

Partition of India: Long term effects of selection in migration

Shekhar Mittal

1 Introduction

The division of British India in 1947 into India, Pakistan and what is now Bangladesh¹ resulted in one of the largest rapid involuntary migrations of the 20th century. The migration involved approximately 16 million people crossing borders causing a net inflow of 2.5 million persons into India. 6 million non-muslims moved from Pakistan to India, while around 6.5 million muslims moved in the opposite direction. 4 million non-muslims migrated from Bangladesh. However, only 1 million muslims moved from East India to Bangladesh (Vakil, 1950). More recent work by Bharadwaj et al. (2008b) also gives a similar account. Mittal (2015) gives a detailed description of the partition and its aftermath in the context of migration.

There is not much high quality economic analysis of the effects of migratory flows that resulted from the partition. There are many questions which seems worth exploring: Once the families decided to migrate, how did they chose the specific district destination? Did they resume their occupation or did their occupation choice respond to market signals of the destination? Was there stress and tension in the districts due to the incoming migrants?

¹United Pakistan when formed, consisted of Western and Eastern blocks. After the 1971 war, East Pakistan separated and became what is now known as Bangladesh. For convenience, I will refer to the blocks with their current names.

What was its impact? In the long run, are the districts that had greater share of migrants worse or better off? Lack of identification strategy and of micro-data seem to be the major challenges in pursuing this research agenda.

In this paper I will describe a framework to analyze the long term affect of selection in both majority and minority groups of people who made migratory decisions during partition. Similar to Bharadwaj et al. (2008a), I assume that inflows in India consisted of hindus and outflows from India consisted of muslims. Figure 1 and 2 provide evidence that this assumption is valid. Since my idea focusses only on hindu and muslim population groups in India, from now on I will refer to hindus as the majority group and muslims as the minority group.

Evidence suggests there was adverse selection of the minority population that was left behind and positive selection of the migratory population that chose to migrate. Evidence also suggests that there was variation in migration density both at source as well as destination districts. An interesting and explorable long term impact of this is the following: Are there greater differences between majority and minority groups in districts that had greater outflows than those in districts which did not experience significant outflows? Anecdotal accounts indicate that muslims in southern parts of India are economically and socially better off than the muslims in northern parts of India. How much of this can be attributed to the selection that happened during partition? Current sample surveys would allow us to analyse the socio-economic situation of the muslims while the 1951 census data allows us to create the independent variable.

In the next section I will quickly summarize the work that I am aware of on the effects of migration related to partition. A more detailed review can be found in Mittal (2015). I will then informally sketch a model to explain how the potential relationship between my outcomes of interest- differences in socio-economic indicators between muslims and hindus - change with the outflows of minorities that resulted from the partition of British India. I

will then describe the empirical strategy that I intend to carry out. Finally, I conclude.

2 Literature review

Bharadwaj et al. (2008b) describe the demographic consequences of partition related migration. Their work shows that there was positive selection in people who migrated compared to those who did not. Migrants were more likely to be men, educated and choose non-agricultural professions. Migrants entering non-agricultural professions were more likely to migrate to further distances and to larger cities. They argue that in general, inflow reduces percentage population engaged in agriculture, outflow increases it.

In India, partition-related flows resulted in an increase in literacy rates and a decrease in the percentage of people engaged in agriculture. The effects for India reveal an aggregate increase in literacy of around 0.98%. Outflows in India decreased literacy rates only mildly, while inflows increased literacy rates quite substantially.

In another study, Bharadwaj et al. (2008a) suggest that distance to the border plays a significant role with migrants both more likely to leave from and migrate to closer places. There is also a replacement effect with migrants going to districts which had greater outflows. Large cities are also likely destinations. Finally, there is substantial variation in flows across districts within the same states. Inflows centered around Punjab, West Bengal and Bangladesh. Western and Eastern borders experience different dynamics. Western border had 3 times the flow and there was greater movement into Pakistan. However, there was greater movement into India from Bangladesh (refer figure 1 and 2).

