

**BUILDING SOCIAL MOBILITY**  
How subsidized homeownership creates wealth, dignity,  
and voice in India

Tanu Kumar

## BRIEF DESCRIPTION

This book is an in-depth exploration of how extremely widespread but understudied policies to subsidize homeownership in low- and middle-income countries shape beneficiaries' economic, social, and political behavior. I develop a multidimensional and cross-disciplinary theory that argues that these initiatives affect how citizens invest in the future, climb out of poverty, develop agency in their social relationships, and exert power in local politics. I support the theory using a multi-method study of three policies in India. The evidence includes a natural experiment, original surveys, paired qualitative interviews, and an 18-year matched panel study. *Building Social Mobility* is a book about both housing and behavior: beyond assessing the effects of an important policy, it provides novel insights about how upwardly mobile citizens make decisions and the interactions between wealth, dignity, and voice in low- and middle-income countries.

## CHAPTERS INCLUDED

I have enclosed two chapters as a sample of the manuscript. The first is the introductory chapter, which outlines the argument, evidence, and implications of the book. I have also included chapter 4, which theoretically and empirically focuses on the effect of subsidized housing on what I define to be dignity.

# 1. BUILDING SOCIAL MOBILITY

Summary: This introductory chapter maps the theoretical and empirical motivation for the book using vignettes, a literature review, and data on the incidence of subsidized homeownership policies in low- and middle-income countries. It also introduces a theory for how these policies should affect three sets of outcomes, which I call wealth, dignity, and voice. The chapter finally then turns to a description of the research design and concludes by previewing the remaining five chapters.

Present-day Mumbai bears the hallmarks of a growing city. Day or night, the streets are filled with businessmen, wage laborers, tourists, students, street vendors, recent migrants, and those who have lived here for generations. Black and yellow taxis, auto-rickshaws, bicycles, scooters, private cars, and a lumbering local train system carry residents from their homes to their livelihoods and back again. And amid this activity rise the homes of the metropolitan area's 20+ million residents: a collection of sleek highrises, *chawls*, colonial-era mansions, 21st century mansions, sprawling self-constructed settlements, squat apartment buildings, precariously erected tents, and often the pavement itself.

In 1958, seven-year old Manav<sup>1</sup> arrived to Mumbai with his family. He and his mother had 300 rupees (750 USD in 2022) to their name, which they used to purchase a room in a slum. They lived there until 2014, when they were allotted an apartment in Parel by the Slum Rehabilitation Authority to own. Manav does not like this apartment. It is small, dark, and the elevators do not work. But it is centrally located in Mumbai and now worth over 55 lakhs (70,000 USD in 2022). Once he moved into the home, he stopped saving for his retirement and redirected all of his income to his children's education. "I am planning to sell this house and go to my ancestral village with my wife," he explains. Because he can rely on the sale of the apartment for his retirement, the Slum Rehabilitation home has allowed Manav to direct his income from saving to supporting a better life for his two sons, who now each have salaried office jobs.

He speaks softly, but gives the impression of a man who knows what he wants and is willing to pursue it. He is, for example, active in his neighborhood, and cares about making sure that trash is regularly cleared and that the roads are safe. He has no hesitation about making himself heard, and got in touch with politicians, the police station, and party workers in both the local *Shiv Sena* and Congress chapters when he was worried about crime near his home.

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<sup>1</sup>All names have been changed to protect the respondents' anonymity.

Manav is the beneficiary of the large-scale redistribution of public resources and land through housing policy. Like many other cities in India, South Asia, and beyond, Mumbai cannot house all of its residents. As individuals arrive from the countryside or other cities to seek job opportunities, the poorest have no choice but to live in the smallest shared quarters or in an informal settlement. These settlements, commonly known as slums, have been a defining feature of life in an Indian city for decades.

There is a need for better housing in rural areas, too. Much of the existing housing stock is made from materials like mud or thatch that are vulnerable to fires or the monsoon. Toilets are still rare in some villages, and homes without proper ventilation are filled with smoke from cookstoves that burn organic material.

In response to these problems, Indian central and state governments have launched an array of programs aiming to deliver adequate housing to urban and rural citizens. Particularly widespread is a family of initiatives that provides free or low-cost formal sector housing for households to own. In cities, households may be given free apartments or be offered the ability to purchase them at a heavily subsidized price. In villages, local governments have helped poor members of society construct their own units out of cement or locally produced lime. How do such initiatives change the trajectory of beneficiaries' lives?

To date, the majority of research from political science, economics, and public policy has focused on the effects of two types of government housing programs. The first is low-income public housing found in advanced industrialized nations, particularly the United States, United Kingdom, and Japan. These programs provide beneficiaries with subsidized rental housing, or a stream of housing benefits without rights to ownership. In contrast, research from cities in Latin America, sub-Saharan Africa, and South Asia has focused on the effects of policies to accommodate slums and squatter settlements by transferring land titles to residents. Beneficiaries receive rights to ownership, but without an accompanying stream of housing benefits.

I focus instead on a third type of housing program extremely common across low- and middle-income countries including and beyond India: *subsidized homeownership*. These policies allocate beneficiaries ownership of housing for free or at a subsidized rate, thereby granting them both a stream of housing benefits and the rights to use, rent, or sell these benefits as they wish. In short, these policies provide both basic shelter and large wealth transfers to beneficiaries. Households use these transfers to invest in their futures and build intergenerational wealth.

Not only is this type of housing program relatively understudied, but it also provides an opportunity to understand how wealth shapes the behavior of households in low- and middle-income countries. Existing research on social and political behavior in low- and middle income countries (LMICs) focuses on the poor, and does not satisfactorily explain the actions and motivations of those who climb the socioeconomic ladder.

Beyond building wealth, I find that these transfers further change citizens' sense of dignity. The flexibility and certainty with which citizens can consume the transfers gives them a degree of agency over their lives. The social status associated with living in high quality housing outside of a formal settlement also improves their sense of agency in their relationships with others, especially those who may be higher in traditional structures of power.

Wealth and dignity, in turn, fundamentally shape how citizens participate in the broader political arena. They are emboldened to make demands of their local government. They are,

furthermore, especially motivated to do so as they seek to advance their own interests and protect the value of their new homes. This behavior can have important effects on service delivery and governance in the broader community, an important externality in contexts where local governments often fail to meet citizens' needs.

Supported by studies of three housing policies, household surveys, in-depth qualitative interviews, a natural experiment, and an 18-year panel study, I argue that subsidized homeownership helps even the poorest households build wealth, live with dignity, and exercise their voice as citizens—in both rural and urban areas.

The project makes numerous contributions to the study of economic, social, and political behavior in low- and middle-income countries. First, I characterize subsidized homeownership as a large asset transfer that is distinct from more commonly studied forms of low-income housing interventions. These in-kind asset transfers with property rights encourage investment in the future through the certainty and flexibility they grant citizens. Additionally, I highlight the unique role of housing in economic, social, and political decision-making. I also conceptualize dignity as an important component of citizenship in poor and stratified societies and illustrate how subsidized homeownership generates meaningful changes in how individuals see themselves and others. As I trace out how the policies shape different aspects of individual behavior, I demonstrate how wealth and dignity shape civic participation, ideas that are relatively unexplored in the literature on political behavior in LMICs. Further, contrary to notions based on societies in the West that argue that the interests of homeowners are at odds with those of the broader neighborhood, I demonstrate that where the overall quality of public services is low, these programs can have positive externalities by creating capable and motivated citizens who demand more for their communities. Finally, I illustrate the multidimensional nature of development by showing how a policy affects a broad range of behaviors through interconnected mechanisms.

Ultimately, this is a book about both policy and behavior. I draw attention to and explore the effects of an important policy. Through the process, I reveal novel theoretical insights about how upwardly mobile citizens make decisions and the interactions between wealth, dignity, and voice in low- and middle-income countries.

## AFFORDABLE HOUSING IN LOW- AND MIDDLE-INCOME COUNTRIES

There is a need for affordable housing in most LMICs. In cities, rapid rural to urban migration has resulted in explosive population growth across Latin America, Africa, and South Asia (Montgomery, 2008). Land market distortions, construction costs, and regulatory mechanisms such as building codes can hinder the supply of housing to keep up with demand. In rural areas, subsistence-level incomes inhibit a household's ability to build or purchase dwellings with basic amenities such as toilets, or roofs and walls made of a permanent material (as opposed to mud or thatch). In other words, households in rural areas often cannot afford the material costs of housing, while it is land rents that keep housing out of reach for the urban poor.

Today, governments support two main policy types to address these problems: those that accommodate and support informal settlements, and those that expand access to housing constructed in the formal sector (Table 1). As discussed in detail below, most existing research on housing in LMICs focuses on the former. This work reveals that complex systems

of land tenure common to informal settlements can make it challenging for the state to solve the issues of tenure security and housing construction facing informal settlement residents.

In contrast, states can avoid navigating existing patterns of land tenure by supporting formal sector housing instead. Because this typically involves constructing housing on government-owned land, the existing work in this area focuses on relocation and housing amenities as the main intervention for beneficiaries. Unlike prior work, however, I focus on formal sector housing for *ownership* rather than rent, which means that the intervention also transfers large assets with secure property rights to beneficiaries.

### **Addressing informality**

One set of policy solutions implemented in cities is to accommodate informal housing, or housing that has been constructed on land that belongs either to the government or a private entity. These policies are summarized in Panel A of Table 1. Cities especially are characterized by the presence of these self-constructed settlements, which are often called informal settlements or slums. As of 2016, about 33-47% of India’s urban population lived in informal housing (Jain et al., 2016). Perhaps because informal housing is so common in low- and middle-income countries, it is the focus of substantial research here.

While the term “informal housing” may bring to mind shantytowns or hastily erected tents, a variety of types of housing can be informal, from impermanent squatter settlements to large homes that have stood for decades. The defining feature of informality is the unauthorized occupation of land owned by the state or a private entity. Residents often lack property rights, or the legal rights to freely use, rent, sell, and exclude others from the land on which they live.

Living in informal housing can create real problems for residents’ everyday lives. As they occupy land illegally, residents may be evicted from their homes and therefore lack what is known as tenure security. Even those who have lived on a piece of land for years and “own it” in *de facto* terms – that is, nobody will interfere with their self-proclaimed property rights – a lack of legal recognition might prevent them from using this land or the homes they have built as collateral for loans or to trade the assets freely (De Soto, 2003). When citizens own land not zoned for inclusion in the city, development plans (such as plans to build an airport or a new highway) can threaten tenure security as well.

To address problems of tenure security and legal recognition, individuals can be granted formal property rights to the land. Called land titling, this solution has been widely studied (e.g. De Janvry et al., 2014; Di Tella et al., 2007; Field, 2005, 2007; Galiani and Schargrodsky, 2010). While most of this research focuses on cases from Latin America, the process of land titling in Indian cities, typically referred to as “slum notification” has received some attention in Urban Studies as well (Nakamura, 2014, 2017).

Across these studies, a few generalizations can be made. Land titling is associated with higher investment in the land itself, greater provision of labor, greater access to credit, a movement away from clientelistic political relationships, and a movement towards free market beliefs. Yet in certain communities, informal property rights are just as effective as those guaranteed by the state (Lanjouw and Levy, 2002). As a result, land titling will generate the largest effects in younger, disorganized communities. Durand-Lasserve and Royston (2002) further find that the allocation of formal title can often be misaligned with existing

Table 1: Common affordable housing policies.

Type supported	Policy	Definition	Government subsidy	Property rights
A. Accommodating informal housing	Land titling	Formal property rights for extralegally inhabited land		X
	Infrastructure investments	Support for improving housing quality and service connections	X	
B. Expanding access to formal housing	Rental subsidies	Government responsibility for rent over a below-market rate threshold	X	
	Sites and services	Provision of land along with a bare minimum of essential public infrastructure	X	X
	Loan subsidies	Reduced interest rates for borrowing to build or purchase a home	X	X
	Price subsidies	Government responsibility for build/purchase price over a below-market rate threshold	X	X

The policies of interest—those that facilitate ownership and involve some type of government subsidy—are in gray.

ownership, generating conflict within communities.

Other policies address the fact that informal settlements often lack access to planned services such as water, sanitation, and electricity through infrastructure investments (UN-Habitat, 1996, 2004, 2013). The Mathare 4A slum upgrading project, for example, seeks to provide rooms, business stalls, schools, street lighting, roads, footpaths, and sewage infrastructure to part of Nairobi’s Mathare slum network. The World Bank supported such an approach in the first generation of its urban development projects in the 1970s and 1980s (Werlin, 1999). As a result, such initiatives have also received considerable attention in research on housing across multiple disciplines (Burra, 2005; Das and Takahashi, 2009; Field and Kremer, 2006; Gulyani and Bassett, 2007; Imparato and Ruster, 2003; Werlin, 1999). A key limitation of these programs, however, is that they do not resolve disputes related to land ownership among residents, and these disagreements about land tenure can undermine their long term gains (Werlin, 1999).

Broadly, interventions to accommodate and improve informal settlements are promising in their ability to solve major problems that residents face. Nevertheless, one of the fundamental problems that residents of informal settlements face is a lack of property rights. Policy interventions can try to provide these rights, but long-standing disputes over land can make it difficult for even the state to acquire and redistribute the property rights itself.

Land titling also takes control of the planning processes away from the state. Local governments are not able to decide where it would be best to place housing and the associated public infrastructure, but must rather accommodate settlements as they arise.

### **Making formal housing affordable**

An alternative set of initiatives that sidesteps problems of land tenure and planning goals is to subsidize the cost of living in or owning formal housing, or housing that is officially sanctioned and built with legal permission. This is housing for which the government already has obtained clearly delineated property rights. These are summarized in Panel B of Table 1.

A common model adopted in OECD countries is a rental subsidy for eligible households, as found in public housing in the United States or Japan’s postwar *danchi* system. Public perception of this type of housing is overwhelmingly negative, as citizens tend to believe that it crowds low-income households into poor quality housing while simultaneously generating negative externalities for the broader neighborhood in which it is built (Tighe, 2010; Woo et al., 2021). Likely due to its prevalence in the West, the policy has also received attention from several disciplines, with studies on how they improve residents’ prospects for social mobility, their political determinants, and their political feedback effects (e.g. Bloom, 2014; Currie and Yelowitz, 2000; Popkin et al., 2005; and see Ansell, 2019 for a review).

