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Vamsi Vakulabharanam and Sripad Motiram

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Vamsi Vakulabharanam[1] and Sripad Motiram[2]

Abstract

Indian cities have always been marked by stark class disparities and these have only become more pronounced in recent decades. Although academic literature has explored class relations (broadly) in Indian cities, there is a dearth of studies that rigorously explore class-space interactions. Given this, we use a socio-spatial methodology, a rigorous class scheme, and data from a spatially representative survey from Hyderabad and Mumbai that we specially designed to explore city spaces. We use three different notions of space: residence, work, and commuting, and present patterns that are not well-known for Indian cities. Along these three spatial dimensions, we show that class and space mutually determine each other. We show that in both cities, the class distribution varies across residential zones, and how a class fares depends upon its zone of residence. Class location also determines whether the work location of an individual is far from the residential location and the extent of commuting. We demonstrate considerable residential coexistence of classes in city neighborhoods. Apart from being an interesting feature of Indian cities, does this coexistence have any implications? We use an instrumental variable regression to show that class-based spatial integration results in higher economic development. Residents of mixed-class neighborhoods, particularly lower-classes, are less likely to be poor and more likely to be better educated, compared to their counterparts living in segregated neighborhoods. Based on this finding, we make a case for a more integrated and egalitarian restructuring of Indian city spaces.

[1] Co-Director of Asian Political Economy Program (PERI) and Associate Professor of Economics, University of Massachusetts Amherst. Email: vamsi@umass.edu

[2] Associate Professor of Economics and Affiliated Faculty, Asian Studies Department, University of Massachusetts Boston. Email: sripad.motiram@umb.edu

"Mumbai - and Bombay … It is a city of mind-bending extremes, where $8 martinis coexist with eight million slum dwellers"

- Anand Giridharadas (2005)

"*Indian cities in general are strikingly low in the incidence of violent crime by world standards… Kolkata has, among other causal factors, benefited from the fact that it has had a long history of being a thoroughly mixed city, where neighbourhoods have not had the feature of ethnic separation that exists in some cities …*"

- Amartya Sen (2008)

1. Introduction

Class is, by far, the most discussed of the various disparities in Indian cities. The oft-repeated remarks about Indian cities, that they are marked by stark contrasts, or that they contain many cities within them, are usually about severe class inequality.[3] While there is considerable academic literature on class relations (broadly defined) in Indian cities, there is a dearth of quantitative analyses of the interaction between class and space or class-based spatial segregation. We address this gap by drawing on a primary survey from Hyderabad and Mumbai. We divide urban population into classes based on a rigorous class-scheme drawing on Vakulabharanam (forthcoming, 2024), and present city-level estimates of class-based residential segregation. To the best of our knowledge, ours is the first attempt to do so. We show that larger Indian city spaces display considerable residential coexistence of classes, and this in turn leads to better development outcomes viz., higher chances of escaping poverty and being better educated.

Given the highly visible and worsening class disparities in urban India in recent decades (Vakulabharanam and Motiram 2012), if we think of class broadly, there is a voluminous

[3] See e.g., Giridharadas's (2005) quote above. Another well-known author, Suketu Mehta (2007) makes similar comments: "India frustrates description because everything said about it is true and false simultaneously. Yes, it could soon have the world's largest middle class. But it now has the world's largest underclass. And so with Mumbai: Everything is expanding exponentially: the call centers, the global reach of its film industry, its status as the financial gateway to India, and also the slums, the numbers of destitute, the degradation of its infrastructure".

literature spread across various social sciences on class relations in Indian cities. Examples of studies using the notion of "middle class" are Harriss (2006) and Fernandes (2006). If we think of the poor and the non-poor as classes, then there is a large literature on urban poverty; for a survey, see Vakulabharanam and Motiram (2012) and the references therein. Examples of studies on the urban informal classes, including different types of informal workers such as street vendors and waste pickers, are Chikarmane and Narayan (2000), Sanyal (2006), Harriss (2006), NCEUS (2007), Bhowmik (2009) and Gill (2010). Studies on "neoliberal urbanism" or "entrepreneurial cities" or other paradigm shifts that India has been going through, have also provided insights into class relations e.g., see Banerjee-Guha (2009) and Gooptu (2011).

However, our main concern is with the quantitative analysis of class-space interaction in Indian cities, and we use a theoretically rigorous class scheme for this purpose. The main obstacle to research on this agenda has been limited availability of data. Popular publicly available databases on India such as the National Sample Survey (NSS) database or the India Human Development Survey (IHDS) do not contain information on intra-city spatial units. So, to understand Indian city-wide spatial patterns or to compare spatial patterns across various Indian cities, researchers and policy makers have used the Indian decennial Census. The Census does not contain any data on economic status for the lowest spatial unit (Enumeration Block (EB)); it only contains populations of three groups (Scheduled Tribes (STs), Scheduled Castes (SCs) and Others).[4] For larger spatial units such as Census wards, apart from populations of caste groups, information is present on populations of different types of workers such as main workers and marginal workers. We can also obtain information on literacy, housing amenities such as the source of drinking water and access to a toilet, and ownership of assets such as television and

[4] We discuss in detail below, the way the Census is spatially organized. The smallest/lowest spatial unit is EB and the next one is Census ward.

computer/laptop. However, this information is not rich enough to define classes rigorously and analyze class-based spatial segregation or describe how class relations vary within a city.

Given the above limitations, studies have used the Census to focus on caste-based segregation in large Indian cities.[5] They have documented high caste-based segregation using the EB or Census-ward as spatial units to divide the city. These studies are relevant for us since caste is correlated with economic status in urban India. In fact, Sidhwani (2015) documents such correlation at the ward-level; wards with a disproportionately high share of ST/SCs ("outlier wards") have a much lower share of households with an in-house toilet facility or source of water. These wards also have a lower share of households that own two-wheelers. While the focus of Singh and Vithyathil (2012) is on caste, they also examine residential segregation based on socio-economic status (as proxied by male literacy) and find that cities are more segregated on caste lines than on socio-economic status.

Considering the above limitations of existing publicly available databases, we designed and conducted a primary survey in Hyderabad and Mumbai. In section 2, we describe this survey in detail and discuss our methodology to conceptualize class and city-space. The survey is spatially representative and contains detailed information on households and individuals in different EBs and Census Wards of both the cities. For households, some of the important variables that the survey enumerates include household size, caste (ST, SC, OBC or Others), sex of the household head, monthly income, and monthly consumption. For individuals, important variables include age, sex, relation to household head, education, and occupation. Given the available information, we devise a class scheme to divide the population into different classes e.g., elite, professionals, and formal workers. We incorporate informality, a key feature of

[5] In a companion paper, we have examined caste-based segregation in Indian cities and reviewed the literature. Some relevant references are Singh and Vithyathil (2012), Sidhwani (2015) and Bharathi et al. (2019).

developing countries. To conceptualize space, we deploy a socio-spatial methodology wherein space and social relations influence each other. Using this methodology, we divide the two cities into spatial zones.

Using the class scheme and zones discussed above, in Section 3, we document considerable variation in the residential class composition and performance of classes within both Hyderabad and Mumbai. For example, elite households have their lowest share in the least-developed (Old-Walled) zone of Hyderabad city. However, and surprisingly, on the average, their incomes are not the lowest in this zone, but in a different one (British Resident City). Apart from residence, we document work and commuting patterns for various classes. These are not well-known for Indian cities, and reveal interesting insights e.g., the likelihood that an individual works in his/her/their zone of residence depends on his/her/their class position. We also present another interesting result – while class-based inequality is high in Hyderabad and Mumbai, there is considerable residential coexistence of classes in spatial zones of both cities. Does such spatial coexistence have any implications for development? As we can see from the quote above, Nobel laureate Amartya Sen hypothesized that coexistence/lower segregation could lead to non-economic benefits like less crime. However, this hypothesis has not been explored rigorously. So, in Section 4, using an instrumental variable probit regression, we address this question and answer it in the affirmative – higher neighborhood-level class-based integration is causally linked to lower likelihood of poverty for households and higher likelihood of being better educated for adult individuals – essentially class-based spatial coexistence contributes to better development outcomes. We also identify some mechanisms that explain this result and discuss the policy implications of our findings (in Section 5).

