Religious Demography of Emerging Economies

Age structures and fertility in the BRIC countries and the global religious consequences of their economic growth

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Abstract: Brazil, Russia, India, and China are widely recognized as a block of countries whose global economic influence is rising. In this paper, we suggest that concomitant with the growing economic influence of these countries may come growing influence of the religious populations in each country. At a minimum, increasing economic and human capital in these countries will probably lead to discernible changes in the average socioeconomic profile of several of the worlds' religions including Hinduism, Orthodox Christianity, and the religiously unaffiliated. Our research focuses on the demographic characteristics of religion in each of these countries, setting the stage for our projections of religious change in each country. We discuss possible global consequences of these changes.

Despite the a growing interest in demography of religious populations[6] and the relation between these population dynamics and various aspects of socio-economic life (for example economic development and social inequalities), there has until now not been any attempt to collect and estimate religious composition by age and sex as well as differences in fertility for all countries in the world. This kind of data could add another perspective in the studies on future interactions between religion and other spheres of life.

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[6]For instance, three major research programs now have concentrated research attention on religious demography: IIASA, the Pew Research Center and B.U.'s International Religious Demography Project.

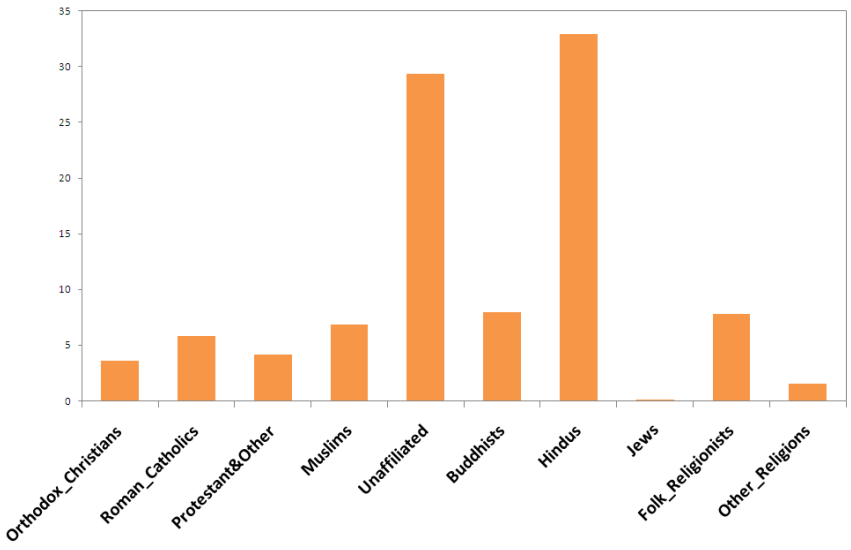
The aim of this paper is to present current and projected future religious compositions and fertility differentials by religion in the BRIC countries (Brazil, Russia, India and China), and possible implications of demographic change on division of wealth between religious communities in the world. A detailed account of the religious demography of the world by *age and sex* has for the first time been documented in an ongoing joint project of Age and Cohort Change Project at International Institute for Applied System Analysis (IIASA) and the Pew Research Center's Forum on Religion & Public Life. These data form some of the basis for the present work.

Several studies emphasize the relation between religion and economic performance, both on the individual as well as the aggregated level. In M. Weber's classic sociological text *The Protestant Ethic and the Spirit of Capitalism* it is argued that religion can affect economic outcomes, i.e., that work ethics deriving from Protestantism raises workers productive performance and increases economic growth. Although many have since studied whether religion actually affects economic productivity, the impact of economic levels on the global importance of different religions has so far received relatively little academic attention. Also the demographic dynamics of religious communities have not been focused on in this context.

The BRIC countries are currently experiencing rapid economic development (e.g., in terms of overall and per capita gross domestic product), which is raising their importance in the global economy. Their wealth is expected to increase in the coming decades. These economic changes may translate into the greater global political, cultural and religious influence of these nations. We discuss how the religious demography of these nations differs from the rest of the world and how the growth of these nations may change the economic profile of different religions in the entire world.

