

# What does religion have to do with demand for sanitation?

## Explaining variation in sanitation between India and Bangladesh



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### introduction

South Asia has the highest rates of open defecation worldwide, killing thousands of children each year and impairing the growth of those who survive. Within South Asia, Bangladesh has been much more effective in curbing open defecation than India, despite being poorer, motivating an exploration of the factors that enabled success.

Although the average Muslim household in India is poorer than the average Hindu household, Geruso and Spears (2014) find that the sanitation environment can fully account for lower infant mortality rates among Muslims than Hindus within India. Given the importance of sanitation for human capital accumulation, it is critical to understand what drives differences in demand for sanitation.

**This paper explores whether religion can explain part of the gap in sanitation coverage between India and Bangladesh. If so, it seeks to estimate how much of the gap religion can account for, and explores reasons why religion may play a role.**

### data and methods

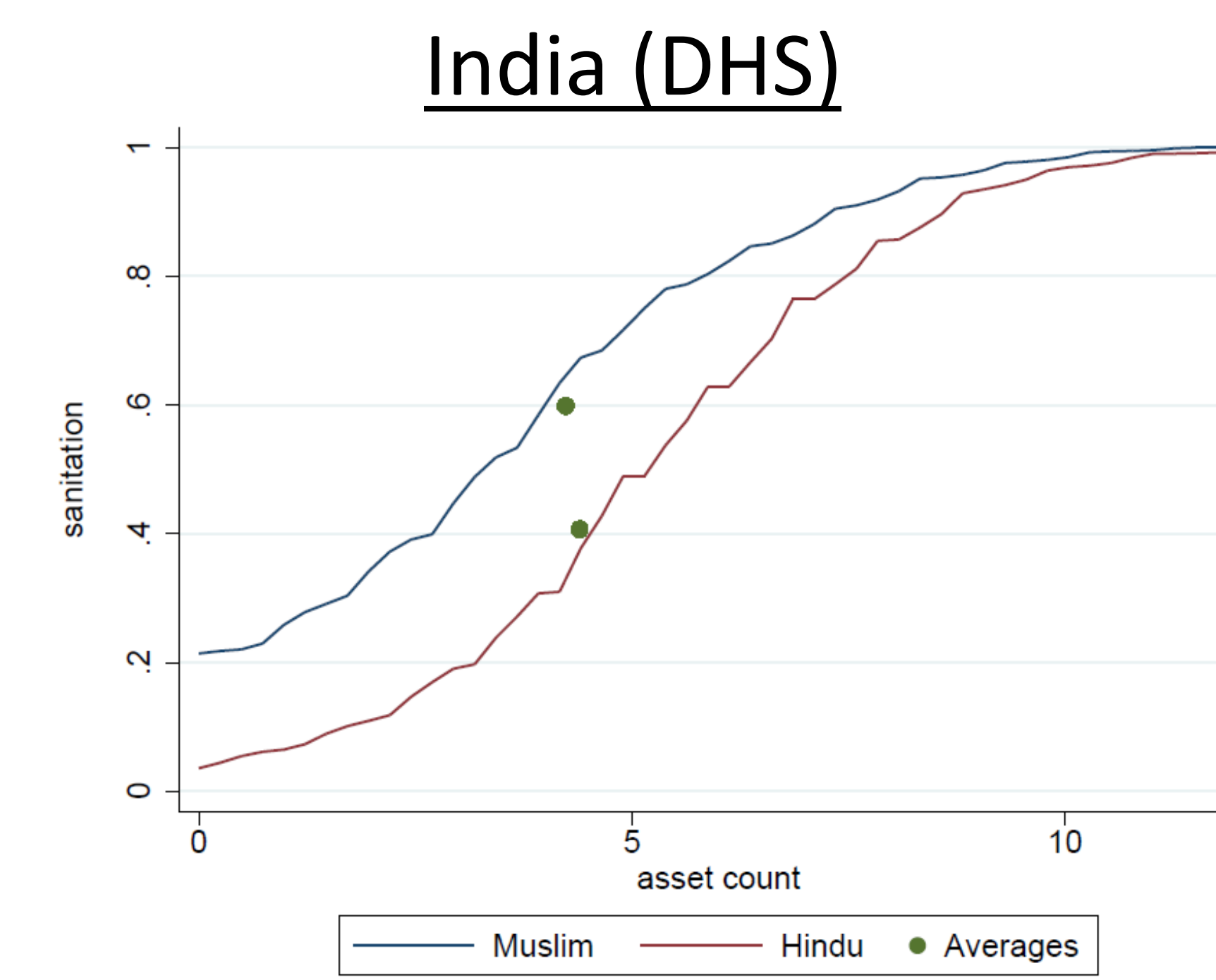
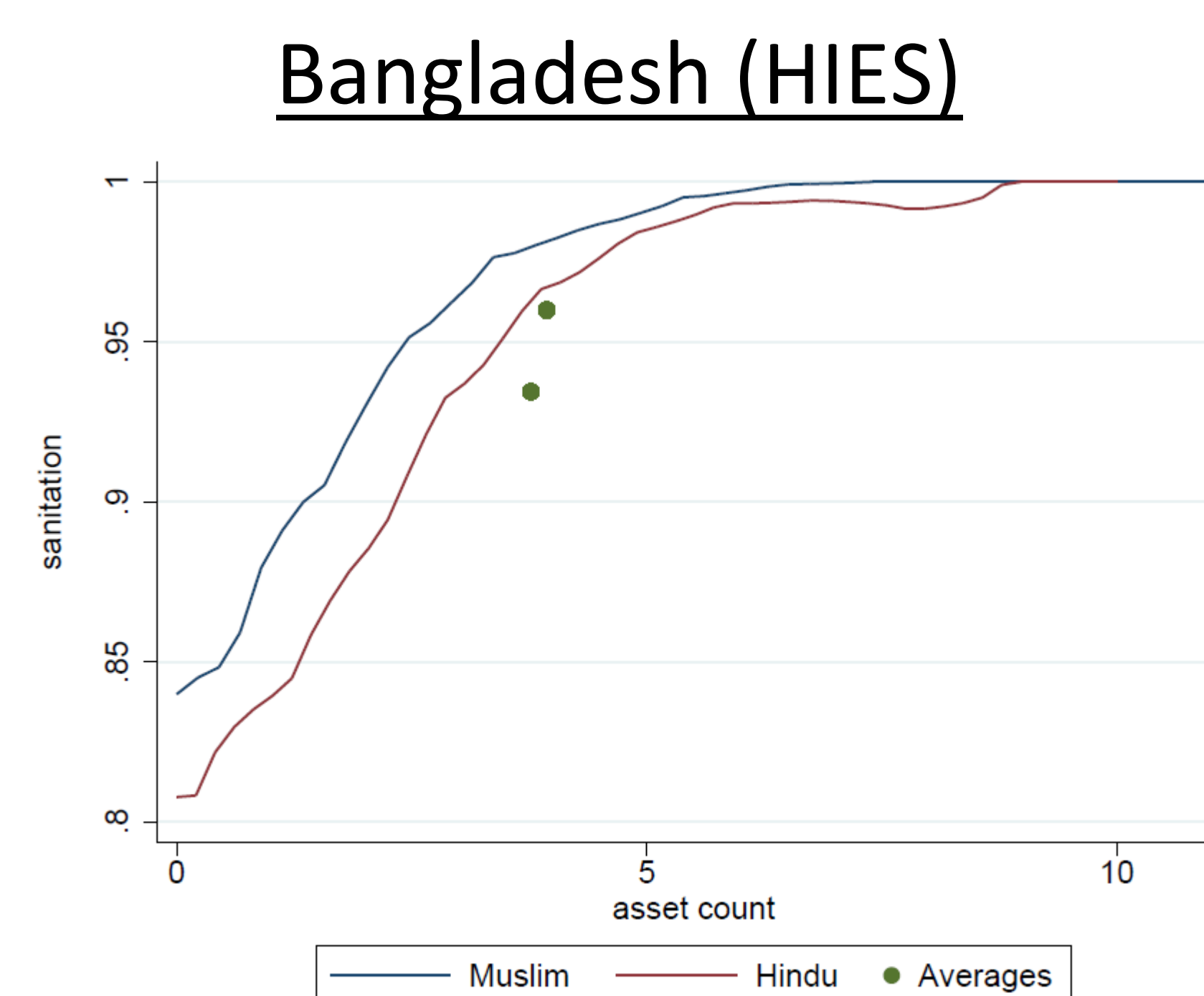
Dataset	Year	Country	Households
HIES*	2010	Bangladesh	12,106
DHS	2005	India	93,374
SQUAT	2014	India	3,235
Switching	2014	India	100

\*HIES was used for Bangladesh because the 2011 DHS did not include data on religion.