Bharadwaj and Fenske (2012) further analyze assimilation of these migrants in Indian economy. They argue that migrants from Bangladesh brought in jute-specific skills. They use distance from the border as an IV to identify the impact of partition-related migration on jute production. They find that the districts in eastern India most affected by migrant

flows were those that took up jute cultivation most extensively after partition. Consistent with the hypothesis, they show that migrants did not depress jute yields, did not increase the cultivation of other crops, and did not lower native wages. In summary, they showed positive economic effects of assimilation of migrants.

3 Theoretical framework

Each district consists of multiple religious groups. For my purpose, I consider hindus and sikhs in the same group (from now on referred to as the hindus). I am interested in analyzing the differences between muslims and hindus in the contemporary era due to partition related adverse selection.

Within each religious group there is considerable heterogeneity in terms of human capital, assets, organisational behavior etc. Also, an individual or a household interacts more with the members of his own group than with the members of the other group. Members of the group which belong to higher tail of the group distribution provide leadership and also act as a source of inspiration to the rest of the members.

I have already described the migration patterns (and the resulting selection) due to partition in the literature review section. Due to the selection in migration, when the high-end members of the minority community leave, it not only creates a leadership vacuum for the minority community but also creates an aspirational void which may persist long after the past leaders have left. Simultaneously, the majority group receives an influx of members which belong to the high end of the distribution within their community. As a result, there community becomes more progressive.

In this simple setup, the differences in human capital and socio-economic indicators between the majority and minority religious groups will rise through two paths. First, the majority group in the district will develop faster as its leadership and human capital has

been bolstered by the inflows. Second, the minority group in the district will regress as it experiences a decline in the quality of its leadership.

I am hoping to explore the variation in differences in socio economic indicators between the religious groups with changes in the following key parameters - the minority share, the rate of inflows of majority group, the rate of outflows of minority group. Without looking at the data, it is hard for me to hypothesize how the population share of the minority group effects the outcomes. Both the inflows and the outflows should results in greater differences between the groups.

4 Empirical strategy

4.1 Data

For contemporary data on socio-economic conditions of hindus and muslims, there are quite a few datasets available which I plan to look into. I will rely on National sample surveys that are conducted by the government of India on a regular basis. I will use the 43rd, 55th and 64th rounds which were collected in the years 1987-88, 1999-00 and 2007-08 respectively. The sampling techniques employed by these surveys are representative at the district level. Although I don't need multiple rounds, I think it may be interesting to track the variation across 3 decades.

From these surveys, information on education, consumption and assets can be determined. A question asks about the education level of the head of the household. Education is coded as a categorical variable². Total landholdings by the household are also coded as a categorical variable³. The surveys also measure monthly per-capita household expenditure.

²with the following codes: not literate-01, literate without any schooling-02, literate but below primary (class 5) - 03, primary school - 4, middle school (class 8)- 5, Secondary school (class 10)- 6, senior secondary - 7, diploma/certificate course - 8, college graduate - 9, post graduate -10.

³with the following codes: less than .005 hectares-01, between .005 and .01 hectares - 02, between .01 and .2 -03, between 0.21 and 0.4 hectares - 04, between 0.41 and 1.00 - 05, between 1.01 and 2.00 - 06, between

National family health survey and India human development survey also seem viable data sources. Both of them capture the religion of the households. They may also help me in tracking differences in health indicators which is not possible in the national sample survey.

The primary source of data to get the partition specific migration movements are the 1931 census of British India and 1951 census of India and Pakistan. Although the 1941 census was also conducted but there are reliability concerns with the 1941 census due to the Bengal famine, world war II and onset of communal tensions. I also intend to use 1921 census to able to calculate the population growth rates of different religious groups in this time frame (as per the methodology used in Bharadwaj et al. (2008a)).

I will also use the censuses to get a baseline sense of differences between hindus and muslims. The information I can get is limited to the literacy level and the population engaged in different occupations. Health and other socio economic indicators are not available in the census.⁴

A drawback of using India census for any kind of analysis is the lack of micro-data. There is simply no micro-data available even for latest census rounds. So I will have to rely on aggregate data. The lowest geographical unit for which aggregate data is consistently available is at the district level. Identifying geographical units which are lower than the district level over time becomes impossible.