2. Data and Methodology

2.1 Description of the Data

As we discussed above, existing publicly available sources of data do not allow us to meaningfully analyze class relations in intra-city spatial units. The picture of city-level inequality that one gets from these is also quite limited. In light of this, we use data from a spatially representative survey in Hyderabad and Mumbai that we conducted during 2015-17. Mumbai is a large ("mega") city in Maharashtra state in Western India, whereas Hyderabad is a large city that is the capital of Telangana state in Southern India.[6] The survey is based on the spatial organization that is used by the Census. According to the latest (2011) Census, Urban Agglomerations (UA) are spread across several "districts", which are further divided into "Census Wards", and finally into "Enumeration Blocks" (EBs). Hyderabad UA is spread across the districts of Hyderabad, Rangareddy, and Medak in the state of Telangana.[7] While Hyderabad district is completely urban, the other two districts comprise both rural and urban areas. Census wards in Hyderabad district range in population size from 6,762 to 69,177 (with an average of 36,512.25). Mumbai UA is spread across Mumbai, Mumbai Suburban, and Thane districts. The first two districts are completely urban, and before the 2001 Census, were combined into a single district called Greater Bombay. The average populations of a Census ward in Mumbai and Mumbai suburban districts are 79,113.1 and 16,1326.9, respectively.[8]

Our survey focuses on Hyderabad, Mumbai, and Mumbai Suburban districts, which cover a substantial portion of the Hyderabad and Mumbai urban agglomerations. The Census divides

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[6] Mumbai and Hyderabad Urban Agglomerations have populations of 18.4 million and 6.81 million, respectively, according to the latest (2011) Indian Census (https://censusindia.gov.in/nada/index.php/catalog/42876).
[7] Telangana state was recently reorganized, and new districts were created from existing ones. See: https://www.telangana.gov.in/about/state-profile.
[8] EBs are considerably smaller than Census wards in all the three districts e.g., in Mumbai, the population sizes of small EBs are in single digits such as 1 or 7, whereas larger ones have about a thousand residents e.g., 1,193, 1,224.

Hyderabad district into sixteen Subdistricts. Mumbai and Mumbai Suburban districts are together divided for administrative purposes into twenty-four Municipal Wards.[9] We used a multistage, stratified sampling design with Subdistricts and Municipal Wards as strata in Hyderabad and Mumbai, respectively. In both the cities, we selected 1,000 households spread across 100 EBs (10 for each EB).[10] We administered a detailed household schedule to each of the selected households, and as mentioned above, collected information about several household- and individual-level variables.

For developed countries like the United States and Great Britain, several studies have used an approach influenced by Marx and Weber to divide the population into classes i.e., based on the economic role of the household rather than its income, per se.[11] For India, some studies that have attempted a similar exercise are Patnaik (1987), Bardhan (1992) and Vakulabharanam (2010). One of the important features of India and other developing countries is the substantial role played by the informal sector.[12] A seminal study on the nature of the informal economy in developing countries is Sanyal (2007), which argues that the formal and informal sectors feed upon each other. The informal sector depends on and benefits from the formal sector, while simultaneously subsidizing it. Sanyal characterizes the formal and informal sectors as being part of the "accumulation economy" and "need economy", respectively. We build on Vakulabharanam (2010) and Sanyal (2007), and draw from Vakulabharanam (2024, Forthcoming) and use information on occupation in our survey to construct the following class scheme: Elite, Professionals, Formal Workers, Informal Owners, Informal Workers and Self-Employed, Retired, and Others. This scheme follows a broadly Marxian framework and is

[9] These are different from and larger than Census wards.
[10] However, we were able to collect data from 980 households in Mumbai.
[11] For a survey, see Giddens (2009).
[12] See the report of the National Commission on Employment in the Unorganized Sector (NCEUS 2008).

different in its underpinnings from income-based classifications e.g., Upper-class, Middle-class etc. Our scheme is compatible with Harriss-White (2017), who criticizes the Marxist two-class scheme (capitalists and laborers); petty commodity producers and merchants in her scheme are similar to informal workers and self-employed and informal owners in our scheme. For analytical simplicity, we assign all the members of a household the same class – highest in the household – for example, if a two-member household has an elite and a formal worker, we characterize the household as elite.

We present descriptive statistics for some important variables in table 1. As we can observe, the average income of Other (Upper or Forward Caste) Hindus is higher than the same for both Muslims and lower castes. Both cities have a sizeable proportion of Muslims, although Hyderabad has a much higher share. Muslims in Hyderabad are also poorer compared to their counterparts in Mumbai. STs have a low level of urbanization in India, and this is reflected by their small percentage in the sample.

Insert table 1 here

2.2 Socio-spatial Approach and Zones in Hyderabad and Mumbai

As we discussed in the introduction, we use a socio-spatial approach wherein space and social relations influence each other (Soja 1980). In line with this approach, we think of space in terms of both administrative units and as shaped by concrete history. Hyderabad is a "traditional" walled city, which is more than four centuries old.[13] In 1858, when India came formally under the British Crown, it comprised many kingdoms and areas directly administered by the British. Hyderabad was part of the Nizam kingdom, the largest of such kingdoms, and had a colonial administrator resident in the city. We divide Hyderabad into four zones based upon its historical

[13] A physical wall protecting the inner core was present in such cities. For a description of the evolution of the spatial organization of Hyderabad, see Alam (1973).

evolution from pre-colonial to present times: Old-Walled city, Nizam's city, British-Resident city, and Neoliberal city. The Old-Walled city is the oldest and poorest part of the city. The emergence of Nizam's city began during 18th-19th centuries; British-Resident city comprises the British resident and Cantonment areas and emerged during 19th-20th centuries; the Neoliberal city is associated with the emergence of the new economy which started in the 1970s.[14] These zones and the corresponding subdistricts are depicted in figure 1.

Insert figure 1 here

In contrast to Hyderabad, Mumbai is a much larger "modern" city with a different history (Dwivedi and Mehrotra 1995; Chandavarkar 2009; Dossal 2010). Unlike Hyderabad, Mumbai was directly administered by the British as part of Bombay presidency.[15] The modern city of Mumbai originated in the southern part, in Mumbai district today, and spread geographically starting in the colonial period. The suburban part of Mumbai became densely populated over time due to various factors including population pressure, land markets, and state policies. We divide the city into five zones: British and Neoliberal City, Old Industrial City I, Old Industrial City II, Western Neoliberal City, and Northern Neoliberal Hub & Suburbs. The names of these zones are self-explanatory. These zones and the municipal wards that they are made up of are shown in figure 2.

Insert figure 2 here

[14] According to several scholars (e.g., Patnaik 2006; Steger and Roy 2010; De and Vakulabharanam 2016; Vakulabharanam and Motiram 2016; Nagaraj and Motiram 2017), India embarked on a neoliberal path in the early 1990s. Both in the case of Hyderabad and Mumbai (see below), we use the adjective "neoliberal" to characterize zones that are marked by neoliberal processes of growth and exclusion.

[15] The name of the city was changed from Bombay to Mumbai in 1995.

3. Interactions of Class and Space

Using the zones that we described above we can understand how class and space interact within Hyderabad and Mumbai. The database contains information on both the area where an individual resides and where he/she/they works. Given this, we can consider three notions of space and their interactions with class – *residential*, *commuting*, and *work*.

3.1 Class and Residential Space

On residence, in figures 3 and 4, we present the shares of various classes living in the four zones of Hyderabad and five zones of Mumbai, respectively. As we can observe, there is considerable coexistence of classes in all zones (more on this below). While these zones are similar in terms of class-coexistence, they do display important differences in both cities. For example, as expected, Elites have their highest share in the affluent Neoliberal zone in Hyderabad and their lowest share in the poor Old-Walled city. For Mumbai too, Elites have their highest share in British and Neoliberal City and their lowest shares in the Industrial areas (Old Industrial City I and II).

Insert figures 3 and 4 here

In tables 2 and 3, we present the per-capita incomes of various classes across zones in Hyderabad and Mumbai, respectively. Looking at Hyderabad first, we can observe that average per-capita incomes for all classes vary across zones. As we would expect, on the average, all classes have their highest per-capita incomes in the Neoliberal zone. At both ends of the class spectrum – Elites and Self-employed/Informal workers – average per-capita incomes are lowest in the poor Old-Walled city zone. Coming to Mumbai, we see again that per-capita incomes vary for classes across zones. While no zone dominates in terms of the average per-capita income of

classes, the poorest class (Self-employed and Informal workers) fare the worst in Old-Industrial City II, the least developed zone.