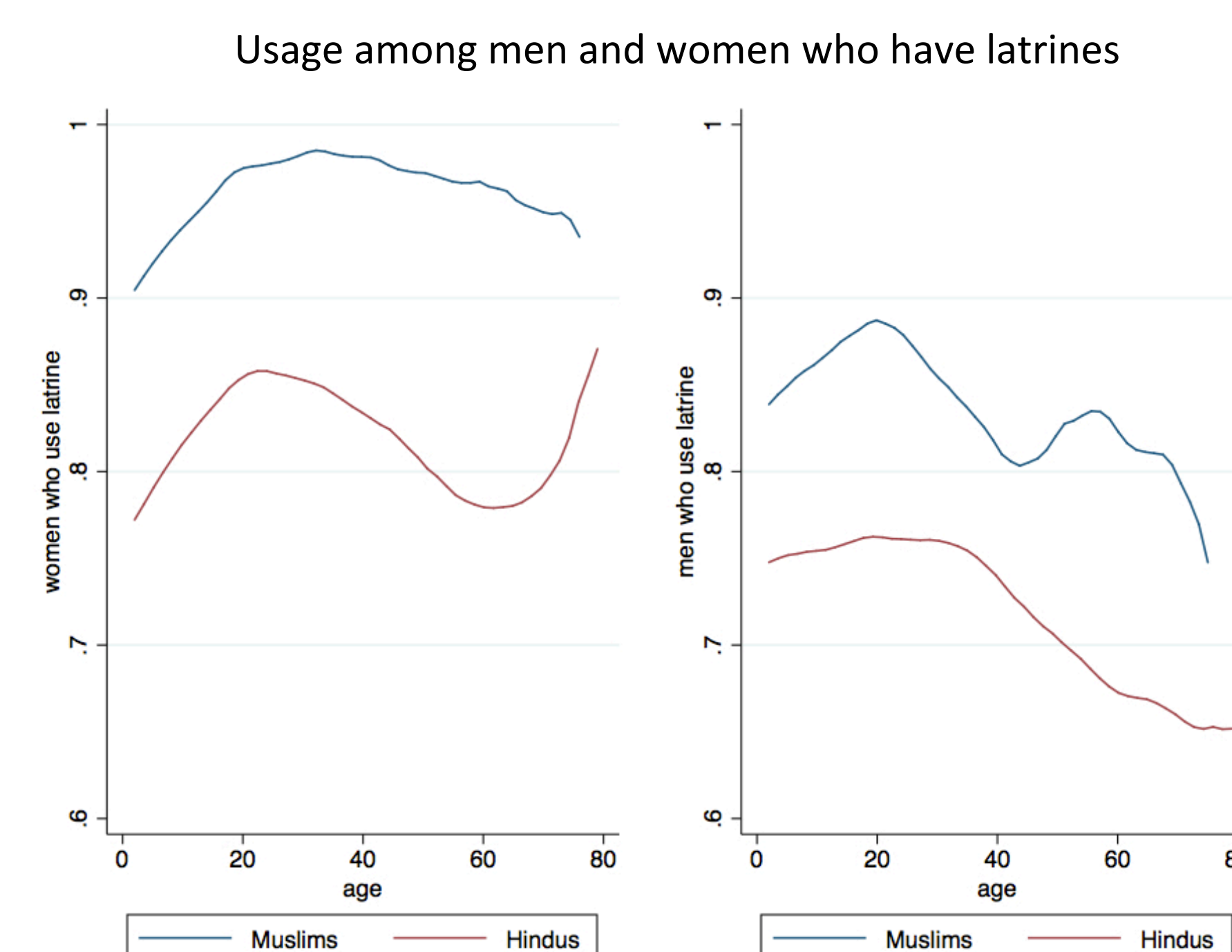
We predict sanitation coverage using logit models, using appropriate sample weights.