The results are mixed. A fundamental tension in rental-based formal housing programs has to do with location. Governments will intervene to create this type of housing in places where obtaining property rights is straightforward and aligns with broader planning goals. These same locations, nevertheless, may not be suitable for beneficiaries. Aaron (1972, p 108) captured this tension when he stated that “over the years, public housing has acquired a vile image – highrise concrete monoliths in great impersonal cities, cut off from surrounding neighborhoods by grass or cement deserts best avoided after dark...This image suggests that any benefits inhabitants derive from physical housing amenities are offset by the squalid



surroundings.”

Beyond the quality of the immediate surroundings, the location of housing can further remove households from labor markets and decrease employment, as found by van Dijk (2019) in the Netherlands. Other studies do suggest the possibility of positive effects on earnings, physical living conditions, and other outcomes in the long run (e.g. Newman and Harkness, 2002), but these results depend on where the housing is and who chooses to move to it.

Rental subsidies are less well-studied in low and middle-income countries, likely because they are less common here. Several countries including Chile, Venezuela, South Africa, and Colombia experimented with such constructing buildings with subsidized rental units in the second half of the 20th century, but the model was eventually abandoned by the development banks funding the initiatives as part of a shift towards market- and ownership-based solutions (Gilbert, 2004). According to India’s Ministry of Housing and Urban Affairs, the national-level Affordable Rental Housing Complexes Scheme has been slow to roll out, with just 5,478 units made available between 2015 and 2022.

In instances where the program has been implemented, however, the tension between relocation and receiving housing benefits is similarly salient. Barnhardt et al. (2017), for example, find that a subsidized rental program in Ahmedabad, Gujarat removes households from their political and social networks, leading most beneficiaries to drop out of the program and eventually move back to their original neighborhoods. A subsidized rental program, after all, is a purely in-kind transfer of a stream of housing benefits: the use of a shelter with a roof, walls, a sink, and a toilet. One must relocate to that shelter physically to take advantage of it, wherever that shelter might be.

There is, however, another type of subsidized formal-sector housing program that is much more common in low- and middle-income countries. Depending on the rules of implementation, it can remove the need to relocate to gain access. It can also play a much larger role in the economic, social, and political lives of beneficiaries.

### **Subsidizing ownership: widespread, under-researched, and theoretically distinct**

The policy initiative with which this book is concerned is the subsidizing of housing for ownership, shaded in gray in Table 1. Subsidized homeownership programs provide monetary support to build or buy a home, either in the form of a subsidized interest rate for a loan or a subsidized sale price. Subsidies can apply to specific buildings or units, or can be vouchers to subsidize the purchase of housing on the open market. But more often than not, the subsidy is applied to new units constructed specifically for the program in question so beneficiaries do not crowd out others in the housing market. As I discuss below, these initiatives are, across their many types, both extremely common in LMICs. They are also theoretically distinct from the aforementioned policies because not only do they provide in-kind transfers, but they also provide property rights for that transfer.

A policy model which was once common is known as “sites and services.” Residents are provided plots of land to own along with connections to basic public infrastructure. Here, the price of land (with services) is completely subsidized, but beneficiaries are left to construct their own housing. In some ways, this policy is essentially a blend of the land-titling and infrastructure investments discussed above, but the key distinction is that the government

chooses the land upon which construction happens. These programs were pursued with enthusiasm in the early 1970s, with the World Bank investing 14.6 billion USD in 100 sites and service projects across 53 countries (Owens et al., 2018). They, too, were eventually abandoned due to issues of implementation, such as time to completion, difficulties targeting, and of course, the ever-present problem of the distance of sites from jobs and social networks (Mayo and Gross, 1987).<sup>2</sup>

A policy type more prevalent today is a loan subsidy, which provides reduced interest rates for borrowing to build or purchase a home. In March 2022, India’s central government claimed to have disbursed over 5.5 billion USD (41,415 crore INR at the time) of interest subsidies to over 1.5 million beneficiaries since 2015 through the Credit-Linked Subsidy Scheme. In Latin America, the Caribbean, and now India, governments and NGOs have begun developing innovative lending techniques for low-income and informal workers’ segments of the population, which typically cannot access credit markets a lack of a consistent stream of income or collateral makes them risky borrowers (Ferguson, 1999; Patel and Burra, 1994). Subsidizing and facilitating borrowing are core elements of the World Bank’s Global Housing Finance initiative.

Even more common are price subsidies in which the government covers some or all of the market-rate price to build or purchase a house. In Brazil, *Minha Casa, Minha Vida* is a federally-funded program to support the local construction of houses, which are then given to eligible households. There were about 1 million low-income beneficiaries between the program’s creation in 2009 and 2017 (Bueno, 2021). In Indonesia, the *Satu Juta Rumah* (One Million Homes) program launched in 2015 aims to construct 1 million houses a *year* (and often exceeds these targets), with about 70% of these allocated towards low-income households (Aulia, 2020). As part of the post-Apartheid Reconstruction and Development Program (RDP), the South African government delivered over 3 million free households to citizens between 1994 and 2013 (Franklin, 2020). Colombia’s *Programa Vivienda Gratuita* has similarly granted almost 150,000 households in 343 municipalities free housing from 2012-2021 (Camacho et al., 2022). Launched in 2005, Ethiopia’s Integrated Housing Development Program constructed about half a million apartments in Addis Ababa alone over a period of 12 years. In 2018, Kenya’s president Uhuru Kenyatta pledged to build 500,000 houses for low- and middle-income households by 2022 (Kieti, 2020). By 2012, at least 5% of India’s population had benefitted from *Indira Awas Yojana*, a rural policy providing cash grants to support the construction of new houses (India Human Development Survey- II 2020). Considering that the population already exceeded 1 billion by that time, this means that there have been over 50 million beneficiaries from *just one* of the policies pursued by multiple levels of government over time.

These policies have received extremely little research attention, especially when considering their prevalence and scope across the globe. Those who do study them, moreover, focus mainly on mechanisms related to relocation. Picarelli (2019) and Franklin (2020), for example, examine the effects of South Africa’s RDP program. Franklin’s (2020) argument that formality can increase labor supply is similar to one put forth by Field (2007) in her

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<sup>2</sup>A 2018 re-evaluation of a 1970s era program in Chennai and Mumbai that developed about 143,000 plots, however, finds that “these projects appear to have achieved remarkable success in delivering not only housing but also neighborhoods that are livable and inclusive” (Owens et al., 2018).

study of land titling in Peru. Picarelli's argument that relocation can affect labor market outcomes is also applicable to rental-based programs, such as the one studied by Barnhardt et al. (2017). As a result, these studies focus on relocation and lose sight of the fact that the programs also transfer a large subsidy and property rights to beneficiaries. Scholars of the United States have focused on mortgage subsidies (i.e. loan subsidies), which are the dominant form of subsidized homeownership here and in other advanced industrialized nations. Most of this work examines the effects on outcomes directly related to housing markets, including housing demand and supply (Durning, 1987; Fetter, 2013; Greulich and Quigley, 2009; Gruber et al., 2021; Hilber and Turner, 2014; Martins and Villanueva, 2006). There is less work on how these programs directly affect the beneficiaries themselves.

Because subsidized homeownership entails 1) a large in-kind transfer and 2) property rights, it is theoretically distinct from other types of affordable housing programs. By property rights, I mean the legal ability to use, rent, and sell housing. The transfer combined with property rights should have effects on other outcomes beyond just beneficiaries' locations and housing. Unlike programs that provide property rights only, such as land titling, these programs entail income or wealth transfers from government. Unlike programs that entail transfers without property rights, such as rental subsidies, these transfers guarantee in-kind benefits in perpetuity, with certainty, whether or not the beneficiary chooses to live there.

The vehicle through which this transfer is made, moreover, makes subsidized homeownership distinct from other welfare or social protection programs, such as cash transfers, pensions, or work guarantees. Access to housing that is durable, provides basic amenities, and secure from eviction or destruction allows households to plan for the future. The type of housing one lives in also affects how one is perceived by others.

Overall, the transfer, property rights, and the nature of housing itself affect household behavior in important ways that may shape social mobility.

## SUBSIDIZED HOMEOWNERSHIP BUILDS WEALTH, VOICE, AND DIGNITY

I conceptualize subsidized homeownership as providing a consistent stream of support to beneficiaries. The in-kind support through housing provides basic shelter that is durable. Because beneficiaries have property rights to this in-kind transfer, they can also rent it out or sell it for cash. By addressing a basic need and giving beneficiaries the flexibility to access its cash value, the program allows beneficiaries to invest in the future and accumulate wealth. Both the fact of having housing and accumulating wealth, moreover, endows citizens with a sense of dignity, which is an important outcome in hierarchical societies wherein most citizens are poor. Dignity for citizens may be normatively desirable, but it also has important effects on how citizens interact with each other. Dignity enables citizens to approach officials and make demands for what they need. In this case, they are particularly motivated to protect their newfound wealth. This newfound wealth is tied to a location because of the vehicle through which it is transferred, which motivates political action in local communities.

## Wealth

When households are living at subsistence levels, it can be difficult for them to save enough income or invest in the future. Subsidized homeownership entails a transfer to households. The transfer is typically in-kind through a stream of housing benefits, such as secure tenure or a roof over one's head. These in-kind benefits may have their own effects on household economic prosperity. In particular, households living in informal settlements frequently face housing related shocks in the form of flooding or fire which prevents them from saving and investing in the future. Better housing should minimize these shocks. It may also decrease stress or allow households to reallocate time from home and tenure maintenance to labor or education. These effects should be universal to all affordable housing programs.

With property rights, moreover, households can convert these in-kind benefits into cash through rental or resale of the home. A house is a durable asset that generally preserves its value over time. There are legal and (at least in the case of cities) active markets for home rental and sale. Where real estate markets favor sellers, this transfer can be made at a minimal loss and even result in a gain if the overall demand for housing is high.<sup>3</sup>

The durability of the home means that households can make these choices long after they initially receive the transfer. Even if households do not convert the homes into cash immediately, the potential to do so in the future may lead them to spend more in the present either because they are less risk averse or because they are smoothing their consumption over time (Friedman, 1957). Furthermore, unlike rent or cash, property rights can also ease credit constraints by providing an asset that households can use as collateral for loans.

Importantly, unlike many welfare payments, the flow of in-kind benefits or any cash income derived through the rental of the home is received with some level of certainty. Problems with welfare implementation are common in low- and middle-income countries with overloaded bureaucracies (Dasgupta and Kapur, 2020). Political incentives may also guide the fate of programs at the expense of beneficiaries. From 2004 to 2021, for example, Brazil's *Bolsa Família* program made regular payments to citizens who met certain educational and healthcare conditions. Yet in October 2021, the Bolsonaro government ended the program and replaced it with the rebranded *Auxílio Brasil*, an action that created uncertainty for beneficiaries as the program came with multiple implementation changes and needed to be approved by both legislative houses. Such problems with policy change or implementation are less likely to affect the flow of benefits received from housing for ownership.

In sum, the vehicle of housing has its own unique role in decreasing environmental shocks and increasing economic certainty. The transfer itself, moreover, should mechanically increase beneficiaries' wealth, but the certainty and flexibility with which it is received should increase their investment in the future. It is these investments that truly generate wealth accumulation and improve beneficiaries' prospects for long-term economic mobility.

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<sup>3</sup>Certain housing programs may not explicitly allow this rental or resale, but if the potential profit is high enough, beneficiaries are likely to put their homes on the market anyway, especially when enforcement of program rules is weak.

## Dignity

Income and investment in the future are just the means through which individuals seek to achieve their broader aims in life. Newer approaches in international development seek to move beyond a focus on just income to an emphasis on what citizens can do with that income. This “capabilities” approach considers both the downstream effects of gains to income along with other societal, political, and personal barriers to pursuing one’s goals (Sen, 1999). Following this approach, I argue that subsidized homeownership programs goes beyond just improving citizens’ material wellbeing and actually endows them with a sense of dignity.

As a topic of growing interest among scholars and policymakers, dignity has a number of definitions and measures (see Wein (2020) for a review). I define dignity as the feeling of agency or control in one’s life. This “feeling” is composed of two parts: control over one’s future and independence from the actions or opinions of others. I consider independence from the actions or opinions of others to include feelings of self-respect or freedom from humiliation, which are commonly mentioned in other notions of dignity. This definition of dignity emphasizes what citizens feel they are able to do to alter the course of their lives. The term “dignity,” moreover, goes beyond “agency” because it includes aspects of one’s perceived relationship with others.

Any type of transfer should impart some level of dignity on citizens simply by making them wealthier. Indeed, Sen (1999) considers the goal of economic development to be citizen agency, or what he calls freedom. Hunter and Sugiyama (2014) find that Brazil’s *Bolsa Família* conditional cash transfer program increased citizens’ feelings of independence and agency by virtue of freeing them from some of the burdens of grinding poverty. Beneficiaries are also freed from the judgements of others by being able to address common stigmas of poverty, such as a lack of shoes for themselves and their children.

A transfer with property rights, moreover, grants recipients full control over the stream of benefits, whether they are consumed in-cash or in-kind, over time. They do not have to meet any conditions, wait in line, routinely fill out forms, or use their networks to negotiate access. That access to other types of welfare benefits must be continuously renegotiated undermines their effects on dignity. Hunter and Sugiyama (2014), for example, find that among beneficiaries’ greatest frustrations with *Bolsa Família* is the need to constantly wait in line to access benefits. Ownership allows beneficiaries to choose to convert their benefits to cash. The autonomy to choose how to consume benefits is one of the principal reasons Shapiro (2019) finds that citizens in Kenya prefer cash to in-kind welfare benefits.

Subsidized homeownership should have a larger impact on dignity than a transfer delivered through another vehicle for three reasons. First, many of the poor without their own housing can suffer from insecure housing tenure, which robs them of their ability to control and plan for the future. Tenure insecurity may come in the form of being forcibly removed from land when living in a squatter settlement, being evicted from a home one is renting, depending on the whims and good favor of friends and relatives for housing, or failing to meet program requirements. As such, tenure insecurity can be a problem for any type of affordable housing program that does not entail ownership. Public housing programs in the United States, for example, frequently have drug-use or employment-based conditions that can lead to evictions if violated. Second, poor quality housing can frequently flood, leak,

break, or cause injury and illness. These are unpredictable shocks that can further undermine households' control over the future. Durable housing should minimize these shocks. Third, insecure tenure and poor quality housing, like going without shoes, can carry a social stigma. Moreover, homeownership is associated with a certain level of social status in India and in many other countries (Das et al., 2019). This status can help citizens more effectively and confidently navigate their interactions with others.