Insert tables 2 and 3 here

3.2 Class, Work, and Commuting Space

We can also examine where people work and their commuting patterns. As in the case of residence, our purpose is to illustrate how class intersects with intracity and inter-city space i.e., how work location and commuting patterns vary within and across the two cities for different classes. Since class is a household-level variable, in each household, we consider one worker and examine his/her/their work location and commute. For Hyderabad, in table 4, we present the distribution of work locations of individuals residing in the four zones. To illustrate, 38.90% of the city's workers are residents of Old Walled City. Of these, 55.86% and 5.86% work in Old Walled City and the neighboring Nizam's City, respectively. The other figures can be interpreted in a similar manner. We can observe that in all zones, the largest proportion of individuals work in their zone of residence. Among the four zones, work in one's zone of residence is highest (almost 66 %) in British Resident City. This is followed by Old-Walled city, which is the poorest zone in the city. What this indicates is that Old-Walled city functions as a "spatial trap" - individuals live and work in this zone in poorly remunerated jobs and have limited access to better jobs outside. Individuals residing in the most affluent Neoliberal zone, work least in their zone of residence. Some of them work in the Information Technology (IT) sector in areas such as HITEC city, which is in Rangareddy district (and outside the Hyderabad district) whereas others work in remunerative jobs in British Resident and Nizam's City zones.

In table 5, we present the distribution of work locations of individuals residing in the five zones in Mumbai. Focusing on intracity space, we can observe that in all zones, the zone of

residence is where individuals work most. However, this phenomenon varies across zones - the proportion of individuals who work in their zone of residence is highest in Western Neoliberal zone and lowest in Old Industrial City II. While the above findings are similar to those from Hyderabad, there are a few crucial differences between the two cities. The proportion of individuals working outside their zone of residence is much higher in Mumbai, as compared to Hyderabad. This is consistent with one of the well-known features of Mumbai – it is a city with better infrastructure for city transit and a long history of commuting (see Vakulabharanam and Motiram (2023)). Work outside the zone of residence is highest in the least developed zone (Old Industrial City II) of Mumbai, whereas it is highest in the most affluent (Neoliberal) zone of Hyderabad. The nature of commuting/commuters from these zones is different however and explains this contrast. As we discussed above, workers from the Neoliberal zone in Hyderabad commute to other zones for remunerative jobs (e.g., in HITEC city and Nizam's City). This is not the case for Old Industrial City II in Mumbai, which houses many poor workers, particularly in the informal sector. We discuss more details below, but essentially in parts of this zone, poor and lower caste households were settled by the Indian state. While there used to be industrial activity (light consumer manufacturing, petrochemicals, textiles, and so forth) in this zone until the 1990s, this has reduced during neoliberal times making way to real estate development, forcing working people to seek work outside the zone. Probably, the contrast could be seen as a difference between the voluntary pursuits of the relatively affluent classes in Hyderabad residing in an affluent zone/locality to find attractive work vis-à-vis the involuntary need for the working poor to commute outside their neighborhood to find a livelihood in Mumbai.

Insert tables 4 and 5 here

In tables 6 and 7, we bring in the class dimension explicitly. In table 6, we present the distribution of work locations of individuals belonging to various classes in Hyderabad. In part (a), we present the distribution across the city i.e., where all cells add up to 100% and in part (b), we present the distribution of each class i.e., where each row adds up to 100%. From (a), two observations can be made. First, in all the four zones of the city, there are workers in both formal and informal sectors i.e., there is coexistence of formal and informal sectors in every zone. Second, there is intracity variation - the class composition of workers differs across work zones/locations. For example, about 26% of individuals work in the Old Walled City, and more than half (about 14%) are self-employed or informal workers. In contrast, of the about 19% of individuals who work in Nizam's city, about 40% are self-employed or informal workers. Self-employed and informal workers comprise a very high proportion (about 79%) of those who have no fixed work-location, and work in the entire city. From (b), we can observe both intracity variation and that the distribution of work locations differs across classes. Elites have a fixed work location and have their highest concentration in Nizam's City. On the contrary, a considerable proportion of self-employed and informal workers have no fixed location and have their highest concentration (among zones) in Old-Walled City.

In table 7, we present the corresponding figures for Mumbai. As in the case of Hyderabad, from (a), in all zones, we observe coexistence of formal and informal sectors. We also observe intracity variation and differences in class composition across work locations. For instance, about 30% of individuals work in the Western Neoliberal zone, of which about half are informal and self-employed. In contrast, only 7.4% work in Old Industrial City II, of whom about 67% are informal and self-employed. As in the case of Hyderabad, a substantial (and much higher compared to other classes) proportion of informal and self-employed workers have no

fixed work location. From (b), we observe both intracity and class variation. Elites have their highest concentration in Western Neoliberal zone and have a fixed work location. In contrast, a considerable proportion of Owners have no fixed location and have their highest concentration (among zones) in British Neoliberal zone. While (as we see above), there are similarities between the two cities, there are also differences. We want to highlight two here. The share of informal and self-employed is higher in Mumbai and lack of a fixed location is a more prominent feature of Hyderabad.

Insert tables 6 and 7 here

In tables 8 and 9, we present commuting details of various classes in Hyderabad and Mumbai, respectively. In Hyderabad, members of most classes work in their own zone of residence. There are differences across classes e.g., the share of those who work in their zone of residence is highest for Informal Owners; compared to other classes, Informal workers and self-employed work much more with no fixed location (included in "Others"). The patterns are somewhat different for Mumbai. Although the zone of residence is important, a majority in all classes except Elites, work outside their zone of residence. Differences across classes exist in Mumbai too e.g., between Elites and Informal Owners.

Insert tables 8 and 9 here

Having discussed how different classes fare in different parts of Hyderabad and Mumbai, and how they differ in terms of work and commuting, we move to a discussion of spatial coexistence and its impact on economic development.

4. Class, Coexistence and Development

4.1 Spatial Coexistence of Classes

As we have shown in figures 3 and 4, in every zone, there is a coexistence of classes. We discuss in the next section that certain processes in such larger neighborhoods imply that coexistence confers benefits. In another contribution (Motiram and Vakulabharanam 2019), we have argued that traditional notions of segregation fail to capture this kind of spatial co-existence. We have termed this co-existence as "Grayness", conceptualized it as a combination of two components representing spatial integration in terms of income (*IC*) and group-identity (*GC*), and developed a "Grayness Index" (*GI*). In the regression analysis in the next section, we explore the determinants of poverty, which depends upon income. Hence, we only use the latter component (*GC*) in our analysis below. We therefore describe *GC* in detail and provide an intuitive understanding of the income component (*IC*) and the overall index (*GI*). Consider a city that can be divided into several ($N \geq 2$) spatial units. There is inequality in income both within and among these spatial units, and the share of the latter to overall (i.e., city-level) income inequality can be interpreted as the level of income-based spatial inequality in the city. The inverse of this spatial inequality is the level of income-based spatial integration, which is the first (Income) component (*IC*), and which ranges from 0 (least integrated) to 1 (most integrated).[16] Suppose G (≥ 2) identity groups (e.g. races or caste groups) live in the city, then the inverse of the group-based spatial segregation can be considered as a measure of spatial integration – this is the Group Component (*GC*), which again ranges from 0 to 1. The Grayness Index (*GI*) combines the two components in a "mean-variance" form, increasing in the average of *GC* and *IC* and

[16] $\mathrm{IC} = \left(1 - \frac{\mathrm{Gini_a}}{\mathrm{Gini_t}}\right)$. $\mathrm{Gini_t}$ is the Gini index for the income distribution of the city and $\mathrm{Gini_a}$ is the Gini index for the distribution of mean incomes of spatial units. $\frac{\mathrm{Gini_a}}{\mathrm{Gini_t}}$ is the spatial inequality for the city and therefore $\left(1 - \frac{\mathrm{Gini_a}}{\mathrm{Gini_t}}\right)$ can be interpreted as the degree of spatial integration.