### results

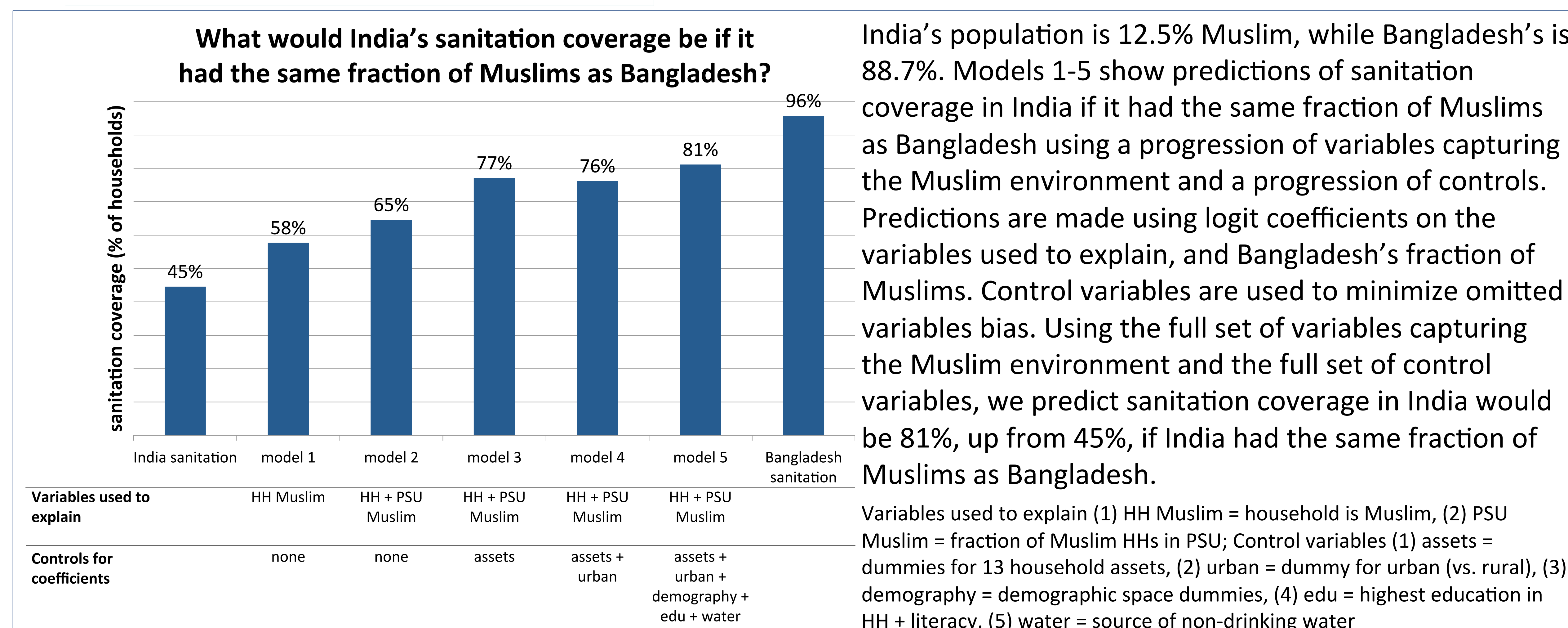
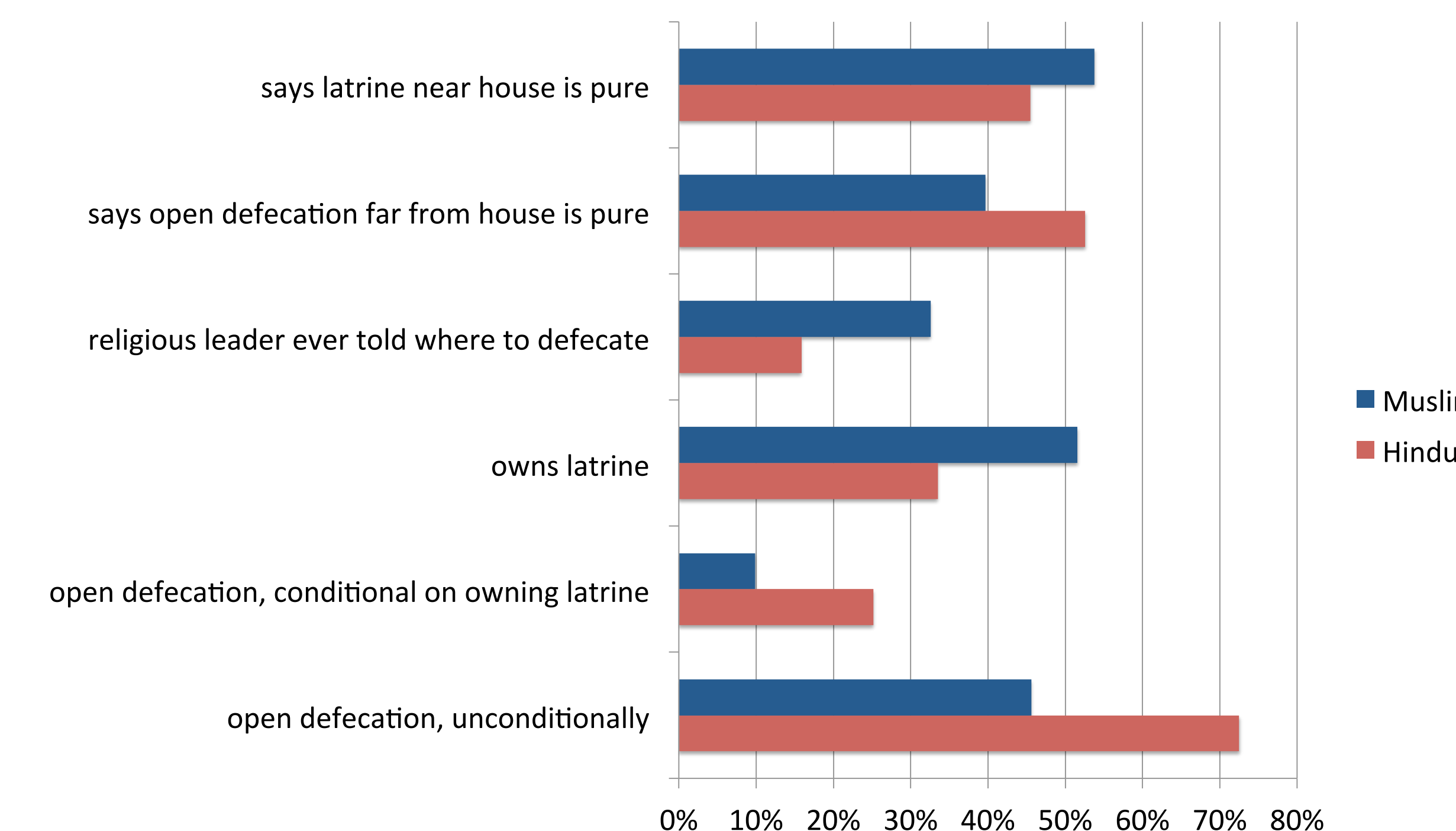
Muslims are more likely than Hindus to have sanitation at all asset counts, in both countries