Fostering dignity may be normatively desirable, and this point cannot be overstated. Dignity is also important to understand as a precursor to other outcomes of interest to social scientists. As argued by political scientists like Fukuyama (2018), citizens frequently demand dignity, which can shape their political preferences. Dignity is also likely to form another mechanism for the effects on wealth. A sense of control over one's future, first of all, might increase his or her long-term human and physical capital investments (Lybbert and Wydick, 2018). In this way, a lack of agency in one's life may be an overlooked psychological burden of poverty that can inhibit the capital accumulation needed to exit poverty. Furthermore, independence from the decisions and behaviors of others may increase citizens' ability to express their needs and make demands of political actors like public officials or informal leaders.

## Voice

How do citizens exercise this agency and further their own interests in the broader societies in which they live? Bueno (2022) finds that the subsidized homeownership program *Minha Casa, Minha Vida* changes beneficiaries' values; Di Tella et al. (2007) find that property rights given to squatters in Buenos Aires do the same. I further investigate how these shifts shape citizens' behavior in their local communities. Understanding, what, if anything, gives poor citizens the ability to articulate their demands and make them heard is a fundamental question in societies where the poor have little power. In Ahuja and Chhibber (2012)'s study on why the poor vote, one citizen poignantly stated that "if I don't vote, I am dead to the state." How do citizens make their demands heard to a capricious and indifferent government outside of election time, and does subsidized housing have any role in their ability to do so?

To answer this question, I study every-day civic participation with a focus on *claim-making*, or demands for government-provided goods and services. Particularly at the local-level, this behavior often entails demands to improve poorly provided local services, such as water, roads, sanitation, and safety. This is a form of everyday action that is salient even outside of election time. Due to its nature of being citizen-initiated, the domain of claim-making encompasses anything that citizens seek; it is not contingent on what patronage and clientelistic networks are able to provide (Kruks-Wisner 2018, 199-200). Even wealthier citizens may participate in claim-making, and benefitting from welfare programs may induce *new* demands.

I argue that benefitting from subsidized homeownership should increase citizens' participation in this civic behavior through its effects on wealth and dignity. First, by endowing beneficiaries with a sense of dignity, subsidized homeownership may help beneficiaries feel more able to demand better services from local government. An increased sense of agency over one's finances could help increase citizens' mental bandwidth to participate in this everyday action. In other words, citizens may care more about the quality of their local services

if they are spending less time worrying about the future. Schaub (2021), for example, finds that acute financial hardship makes low-income citizens in Germany less likely to take the time to vote.

Furthermore, in extremely hierarchical societies, the poor and those living in informal settlements are often afraid of or unwilling to approach local officials. A sense of freedom from the behavior of others or feeling less vulnerable to officials makes it easier to make demands. In this way, dignity may empower beneficiaries to try and generate change in their neighborhoods.

Second, by making beneficiaries wealthier through housing in particular, subsidized homeownership likely motivates a very specific type of claim-making. Beneficiaries may be motivated to make claims that specifically protect or increase the value of their newfound wealth, particularly as manifested in a house. The demands are related to local goods and services – such as the quality of roads, local safety, or sanitation– that serve the physical area around which the home is built. Homeowners are more likely to expend energy on improving such services than non-homeowners who live in the same area because not only might they benefit from the services themselves (if they happen to live in the housing), but they also stand to benefit from the increase housing value that frequently results from improved neighborhoods. Even those who do not live in their housing but rent it out benefit from these potential increases in housing value.

### **Isn't cash better for beneficiaries?**

I have argued that under certain conditions, the property rights and government subsidy inherent in subsidized homeownership programs foster social mobility through the wealth, dignity, and voice they help beneficiaries build. How does an in-kind transfer compare to cash?

In recent years, cash has become the benchmark for evaluating welfare interventions (see, e.g. McIntosh and Zeitlin, 2018). In-kind transfers are often considered to be “paternalistic” (Cunha, 2014) in that providing citizens with food, clothing, or housing assumes that recipients wouldn't be better off with a more flexible transfer that allows *them* to decide what they need most. Indeed, one of the arguments of this book is that because housing is a durable asset that can easily be bought or sold, its benefits are flexible.

It might be better, then, to simply give beneficiaries large lump sum transfers of the same value as the housing subsidy. Such a transfer would have to be large. For example, in a study of the long-run effects of cash transfers, Haushofer and Shapiro (2018) give households about 1,000 USD in seven monthly installments as part of their “large transfer” treatment arm. A lower bound on the potential wealth gains from the MHADA lottery are at least 10 to 55 times the magnitude of these transfers.

In the case of transfers provided through housing, however, there are few direct costs on implementing governments because the sale price of the homes covers construction and marketing costs (Madan, 2016). An in-kind transfer of this size is possible because most of its (eventual) value derives from the opportunity it creates to participate in the real estate market.

Additionally, many of the proposed mechanisms for the effects I see occur through the housing transfer itself. For example, the ownership of housing in particular plays a large role

in their sense of dignity. Higher quality housing is, furthermore, less subject to large shocks such as fires or floods.

Even if it were possible to make large transfers, citizens might not be able to purchase housing. Particularly in lucrative real estate markets in urban areas, developers typically do not have an incentive to construct the small units that the subsidized housing brings into reach.<sup>4</sup> Subsidized housing, therefore, is both a wealth transfer *and* a market intervention that brings homeownership within reach of the poor.

But perhaps the most compelling argument to pay more attention to subsidized homeownership is that government seem to prefer to pursue it. As delineated above, this program is widely implemented across LMICs. In particular, Indian state and local governments have been implementing the policy since Independence. Perhaps this is because the transfers, as discussed, incur few direct costs on implementers. It may also be because it is politically palatable both for central governments and more local-level implementers, a possibility I consider in this book.

## Contributions

The argument makes a number of contributions to existing research on housing policy and economic, social, and political behavior. There are seven insights that are particularly important.

First, the book draws attention to and situates within the broader housing literature an understudied policy initiative, namely subsidized homeownership. The presence of both a government subsidy and property rights distinguish subsidized homeownership from other types of affordable housing policies more commonly studied in countries at all income levels. The property rights specifically have important implications for the policy’s effects on beneficiaries because they remove the location constraints common to other housing programs.

Second, I show how a transfer made through housing can yield long-term intergenerational wealth accumulation. Both the transfer along with the certainty and flexibility with which it can be consumed facilitate investment in the future. While existing work on “big push” interventions to generate economic mobility focuses on rural interventions, particularly those involving livestock (Banerjee et al., 2021), I highlight the potential of a policy that does not require labor inputs and reaches urban and rural citizens alike.

Third, I demonstrate that subsidized housing, beyond simply providing a wealth transfer or property rights, provides access to durable housing with basic amenities that can play an important role in decision-making. While current research argues that tenure security can play a role in labor supply decisions (Field, 2007), investment in the future (Field, 2005), and political choice (Bobonis et al., 2023), the physical construction of housing itself can affect exposure to economic shocks along with gains to neighborhood property values. House quality and homeownership are also salient markers of status, which can further affect how citizens interact with others.

Fourth, I develop a working definition of dignity as an outcome of interest for poor citizens in highly unequal societies. There is a growing interest in dignity among political scientists (e.g. Fukuyama, 2018; Malik, 2022) who have used the concept to explain identity-based

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<sup>4</sup>Height restrictions and zoning laws often undermine the ability of developers to build a large volume of low cost units in urban areas. Rural areas are generally too poor to attract developers.



mobilization. I further illustrate how citizens' material circumstances can affect how they feel about themselves and their place in the world, which in turn change their economic and political decisions. Many programs in international development aim to build dignity into their interventions through listening to and incorporating citizens' needs, but subsidized housing directly gives them power—over the asset and in their communities.

Fifth, to date there has been very limited empirical evidence on how upward mobility shapes political behavior in LMICS (Wietzke and Sumner, 2014). While we know that the rich and poor typically engage in different types of political behavior in India and other low- and middle-income countries (Chatterjee, 2004; Heller et al., 2022), we know less about the causal role of wealth and dignity in shaping these behaviors. This is often because even as individual citizens become wealthier, politicians have an incentive to serve poorer citizens. Even if the interests of citizens change, it is not visible in their voting behavior because what is offered to them in the existing political system is of little utility. For this reason, it is informative to focus on claim-making, which encompasses anything citizens might seek. Once they feel they have the capacity to do so, even the poorest citizens will actively seek to reshape their communities in their own interest. Thinking about citizens' motivations to protect their own interests is a departure from most work on the political behavior of the poor in LMICs, which typically describes citizens as vulnerable voters who make choices on the basis of ethnicity or simply being able to gain access to sorely needed goods and services.

Sixth, I demonstrate a positive and under-examined externality of self-interested behavior on the behalf of homeowners, namely the improvement of local communities. Homeowners in the US also participate in local politics to protect their property values (e.g. Portney 1991; Dear 1992; Fischel 2001; Einstein *et al.* 2019). This behavior is usually associated with negative externalities, particularly vetoes of land use such as the construction of landfills, housing, or hospitals that might benefit the broader community but impose high costs on individual homeowners. These negative externalities are certainly plausible and visible in my own study. But by considering this type of behavior in a lower-income context, I open the possibility for positive externalities as well. Where the delivery of public services like water, electricity and sanitation is poor, the self-interested behavior of homeowners can generate demands for better services enjoyed by the broader community.

Finally, the broad set of dependent variables and interconnected theories illustrate the multidimensional nature of development. I focus not only on income or wealth, but how individuals view themselves, others, and how these perceptions affect decision-making in all aspects of their lives. This decision-making, further, is complex and interrelated. For example, it is not just wealth that shapes dignity by generating a more secure future, but it is also possible that dignity, particularly a greater sense of economic and social agency, facilitates wealth accumulation by decreasing one's sense of uncertainty and encouraging investment. This study illustrates the ability of development policy to change beneficiaries' lives in a number of meaningful ways, and it also highlights the deep connections between economic, social, and political behavior.

## A STUDY OF THREE POLICIES IN INDIA

Housing is a salient policy issue in India. In 1947, the Partition of India and Pakistan led to a large flow of refugees into the country, and they needed somewhere to live (Hingorani, 2011;

Gopalan and Venkataraman, 2015; Tiwari et al., 2016). At the same time, the Indian central government was formed in the wake of Independence from Britain, and a key idea motivating the structure of its design was that the state should be an engine of economic growth and uplift a widely impoverished citizenry (Chhibber and Verma, 2018, p. 7-10; Frankel, 1978, p. 3-27; Varshney, 2014, p. 29-30).

As a result, the central government introduced a policy to construct urban housing in 1952, and a rural village housing program soon followed in 1957. In many cases, these initiatives were preceded by an assortment of state-level policies. In 2015, prime minister Narendra Modi revamped an existing Congress-era program as *Pradhan Mantri Awas Yojana* (The Prime Minister’s Dwelling Scheme) as part of a housing-for-all-initiative that also reaches urban areas.

As a whole, these programs have significant reach and investment. In 2020, the central government allocated over 1% of its total expenditures to *Pradhan Mantri Awas Yojana*, which aims to increase homeownership among the poor in both rural and urban areas. It was the fourth largest central government program that entailed direct transfers to households at the time, behind the Mahatma Gandhi National Rural Employment Guarantee Program, *Pradhan Mantri Kisan Samman Nidhi*, and the National Social Assistance Program.<sup>5</sup> According to the Ministry of Housing and Urban Affairs and Ministry Rural Development, this program successfully constructed 10,000,776 rural homes from 2018-2022 and 5,510,492 urban homes from 2014-2022. These numbers have fallen short of targets, but the fact remains that this is a program aiming to deliver at a large scale.

Against this backdrop, I illustrate my argument through a study of three housing programs, as outlined in Table 2. These policies vary in their geographic coverage, whether they require relocation, and the research design I use to learn about their impacts.

I use a natural experiment to study a program implemented by the Maharashtra Housing and Development Authority (MHADA) in Mumbai.<sup>6</sup> Apartments are constructed by government and sold at an extremely discounted rate to eligible low income households. The program has roughly one spot per thousand applicants, so beneficiaries are selected through a lottery process. Importantly, beneficiaries do not have to live in the housing, but can rent it out. They may also legally sell it 10 years after winning. The program is similar to those implemented by state boards all over the country through a lottery. I study its effects through an original survey of a sample of winners and non-winners in 2017, conducted 3-5 years after lottery wins in 2012 and 2014. Due to the randomization, the differences in outcomes across winners and non-winners is the causally identified effect of becoming a program beneficiary.

The second program allows me to examine effects over time and in rural areas. I study *Indira Awas Yojana* (IAY), which, starting in the late 1980s, targeted landless laborers and freed bonded workers. Beneficiaries received large grants from the government to build their own houses, subject to certain requirements related to housing amenities and build quality. I study the effects of this program through the 1994-2012 three-round India Human Development Survey (Desai and Vanneman, 2020) panel survey. I match beneficiaries and

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<sup>5</sup>Budget figures are based on actual expenditure as provided by the Ministry of Finance. A direct household transfer is defined as a program entailing any type of cash or in-kind transfer to citizens. In contrast, food procurement or road building programs support the broader economy and infrastructure.

<sup>6</sup>This natural experiment and my related findings are featured in Kumar (2022) and Kumar (2021).

Table 2: The programs studied in this book.

Program	Requires relocation	Geographic coverage	Design	Years data collected
Maharashtra Housing and Area Development Authority lottery	No	Urban (Mumbai)	Natural experiment; survey of lottery winners and non-winners	2017
Indira Awas Yojana	No	Rural India	Exact matched beneficiaries and non-beneficiaries tracked over time	1993-1994, 2004-2005, 2011-2012
Mumbai Slum Rehabilitation Authority Program	Yes	Urban (Mumbai)	Paired qualitative interviews	2022

non-beneficiaries from the same village, caste, and religion and track their outcomes over three waves across 18 years.

Third, I study a program implemented by Mumbai’s Slum Rehabilitation Authority (SRA), which reaches those living in slums. Households living in eligible informal settlements can elect to move into government constructed apartments at no cost. If they choose to do so, the settlement is destroyed to accommodate a development project. Unlike the MHADA program, this program requires some form of relocation. Even if households were to rent or sell these apartments, they would not be able to return to their original housing because it usually no longer exists. This is an important feature of the program that fundamentally shapes beneficiaries’ experiences. I study the program’s effects using 40 paired qualitative interviews in 2022 of citizens living in informal settlements and citizens who relocate.