decreasing in the variance of *GC* and *IC*. *GI* ranges from 0 to 1 and the mean variance form ensures that a mix of *GC* and *IC* results in more integration (higher *GI*) than extreme values of *GC* and *IC*.[17]

Let $p_g^c\left(0 < p_g^c < 1\right)$ and $p_g^m\left(0 < p_g^m < 1\right)$ denote the shares of the population belonging to group $g\ (1,2,\dots,G)$ living in a city and in the spatial unit $m\ (1,2,\dots,N)$, respectively. Let $s^n(0 < s^n < 1)$ denote the share of the population living in spatial unit n $(1,2,\dots,N)$. The Group Component (*GC*) is given by:

$$GC = 1 - \left[\frac{\sum_{g=1}^{G} p_g^c \sum_{m=1}^{M}\sum_{n=1}^{N} s^m s^n \left|\frac{p_g^m}{p_g^c} - \frac{p_g^n}{p_g^c}\right|}{2\sum_{g=1}^{G} p_g^c\left(1-p_g^c\right)}\right] \qquad (1)$$

The term in the square brackets is the Gini index of segregation and therefore *GC* can be interpreted as the degree of spatial integration of identity groups.[18]

4.2 Coexistence and Economic Development

Does greater class-based spatial coexistence confer any benefits, and if so, what? We answer this question by focusing on two development outcomes – one monetary (poverty) and the other, non-monetary (education). Since poverty depends upon income, we only use the Group Component (*GC*) in our analysis and treat it as a measure of grayness. *GC* is potentially endogenous, so to find an instrument for it, we draw on history to identify the various types of urban processes that have shaped Hyderabad and Mumbai.

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[17] $GI = \frac{(GC+IC)}{2} - \beta\left[\frac{(GC^2+IC^2)}{2} - \left(\frac{GC+IC}{2}\right)^2\right]$. For example, it can be easily shown that a city with *GC=IC=0.5* has a higher *GI* than another city with *GC=1* and *IC=0*, and *GC=0* and *IC=1*.

[18] In the Gini index of inequality for incomes, a comparison is made between all income pairs, i.e. incomes of individuals in every pair. Here, the comparison is between all pairs of spatial unit-city ratios $\left(\frac{p_g^m}{p_g^c}\right)$ for every spatial unit (*m=1,…,M*) and every group (*g=1,…,G*). Other ideas e.g., Lorenz curve, follow from this.

Hyderabad emerged more than four centuries ago and like other traditional Indian cities, a "pre-modern" urban process shaped it before the advent of colonialism and conscious attempts of modernization. During the late nineteenth and early twentieth centuries, the rulers of Hyderabad kingdom embarked on a serious modernization project and implemented various initiatives e.g., promotion of Western medicine and instruction in English, setting up of educational institutions, and establishment of railways and industries.[19] As we discussed in Section 2, a British representative resided in the city, and an army cantonment was established in this area (Secunderabad). This modernization project was continued under the auspices of the central (federal) and state governments after independence. Industrial areas/estates were set up in some parts of the city e.g., Sanatnagar. We describe the urban process that unfolded from the nineteenth century to the 1980s as the "modern and pre-neoliberal urban process". In 1991, the Indian government initiated neoliberal policy reforms, which curtailed the role of the government (public sector) and gave a bigger role to the private sector and markets (local, national, and global). Apart from the roles of government and market, the resultant urban process, which we label as "neoliberal urban process" is different from the modern pre-neoliberal one in the types of industries that were established and inequality. During the pre-neoliberal phase, industries were capital intensive and in sectors such as chemicals and pharmaceuticals. On the contrary, the emphasis in the neo-liberal phase was on high-end services such as Information Technology (IT) and finance. Real estate and speculation based on land also saw a major fillip during the neoliberal period. Both in India and in the city of Hyderabad, neoliberalism opened up newer avenues for accumulation and there was a rise in inequality (Vakulabharanam and Motiram 2012; Prasad and Rambarki 2023).

[19] These initiatives have been discussed by scholars (Alam 1973; Subbarao 2007) and in the media (Sharma 2020).

The case of Mumbai is somewhat different from that of Hyderabad. The city, as we know it, emerged during the colonial period. Therefore, for our purposes, it is useful to identify and distinguish between only two urban processes – "modern pre-neoliberal" and "neoliberal". During the colonial period, industries like textiles, shipbuilding and banking emerged and the city grew rapidly due to migration from different parts of the country.[20] Growth was concentrated mostly in what is referred to as the "Island city" - in the zones that we labeled as "British Neoliberal" and "Old Industrial City I".[21] Communal housing (*chawls*) was built for textile workers. After independence, the emphasis on industrialization continued with the establishment of industrial areas/zones. On the eastern fringes of the city, in an area that we described as Old Industrial Zone II, on marshy land, the government set up polluting and hazardous industries (nuclear power, petroleum) and settled people - mostly poor and lower-castes. Contrary to this trend, the textile industry collapsed in the 1980s after a prolonged strike, although chawls continued to be an important form of housing in the city. All these phenomena characterize the "modern pre-neoliberal" urban process. Mumbai is the commercial and financial capital of India, so once neoliberal reforms were launched, these had a profound impact on the city. An important component of the neoliberal reforms was changes to the finance/banking sector, and these led to the dissolution of older public-sector financial institutions (e.g., Indian Credit and Investment Corporation of India), creation of private banks (e.g., ICICI, HDFC) and emergence of various types of private financial institutions (e.g., mutual funds; more recently crypto exchanges). These developments created a new class of billionaires and high net-worth individuals with roots in finance and banking (Motiram and Limaye 2023). The real estate sector

[20] See the District Census Handbooks of Greater Bombay district till 1991 and Mumbai and Mumbai Suburban districts since 2001.
[21] See Risbud (2003). Wards A, B, C, D, E, FS, FN, GS, and GN make up the "Island City".

and land-based speculation also grew, in certain areas on account of the decline of the textile industry, which freed up land that was being occupied by mills. Bandra-Kurla-Complex (BKC) emerged as a new business district (in the zone that we labelled as "Western Neoliberal"), and as an alternative to South Bombay/Mumbai. Today it houses the diamond bourse and several financial institutions. These phenomena help us demarcate and distinguish the "neoliberal urban process".

Having identified these urban processes, we divide neighborhoods in Hyderabad and Mumbai into two types – Type I and Type II. Type I neighborhoods are those that have been marked *primarily* by the modern pre-neoliberal urban process, whereas Type II neighborhoods are others i.e., marked by pre-modern or neoliberal urban processes in Hyderabad and neoliberal process in Mumbai. There is considerable evidence (e.g. Alam 1973; Adarkar 2012) that the modern pre-neoliberal process contributed to integration by bringing together different communities among the working people. So, we construct the following instrument for neighborhood-level integration: Z_j=1 if neighborhood j is Type I and 0 otherwise. Before we proceed further, two clarifications are in order. First, all neighborhoods in any Indian city would bear some imprint of various urban processes that have unfolded in the city. However, we believe that there is analytical insight in characterizing the primary or most important urban process that has impinged on a particular neighborhood. Second, while we are arguing that the modern pre-neoliberal process has led to more integration, we are not advocating a version of the modernization hypothesis or claiming that modernization/modernity is "good". In fact, as is clear

from the above discussion, we have distinguished between different modern urban processes and highlighted their dark side e.g., rising inequality.[22]

Our claim is that higher neighborhood integration causes better development outcomes and neighborhoods marked by modern pre-neoliberal process (Type I) are more integrated. Formally, let Y_i denote the outcome of interest for a household or individual i. We estimate the following model:

$$Y_i = \alpha_1 + \beta_1 X_i + \gamma_1 GC_i + u_{1i} \qquad (2)$$

$$GC_i = \alpha_2 + \beta_2 X_i + \gamma_2 Z_i + u_{2i} \qquad (3)$$

X_i is a vector of characteristics of i. We use subdistricts and municipal wards (combining small wards) as neighbourhoods in Hyderabad and Mumbai, respectively. GC_i is the grayness in terms of class of the neighborhood in which i resides. Z_i is the instrument for GC_i that we described above. u_{1i} and u_{2i} are error terms. For class grayness, for both cities, we consider two groups: relatively well-off and others. The first group consists of elite, professional and retired households.