Muslims in India use their latrines more often than Hindus. This difference is starker for women (SQUAT)



On various measures of access, use, exposure, and attitude, Muslims in India exhibit greater demand for sanitation than Hindus (SQUAT)



India's population is 12.5% Muslim, while Bangladesh's is 88.7%. Models 1-5 show predictions of sanitation coverage in India if it had the same fraction of Muslims as Bangladesh using a progression of variables capturing the Muslim environment and a progression of controls. Predictions are made using logit coefficients on the variables used to explain, and Bangladesh's fraction of Muslims. Control variables are used to minimize omitted variables bias. Using the full set of variables capturing the Muslim environment and the full set of control variables, we predict sanitation coverage in India would be 81%, up from 45%, if India had the same fraction of Muslims as Bangladesh.

Variables used to explain (1) HH Muslim = household is Muslim, (2) PSU Muslim = fraction of Muslim HHs in PSU; Control variables (1) assets = dummies for 13 household assets, (2) urban = dummy for urban (vs. rural), (3) demography = demographic space dummies, (4) edu = highest education in HH + literacy, (5) water = source of non-drinking water

### conclusions

If India had the same fraction of Muslims as Bangladesh, logit models capturing the Muslim environment, and containing a full set of controls, predict that religion statistically accounts for 71% of the gap in sanitation coverage between India and Bangladesh.

Despite opposite religious majorities and differing politics, Muslims are more likely to have sanitation in both countries, suggesting that differences are not due to political or social exclusion. Thus religion may play a role in determining demand for sanitation, possibly through its effect on people's attitudes.

### further research

A qualitative study exploring how religion affects sanitation ownership, use, and attitudes is currently underway in rural north India. Possible reasons for why religion may impact attitudes towards sanitation include:

1. Ideas of purity and pollution hold people back from wanting to use a latrine: Muslims are less likely than Hindus to say that a latrine near the house is "impure."
2. Hindus often consider pit cleaning to be ritually polluting. Notions of feces being "unclean" and caste associations with those who clean latrines make many unwilling to use average pit sizes for fear of their filling.
3. Patriarchal beliefs are pervasive throughout rural India, but the difference in latrine use between Hindus and Muslims is more stark for women, suggesting the role of *purdah*, or the "protection" of women's modesty.