The mixed-methods design generates different types of support for the argument. The natural experiment used to measure the effects of the MHADA program causally identifies the effects of a subsidized housing program. The panel study of IAY allows me to show how a policy may lead to divergences in economic prospects in the long run. The qualitative surveys allow me to understand and describe how a policy shapes citizens’ lives in their own words.

Together, these three policies illustrate the scope conditions for the argument. Both rural and urban programs can generate effects on wealth. This is particularly surprising in the rural context, as it is less likely that housing here will experience large increases in market value. Yet the weak potential for market value appreciation dampens effects on political participation in rural areas simply because it leads beneficiaries to be less motivated to make claims surrounding their homes. Within urban areas, the comparison between the SRA and MHADA programs suggests that policies are likely to generate the largest effects when they do not require relocation and undermine the gains to housing programs through broken social networks and distance from labor markets.

## KEY RESULTS AND OVERVIEW OF THE BOOK

This book is an empirical study of the three policies presented in Table 2. In Chapter 2, I present the historical and institutional context of housing policies in India. I discuss where subsidized homeownership policies fit within a broader menu of policy choices, including supporting informal housing and rental subsidies. I also discuss the practical and political reasons governments might undertake subsidized homeownership, as demonstrated through its extensive implementation. I then present the three policies studied in detail, and highlight other major incidences of these policy types within and beyond India. I include a description of the research methodology used to study each program and estimate effects on housing quality. In general, beneficiaries of all three programs have better quality housing than non-beneficiaries, as measured by the construction of the roof, walls, and presence of a toilet and water connection. This suggests that each program is achieving, at least to some extent, its stated aims to improve housing for beneficiaries. Nevertheless, SRA beneficiaries are often uncomfortable with living in small apartments in high-rise buildings, as this built environment is very different from the low-rise structure and ample supply of community spaces in most of the informal settlements from which they moved. They typically respond

to this discomfort by either selling or renting out their housing and moving to formal sector housing elsewhere.

I next explore how the programs affect beneficiaries' lives beyond providing housing, particularly through their effects on economic behavior and human capital accumulation. SRA residents are more able to focus on investments in their own health and their children's futures than those living in informal settlements, at least partly because they do not worry as much about the physical construction of their homes. Worries about finances, furthermore, are tempered by the fact that they can rent or sell their homes for high prices if the need arises. These changes should increase household investment in the future.

This conjecture is supported by causally identified effects of the MHADA program. Winners have higher household incomes 3-5 years after implementation. This effect is driven by better education and more employment (and salaried employment in particular) among those who were school-aged youth at the time of implementation. These results are not driven by relocation, as winners tend to live in areas with worse educational and employment opportunities than non-beneficiaries. Only about half of the beneficiaries actually relocate to the program housing. The rest rent it out and can therefore prevent their gains from being undermined by difficulties they have with the housing location. Broadly, housing facilitates human capital investment, which improves economic prospects.

The IAY program next shows the long-run effects of subsidized homeownership. In 1994, even though beneficiaries have better housing than non-beneficiaries, they are poorer by every measure, which can be explained by program targeting to lower income groups. Yet by 2005, beneficiaries are wealthier than non-beneficiaries, and this gap has grown by 2012. Like the study of MHADA, this divergence in economic prospects is driven by the beneficiaries' investments in human and physical capital that allow them to diversify their employment out of agriculture. In 1994, beneficiaries are, with the help of loans, investing more in education and cars than non-beneficiaries. Strikingly, by 2005, they are more educated and more likely to have non-agricultural jobs and by 2012, they are more likely to live in urban areas. In sum, I find that housing facilitates capital investment, which in the long run, allows diversification away from agriculture and into more lucrative income-generating activities and in places with better job opportunities.

Nevertheless, the SRA program, as discussed, does entail relocation away from beneficiaries' original housing. This feature causes some individuals to lose their jobs and destroys the social networks upon which households depend for essential services such as childcare. These changes suggest requiring relocation can be burdensome for beneficiaries and undermine the economic gains of the program.

Chapter 4 explores the effects of government-subsidized homeownership on dignity. I first develop my two-part definition of dignity as beneficiaries' experienced agency in their own lives and in their relationships with others. I further illustrate how housing shapes individuals' perception of themselves and the future through reflections from SRA beneficiaries and non-beneficiaries. For example, not only are beneficiaries more hopeful about their offsprings' futures, but they are also more able to make specific, ambitious, and often non-materialistic goals for their children, suggesting that respondents feel that they have control and choice over their futures. Beneficiaries and non-beneficiaries alike also report that relocating out of a slum has important effects on how others see them, which suggests that benefitting from the program improves individual agency in relationships with others.

Similarly, winning increases MHADA beneficiaries' time horizons, increases their sense that they make their own decisions, and decreases their perception that government officials can bully them. These effects indicate an increase in a sense of control over one's future and independence from the decisions and behavior of others. Beneficiaries also expect better futures for their children than non-beneficiaries, which indicates that they are also more *hopeful* about the future.

These effects are visible in interactions with others in the long run, as enumerators report that beneficiaries of IAY display more confident body language than non-beneficiaries almost 20 years after benefitting from the program. In particular, they are more likely to look enumerators in the eye, behavior that has traditionally been considered inappropriate for both women and the lowest-caste members of society in rural areas. For SRA beneficiaries, some of the positive effects on dignity and agency may be undermined by the fact that some households feel that they were forced to relocate, and this removes some of their sense of control over their lives.

Chapter 5 next illustrates the political effects of the three programs. Beneficiaries of the MHADA program are more likely to attend local meetings and ask government for resources benefitting the communities in which they live. They also have better knowledge about local politics and emphasize local public goods that affect the value of their housing when asked how they make their choices in local elections. These effects hold for both those who move into the housing and those who rent it out, suggesting effects are not driven by the locations of the program housing. Instead, effects are likely to be driven by a sense of self-efficacy and a desire to increase the value of their housing.

Beneficiaries of the SRA program are more willing than non-beneficiaries to take political action to improve their neighborhoods. The building itself creates the basis for organization and provides beneficiaries with a sense that their demands are legitimate and will be heard. In other words, their action is facilitated by the dignity their housing affords them. In contrast, households living in slums do not feel that they can approach politicians and bureaucrats directly. Instead, they rely on local leaders to take action, and these leaders often may not prioritize neighborhood improvements. Households living in slums or squatter settlements certainly care about their housing, but they do less to improve it because they feel like they have less agency and are uncertain about how long they will live in a settlement and therefore less likely to invest their time in its improvement.

Finally, the IAY program has no measurable effects on claim-making, likely because home values are less subject to increases in rural areas. This null effect illustrates an important scope condition for the argument. Even if individuals have sufficient wealth and dignity to feel *able* to approach officials to make claims, they must have ample incentive to do so as well.

The final chapter concludes with a summary of the argument, evidence, implications, and open questions. Studies from other contexts highlight the main scope conditions to my argument. The most effective policy designs will minimize requirements for relocation and provide beneficiaries with property rights, or full ownership of housing. It is also likely that effects will be largest for the poorest households, minority ethnic and social groups, and women.

The large gains from housing to beneficiaries also raise the question of what the community-level effects might be. Are the effects that I see a result of extreme housing inequality? Are

the economic effects I find dampened when access to housing is widespread? Would housing for all create a country of active citizens? These are open questions for future studies on affordable housing.

The large and transformative effects I find reveal that the allocation of such a large asset creates distinct groups of winners. Beneficiaries not only benefit economically, but they are empowered to demand more from government, which further compounds their gains. This is true of any event, policy, or historical trajectory that directs assets and wealth to a group of citizens and a particularly relevant point in the context of middle-class expansion in India. The findings therefore demand close scrutiny of how programs are targeted and implemented to ensure that their gains do not generate divisions and conflict, but are rather part of a vision for broad-based welfare and social mobility that is inclusive.

## 4. DIGNITY

Summary: Chapter 4 explores the effects of government-subsidized home-ownership on dignity. I develop my two-part definition of dignity as beneficiaries' experienced agency in their own lives and in their relationships with others. This definition builds upon and engages with work in philosophy, history, political science, and international development. I further show how housing shapes individuals' perception of themselves and the future through quotes, causally identified effects, and a novel measure of dignity based on eye contact. Broadly, beneficiaries seem to be much more able to pursue their own goals and interests and assert themselves in society. I provide evidence for my theoretical mechanisms, which are related to wealth, certainty about the future, and the fact that housing is an important marker of status in society. This chapter highlights the importance of studying dignity in its own right, but it also serves as an important bridge connecting the effects on income and wealth, as explored in the previous chapter, to the effects on political behavior in the next.

In the Fall of 2017, I was piloting my survey for the MHADA study. I decided to interview beneficiaries of a building in Parel.<sup>7</sup> One of the respondents, whom I will call Lakshmi, took me quite a while to track down, as she had rented out her apartment and moved back in with her elderly in-laws.

When I was finally able to speak with her, she was just about to head out for the afternoon. She was resplendent in a pink silk sari and on her way to a *Navaratri* celebration.<sup>8</sup> I complimented her clothing, and she beamed. “Thank you,” she responded. “I save it for special occasions, especially at the children’s school. It is important to show you are respectable and that you have a good family.”

Wondering why she wasn’t at work and how she could have paid for such an expensive non-essential, I asked about her family’s source of income. “Money is no issue,” she replied, waving her hand. “My husband and I both work, and I work less now that the flat in Parel is finally on rent.”

I must admit I thought it was frivolous to allocate the income from the flat to expensive clothing, or even more strikingly, the ability to stay at home and forgo earned income. Perhaps the housing program was targeting people who were already too wealthy, or its benefits too generous. After all, one of the main drawbacks of any type of unearned income is that it disincentivizes work (see Imbens et al., 2001, for empirical estimates). But of course,

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<sup>7</sup>Interviewees were not included in the final survey used in the MHADA study.

<sup>8</sup>*Navaratri* is an annual nine-night Hindu celebration of the feminine goddess.



the previous chapter shows that this was not the case at all with the housing program. I later learned, moreover, that Lakshmi wanted to stop working to study for the civil service entrance exam governed by the Maharashtra Public Service Commission. Who was I, in any case, to dictate what a good use of the MHADA benefits is and is not? Perhaps earning and working are not the only outcomes of interest in a welfare intervention.

This interaction led me to reflect on what I thought the end goal of any welfare program should be. Amartya Sen would argue, I believe, that the goal should be an increase in an individual's ability to *pursue whatever it is they want*, whether it is a nice sari, respect in the community, a life of ease, or a career in the prestigious civil service. Such an approach is rooted in a belief that all human beings have dignity—that their goals and desires have value, and their individual freedom to pursue them should be respected.

In this chapter, I explore how subsidized housing affects beneficiaries' *experience* of dignity. My major theoretical contribution in this chapter is my definition, measurement, and inclusion of dignity as an important outcome to consider in the study of policy effects. I define dignity here as one's sense of agency over the future and in interactions with others. It is a feeling of being able to make decisions and plan while simultaneously being free from the coercion, humiliation, and judgement of others. My definition builds on pre-existing work on dignity, but is also motivated by the fact that so many of the non-beneficiaries I met with felt that their futures were out of their control, and that the wealthy and powerful were gatekeepers to their success.

Yet subsidized housing improves beneficiaries' experience of dignity in their everyday lives. I first develop my own definition of the concept and consider the role of housing in agency and self-perception. I lay out expectations for why and how housing should change beneficiaries' sense of dignity, both through its effects on wealth and through effects unique to housing.

Next, I illustrate the effects of IAY, MHADA, and SRA on dignity, both through the eyes of enumerators and in citizens' own words. I interpret citizens' descriptions of their own lives and interactions with others, and I also put forth a new measure that can be captured in surveys by enumerators, namely whether respondents maintain eye contact with interviewers. The effects I show are particularly meaningful for low-caste individuals and women, groups that have historically experienced minimal agency and dignity in Indian society. I finally provide evidence for my proposed theoretical mechanisms.

Broadly, beneficiaries seem to be much more able to pursue their own goals and interests and assert themselves in society. A question that emerges is how their actions to do so play out in the public arena. The chapter therefore serves as an important bridge connecting the effects on income and wealth, as explored in the previous chapter, to the effects on political behavior in the next.

## DEFINING DIGNITY

While much is written about dignity, the concept is not well defined (Wein, 2020). At least since the ancient Romans, both philosophers and policymakers have used the concept of dignity to express the idea that all human beings have inherent value, meaning they should be treated differently from inanimate objects or other animals. In *De officiis*, Cicero claims that dignity arises “from the fact of our being all alike endowed with reason and with that

superiority which lifts us above the brute” (Cicero and Miller, 1913, 1.107). Kant thought of it as “an inherent value property on the basis of which one can claim rights from others: one has rights because of one’s intrinsic and objective preciousness” (Sensen, 2011, p 77). This definition suggests that the idea of dignity is the foundation for the advocacy of individual human rights.

As such, the notion of a human being’s dignity is frequently used to advocate for many improvements to policy, such as better workplace conditions (e.g. Bal, 2017), legal protections (e.g. Rao, 2011), and human rights in conflict or authoritarian settings (e.g. Donnelly, 1982; Howard and Donnelly, 1986; McCrudden, 2008). Political scientists (e.g. Fukuyama, 2018; Malik, 2022) have also used the concept of dignity to explain why, in the face of status inequality, certain groups might mobilize on the basis of identity. In the field of international development, the United Nations Sustainable Development Goals (2015) established dignity as one of the six essential elements of its new agenda, thereby promoting programs that treat all human beings with respect (United Nations, 2015). Across these domains, the common thread is a normative call to acknowledge humans as something more than mere objects, statistics, or means to an end.

Given this call, I seek not to only acknowledge human dignity, but to understand how individuals actually experience it. How might one know whether humans are experiencing the fact that they have inherent value beyond being objects, statistics or means to an end? I take my inspiration from the “capabilities approach” to development as pioneered by Amartya Sen (1979) and further developed by Martha Nussbaum (2013). Here, development is measured not just by individuals’ income, but rather by their ability to achieve whatever ends they might seek. Income is by no means the only obstacle to the goals individuals might have. Sen states this succinctly in the opening line of his book, *Development as Freedom*: “Development can be seen, it is argued here, as a process of expanding the real freedoms that people enjoy” (Sen, 1999, p 3). Development is reached, therefore, through “the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance or overactivity of repressive states” (Sen, 1999, p 3). Central to this idea is an agnosticism about what individuals’ goals might be.