The religious composition of these countries differ from most developed countries such as Western Europe, Canada, United States, Australia and New Zealand (which are dominated by *Protestant* and *Catholic* Christians), South Korea (mixed Buddhists and Christians) and Japan (which is mainly *Buddhists and Shintos*). Figure 1 reveals the religious composition of BRIC countries. There are only 13.6% *Christians* and 6.8% *Muslims*, while the share of *Unaffiliated* is 29.3%, and the most common affiliation among the BRIC countries are *Hindus*, which constitute 32.9% of those with an affiliation.

Figure 1. Religious composition of BRIC countries

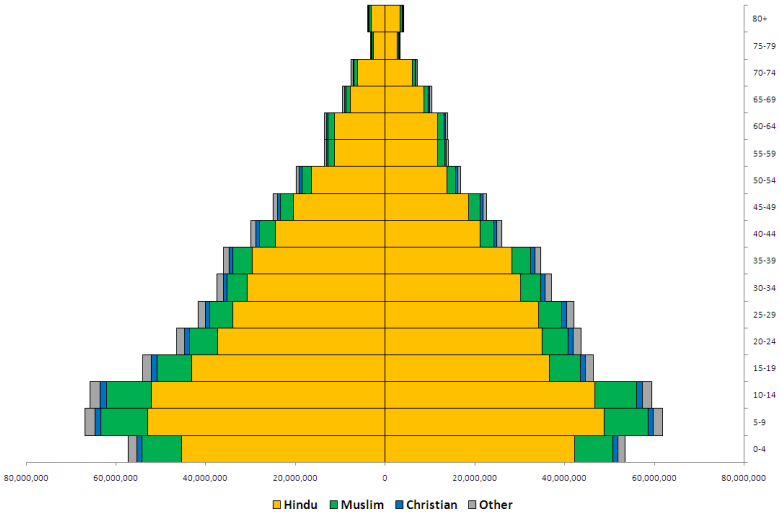


Source: PEW-IIASA estimates.

INDIA

In the paper we investigate current differences in religious composition by age and sex in BRIC countries. For example, figure 2 presents population structure for India in 2001 according to the census *Hindus* have 80.5% share in population, *Muslims* - 13.5%, *Christians* – 2.3% and *Other* religious groups represent 3.7% of population.

Figure 2. Population structure by age, sex and religion in India in 2001

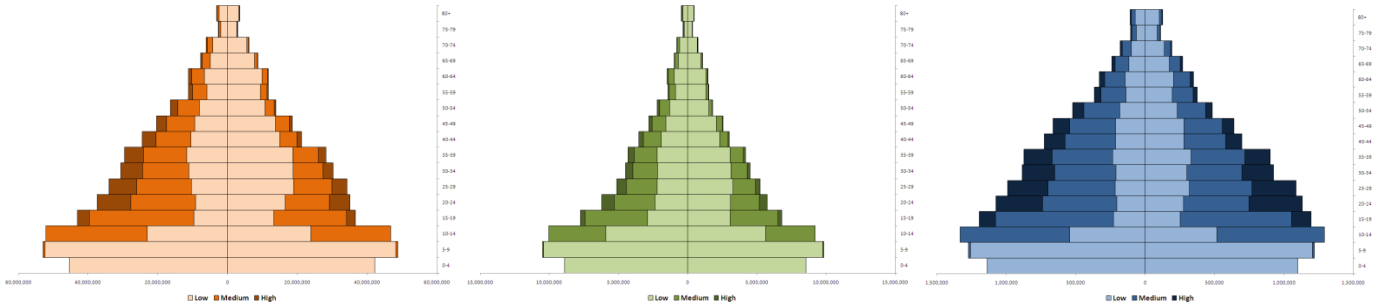


Source: PEW-IIASA estimations based on data from Indian Census 2001.