District boundaries not only change over time, there have also been instances where districts have merged or split. Therefore, one of the main challenges of using this data will be in identifying comparable enumeration areas. Independent India and Pakistan consists not only of British controlled regions but also princely states that were not directly under British control. So, another challenge I foresee is that there may not be data available for

2.01 and 3 - 07, between 3.01 and 4 - 08, between 4.01 and 6 - 10, between 6.01 and 8 - 11, greater than 8 - 12.

⁴If there is progress in this proposal, it may be worthwhile to search in the archives for data that could help me in developing a better set of baseline differences.

such areas or it may be difficult to identify the enumeration areas.

However, I will rely on the prior work that has been done by Bharadwaj et al. (2008a) to merge district level data into units which can be analysed from 1921 to 2008. They have made the data available online which should save me the work of digitising the past censuses. I will also use the administrative atlas made available by the census department to cross-verify the accuracy of district definitions.

4.2 Effects of migration

To assess these predictions, the ideal comparison would compare 3 districts with the same initial ethnic mixes and similar distribution of wealth and human capital across the religious groups. 1 of the districts should receive inflows of the majority group. The third district should witness only outflows from the minority group.

To approximate this comparison, I propose to estimate cross sectional regressions of the following form at district level i :

$$y_{ij} = \alpha * Inflow_{ij} + \beta * Outflow_{ij} + \theta * MinorityShare_{ij} + \delta * S_j + \gamma * X_{ij}$$

Here y_{ij} is the mean difference in various socio-economic indicators between muslims and hindus in district i of state j . $Inflow_{ij}$ measures the percentage share of incoming migrants in the majority religious group. The 1951 census directly asks for this information. $Outflow_{ij}$ measures the percentage share of outgoing migrants in the minority religious group. Measuring this is tricky and I describe it in the paragraphs below. $MinorityShare$ measures the percentage share of minority group in the district population in year 1931. X_{ij} are the district level controls. Since I need district level variation, I can't use district fixed effects and I will need as many district level controls as I can find to limit potential omitted variable bias.

There may be a concern that variation in state level policies can be driving these differ-

ences between religious groups. Therefore, I will also try and use only within state variation by including state level fixed effects. As figure 2 indicates, there is decent variation in outflows and inflows even between districts of the same state.

There may be level differences in the socio-economic indicators across districts. But I am interested only in analyzing the variation in differences between hindu and muslim religious groups. To mitigate the effect due to level differences I will normalize the mean differences by demeaning individual household level observations by district level means and dividing it by district level standard deviations.

The 1951 censuses in India and Pakistan did not ask the migrants about their original destination. So there is no direct way to measure the outflows. I will use a counterfactual estimate of the numbers of each group that would have existed in a district in the absence of partition. I will use the method described by Bharadwaj et al. (2008a) to calculate the counterfactual measure. This measure assumes that relative growth of the minority group with respect to the majority group stays the same from 1921 to 1951.

$$E(m_{51i}) = m_{31i} * g_{21-31i}^{min/maj} * g_{31-51i}^{maj}$$

Here, m_{31i} refers to the population of the minority group in district i in the year 1931. It is scaled up by relative minority growth rate in the previous period ($g_{21-31i}^{min/maj}$). This accounts for the difference in fertility rates across religions. It is multiplied by the growth rate of those members of the majority group who did not move during partition (g_{31-51i}^{maj}). Finally the outflow variable is simply the difference between the actual minority population and the counterfactual population just calculated.

5 Conclusion

I realize that I don't have an identification strategy in place. Besides a lot more may have happened in the past 65 years resulting in omitting variable bias. However, it is also important to begin documenting the long term effects of a major event which resulted in one of the largest human involuntary migrations. Availability of micro-data seems to be a significant bottleneck. Census data exists only at the district level and none of the usual sample surveys seem to have started by then. One thing is clear that not much high quality empirical research has been carried out.