Inspired by this approach, I conceptualize dignity as an *outcome*. This is in contrast to previous work on dignity that discusses it as a normative approach, or the idea that all humans have inherent dignity that shapes how others should treat them and what goals for human development should be. Thinking of dignity as an outcome is not to imply that some individuals do not have inherent rights or value, but rather that they are not respected or experienced due to the various “unfreedoms” that Sen describes. Particularly in extremely hierarchical and unequal societies, individuals may be prevented from achieving their goals, either due to their own circumstances, external circumstances, or the behaviors of others. These obstacles diminish individuals’ sense that they have the same inherent value as others, the same rights to pursue whatever life they seek.<sup>9</sup>

My definition of dignity is composed of two parts. The first is the feeling of agency or

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<sup>9</sup>See the World Bank’s *Voices of the Poor*, a three-part volume on the lives of the poor in their own voices. It provides a clear illustration on the many indignities and lack of agency in the everyday life in poverty (Narayan et al., 2000).

control in one's life. This part of the definition aims to capture the aspect of the capabilities approach that emphasizes the importance of individuals being able to pursue their goals, whatever they may be. The second part of the conceptualization is a sense of freedom from the behaviors, thoughts, and judgements of others. Beyond the idea of agency, dignity is a socially embedded concept, and includes how one feels *in relation* to others (Bloom and Guthrie, 2020). For the very poor or minoritized, to experience dignity means a freedom from being bullied, coerced, or humiliated by others (Roy, 2013). It also means a freedom from feeling judged or below others in a social hierarchy. In short, it means freedom from disrespect.

Together, these two parts of the conceptualization at least somewhat capture what is required to experience life with dignity, or the sense that one has the same inherent values, rights, and freedoms as all human beings. Others have certainly studied these individual components (see, e.g. Hunter and Sugiyama, 2014), but I combine them into one concept. To date, there have been few definitions of dignity as it is experienced by individuals in the field of international development. Perhaps the closest instance of measuring and defining the experience of dignity has been conducted by Shapiro (2019), who similarly seems to conceptualize it as a form of autonomy or agency.

Yet my definition goes beyond existing concepts such as agency, autonomy, or liberty. As stated by McCloskey (2010, p 11), "Dignity and liberty are admittedly hard to disentangle. But dignity is a sociological factor, liberty an economic one. Dignity concerns the opinion that others have of the shopkeeper. Liberty concerns the laws that constrain him." To this, I would add that dignity concerns whether the opinions that others have of the shopkeeper constrain him. As stated by Bloom and Guthrie (2020), "It really doesn't matter if [someone else]... think[s] they have dignity, they have to think that about themselves, experience it in their own heart[s] and mind[s]. It is what they think about themselves that matters." In this way, my concept of dignity is similar to agency, autonomy, or liberty in that it concerns the individual, but it goes beyond these ideas because it must be understood within the individual's legal, economic, and social circumstances. It is both an individual and sociological phenomenon.

## HOW SUBSIDIZED HOMEOWNERSHIP CREATES DIGNITY

Based on this definition, subsidized homeownership should increase beneficiaries' experienced dignity through multiple mechanisms. In fact, subsidized homeownership should be *more* likely to increase dignity than many other development initiatives, including cash transfers. Given the lack of previous definitions of experienced dignity or empirical investigations of the topic, this section is both hypothesis generating and theory-building about what helps citizens live with agency in their own lives and relationships with others.

The previous chapter showed that benefitting from subsidized housing increased income, and permanent income, or wealth. Poverty is, of course, the most fundamental and widely studied of Sen's "unfreedoms." Simply having more money should improve citizens' sense of personal agency because achieving many goals requires money. The previous chapter showed that housing increases educational attainment at least partly because beneficiaries are able to afford to send their children to school. To the extent that income eases the cognitive burdens of poverty and risk aversion, these psychological effects may further improve beneficiaries'

ability to plan for future.

Increased income is also likely to improve one's sense of agency relative to others. After all, income affects the way one presents herself to others. Narayan et al. (2000) carefully document how, across multiple contexts, poverty carries a social stigma which lead to humiliation and exclusion. Respondents report feeling that they lack power in their communities for many reasons, including their clothing, indebtedness, or lack of schooling. An increase in income could address many of these problems directly. For example, Hunter and Sugiyama (2014) describe how Brazil's *Bolsa Família* conditional cash transfer program allowed them to stop begging, either in the streets or in church. Beneficiaries were also able to buy shoes for their children, which is particularly important because Narayan et al. (2000) find that children often suffer the most from stigmas related to poverty.

Yet the fact that beneficiaries have full control over the flow of benefits—in other words, property rights—makes the experience very different from that of other cash or in-kind transfers. Once a welfare program has been implemented, gaining access to it can require continuous negotiation with politicians, bureaucrats, and others responsible for the last mile of welfare distribution to gain access to benefits. Many, for example, have documented the extremely political process of negotiation with elites to access India's National Rural Employment Guarantee Scheme (Dasgupta, 2016; Bhattacharya et al., 2016; Chau et al., 2018; Maiorano et al., 2018; Bardhan et al., 2019). This process of negotiation leaves citizens dependent on personal and political relationships as described above.

Even when programs are insulated from this type of rent-seeking, beneficiaries may frequently have to stand in line, fill out paperwork, or travel to access their benefits. In their analysis of *Bolsa Família*, for example, Sugiyama and Hunter (p 58 2020) explain that all applicants require a state identification card and individual taxpayer number to enroll—credentials that women and rural residents are less likely to have. A change in government policy can also remove access to benefits altogether. For this reason, many cash or in-kind transfers increase beneficiaries' income, yet do not grant them full agency over the process.

In contrast, subsidized homeownership places complete control over the flow of the cash or in-kind benefits through its provision of property rights. Beneficiaries can choose how to consume the transfer and can change their minds over time. Regime or policy changes do not affect their access to the benefit. It is truly owned by beneficiaries.

The in-kind vehicle through which the wealth or income effects occur is further likely to affect beneficiaries' sense of agency in their own lives. For those originally living in informal settlements, the house itself creates tenure security. Narayan et al. (2000, p 87) describe, for example, how residents of an informal settlement in Guayaquil, Ecuador face the constant threat of having their homes burnt down or eviction from the land on which they live. This makes it virtually impossible to plan for the future.

Housing also serves as collateral for loans, thereby expanding beneficiaries' access to formal credit. ?? shows that beneficiaries are more likely than non-beneficiaries to turn to commercial banks in times of emergency. In addition to helping manage shocks, this access facilitates the pursuit of large goals, such as a private education or starting a business. In this vein, Wherry et al. (2019) argue that full participation in a formal system of credit is fundamental to citizens' experience of dignity in a capitalist society.

Finally, we saw in the previous chapter that poor quality housing can flood, burn, or break. Each of these shocks is unpredictable and makes it difficult to plan for the future.

Higher quality housing, of course, attenuates some of these worries. In sum, multiple mechanisms related to improved housing increases beneficiaries sense of agency in their own lives.

The housing itself may also improve beneficiaries' sense of control in their relationships with others. Tenure security makes citizens less vulnerable and can ease their dependence on clientelistic relationships with local leaders and politicians. In an illustration of this phenomenon, Bobonis et al. (2023) show that constructing water cisterns in drought-prone areas of Brazil decreases citizens' participation in clientelistic relationships with local politicians. Similarly, Rains and Wibbels (2020) find that those with the security of formal sector jobs in India are less likely to participate in clientelistic relationships, arguably because their employment is more secure. Tenure security possibly yields similar effects. This leaves citizens free to make political choices on the basis of other considerations.

Living in formal housing also comes with an increase in social status, particularly because most societies have strong stigmas associated with living in an informal settlement. In fact, residents of informal settlements and other neighborhoods known to be low-income can have trouble getting jobs if employers know their addresses (Narayan et al., 2000, p 87). Through these two mechanisms, the *in-kind* benefits of subsidized homeownership increases beneficiaries' freedom from the behavior of others.

#### INTERPRETING WHAT CITIZENS SAY

Before I present the results, it is important to note that this chapter takes a more interpretive approach to measuring my dependent variable of interest as compared to the previous one. Unlike income or years of education, there are no objective measures of dignity. Even when I use my more bounded two-part definition of the term, one cannot place a number or category on a respondent's sense of agency in her life or relationships with others. The only possible approach is to listen to respondent and interpret what they say. Like Soss (2015), "I sought to construct accounts of insiders' understandings and sense-making efforts out of empirical materials encountered on terms plausible to the participants themselves."

What citizens reveal about the most personal matters in their lives depends greatly on who is asking. As described in my section on research methodology, I conducted interviews in partnership with a local Mumbai-based organization. My project partner, PUKAR, always recruits surveyors from the communities in which the research is taken place. I felt that respondents would feel more comfortable speaking freely to these individuals than an external researcher. Even so, there is a limit to what one will reveal about her inner life with an enumerator. My assumption is that this hesitancy is equally likely to apply to all of the respondents in my study. I am not looking for an objective understanding of dignity, but rather differences in the relative levels of dignity as expressed through these interviews. I pay attention to what respondents say and what they do not say to try and shed light on the differences in how housing beneficiaries and non-beneficiaries think about their lives.

Finally, as made clear in the discussion above, dignity is a normative and amorphous concept that means different things to different people. I do not claim to understand or measure the extent to which my study participants themselves feel they live with dignity, as each participant would have a different understanding of what that means. Instead, I assess only whether their own words suggest that they experience what I define to be dignity, a

conceptualization fundamentally shaped by my own experiences and ideas about what a dignified life looks like.

#### AGENCY IN ONE'S LIFE

I explore the effects of subsidized homeownership on the first component of my definition of dignity, namely a sense of agency over one's life and the future. In the qualitative SRA work, I found that it is difficult to elicit responses about agency from most citizens, just because this is not a common topic of discussion. Yet agency is commonly conceptualized as a precursor to hope and aspirations.<sup>10</sup> I therefore asked SRA beneficiaries and non-beneficiaries about their aspirations for their children as a means of learning about how much agency they felt they had over their families' futures.

Of course, all respondents wished for prosperous and happy lives for their children. Informal settlement residents usually hoped their children would finish their educations and be "settled." There is a remarkable consistency across these responses:

Ahmed, age 39 Sewri: I have a lot of hopes for them. They should just study well for a bright future.

Rajiv, Age 45, Sewri: I want them to get a good education and grow in life, that is my only dream for them.

Zeeshan, age 32, Sewri: It's too early to say. Let them study and learn to stand on their feet first. That's what we hope for. We want our children to grow up with a good education. They should not have to take the effort we did to survive. This is the hope we have. Nothing else.

Zeenat, age 50, Sewri: I hope that my kids get a good education and then get better jobs.

Sumitra, age 65, Parel: I want their future to be good. They should take have a good education and go ahead in life.

Alok, age 21, Parel: In the future I want them to have a good home and a good income.

Arpita, age 46, Parel: I hope they finish their education and shortly after that get a job and be well settled in life.

Kailash, age 50, Parel: The children have studied so much. I hope they should also get good jobs.

Guru, age 38, Annabhau Sathe Nagar: I am providing them with an education...Looking at the circumstances around us, we thought that at least our children would benefit if they got a good education.

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<sup>10</sup>See Lybbert and Wydick (2018) on a discussion of hope in development.

Sarita, age 38, Annabhau Sathe Nagar: In the future I want them to do well for themselves, have a good education, and be good people. I don't have great expectations for them.

Sandesh, age 45, Annabhau Sathe Nagar: I hope they study well and become self-dependent.

Medha, age 40, Annabhau Sathe Nagar: They must have a good life. Our life has been spent in struggle.

Arshya, age 50, Annabhau Sathe Nagar: I am hopeful that they move forward.

Many of the SRA beneficiaries expressed similar wishes for their children. But the hopes of some respondents look slightly different:

Priya, age 37, Parel: I have a lot of expectations for his future! Every parent has expectations for their children's future. I have more expectations from my son than my daughter. My son is stronger in academics than my daughter. She is a little weak in academics. I want him to go into the medical field. The medical field is such that, not only can we help other people, but also ourselves.

Aarshati, age 55, Parel: The boy is an animation expert. He is settled and fine. But I am worried about my second son who is just a driver.

Hadiya, age 39, Lallubhai Compound: I hope she has better future. I want her to become a doctor or a nurse. I have asked her to study science. In the pandemic I realized that everyone wants to be a doctor, and there is a shortage of doctors too.

Vinay, age 35, Lallubhai Compound: We teach him different activities at home... In the house we address each other with respect, so that when he hears us speak in that way he will also speak to others with respect.

Monita, age 45, Lallubhai Compound: I hope my kids get a good education and get a job. I have seen many educated people not get a job and just do petty jobs. Only doctors, police, and politicians are doing well, earning enough money. Politicians are among those who have the highest income.

Ramya, age 56, Lallubhai Compound: My hopes are they should study well, get a good job and have a good life. They should have respectable jobs and lives. They should follow the right path. They should avoid lying, stealing, or cheating. They should help needy people, help the poor. I teach them to be good to others.

Chandrashekar, age 47, Sewri: My daughter is doing engineering, my son is in tenth standard, and I have enrolled him for preparation to become a doctor. But also a person should be loving.

These aspirations are different from those of informal sector residents in three important ways. First, they are specific. Parents can articulate the professions they wish their children to take up. Being able to state a specific goal suggests that an individual believes that the future is not to be left to luck or prayers, but to be planned for. In fact, these statements suggest that citizens have choice over their futures.

Second, the goals are frequently ambitious. Parents suggest that some jobs (like being a driver, in Aarshati's case) would not be satisfactory. They therefore feel like they have a *choice* in their children's futures.

Third, many of the aspirations are non-material and expansive in their worldview. Parents want their children to be good people, to be loving, respectful and respected, and to give to others. They do not just hope for a better future for their children, but they rather feel agency in shaping their characters.

Overall, the differences in aspirations for children across these two groups of respondents suggests to me that beneficiaries have a greater sense of agency in their lives and over their families' futures than those living in informal settlements.