More detailed analysis reveals significant differences in population structures between religious communities. In figures 3 a), b) and c) we add an additional dimension which is very important in creation of wealth - education. Education attainment is a crucial element of human capital which stimulates economic growth (e.g. Becker 1993, Barro and Lee 2001,Mankiw et al. 1992; Lutz et al. 2008). Among Hindus 60.9%of people have below primary education (*low*). 31% of Hindus have achieved primary or secondary education (*medium*), and only about 8% have tertiary education (*high*). Whereas, *low*-educated constitute around 69.5% of Muslims. People with *medium* education have 26.5% and *high*-educated – 4% share. Christians are better educated than other groups. Among them 13.6% have achieved tertiary education and 46.6% belong to below primary education group.

Figure 3. Population by age, sex and education among religious groups

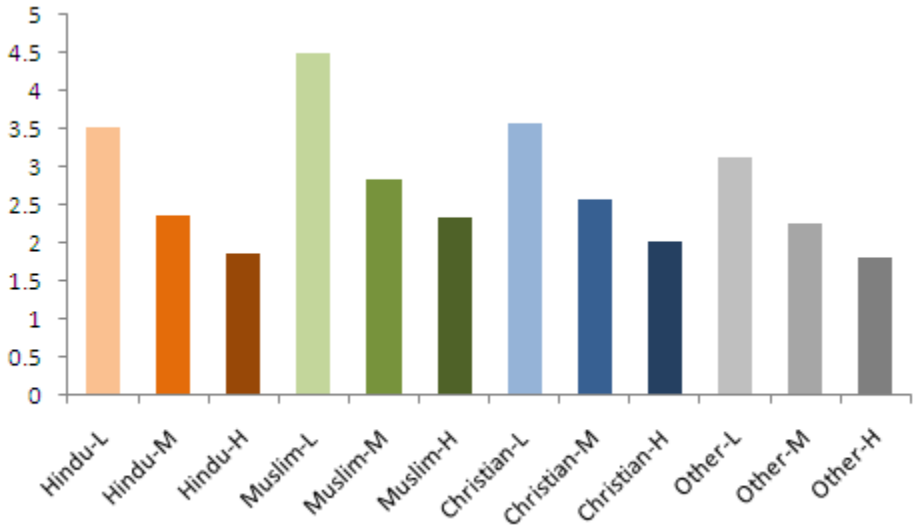
a) Hindu b) Muslim c) Christians



Source: PEW-IIASA estimations based on data from Indian Census 2001.

In India, we observe significant differences in fertility between religious groups. Total fertility rate for *Hindu* population equals to 2.88, *Muslims* - 3.77, *Christians*- 2.7 and *Others*-2.47 in the period 2005-2010. The *low*-educated in all religious groups have the highest fertility. For example, Muslim females who have not finished primary school have on average 4.5 children, whereas these with above secondary education could give around 2.3 births according to our estimates (see figure 4).

Figure 4. Total fertility rates by religion and education in India in 2005-2010



Source: PEW-IIASA estimations based on data from DLHS 2007-8, NFHS 2005-6.

SIGNIFICANCE

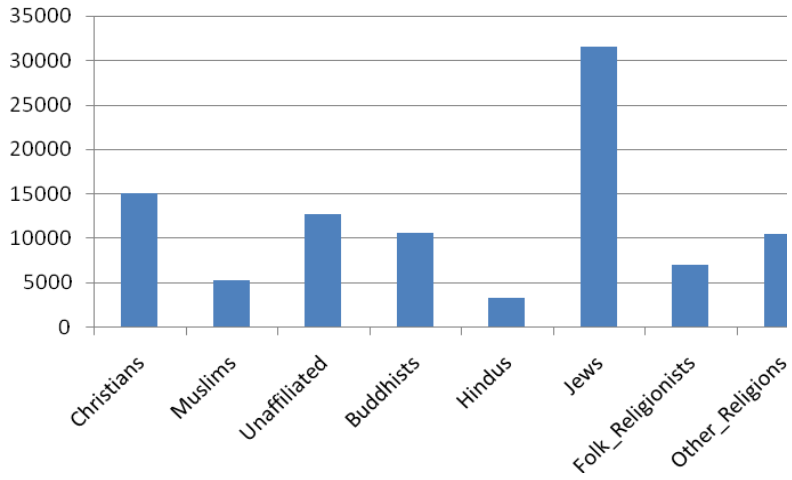
Significant changes in population size and age structure of religious communities can affect other spheres of socio-economic life. Using our results of estimations and projections together with macroeconomic data, we discuss possible consequences of presented changes on distribution of income among religious communities. We use macro level approach ignoring within-country variation in economic levels for data-availability reasons. In some countries this clearly plays an important role as economic variation between economic groups can differ greatly. However, many countries are completely dominated by one religion and within country-variation in income by religious groups is often smaller than variation between countries.

