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Religious identity and the provision of public goods: Evidence from the Indian Princely States☆

Latika Chaudhary[a], Jared Rubin[b,*]

[a] Associate Professor, Naval Postgraduate School, United States
[b] Associate Professor, Chapman University, United States

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ABSTRACT

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This paper describes a simple model of how a ruler's religious identity affects public goods provision. Our primary insight is that rulers reduce public goods expenditures to a greater degree when there are privately-provided substitutes *excludable by religion*.The basic idea is that if the good is provided privately to the ruler's co-religionists, the ruler faces weaker incentives to provide this public good because his co-religionists receive lower marginal utility from its provision. Testing such a conjecture is an empirical challenge, however, since the religious identity of rulers rarely varies over time and place. We address this problem by exploiting variation in the religion of rulers in the Indian Princely States. Using data from the 1911 and 1931 Indian censuses, we find that Muslim-ruled states had lower Hindu literacy but had no significant impact on Muslim literacy. This result is consistent with our model, as Muslim religious schools provided a substitute for public schools that served both Hindus and Muslims. The model is further substantiated by the fact that the religion of the ruler had no statistically significant impact on railroad ownership or post office provision, neither of which had privately-provided substitutes. *Journal of Comparative Economics* **000** (2016) 1–23. Associate Professor, Naval Postgraduate School, United States; Associate Professor, Chapman University, United States.

1. Introduction

Scholars have long recognized the influence of religion on economic development.[1] In recent years the focus has shifted to uncovering specific mechanisms linking the two. One important mechanism is human capital accumulation. Some

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* Corresponding author.
E-mail addresses: lhartman@nps.edu (L. Chaudhary), jrubin@chapman.edu (J. Rubin).

[1] The classic examples are Weber (1905) Protestant Ethic hypothesis and Tawney (1926) rebuttal. More recently, economists have made all sorts of connections mapping some aspect of religion to economic development. See, for instance, Grier (1997), Barro and McCleary (2003), Guiso et al. (2003),

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studies show that religion and religious institutions have a positive impact on education. For example, Becker and Woessmann (2009) find that all-Protestant counties had literacy rates that were 8 percentage points higher than all-Catholic counties, and they ascribe this difference to past, institutionalized incentives to acquire human capital. Botticini and Eckstein (2012) make a similar case connecting Jewish human capital to long-run economic outcomes. Other studies such as Berman (2000) highlight the negative impact of religion on education; in his study, ultra-Orthodox Jews spent too much time attending school (Yeshiva) rather than working, leaving many in relative poverty.

For all of its insights, this literature has largely overlooked one important mechanism connecting religion and human capital: the ruler's *religious identity*.[2] We address this gap in the literature by outlining a simple theoretical model in which a ruler provides a non-excludable public good and has a preference for providing for his co-religionists, ceteris paribus. Importantly, we allow for the presence of quasi-public goods, such as education, where private substitutes exist. We also assume that the private good is *excludable by religion*; a reasonable assumption with respect to education in a historical context where many private schools were religious in nature.[3] Our primary result is that the existence of substitutes provided by private markets affects the provision of the public good, but only if the private good is excludable by religion. The idea is that if the good is also provided privately to the ruler's co-religionists, the ruler is incentivized to provide less of the public good since his co-religionists receive lower marginal utility from its provision.

We test our theory by exploiting a unique historical setting: the Indian Princely States. Colonial rule in India was comprised of territories under direct rule (British India) and territories under indirect colonial rule (Princely States). The latter states were run by hereditary rulers who controlled local affairs while the British controlled foreign policy. Princely States were spread all over the sub-continent with substantial heterogeneity in the religion of the rulers. A majority of the states were ruled by Hindus (80%), but a non-trivial number were ruled by Muslims (15%) and Sikhs (5%). Importantly, the religion of the ruler was *not* strictly a function of regional religious affiliation; many Muslim kings ruled over predominantly Hindu populations, while many Hindu kings ruled over Muslim populations.

This setting is well-suited to test our theory for two reasons. First, there is heterogeneity in the religion of rulers. Second, private substitutes, excludable by religion, existed for publicly provided education. By the early 20th century, Muslim religious schools were more prevalent than Hindu religious schools in colonial India. The model therefore predicts that Hindus living in Muslim-ruled states would have worse education outcomes because Muslim rulers would spend less on public education. Meanwhile, the effect on Muslim education outcomes would be minimal because the private sector (via Muslim religious schools) would make up for the shortfall.

Our empirical findings confirm these hypotheses. In 1911 and 1931, the Hindu literacy rate was 2 to 3 percentage points lower in Muslim-ruled states, while there was no statistically significant impact of Muslim rule on Muslim literacy. Consistent with our model, we also find Muslim rulers are negatively correlated with both public schools and enrollment. Apart from schools and enrollment, the language of instruction offers another test of our model because English language schools were more likely to be public. Using data for 1931 English literacy, we find a large and negative impact of Muslim rule on English literacy. Taken together these results suggest Muslim rulers underinvested in public education.

It could well be the case that Muslim rulers under-provided public goods in general, not just those for which private substitutes existed. To test this possibility, we study the provision of railways and post offices, two important public services for which there were no widespread private substitutes excludable by religion. Our model would suggest that the presence of a Muslim ruler should not influence the provision of railways or post offices. And indeed, we find no significant impact of Muslim rulers on the provision of railways or post offices.

We recognize that Princely States were not randomly assigned to Muslim rulers. Although we control for a rich set of observable factors such as urbanization, social structure, and institutional variables, Muslim ruled states may still be a selected sample, different from non-Muslim states. To address such endogeneity concerns we use matching techniques comparing outcomes in Muslim ruled states to observationally similar Hindu ruled states. Again, we find Muslim rule has a negative and significant impact only on Hindu literacy and English literacy. We also find negative effects on public schools and enrollment but no significant effects on the provision of post offices or railways.

Our model and empirical findings relate to a growing literature on religion and public goods provision. Much of this work has looked at religious organizations that supply public goods in different contexts such as the United States

Noland (2005), Cantoni (2015), Iyigun (2015), and Rubin (2016). For an excellent recent overview, see Iyer (2016). More closely related to our paper, recent comparative works show how different institutional relationships between Muslim and non-Muslim regions led to long-run differences in financial institutions and instruments (Kuran, 2005; 2011; Rubin, 2010), reaction to technology (Coşgel et al., 2012a; 2012b), trade institutions (Greif, 1994; 2006), and laws (Rubin, 2011).

[2] There are some recent papers looking at the connection between political identity and economic outcomes. Bhalotra et al. (2014) find a positive impact of Muslim legislators on health and education outcomes with no additional benefits for Muslim children. Iyer (2010) finds that districts in the former Princely States have better economic outcomes in post-independence India compared to districts in former British India. She finds no differences in outcomes between Muslim and non-Muslim ruled states in the post-independence period. In separate work focusing on British India, we find that districts which experienced a more recent collapse of Muslim (primarily Mughal) rule have worse literacy outcomes (Chaudhary and Rubin, 2011). We argue this was due to the strength of religious authorities in these areas, who were better able to provide alternatives to public schools. In other context, Franck and Rainer (2012) show that rulers' *ethnic* favoritism in sub-Saharan Africa is an important factor in determining education outcomes.

[3] Another example of a public good that is excludable by religion is charity, which has traditionally been privately provided in many Christian and Muslim lands. Huber and Piero (2011) suggest that privately-provided charity can create voting cleavages among charity recipients based on whether they receive charity from the state or from religious institutions.

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