The hope, specificity, and ambition beneficiaries have for the future is not restricted just to their children. Younger beneficiaries also articulate plans for themselves. Akash, who is 30 and lives in Sewri, explains:

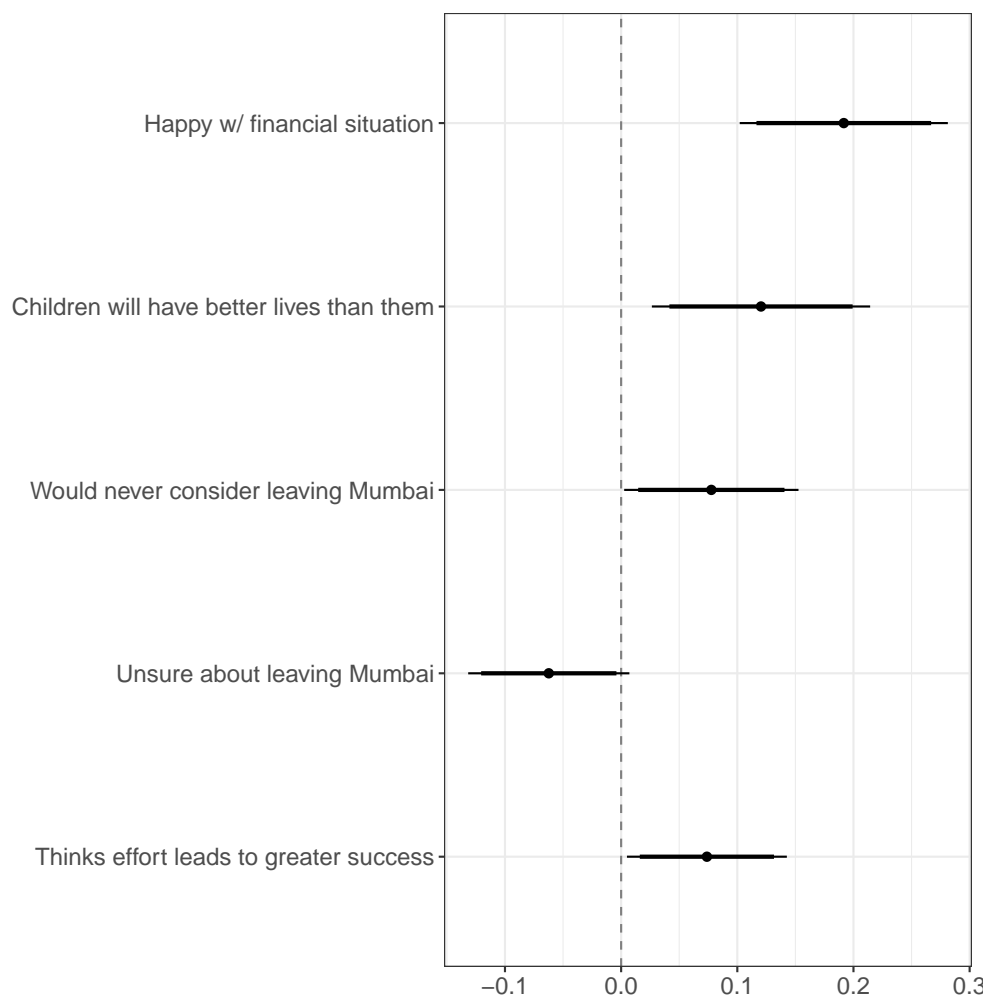
Currently people need jobs. For children who have passed 12th standard in the slum area, their parents do not know what to do to help them advance further because they themselves are uneducated. I will give you my own example. I wanted to pursue law. But my mother said that lawyers take a lot of money under the table, so why do you want to pursue law? In 2012, when I completed the 12th standard, it was very easy to get admission to a law course. But now [the Common Eligibility Test] is mandatory to get admission in a law course. In the slums, parents were not aware of this...It is also more important today to communicate in English. There are so many boys who tell me that I am a graduate but I am not well versed in English. This is also one of the reasons why our boys remain behind. I have seen many boys who graduate take up housekeeping jobs or a job of a peon because they can't communicate in English. So once you pass 12th standard, take admission directly to an [Industrial Training Institute], after which you will get many job opportunities. If you didn't get a job at least you can start your own business. If you become an electrician, you have to learn the work and then there are tenders coming from MHADA for fitting and wiring work in their buildings. You can apply for that. My only opinion is that you have to become your owner in life.

Here, Akash describes a clear and specific path to the types of jobs he finds desirable. Importantly, he believes that he has acquired this knowledge *since* relocating from the informal settlement in which he previously lived, and that further it is difficult for those living in informal settlements to acquire this knowledge and make such plans. Finally, he stresses the importance of becoming an "owner" of one's life, or, in other words, having agency.

Evidence from the MHADA program provides additional insights on how the program shapes dignity as expressed through beneficiary attitudes and self-perception. I find effects that support and expand upon the illustrations from the SRA program.



Figure 1: Winning the 2012 or 2014 MHADA housing lotteries increases individual agency.



Variable definitions available in Table 11. Graphs display coefficients on a regression of the outcome on an indicator for winning the lottery and the indicator interacted with mean-centered block dummies. Standard errors are heteroskedasticity-robust (HC2). Bars show 90% and 95% confidence intervals.

I first see that benefitting from the MHADA program has significant effects on recipients' own sense of agency in their lives (Figure 1).<sup>11</sup> They are almost 20 pp more likely to say they are happy with their financial situations. Perhaps this is unsurprising given that they have recently received a large wealth transfer, but the result shows that finances are less of a major worry or hindrance for beneficiaries. In line with this finding, they are more likely to feel that their children will have better lives than them. Not only are beneficiaries less stressed about the future, but they are also *hopeful*.

Beneficiaries also appear to have longer time horizons than non-beneficiaries. I measure this by asking “Do you think you will stay in Mumbai in the future?” I find that beneficiaries are less likely to say that they are “unsure” and more likely to say that they would never

<sup>11</sup>Information about the methodology for these results is presented elsewhere in the book. For the purposes of this writing sample, this information can be found in the appendix.

leave. This suggests to me that they are much more likely to be able to plan for the future than non-beneficiaries.

I also asked if beneficiaries believe that effort leads to greater success. This question can be thought of as a measure of respondents' locus of control (Lybbert and Wydick, 2018). I asked this question after noticing that many poor citizens I have spoken to feel that their best efforts are in vain, and that they are continuously thwarted as they seek to reach their goals. Beneficiaries, however, are more likely to report that they think greater effort leads to more success, suggesting that they feel that they have control over the outcomes in their lives.

#### AGENCY IN RELATIONSHIPS WITH OTHERS

I next find that beneficiaries appear to have more agency in their relationships with others, the second component in my definition of dignity. I turn to the data from MHADA first (Figure 2). I asked respondents, "when making an important life decision (e.g. about your career, marriage, or children), how do you make your choices?" Beneficiaries were significantly more likely to report that they undertook these decisions themselves, as opposed to relying on traditional values, family input, or the advice of their neighbors. The effect suggests that they feel a greater sense of independence and agency in their decision-making.

Next, I asked "Do you/people like you need to listen to what leaders in the area say?" This survey question was originally phrased as "Do leaders in the area need to listen to what people like you say," but I inverted the phrasing because during survey piloting, non-winners frequently described being bullied or intimidated at ward offices. I observed that respondents usually fell into two categories: those who appeared to be afraid of authority figures, and those who did not. I find that beneficiaries are almost 10 pp more likely to respond "No" here. I interpret this effect as an increase in respondents' perceptions of their status relative to local officials and ability to make decisions independently of the whims of those in positions of power.

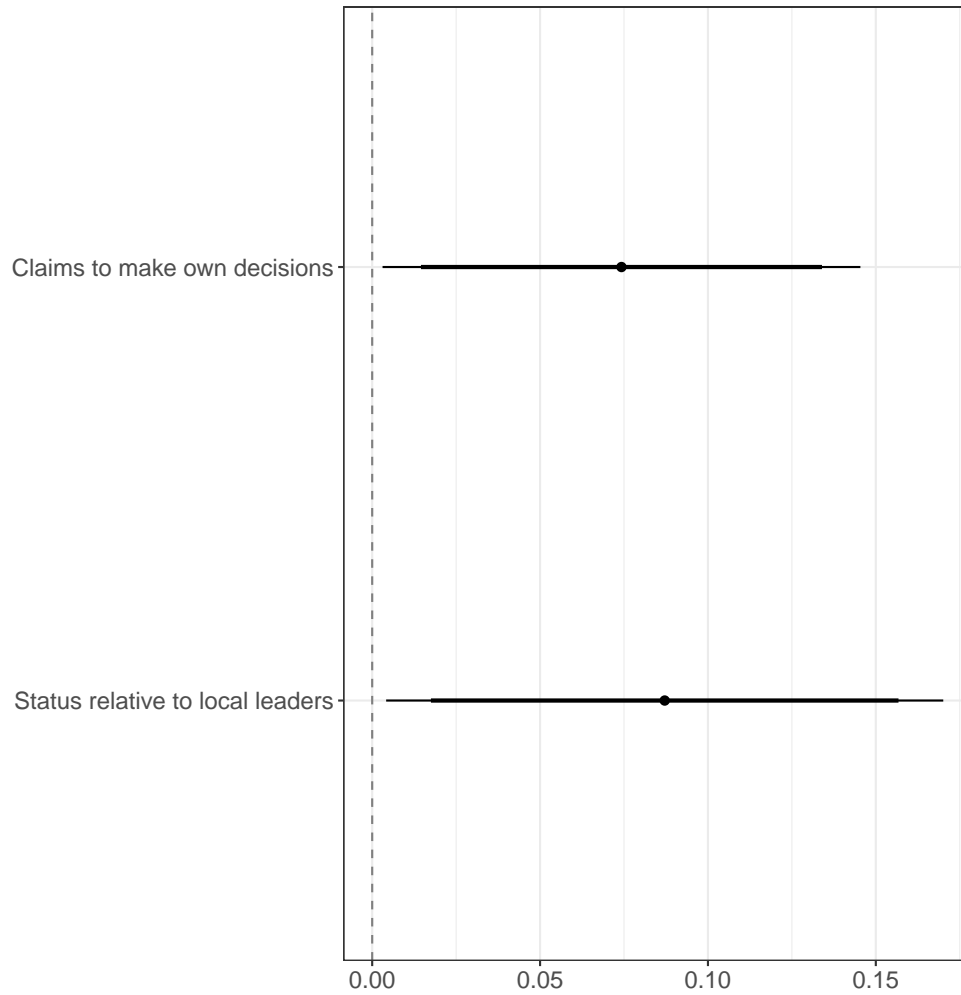
#### EXPRESSING AGENCY IN RELATIONSHIPS THROUGH EYE CONTACT

The evidence from the IAY study is perhaps the most powerful illustration of how housing shapes individuals' sense of agency in their relationships with others. The previous chapter showed that over an almost twenty-year period, beneficiaries of the IAY overtook and eventually surpassed non-beneficiaries in terms of their human capital investments and their wealth. As these changes occurred, did the way beneficiaries see themselves and their control over their lives change as well? Are these changes in self-perception visible in the long run?

At first, it seems that exploring these dynamics is difficult in the case of IAY because of the nature of the data on which I rely. While the HDPI/IHDS surveys are rich sources of socio-economic data, they contain few questions about how citizens perceive themselves or their lives. After all, the study of dignity is still new in the field of international development. There is no consensus that one's sense of agency in her life tells us as much about her future prospects as does, for example, the amount she spends on her children's wellbeing.

One survey question posed in 2005 and 2012, however, is revealing. It is asked of not the survey respondents, but the enumerators: did the respondent look at you while answering

Figure 2: Winning the 2012 or 2014 MHADA housing lotteries increases agency relative to others.



Variable definitions available in Table 11. Graphs display coefficients on a regression of the outcome on an indicator for winning the lottery and the indicator interacted with mean-centered block dummies. Standard errors are heteroskedasticity-robust (HC2). Bars show 90% and 95% confidence intervals.

questions? Body language can provide important clues about how individuals feel and think. In this case, simply holding a stranger's gaze may reveal a lack of fear or subordination on the part of the respondents.

In healthcare settings, eye contact is frequently used as a proxy for patients' sense of dignity. While much of this research focuses on the importance of those in the medical field making eye contact with patients to respect their inherent value as humans (Jacobson, 2009), some have also found that patients with less fear of authority are more likely to make eye contact with their providers (Conrad and Pacquiao, 2005; Diana, 1981).

In research on psychology, gaze and eye contact have been defined as components of the assertion of power and dominance in one's relationships with others (Romano and Bellack, 1980; Kleinke, 1986). In India, making eye contact or assuming an upright posture with another has often been seen as the assertion of one's power (Osella and Osella, 1998). In contrast, avoiding eye contact can be seen as an expression of appeasement or submission (Kleinke, 1986).

Yet the social meaning of any behavior must be interpreted in the context of the relevant cultural norms, and it is in India that eye contact becomes particularly salient, particularly when one considers caste and gender. Historically, *Dalits* (also known as Scheduled Caste members) were expected to avoid eye contact with those higher up in the caste hierarchy. In fact, in many settings, they were expected to keep their heads bowed in the presence of upper caste members (Subramaniam, 2010). Varshney (2000, p 5-6), citing (Rajendran, 1974, p 23-24), highlights this phenomenon for Kerala's depressed Ezhava community at the beginning of the twentieth century when stating that norms dictated that they assume "a humble posture" in front of Hindus within the caste system.

The prohibition of eye contact between Dalits and other members of society is best understood when one considers the caste system as an expression of the requirement for purity (Dumont, 1980). By Dumont's telling, the caste hierarchy is ordered on the basis of the ritual purity of one's occupation, with Brahmins or priests at the very top, and warriors, traders, and laborers below. At the very bottom of the hierarchy are *Dalits*, traditionally street sweepers, latrine cleaners, or disposers of bodies – occupations so impure that those who performed them have been considered "untouchable." Any contact with this group was considered to make others impure, and the concept of contact here extends to holding the gaze of another (Mickevičienė, 2003). Another way to interpret the prohibition of eye contact is that it forces both participating individuals to acknowledge each others' humanity, a prospect which would undermine a societal structure built upon the control, subjugation, and humiliation of *Dalits*.

Eye contact is salient in the discussion of gender in India as well. Traditionally, the practice of *purdah* – either the complete separation of women from society or the covering of their heads, faces, and even eyes with a veil – physically prevented women from making eye contact with men who were not their husbands, fathers, or sons (Mandelbaum, 1988). The origins and purposes of these practices are subject to debate, but notions of control and maintaining the purity of individuals seen as men's property are likely to be relevant here as well. While complete physical separation or the type of veiling that covers women's eyes are no longer quite as prevalent, it is still extremely common for women to avoid eye contact with strangers and even members of their own households, particularly after marriage, in a show of deference, submission, and maintaining the honor of one's husband (Mandelbaum,

1986, 1988; Vatuk, 1975).