Given substantial controversy concerning the definition of regional and national poverty lines in India,[23] we rely on a commonly used relative poverty line, which is half the median per-capita income of a city. In table 10, we present results of a two-stage instrumental variable probit

[22] We are also treating modernity as a disjuncture in Indian history. In this process, we are ignoring the debate about whether certain social and cultural movements and phenomena (e.g., *Bhakti* movement) that emerged before the advent of colonialism and that tried to reform Indian society from within, should be treated as signaling Indian modernity. These issues are not relevant for the cities of Hyderabad and Mumbai.

[23] In India, there has been considerable debate and controversy about the official poverty line. The poverty line prescribed in 2009 by the committee appointed by the Planning Commission (chaired by Dr. Suresh Tendulkar) was widely criticized and deemed to be too low (Subramanian 2011; Motiram and Vakulabharanam 2015). The Planning Commission appointed another committee (chaired by Dr. Rangarajan) which came up with a new poverty line (Subramanian 2014). However, even this new poverty line was criticized. The National Democratic Alliance, which came to power in 2014, abolished the Planning Commission and replaced it with a think tank – National Institute for Transforming India (NITI) Aayog. The NITI Aayog has not arrived at an official poverty line or updated estimates of poverty.

regression of the probability that a household is poor. We control for class status of the household apart from the grayness of the neighborhood. The positive sign and statistical significance of the instrument in the first stage, verifies the intuition that the nature of the urban process influences grayness, and the modern pre-neoliberal urban process fosters it.[24] The result of a Wald test of exogeneity indicates that an instrumental variable regression is required. In the second stage, the coefficient on the measure of grayness is statistically significant and negative, indicating the positive association between neighborhood grayness and lower poverty – households living in neighborhoods that are more integrated are less likely to be poor.

To give a sense of the practical magnitude of the effect, we use the estimated coefficients from the second stage. We examine the difference in predicted likelihood of being poor for underprivileged households (Class dummy=0) across two neighborhoods that are different in terms of grayness: minimum and average (median). In Hyderabad and Mumbai, these differences are about 66 and 71 percentage points, respectively. This reflects the high magnitude and policy significance of grayness.

Insert table 10 here

For education, we examine the probability that an adult has completed college-level or higher education.[25] Table 11 presents results of a two-stage instrumental probit regression. Again, we can observe that the instrument has the right size, sign, and statistical significance. The positive and statistically significant coefficient on the measure of grayness indicates that individuals living in more integrated neighborhoods are more educated.[26] The results for the

[24] In the first stage regression, the model passes the *F*-test of joint significance. Given that there is only one endogenous regressor and one additional instrument, we can infer that the instrument is valid (i.e., not weak).
[25] We include post-high school diploma under this and choose a cut-off of 21 years to define adults. Only a small proportion older than 21 years are still enrolled in educational institutions.
[26] As in the case of poverty, the instrument is valid, and a Wald test shows that an instrumental variable regression is required.

other coefficients are on expected lines e.g., women are less likely to have a college education compared to men. To evaluate the magnitude of the impact of grayness, we conduct thought experiments similar to those in the case of poverty using the following case: women from underprivileged households with average (sample mean) education for the household head. We examine the difference in predicted probability of such an individual possessing college or higher education across two neighborhoods: least grayness and average (median) grayness. In Hyderabad and Mumbai, these differences are about 10 and 13 percentage points, respectively. As in the case of poverty, these figures reflect the high magnitude and policy significance of grayness.

Insert table 11 here

Alternative specifications including different exogenous variables, different poverty thresholds, other measures of educational achievement and different age thresholds show that the results are robust.[27] What explains the results linking neighborhood grayness to better development outcomes? Could gray neighborhoods have systematically better schools? Quality of schools, particularly public schools, varies across neighborhoods in cities in the US and some other developed countries. This is not the case in Indian cities. In fact, one of the major shortcomings of India's development strategy is the failure of the state in providing quality education, particularly at the primary level (PROBE 1999). As a result, the quality of public education is low and largely uniform across neighborhoods. Even the poor take resort to private education and households obtain education from schools that are outside their neighborhood of residence. Given this, there are other explanations. First, communal residential structures (e.g., *Chawls*) arose to house workers in the textile mills and continue to this day in Mumbai. Studies

[27] We have not reported these results in the interests of space, but they are available upon request.

(e.g., Adarkar 2012) argue that Mumbai's *chawls* facilitated a more politically active and integrated consciousness.[28] Such consciousness could enhance neighborhood capacity for collective action, improving outcomes. Tighter spatial integration could also produce better relationships among communities, tolerance, and "cosmopolitanism". Cosmopolitanism is a phenomenon identified with the mutual coexistence of communities in South Asia and has been theorized as distinct from other forms of tolerance such as universal brotherhood/sisterhood (Nandy 2010). As Nandy (2010) argues, the essence of this idea is that people accept difference or otherness in the normal course of life (in an "unheroic" fashion). Thereby, their consciousness expands to include the other. Better relationships among communities could translate into better outcomes e.g., through better job opportunities by sharing of knowledge.

Second, grayer neighborhoods could provide better economic opportunities to the poor and informal workers through "dependent formality". Poor households could tap into opportunities arising from richer households in the vicinity. While such opportunities are in the informal sector (e.g., domestic help, cook, painter etc.), the richer households are in the formal sector (e.g., engineers, doctors, and high-ranking government officials).[29] This phenomenon also illustrates the larger idea that the informal and formal sectors depend on each other, and the relationship between them is more complex than as depicted in standard dual-sector models such as Harris-Todaro.[30] Finally, more integrated neighborhoods are more cohesive and could thereby provide better consumptive public goods like transportation or waste disposal (e.g., by being

[28] A description of life in a Chawl will help illustrate our point: "Mumbai's Chawls …are an essential part of the city's culture. The residents, despite the cramped spaces, have a strong sense of community. They celebrate festivals together and lend a helping hand to each other in times of crises." (Patil 2017).
[29] See Moretti (2013) on jobs created for support workers by high-tech workers in the US.
[30] There is considerable evidence of links between the formal and informal sectors in developing countries, both at the household and enterprise level. Several authors have argued that conceptualization of the informal sector in older dual-sector models like Harris-Todaro is simplistic and far removed from reality. On these issues, see Guha-Khasnabis (2007) and Chen and Carre (2020).

more effective in making demands on local authorities). This could lead to better outcomes for the urban informal poor.

5. Discussion and Conclusions

In the above analysis, we have deployed a socio-spatial approach, drawing on a spatially representative survey from two cities (Hyderabad and Mumbai) and used a rigorous class scheme to analyze how class and space intersect in Indian cities. Based on residence, work, and commuting, we show how the performance of different classes varies within and across cities. Indian cities are quite stark in terms of class differences, but we also show that in large neighborhoods, there is considerable coexistence of classes. Does such coexistence have any benefits? We show that neighborhoods with higher coexistence (grayer neighborhoods), perform better on development indicators – lower likelihood of poverty and higher likelihood of better education. We identify mechanisms such as dependent formality and cosmopolitanism that could explain this result.

Indian cities are characterized by multiple cleavages. In companion papers, we have ourselves explored three of these – gender, caste and religion. While class has always been important in Indian cities, it has emerged as a crucial social cleavage in recent decades. Exclusionary processes ushered into urban areas in the wake of neoliberal reforms such as emergence of elite enclaves/gated communities are reflections of newer forms of class-space interaction. In this paper, we have drawn the inference that interactions of class and space in Indian cities have begun to shift - from creating unequal but coexisting neighborhoods (especially in the residential dimension) to unequal and segregated ones in the more recent neoliberal times.