References

- P. Bharadwaj and J. Fenske. Partition, migration, and jute cultivation in india. *Journal of Development Studies*, 48(8):1084–1107, 2012.
- P. Bharadwaj, A. Khwaja, and A. Mian. The big march: migratory flows after the partition of india. *Economic and Political Weekly*, pages 39–49, 2008a.
- P. Bharadwaj, A. Khwaja, and A. Mian. The partition of india: demographic consequences. Cambridge, MA: Harvard University, John F. Kennedy School of Government unpublished paper, <http://ksghome.harvard.edu/~akhwaja/papers/BigMarchOct2008.pdf>, 2008b.
- S. Jha and S. Wilkinson. Does combat experience foster organizational skill? evidence from ethnic cleansing during the partition of south asia. *American Political Science Review*, 106(04):883–907, 2012.
- S. Mittal. Economic consequences of partition of british india. 2015. Written for EC 241.
- C. N. Vakil. Economic consequences of divided india. 1950.

FIGURE 1. Partition and the Religious Homogenization of the Indian Subcontinent, 1931–1951

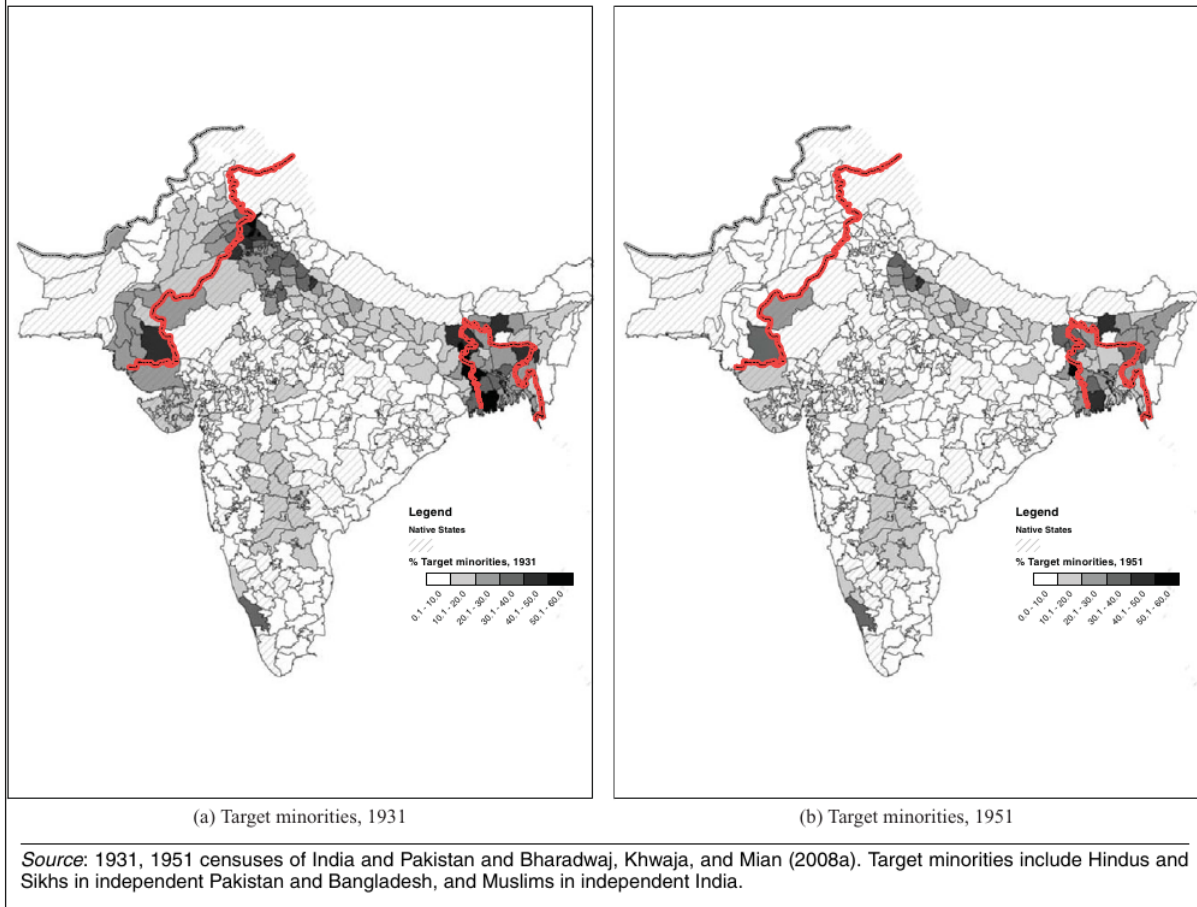


Figure 1: Taken from Jha and Wilkinson (2012) who produced it using the data from Bharadwaj et al. (2008a)

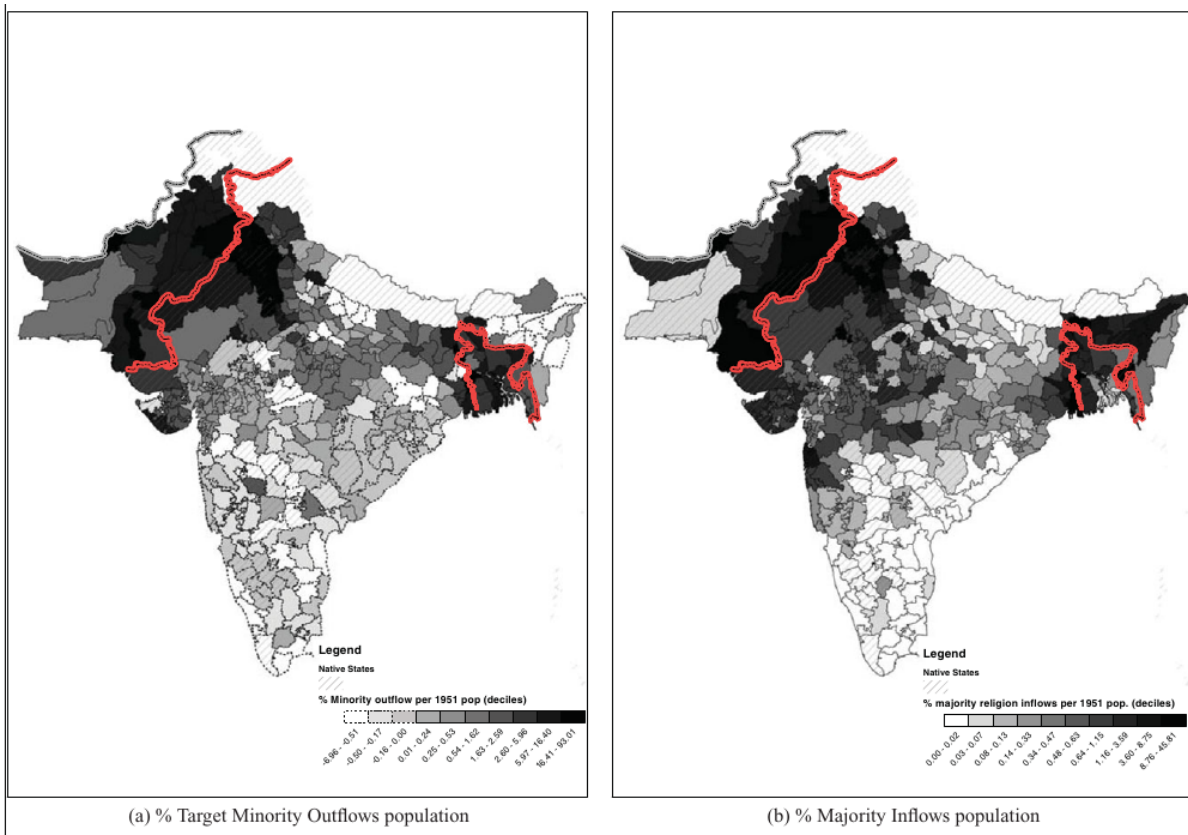


Figure 2: Outflows of minority and inflows of majority population during partition. Taken from Jha and Wilkinson (2012) who produced it using the data from Bharadwaj et al. (2008a)