Such oppressive norms undermine dignity by robbing individuals of the ability to choose even their own body language or posture; they explicitly require individuals to express their lack of power even in how they stand or direct their gaze. When understood through the lens of caste and purity, avoiding eye-contact is an implicit, if forced, acceptance of a societal norm that one is so far below others, so inhuman, that to have any contact at all, even eye contact, is to pollute and harm others. When considered through the lens of gender, avoiding eye-contact is an acceptance of the fact that one is not a fully autonomous being and, rather, the property of one's husband or father. To make eye contact, then, is a rejection of these norms and the smallest possible expression of agency.

The IHDS data allow me to explore this phenomenon empirically. I measure eye contact as whether enumerators report that the main respondent to the survey is “usually” (as opposed to “sometimes” or “never”) looking them in the eye during the interview. In 2005, the first year in which it was collected, enumerators reported that only 52% of respondents looked made eye contact during the interview. Just about *half* did not.

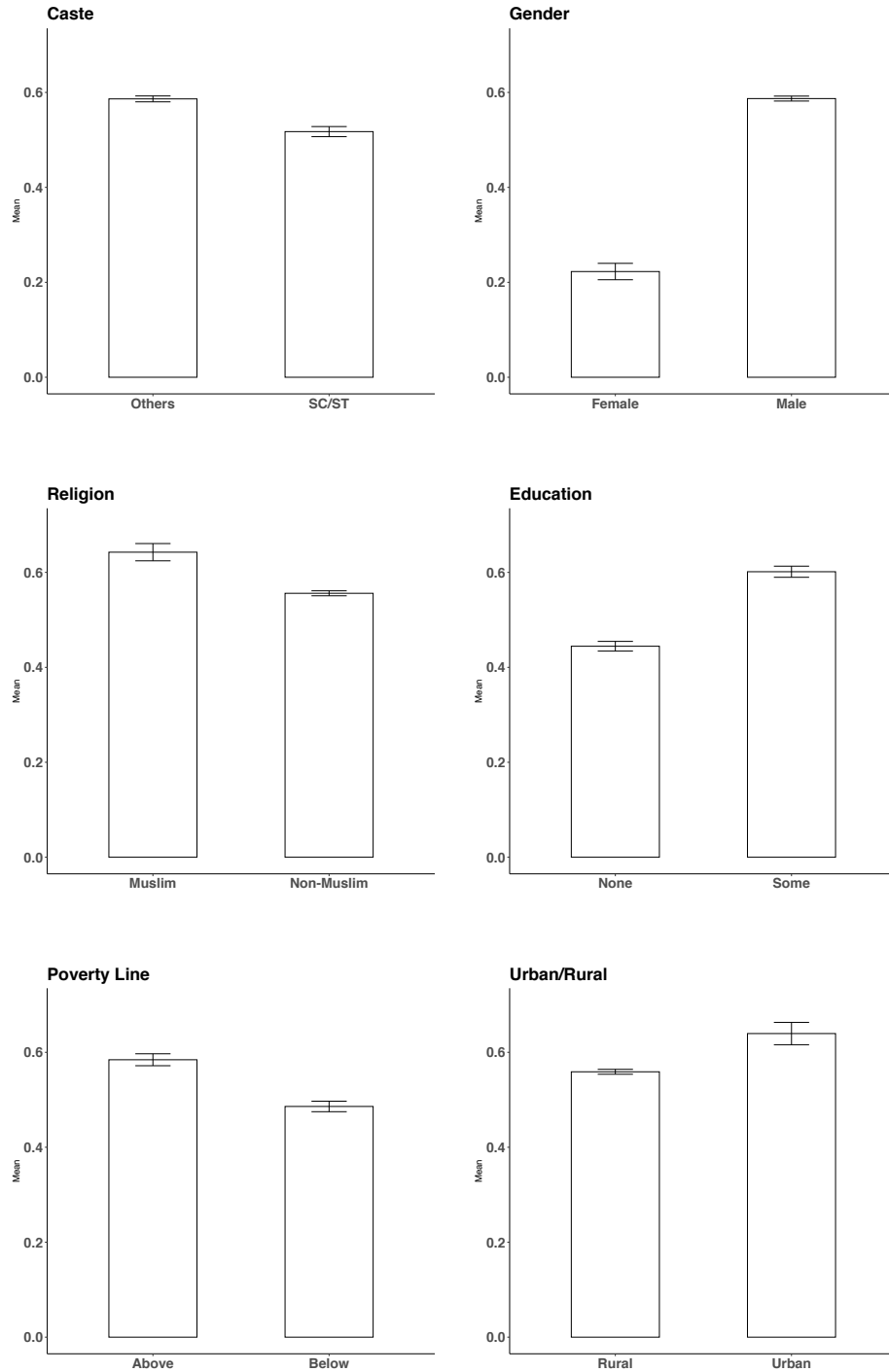
Figure 3 shows that there are significant differences in the likelihood of making eye contact across socio-economic groups. First, as suggested by the discussion of the social norms surrounding *Dalits'* behavior, members of scheduled castes and scheduled tribes are less likely to make eye contact than those belonging to other caste groups. As would be expected in a deeply patriarchal society, women are much less likely – almost 36 pp– than men to make eye contact. Muslims, surprisingly, are more like to make eye contact than non-Muslims, likely due to the fact that Muslims respondents are generally male, not *Dalits*, and tend to be from more urban areas (see below).

While these group means suggest that eye contact and dignity are tied to gender and identity, it is possible that social and geographic mobility can change behavior. Those with some education, earning above the poverty line, and living in urban areas are more likely to make eye contact with enumerators. These correlations (with the exception of the result related to urban areas) hold even when controlling for caste, religion, and gender (Table 13). The trends overall indicate that dignity as measured through eye contact is tied to characteristics assigned at birth, but it can also be gained over time through changes in one's wealth, education, and local context.

And so one would expect that subsidized homeownership, with the effects it has on wealth, education, and the likelihood of living in urban areas, would also shift dignity as measured through eye contact. By 2005, enumerators report that beneficiaries are more likely to be looking at the enumerator when responding to questions (Figure 4). This difference is noisy and not statistically significant. By 2012, however, beneficiaries are 3 pp more likely to be looking at the enumerator when answering questions, and this difference is much more precisely measured. This finding is particularly important given that over 65% of beneficiaries in my sample are from Scheduled Caste/Scheduled Tribe groups.

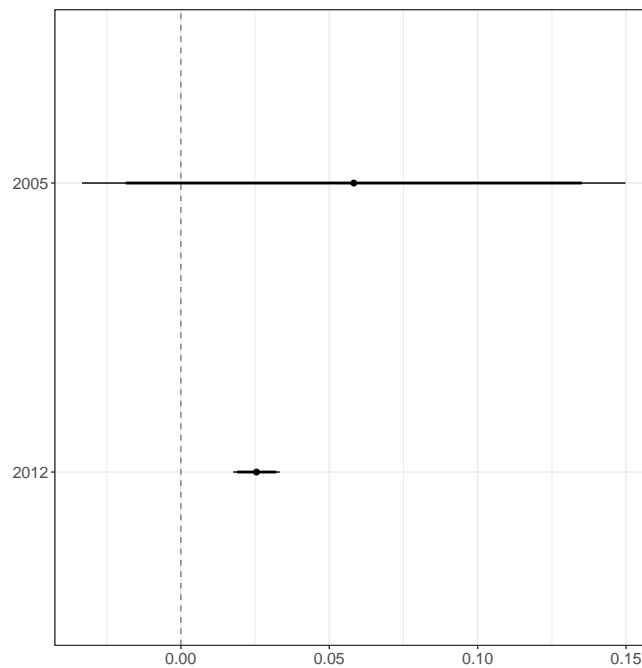
The effects take time to accrue—they are only detectable 18 years after the first survey round. This is only to be expected for a change that defies a long history of societal norms and hierarchy. The ability to measure this type of effect over time, moreover, is one of the most important contributions of the IAY study.

Figure 3: Whether interview respondent made eye-contact with enumerators by group in the IHDS, 2005.



Graphs display difference in means for whether enumerators report that respondents were “usually” looking them in the eye during the interview. Means for different groups are estimated using ordinary least squares regression with heteroskedasticity-robust (HC2) standard errors. Survey data is from the India Human Development Survey panel including the Human Development Profile of India round in 2005 (Desai and Vanneman, 2020).

Figure 4: Beneficiaries of *Indira Awas Yojana* are more likely to look at interviewers while speaking, 2005 and 2012.



Variables defined in Table 12. Graphs display difference in means for outcomes for beneficiaries and non-beneficiaries exactly matched on village, membership in scheduled castes/scheduled tribes, and an indicator for being Muslim. Means are estimated using ordinary least squares regression with matching weights, and standard errors are heteroskedasticity-robust (HC2). Bars show 90% and 95% confidence intervals.

## MECHANISMS: SECURE BENEFITS AND HIGH QUALITY HOUSING

What are the main mechanisms driving these dramatic shifts in how citizens see themselves, their lives, and relationships with others? The previous chapter showed that subsidized housing substantially increased beneficiaries' wealth and educational attainment. I have argued that the removal of the "unfreedom" of poverty possibly plays an important role in building dignity; the correlation between eye-contact and education and income discussed above illustrate this idea.

The particular way in which the wealth is accessed may also give citizens a greater sense of control in their lives than that provided by other types of welfare programs or sources of wealth. The political negotiations, paperwork, and bureaucratic hurdles involved in gaining access to other welfare programs can undermine citizens' sense of dignity. Several respondents to the qualitative surveys I conducted for the SRA study shared their experiences with such dynamics. Arpita, 46, from the Parel settlement describes her experience with India's Public Distribution System for subsidized food: "I didn't submit all the documents before the due date. Therefore our ration card was not renewed...so we didn't get it." Lakshmi, age 53, who lives in the Parel settlement goes into more detail about the problems she has faced with multiple types of government benefits:

The Sanjay Gandhi Scheme is a good scheme for women. I am a widow myself, so I can understand the problems a widow might face. But the office-bearer won't understand it. They make things cumbersome for these women. For instance, they might ask a widow to show a name change after marriage in Indian Gazette. Even changing the family name in a ration card becomes difficult. The ration department asks for proof that the widow is the family head on the ration card. They also ask you to show proof of income, and only then you will be covered under the...[program]. If a widow shows an electricity bill as proof, they ask her why her bill is so high...And sometimes the ration officials get transferred. The new official restarts the application process.

Her experiences highlight how these processes may be particularly burdensome for women, who may not always have the required paperwork in their own names.

In contrast, once a subsidized home is owned by a citizen, no process – bureaucratic or political – need be undertaken to gain access to it. Once granted, citizens are given property rights through which they can use, rent, or sell the asset. This economic security should increase beneficiaries' sense of agency over their futures. A 32-year old resident of the SRA building in Sewri claims that "If I have my own house or have been given a house by the government, then I can earn money from anywhere by working hard myself." This is not to say that SRA beneficiaries do not face their own bureaucratic or logistical challenges in the maintenance, use, rental or sale of the building. These problems are simply second order to needing to negotiate access to the benefit in the first place.

High quality housing may also have a unique role in building dignity beyond the economic security it provides. Citizens complain that life in an informal settlement often comes with a degree of squalor that negatively affects their view of life. They feel that they are always beating back the dirt or fighting for services. As Ruchi, 40, from the settlement in Annabhau



Sathe Nagar, complains, “Now the drain in our neighborhood has to be cleaned. We should live better. No? *Every day we cannot fight about drainage.* Everybody deserves to live in a better way.” Similarly, Guru, 38, from the same settlement says that “This is a very dirty place, and there is no future for children here.” Residents of informal settlements feel that there are limited options for people like them, and this restricts the scope of what they seek in life. Anand, 52, from the Sewri informal settlement says that “if we start living in a nice place or in an apartment instead of slum it will be good for kids. They will have good atmosphere and surroundings.”

Here, what is said by the residents of informal settlements is just as important as what remains unsaid by those living in SRA buildings. To be sure, SRA beneficiaries have a number of complaints about their buildings (the small quarters, the stairs they must climb, the location), but they never say that the sheer dirt and uncleanness keeps them from improving their lives.

Similarly, recall the discussion of toilets and sanitation in informal settlements in chapter 2. Nearly all residents of informal settlements, particularly women, complained that they had nowhere near sufficient access to toilets. Akash, who lives in an SRA building, described the situation in the informal settlement in which he used to live: community members had to make use of an alleyway and were harassed and bullied by local residents. Yet not one SRA beneficiary complained about a lack of toilets. They may find their buildings dark, but they do not face the stress and indignity of navigating the logistics of their most basic human functions multiple times a day.

There is also something unique about subsidized homeownership in shaping one’s relationships with others. Life in an informal settlement is stigmatized, as they are associated with poverty and uncleanness. This stigma can make it difficult to invite others over. It can also be embarrassing to simply provide one’s address to an acquaintance, on a government form, or to a potential employer. SRA beneficiaries seem to have more agency in their relationships with others simply because they are living in more socially respected areas. As Rajiv from a settlement in Sewri describes,

If our slum also gets redeveloped then our small children’s future will be much better. When they go to school, their address mentions a slum area as their residential address: Sewri cross road slum area. If they our area is redeveloped, they can have a better address to give to their school. They will also feel that they have gone into a better place, moving from a slum into a building, and their lifestyle will improve.

The experience of SRA beneficiaries supports Anand and Rajiv’s hypothesis. Janavi, 48, who lives in Parel says that

The value of staying in a building is much more than the value of staying in a slum. It is a situation of life and the way we live. Somebody else’s perspective is different towards people staying in the slum. Tomorrow if we go for an interview, we tell them this is my flat number it feels good. I feel good that we will have a building here. We will stay in a good society and we were very happy about it.

Similarly, Akash, 30, who lives in the Sewri building, reflects that

While we were staying in the slums, we couldn't bring our friends home from our school or college. Knowing our area, they did not come there. It would stink in our lane, and as we studied in the convent school our friends were of privileged class. Kids there came from good, affluent backgrounds so they did not come in our area. Now we can call our guests home and show them our home.

Not only do beneficiaries feel pride in their new homes, but they do not worry that their address will affect their relationships with others.