What are the policy implications of our findings on coexistence and development? As we alluded to in the introduction, India has been going through a shift in its paradigm towards urban areas. From an earlier policy paradigm which emphasized "livable cities", India has moved to one that emphasizes "world class cities" (Banerjee-Guha 2009). In Indian cities, coexistence of classes has been eroding through changes occurring at the levels of the state, market, and civil society. The state has been contributing to an increase in segregation through changes in policies for land use, displacement of people, and endeavors like the promotion of "entrepreneurial cities" (Gooptu 2011).[31] The civil society has been accomplishing the same objective through middle-class activism which attempts to displace those in the informal sector e.g., street vendors (Harriss 2006). Finally, markets contribute through rising costs of housing and gentrification. As we argue in this paper, by increasing segregation, these changes would lead to inferior development outcomes. The ideal solution, of course, in class terms is to eliminate class differences and move towards a post-capitalist egalitarian order. While that larger struggle is of paramount importance and should be striven for by activists/agents of social transformation, one policy implication of our findings for the present moment is that segregating processes should be reversed, and cities must put the mission of promoting mixed neighborhoods at the center of their future building efforts. Real estate and land markets should be better regulated, curbs should be placed on actors/processes that displace the poor/disadvantaged social groups from the city, and commons should be preserved, and made accessible to one and all – in other words, preserve the *right to the city* for people hailing from all classes.

[31] The rise of right-wing Hindu nationalist ideology in India, particularly under the auspices of the BJP (Bharatiya Janata Party), is also a contributing factor.

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Tables and Figures

Table 1: Descriptive Statistics of Some Important Variables

	Mean (Std. Dev)
Household Size	4.03 (1.96)
Monthly Per-Capita Income (PCI)	Rs. 5996.51 (5527.45)
	Mean PCI (% Share)
Caste	
Scheduled Tribes (ST)	Rs. 7059.76 (3.10%)
Scheduled Castes (SC)	Rs. 5713.15 (13.42%)
Other Backward Classes (OBC)	Rs. 5794.12 (28.85%)
Hindu Other Castes	Rs. 7565.29 (30.21%)
Others	Rs. 4317.55 (24.42%)
Religion	
Hindu	Rs. 6727.15 (61.32%)
Muslim	Rs. 4304.79 (32.94%)
Christian	Rs. 8125.76 (3.27%)
Others	Rs. 7528.06 (2.45%)

Source: Authors' computations from household survey data.

Notes: 1. Average household size calculated over 1,972 households.

2. Mean per-capita income and shares calculated over 7,948 individuals.

3. Rs. – Indian Rupees. The current exchange rate is: 1 $US=Rs. 75 (approximately).

Table 2: Average Per-Capita Incomes (Rs.) of Classes (Hyderabad)

	Elite	Prof	Worker (F)	Owner (I)	Inf and Self-Emp
Old-Walled City	9700.00	9595.59	4652.26	2450.00	2903.42
Nizam's City	11514.42	9738.05	7892.59	4489.42	4635.71
British Resident City	10958.33	6720.21	6566.72	3775.30	3452.12
Neoliberal City	13348.86	11977.72	8347.76	5100.00	4386.32
Total	11269.54	9318.53	6116.47	3289.15	3526.19

Source: Authors' computations from survey data. For the definitions of these classes and zones, see Section 2 and Figure 1, respectively.

Note: Rs. Indian Rupees.

Table 3: Average Per-Capita Incomes (Rs.) of Classes (Mumbai)

	Elite	Prof	Worker (F)	Owner (I)	Inf and Self-Emp
British & Neoliberal	8139.53	7818.18	9138.30	11000.00	6195.12
Old Ind City I	7500.00	12686.27	9945.12	5360.47	5016.08
Western Neoliberal	7485.29	8247.66	7328.90	5179.01	5843.66
Northern Neoliberal	11875.00	10531.25	7042.74	7039.06	4981.60
Old Ind City II	9350.00	10558.82	7641.41	5512.12	4740.55
Total	8994.54	9908.06	7960.20	6216.91	5318.61

Source: Authors' computations from survey data. For the definitions of these classes and zones, see Section 2 and Figure 2, respectively.

Note: Rs. Indian Rupees.

Table 4: Distribution of Work Location, Workers (Hyderabad)

	Work Location						
	OC	NC	BC	N	No Fixed Location	Outside Hyderabad	Total
Residential Zone							
OC (38.90%)	55.86%	5.86%	4.63%	2.47%	24.38%	6.79%	100%
NC (29.53%)	13.01%	45.93%	9.35%	6.5%	16.26%	8.94%	100%
BC (23.65%)	0.00%	7.61%	65.99%	1.02%	17.77%	7.61%	100%
N (7.92%)	7.58%	15.15%	10.61%	25.76%	21.21%	19.7%	100%
Total (100%)	26.17%	18.85%	21.01%	5.16%	20.17%	8.64%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 1.

Note: 1. We considered one worker from each household that has workers.

2. Figures in parentheses are the share of workers residing in the particular zone e.g., 38.90% of workers reside in the Old-Walled City.

3. OC – Old-Walled City, NC – Nizam's City, BC – British Resident City, N – Neoliberal City.

Table 5: Distribution of Work Location, Workers (Mumbai)

	Work Location							
	BN	OI1	WN	NN	OI2	No Fixed Location	Outside Mumbai	Total
Residential Zone								
BN (11.47%)	41.12%	17.76%	17.76%	5.61%	2.80%	6.54%	8.41%	100%
OI1 (18.54%)	17.34%	52.60%	12.72%	3.47%	4.62%	2.89%	6.36%	100%
WN (28.83%	7.06%	16.73%	57.25%	10.04%	2.23%	1.86%	4.83%	100%
NN (26.05%)	10.70%	14.81%	26.34%	31.28%	5.76%	6.58%	4.53%	100%
OI2 (15.11%)	19.86%	14.89%	12.06%	2.13%	26.95%	15.60%	8.51%	100%
Total (100%)	15.76%	22.72%	29.58%	12.65%	7.40%	5.89%	6.00%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 2.

Note: 1. We considered one worker from each household that has workers.

2. Figures in parentheses are the share of workers residing in the particular zone e.g., 11.47% of workers live in the British Neoliberal City.

3. BN – British Neoliberal, OI1 – Old Industrial City I, WN – Western Neoliberal, NN – Northern Neoliberal, OI2 – Old Industrial City II.

Table 6: Distribution of Work Location, Classes (Hyderabad)

				Work	Location		
Class	OW	NC	BR	N	No Fixed Location	Outside Hyderabad	Total
Part a							
Elite	0.72%	1.44%	0.60%	0.36%	0.00%	0.84%	3.96%
Prof	2.04%	2.88%	2.16%	0.60%	0.24%	0.72%	8.64%
Worker (F)	4.56%	4.56%	5.76%	1.44%	3.36%	3.96%	23.65%
Owner (I)	3.12%	1.92%	1.92%	0.60%	0.24%	0.48%	8.28%
Inf Worker & Self-Emp	14.29%	7.68%	9.48%	2.16%	15.85%	2.40%	51.86%
Total	26.17%	18.85%	21.01%	5.16%	20.17%	8.64%	100%
Part b							
Elite	18.18%	36.36%	15.15%	9.09%	0.00%	21.21%	100%
Prof	23.61%	33.33%	25.00%	6.94%	2.78%	8.33%	100.%
Worker (F)	19.29%	19.29%	24.37%	6.09%	14.21%	16.75%	100%
Owner (I)	37.68%	23.19%	23.19%	7.25%	2.90%	5.80%	100%
Inf Worker & Self-Emp	27.55%	14.81%	18.29%	4.17%	30.56%	4.63%	100%
Total	26.17%	18.85%	21.01%	5.16%	20.17%	8.64%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 1.

Note: 1. We considered one worker from each household that has workers.

2. In part a, in each column, the figures do not exactly add up to Total because we have ignored those who do not fall into any of these classes i.e., those who fall under Others.

3. OC – Old-Walled City, NC – Nizam's City, BC – British Resident City, N – Neoliberal City.

Table 7: Distribution of Work Location, Classes (Mumbai)

Class	BN	OI1	WN	NN	Work Location OI2	No Fixed Location	Outside Mumbai	Total
Part a								
Elite	0.86%	0.21%	1.39%	0.54%	0.21%	0.00%	0.21%	3.43%
Prof	0.75%	1.50%	1.71%	0.96%	0.32%	0.00%	0.21%	5.47%
Worker (F)	4.93%	5.68%	7.18%	2.25%	0.96%	0.54%	0.43%	21.97%
Owner (I)	1.61%	1.18%	1.39%	0.54%	0.96%	0.64%	0.86%	7.18%
Inf Worker & Self-emp	7.50%	13.72%	16.72%	7.72%	4.93%	4.39%	3.86%	58.84%
Total	15.76%	22.72%	29.58%	12.65%	7.40%	5.89%	6.00%	100%
Part b								
Elite	25.00%	6.25%	40.62%	15.62%	6.25%	0.00%	6.25%	100%
Prof	13.73%	27.45%	31.37%	17.65%	5.88%	0.00%	3.92%	100%
Worker (F)	22.44%	25.85%	32.68%	10.24%	4.39%	2.44%	1.95%	100%
Owner (I)	22.39%	16.42%	19.40%	7.46%	13.43%	8.96%	11.94%	100%
Inf Worker & Self-Emp	12.75%	23.32%	28.42%	13.11%	8.38%	7.47%	6.56%	100%
Total	15.76%	22.72%	29.58%	12.65%	7.40%	5.89%	6.00%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 3.