To see the impact of BRIC countries on the potential global influence of various religious communities (including those who identify as unaffiliated with any particular religion), it is useful to consider how BRIC countries may potentially alter the future economic influence of people from different religious communities.[7]Figure 7 shows the gross domestic product (GDP) per capita in 2009 USD [PPP Converted GDP per capita (Laspeyres index), derived from growth rates at constant prices]by religion for the whole world. We find that there are large differences. *Christians* generate GDP per capita (2009 values) on the level of 15033 USD, while *Muslims*

[7]Per capita GDP (in purchasing parity dollars) provide only very rough estimates of the economic impact of people affiliated with different religious traditions. Of course, differential giving between religious groups to the specifically religious endeavors of their communities would be needed to have a better understanding; unfortunately, such global data do not currently exist.

have about 5305 USD, *Unaffiliated*-12682 USD, *Buddhists*- 6867 USD and *Hindus*- 3365 USD. The group with the highest GDP per capita is Jewish population which achieves more than 30000 USD.

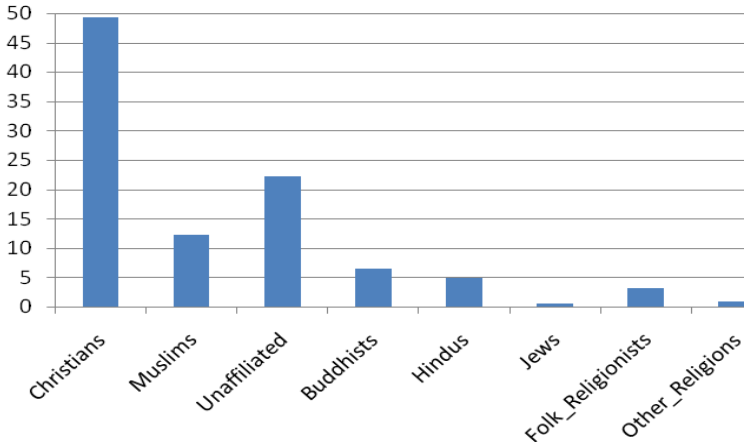
Figure 7. GDP per capita by religion based on national level data



Source: PEW-IIASA estimations based on Penn World Tables 7.0.

Figure 8 shows the religious distribution weighted by their GDP per capita, i.e., the total distribution of economic power. As can be seen, this implies a very different religious landscape than what the demographic distribution would imply. *Christians* represent 49.3% of the global GDP, *Muslims*- 12.3%, *Unaffiliated*- 22.2%, *Buddhists*- 6.6% and *Hindus* have 4.9% share.

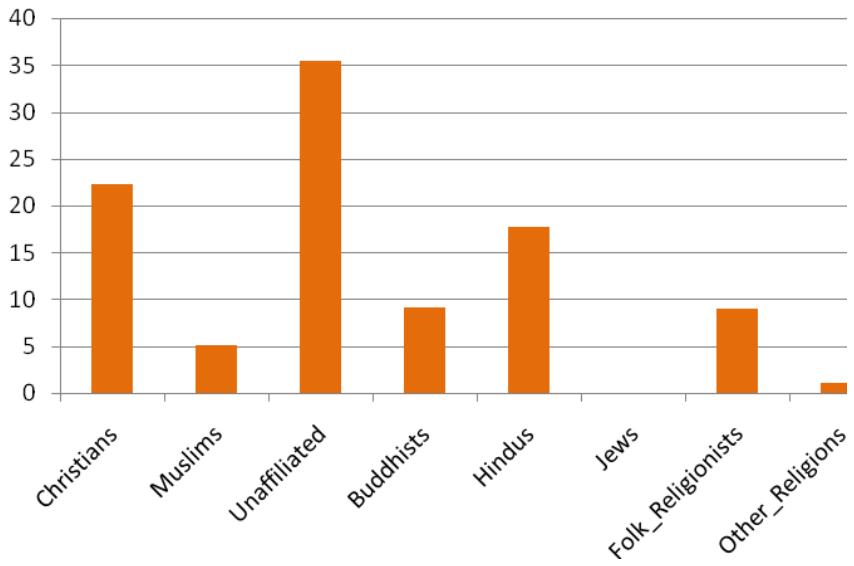
Figure 8. Global economic influence by religion. Religious population weighted by GDP.



