officialdom to undermine mission work even when it went against colonial objectives.

Our research therefore mirrors revisionist scholarship (Bellenoit 2007; Frykenberg 2003; Porter 1999) in that it questions the conventional narrative of mission-empire links. It also interrogates recent influential works, which downplay missionary effects independent of imperial policy. Thus, Abernethy sees missionaries as part of a “triple assault” of imperial, commercial, and religious “workhorses of empire,” whose combined efforts directly or indirectly aided Western colonial expansion (Abernethy 2000, 226). While admitting that congregational autonomy of Protestant churches in particular often precluded the fusion of imperial and missionary interest, he highlights the role of missions in training colonial administrators with a “compliant demeanour,” socialized as collaborators and possessing skills like numeracy and literacy valuable for colonial bureaucracies (Abernethy 2000, 234). Although we do not deny that in

some settings, mission work directly or indirectly aided colonialism, our research highlights missionaries' role in creating a democratic citizen, equipped with skills to challenge hierarchy and authority—colonial or native—and contribute thereby to a vibrant democratic process.

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Supporting Information

Additional Supporting Information may be found in the online version of this article.

Figure 1. Map of Colonial India, *Imperial Gazetteer*, 1907

Source: DSAL¹

1 Maps of colonial-era spatial variation by religion are available from Digital South Asia Library. http://dsal.uchicago.edu/reference/gaz_atlas_1909/pager.html?object=22 (June 10, 2010).

Figures 2, 3. District Literacy and Christianity, 1991
Source: Office of the Registrar General, 1991

Table 1. Summary Statistics, Colonial-Period Variables

Table 2. Bivariate Correlations (Pearson), Colonial-Period Variables (1921 and 1931 data)

Table 3. Summary Statistics, Postcolonial Period Variables

Table 4. Bivariate Correlations (Pearson), Postcolonial Period Variables

Table 5. Fixed Effects Colonial-Period Models 1–3, 621 obs., 207 groups

Table 6. Fixed Effects Postcolonial Period Models 4–6, 540 obs., 270 groups

Table 7. Fixed Effects Postcolonial Period Models 7–10, 527 obs., 264 groups

Table 8. Additional Robustness Checks, GEE Models 11a – 13b

Table 9. Christians by Race and Denomination (1901 Census)

Table 10. Professional and Technical Teacher Training According to Religion, 1881–82, Report on Education

Table 11. Distribution of Population According to Religion and Education, Census of 1911

Table 12. Literacy and Christianity in Baroda, Travancore, and Neighboring Princely and British Territories

Table 13. Christian-run Schools, 1908, Travancore
Table 14. District Profile. Source: Census of India 2001

Table 15. Electoral Outcomes, State Assembly, 1957–2007. Source: Author Compilation

Table 16. Additional Robustness Checks for the Democracy Measure, 95 obs., 19 groups, GEE Model 14

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