Note: 1. We considered one worker from each household that has workers.

2. In part a, in each column, the figures do not exactly add up to Total because we have ignored those who do not fall into any of these classes i.e., those who fall under Others.

3. BN – British Neoliberal, OI1 – Old Industrial City I, WN – Western Neoliberal, NN – Northern Neoliberal, OI2 – Old Industrial City II.

Table 8: Distribution of Zones of Work, Classes (Hyderabad)

Class	Zone of Residence	One Zone Away	Others	Total
Elite	54.55%	24.24%	21.21%	100%
Prof	52.78%	29.17%	18.06%	100%
Worker (F)	52.79%	12.69%	34.52%	100%
Owner (I)	66.67%	21.74%	11.59%	100%
Inf Worker & Self-Emp	50.23%	11.81%	37.96%	100%
Total	52.94%	14.89%	32.17%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 3.

Note: 1. We considered one worker from each household that has workers.

2. Others - two zones away, all-over Hyderabad or outside Hyderabad district

Table 9: Distribution of Zones of Work, Classes (Mumbai)

Class	Zone of Residence	One Zone Away	Two Zones Away	Others	Total
Elite	65.62%	15.62%	12.50%	6.25%	100%
Prof	43.14%	33.33%	11.76%	11.76%	100%
Worker (F)	40.49%	30.24%	16.59%	12.68%	100%
Owner (I)	26.87%	19.40%	20.90%	32.84%	100%
Inf Worker & Self-Emp	45.36%	22.95%	12.20%	19.49%	100%
Total	43.19%	24.76%	13.72%	18.33%	100%

Source: Authors' computations from survey data. For the definitions of these zones, see Figure 2.

Note: 1. We considered one worker from each household that has workers.

2. Others – three zones away, all-over Mumbai or outside Mumbai.

Table 10: Instrumental Variable Probit Analysis

(Dependent Variable: 1 if Household is poor and 0 if not)

	Hyderabad	Mumbai
Stage II		
Grayness	-5.341* (0.585)	-4.770* (1.282)
Class Dummy	-0.433** (0.203)	-0.640*** (0.376)
Constant	2.299* (0.403)	2.719** (1.138)
Stage I		
Class Dummy	0.047* (0.012)	-0.005 (0.017)
Instrument	0.057* (0.010)	0.019*** (0.011)
Constant	0.514* (0.007)	0.660* (0.009)
Chi2 (Exogeneity Test)	20.080*	3.840**

Source: Authors' computations from survey data.

Notes: 1. Standard errors in parentheses. *, ** and *** denote that the coefficient is statistically significant at 99%, 95% and 90% confidence level, respectively.

2. For details of the computation of grayness, see section 4.

4. Class dummy: 1 if elite, professional or retired and 0 otherwise.

Table 11: Instrumental Variable Probit Analysis

(Dependent Variable: 1 if individual possesses college or higher education and 0 if not)

		Mumbai
Stage II		
Grayness	4.108*	2.528**
	(0.675)	(1.230)
Dummy for Female	-0.238*	-0.189*
	(0.058)	(0.058)
Class Dummy	0.120	0.370*
	(0.086)	(0.082)
Years of Education of Head	0.100*	0.123*
	(0.011)	(0.011)
Constant	-3.700*	-3.414*
	(0.234)	(0.691)
Stage I		
Dummy for Female	-0.002	0.008
	(0.006)	(0.007)
Class Dummy	0.045*	0.005
	(0.008)	(0.009)
Years of Education of Head	0.000	-0.001
	(0.001)	(0.007)
Instrument	0.052*	0.040*
	(0.006)	(0.007)
Constant	0.512*	0.652*
	(0.006)	(0.009)
Chi2 (Exogeneity Test)	15.290*	2.980***

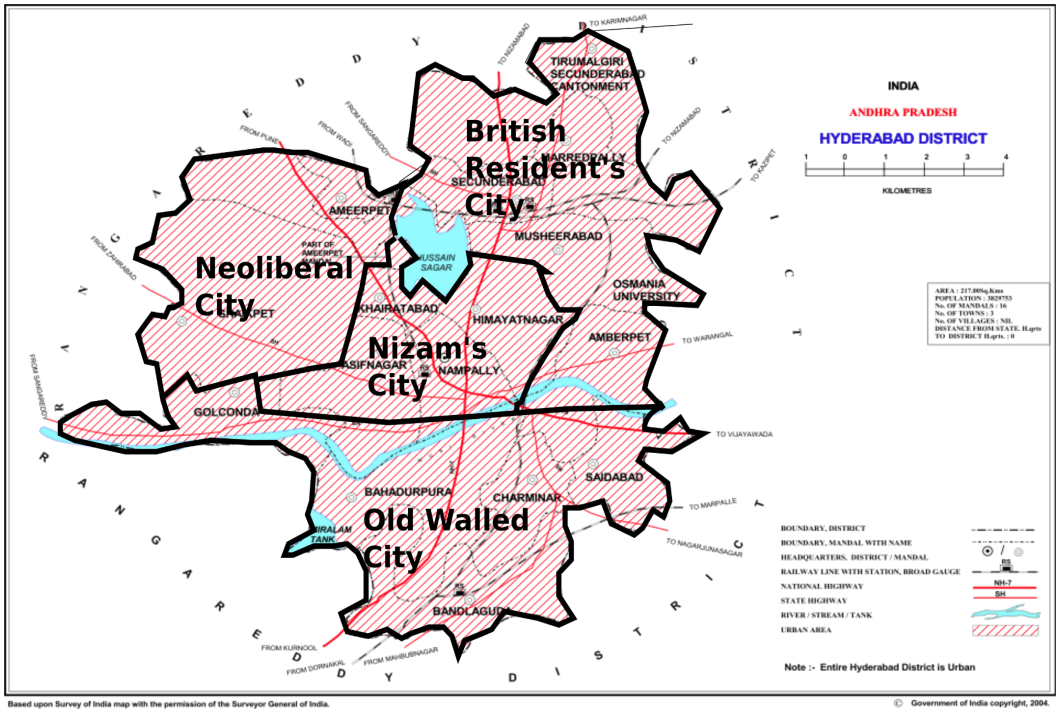
Source: Authors' computations from survey data.

Notes: 1. Standard errors in parentheses. *, ** and *** denote that the coefficient is statistically significant at 99%, 95% and 90% confidence level, respectively.

2. For details of the computation of grayness, see section 3.

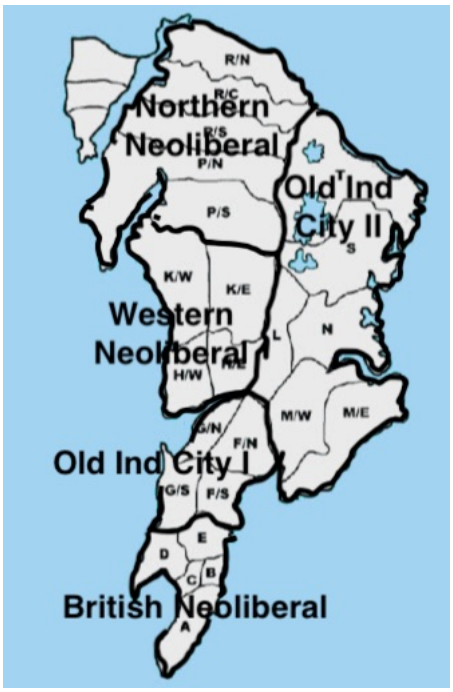
4. Class dummy: 1 if elite, professional or retired and 0 otherwise.