Source: PEW-IIASA estimations based on Penn World Tables 7.0.

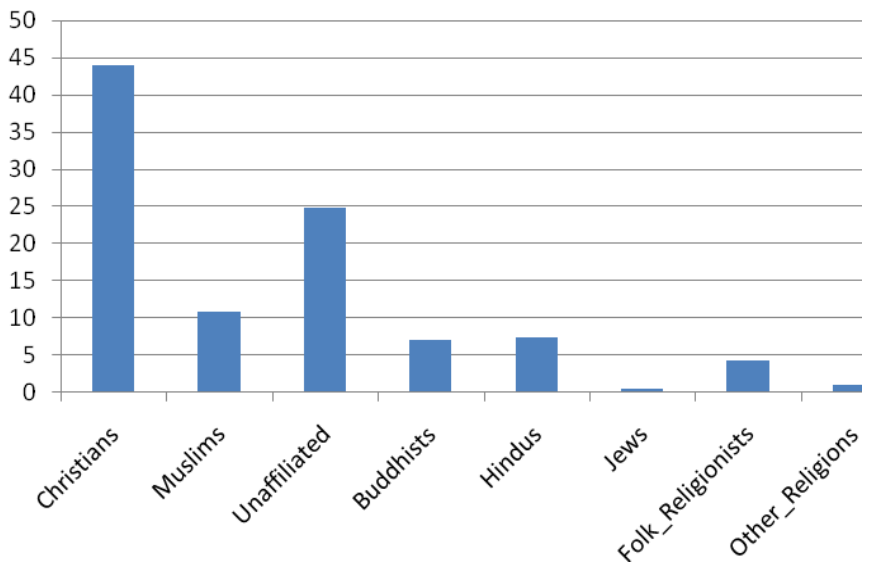
Now we turn our attention to the BRIC countries. The rise of the BRIC population would increase the global influence of *Unaffiliated* and *Hindus* in particular. In order to evaluate the impact of rapid economic growth and changes in religious composition in these countries, we consider several possible scenarios. For example, we evaluate the impact of doubling of GDP per capita relatively to all other countries in the case where within-country religious composition and relative population size of each country to be constant (see Figure 10). The implication is a marked decrease in both global *Christians'*(which would fall to 43.9%) and in *Muslims'* influence (which would fall to 10.8%), while *Unaffiliated* would rise to 24.8% and *Hindus* would increase to 7.4%.

Figure 9. Economic distribution of BRIC countries by religion



Source: PEW-IIASA estimations based on Penn World Tables 7.0.

Figure 10. Impact of a doubling of BRIC GDP per capita on global distribution of economic power by religion (population size constant)



Source: PEW-IIASA estimations based on Penn World Tables 7.0.

To conclude, we present results of our project on estimations and projections of religious compositions by age and sex for all countries in the world. The PEW-IIASA project is the first in the world attempt to provide detailed and reliable data to researchers who work on the fields associated with religion. Availability of this kind of data is crucial for improving quality of future scientific work.

We show our results on the example of BRIC countries which are currently experiencing rapid economic growth. The rise of BRIC countries, both in demographic and economic terms, could change the global religious economic landscape. Changing economic conditions may boost the importance of certain religious groups, which will have worldwide changes in the economic influence of each global religion. The economic rise of BRIC countries implies, *ceteris paribus*, more influence of *Hinduism*, *Orthodox Christianity* and the religiously unaffiliated.

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