Figure 1: Zones in Hyderabad



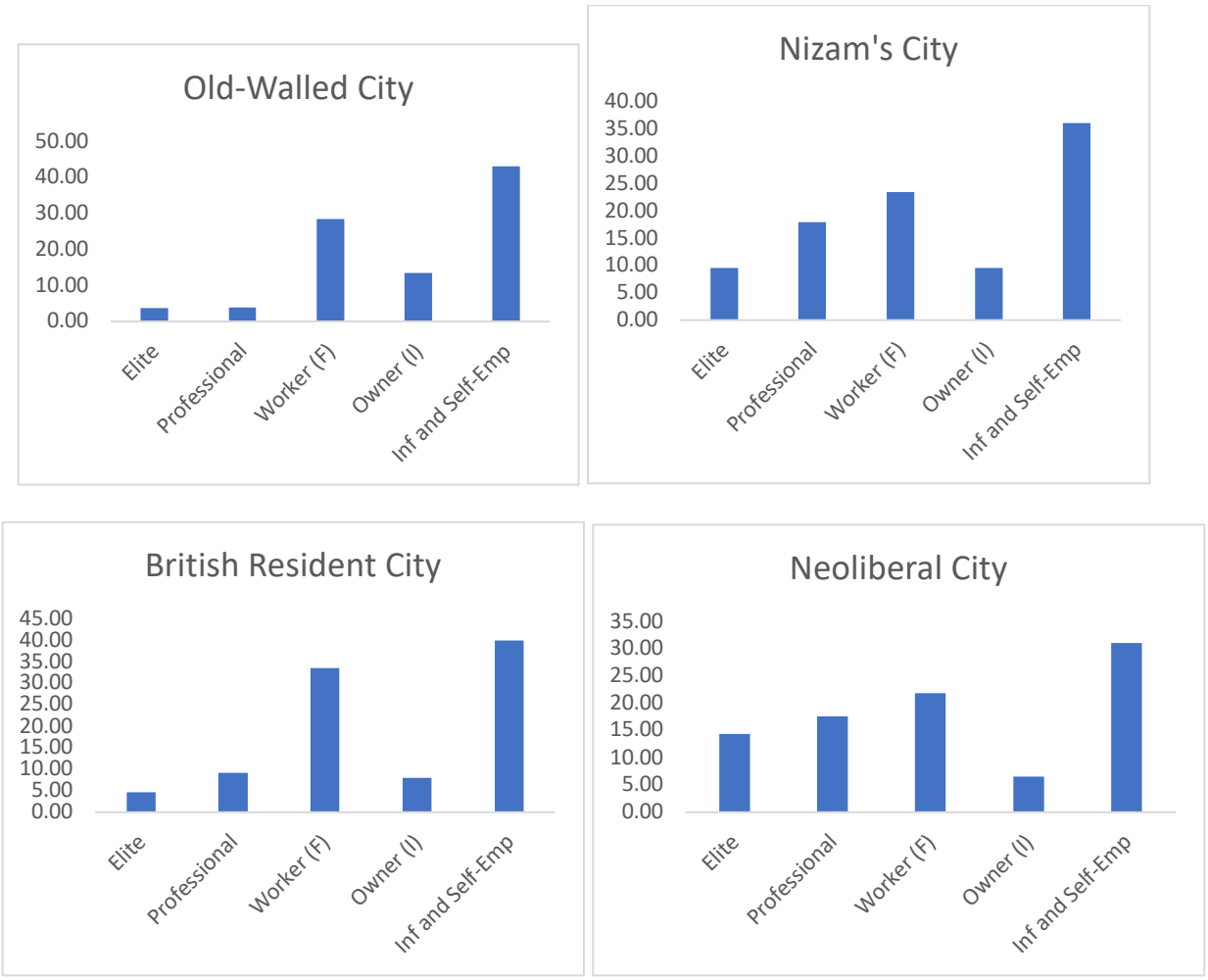
Source: District Census Handbook, Census of India 2011. We overlaid the zones on the map provided by the Census.

Figure 2: Zones in Mumbai



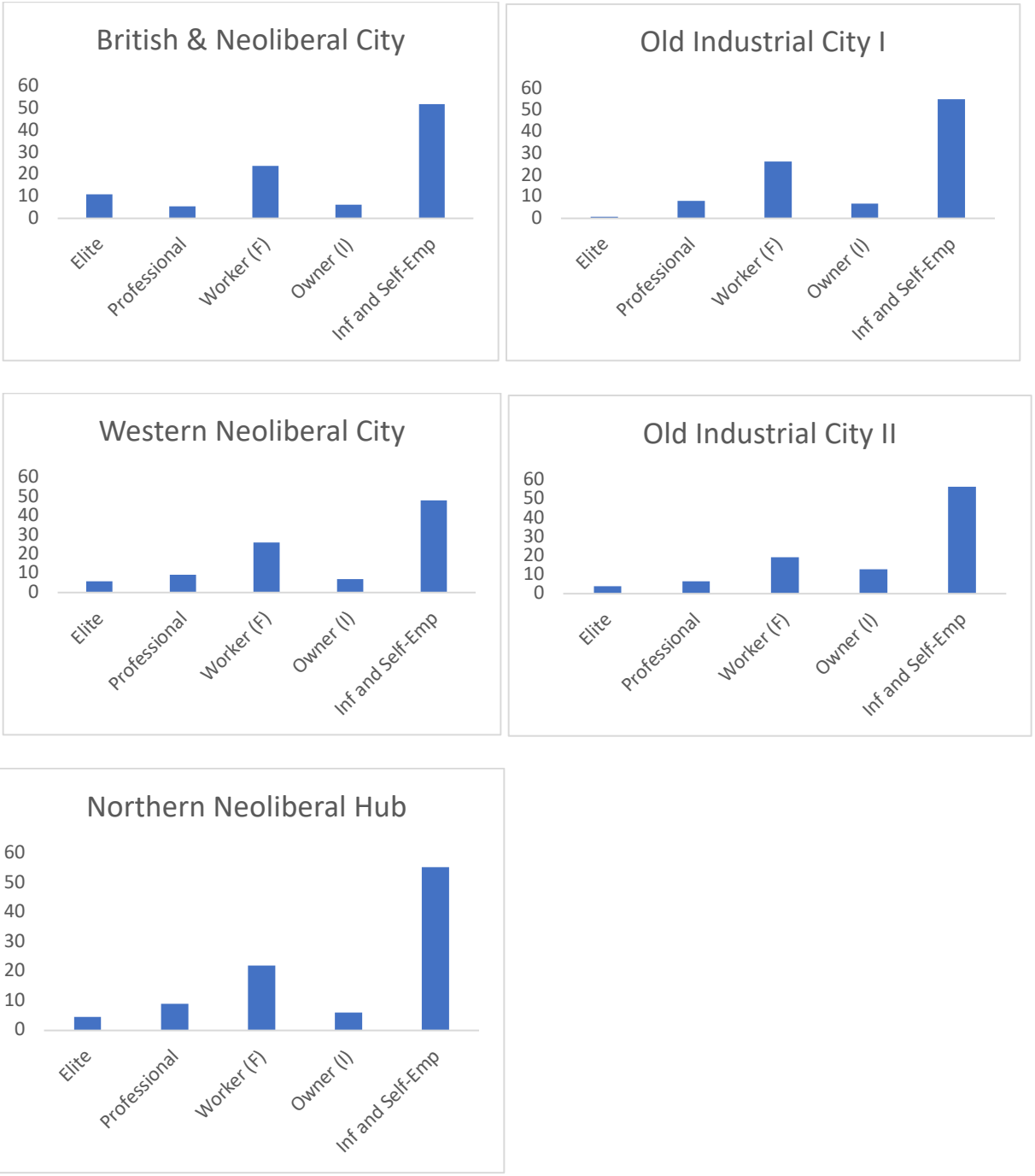
Source: Municipal Corporation of Greater Mumbai. We overlaid the zones on the map.

Figure 3: Spatial Co-existence of Classes (Hyderabad)



Source: Authors' computations from survey data. For the definitions of these classes and zones, see Section 2 and Figure 1, respectively.

Figure 4: Spatial Co-existence of Classes (Mumbai)



Source: Authors' computations from survey data. For the definitions of these classes and zones, see Section 2 and Figure 2, respectively.