These citizens' experiences begin to shed light on some of the mechanisms for the changes in dignity that I have documented so far. Wealth and educational attainment are certainly important, yet housing affects dignity in ways that simply cash or other types of welfare programs might not. Subsidized housing, first of all, entails one single large welfare transfer rather than multiple smaller reoccurring transfers. Beneficiaries therefore have greater control over accessing the benefit and can develop longer time horizons for its use. High quality housing also eases problems related to the physical conditions of informal settlements or poor quality housing, thereby granting citizens a greater sense of control in their everyday lives. This high quality housing, moreover, confers social status and therefore improves citizens' sense of control in their relationships with others.

#### RELOCATION UNDERMINES GAINS TO DIGNITY IN THE SRA

The previous sections illustrated and empirically demonstrated that all three programs generate significant shifts in how beneficiaries see themselves and perceive their prospects for their futures. Nevertheless, the SRA program may also have negative effects on citizens' perceived agency over their lives, especially because it involves relocation. As previously discussed, some SRA beneficiaries feel that they did not have a choice about whether they relocated because they were not part of the majority or leader-driven decision to destroy and redevelop the original informal settlement. This has led them to feel coerced into relocation. The broader literature on dignity, moreover, finds that forced relocation is one of the most direct paths to undermining citizen agency (Wein, 2020). This literature is usually referring to the displacement of conflict or disaster refugees, but the dynamic may hold here as well.

Many of the SRA beneficiaries do feel coerced by the program. Janavi from the building in Parel, for example, says that "we were forced to take the keys to the new house." Pratima, from the same building, similarly laments that "the builder had left us with no choice...he tricked us and told us to vacate the transit camp shift into the newly built building before it was ready. In the new building we had to suffer a lot."

Residents feel a great deal of mistrust towards the building developer in particular. As Manisha, age 53, also from the SRA building in Parel reports, "We had elected 15 committee members...and the committee negotiated with the SRA. The committee communicated with us that the builder was going to give us this facility, [but] we did not know anything about that builder. That person was a goon and he did many wrong deeds in this area. In this way we were cheated too." Manav similarly claims that the developer is "is a shameless person. He had made false promises and we all are trapped."

Broadly, these citizens' complaints about the SRA buildings are similar to those previously discussed: they are unhappy with the size of their apartments, they dislike the

construction, and they do not wish to pay the maintenance fee for communal services. The key to point to note here, however, is the use of the words “tricked” and “cheated.” Perhaps the real complaint is not related to the buildings or environment themselves, as these are poor in informal settlements as well. Rather, the lack of choice in these matters is what rankles.

## THE IMPORTANCE OF DIGNITY

In this chapter, I defined dignity as an individual’s experience of agency over her future and her relationships with others. I find that each of the of the three programs I study increases dignity as defined in this way, with different pieces of evidence coming from different programs. What I find particularly striking about beneficiaries of MHADA and the SRA is that not only do they express more agency over their futures than non-beneficiaries, but they are more hopeful, too. And while I cannot learn about how beneficiaries of IAY experience their lives in their own words, the differences in enumerators’ descriptions of eye contact between beneficiaries and non-beneficiaries is sheds light on how these citizens perceive their interactions with others. The effect on body language is particularly salient for women and *Dalits* given norms that explicitly prohibit or discourage their eye contact with others and thereby underscore these groups’ historical lack of agency and dignity.

Why do these changes in attitudes and perceptions matter? The pioneering work on dignity – in philosophy, legal theory, and Sen’s discussion – is normative. For many, improving citizen dignity is a worthwhile goal in and of itself. For others, dignity and agency open the paths to other important ends. Even for the humanistic Sen, the end goal is not a *sense* of agency, but rather the real ability to achieve whatever citizens deem to matter. Agency over the future may be one of the reasons beneficiaries feel sufficiently able and risk tolerant to invest in the future. Dignity and agency, in other words, may be important mechanisms seen for the investment in human and physical capital seen in the previous chapter.

As discussed by Lybbert and Wydick (2018), agency is also a precursor to other psychological traits, particularly hope and aspirations. These are gaining interest in the field of development economics as reference points for individuals to motivate the investments that they need earn more and accumulate wealth. Duflo has, in fact, promoted this idea of hope has a necessary condition for escaping poverty in a series of agenda-setting lectures (e.g. Duflo, 2012).

Beyond serving as a mechanism on the path to goal-setting and out of poverty, dignity may also shape citizen actions in their relationships with others. Indeed, Fukuyama (2018) and Malik (2022) have argued that citizens who feel that they are losing a sense of dignity will mobilize to demand change.

If a loss of dignity can shape political action, so might gains. A greater sense of agency in one’s relationships – a freedom from feeling bullied, threatened, humiliated, or looked down on by others – may allow individuals to more actively pursue their interests in the public domain. The next chapter explores this possibility as I study the effects of subsidized homeownership in political participation and organization.

# SUPPLEMENTAL INFORMATION

## THE POLICIES STUDIED IN THIS BOOK

Within this broader context of Indian housing policy, this book focuses on three formal-sector initiatives to support homeownership. An overview of these policies was initially presented in Table 2. Each of these subsidizes *formal* housing. I focus on the formal sector here because it appears to be the direction that local, state, and national-level policy-making is taking. These programs have also received considerably less scholarly attention than programs to accommodate informal sector housing.

### **The Mumbai Housing and Area Development Authority Lottery**

I first study the effects of a Mumbai-based program that allows beneficiaries to purchase government-constructed homes at a highly subsidized price. The program is implemented through an annual lottery by the Mumbai Housing and Area Development Authority (MHADA), a subsidiary of the Maharashtra Housing and Area Development Authority that uses the same acronym. As discussed above, this scheme in which state-level housing boards construct homes on government land and sell them at a subsidized price is ubiquitous across India. Franklin (2020); Picarelli (2019); Bueno et al. (2022) study similar programs in South Africa and Brazil, but this is, to my knowledge, the first study of this type of program in India.

MHADA runs subsidized housing programs for economically weaker section (EWS) and low-income group (LIG)<sup>12</sup> urban residents who 1) do not own housing, and 2) who have lived in the state of Maharashtra for at least 15 continuous years within the 20 years prior to the sale. Winners have access to loans from a state-owned bank, and most take out 15-year mortgages. Interest rates are high, hovering between 10 and 15%. While the downpayment and mortgage leave this program out of the reach of many of the city's poorest residents, it gives eligible families without property the opportunity to purchase heavily subsidized apartments. I include lotteries that took place in 2012 and 2014. Information about the area, cost, and downpayment for the apartments in the included lotteries can be found in Table 3.

The lottery homes were sold at what officials claim was 30-60% of market prices at the time of sale. In 2012 and 2014, the EWS group could purchase a 269 square foot apartment for about 23,500 USD, while the LIG group could purchase a 403 square foot apartment for

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<sup>12</sup>Members of the EWS earn up to 3200 USD/year. These lotteries are advertised broadly in local newspapers and are well-known by most Mumbai residents. Members of the LIG earn up to 7400 USD/year.

about 42,000 USD. Table 3 shows that these prices are fractions of the market values of the homes. Just 3-5 years after the lottery, the difference between the apartment purchase price and list price for older MHADA apartments of the same size in the same neighborhood lies between about 10,000 USD and 56,000 USD.<sup>13</sup>

Housing was constructed on centrally located land obtained from the dismantling of the city’s textile industry. This land has been earmarked specifically for “social” projects and cannot be used for other purposes (Madan 2016). This means that the homes for sale do not lie on the city’s outskirts, but are within the major metropolitan area and near major highways and transit lines. Each is within walking distance of the Mumbai suburban rail network, the main network that millions of city residents use to commute every day. Figure 5 shows the location of the 2012 and 2014 EWS and LIG MHADA apartment buildings and households in the sample at the time of application. Households were permitted to choose the building for which they submitted an application.

The apartments are usually buildings of fewer than ten stories arranged in groups of about four. The buildings share a courtyard which may have a playground along with some type of gathering space for meetings and celebrations. Some buildings even have space for parking.

Resale of the apartments is not permitted until 10 years after purchase. This rule is enforced both by MHADA officials and homeowners’ associations active in each lottery building. Conversations with building residents reveal that one or two owners have successfully sold their homes before the 10 year period, but most interview respondents discussed considering sale only when permitted as they are likely to receive higher prices for legal sale. Additionally, apartment “society” (the local name for homeowners’ associations) chairmen claimed to contact MHADA if they suspected an attempted sale due to a belief that apartment prices are sticky and early sales create a low “benchmark” for future sales in the same apartment complex. Households also do not pay taxes on their dwelling for five years after possession.

Households can, however, put the apartments up for rent. Fifty percent of households in the study have made this choice, and the median monthly rental income net of mortgage payments is Rs.3000, or roughly 50 USD.

Beneficiaries were selected through a lottery process. There are several reasons to believe that the allotment process was fair, or truly randomized. First of all, in response to extreme scrutiny over the selection process and concerns about corruption, the lottery was conducted using a protected computerized process that was implemented in 2010. Applicants also applied with their Permanent Account Numbers (PAN), which are linked to their bank accounts. Before conducting the lottery, MHADA officials used the PAN numbers to check whether they met the criteria for eligibility.<sup>14</sup>

Given that program allocation was randomized through a lottery, I can attribute any observed differences in behavior between winners and non-winners to the causal effect of becoming a beneficiary. I therefore estimate effects of the program based on in-person household surveys of a sample of both winning and non-winning households.<sup>15</sup> From September

<sup>13</sup>These prices do not account for untaxed informal payments made above the list price, and are thus a lower bound on the potential value of the lottery homes.

<sup>14</sup>Prior to each lottery, MHADA releases a list of applicants deemed ineligible for the lottery because they have violated any of the income, homeownership, domicile, or single application requirements.

<sup>15</sup>This research was approved by the Committee for Protection of Human Subjects at the University of

2017-May 2018, I worked with a Mumbai-based organization to contact the households and conduct interviews.<sup>16</sup> Detailed information about the survey methodology is available in Chapter A1. The data collection process yielded a sample of 834, with 413 (82.6% contact rate) winners and 421 (84.2% contact rate) non-winners. Winners and non-winners that I contacted were similar on a number of fixed characteristics, further supporting the likelihood of the lottery being truly fair (Table 8).

I describe the target beneficiary as decidedly middle-class and upwardly mobile. The group of non-winners is at about the 61st percentile for mean years of education in Mumbai based on the India Human Development Survey (IHDS) II, which was conducted in 2010 (Desai and Vanneman, 2020).<sup>17</sup> Indeed, In 2017, the commissioner of the Mumbai Metropolitan Regional Development Authority reportedly saw the main beneficiaries of the housing program to be working-class households (Madan, 2016). About 9% of households are Muslim, and 11% are from Scheduled Caste/Scheduled Tribe groups. Given that Muslims and Scheduled Caste/Scheduled Tribe groups comprise about 25% and 7.9% of the Mumbai population, respectively, the sample is representative of caste disadvantage, but less representative of religious-based social disadvantage.

### **Indira Awas Yojana**

I study the long-run effects of a national-level rural program using a longitudinal study. In 1985, *Indira Awas Yojana* (IAY) was launched as a sub-initiative of the National Rural Employment Program. Its aim was to provide habitable housing to disadvantaged rural citizens: those who were below the poverty line, Scheduled Caste/Scheduled Tribe members, freed bonded laborers, female-headed households, those with disabilities, and the otherwise marginalized.<sup>18</sup>

Beneficiaries were provided with grants of 14,000 INR (revised upwards to 22,300 INR in 1996) for the construction of homes. Individual households could manage the grant and construction themselves, or the local implementing agency could use the funds to construct a block of housing. Either way, the constructed homes were required to meet basic guidelines such as being at least 20 square meters in size and having a toilet, compost pit, and smokeless *chulhas*, or traditional clay stoves.

The program also had a number of other interesting rules and features regarding implementation. The homes were typically allotted either in the name of a female household member or in the names of *both* the male and female heads of household—never just a male household member. The program also emphasized the use of local materials and providers. There was a ban on the use of contractors, and the use of cement, brick, and steel were discouraged in favor of locally produced lime.<sup>19</sup> Beneficiaries were to be actively involved in the

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California, Berkeley, protocol 2017-04-9808.

<sup>16</sup>The organization hires its enumerators from local neighborhoods, which is a practice that was important to the success of contacting my sample households. More information about the firm, Partners for Urban Knowledge Action Research (PUKAR), can be found here.

<sup>17</sup>Table 10 provides a summary of the surveyed group of non-winners and target population.

<sup>18</sup>Beneficiaries were to be identified by state-level administrative agencies and district councils and this process was undoubtedly subject to political mediation.

<sup>19</sup>Unsurprisingly, Sudarshnam and Kumar (2005) find that beneficiaries faced difficulty in finding appropriate materials for the construction of housing.

construction and design of housing to the point where they were encouraged to construct the homes themselves. The houses were also to be constructed in spatially concentrated clusters to aid in service delivery.

Given that homes are constructed locally, there was a huge amount of variation in their construction style. Nevertheless, they were almost always single story detached units. Joint units, such as apartment buildings, were rare as funds were released to one household at a time and land was not scarce anyway.

To date, there have been few evaluations of IAY and its effects on beneficiaries. A handful of state and central-level reports focus on program implementation and targeting (Sharma et al., 2019). In addition to issues regarding beneficiary selection, a known problem with the program is that not all homes meet the guidelines for construction. For example, in a study of a district in Andhra Pradesh, Sudarshnam and Kumar (2005) find that 82% of households did not actually construct a smokeless *chulhas*. Built houses, furthermore, often do not have access to public services like water and sanitation.

I study how IAY has shaped the lives of beneficiaries by tracking their outcomes and those of non-beneficiaries over time. I rely on the Human Development Profile of India (HDPI), IHDS I, and IHDS II to do so. This series of three nationally representative surveys revisits the same households in 1993-1994, 2004-2005, and 2011-2012, respectively.<sup>20</sup>

My independent variable is whether households report having benefitted from IAY in the 1993-1994 round.<sup>21</sup> Of course, there are likely many differences between beneficiaries and non-beneficiaries that cannot be attributed to the program. Beneficiaries might be poorer than non-beneficiaries, and even among poor households, beneficiaries may have been more politically active in the first place to gain access to the program housing. I address these problems of selection by comparing only beneficiaries and non-beneficiaries who are exact matches on three variables: village, Scheduled Caste/Scheduled Tribe membership, and whether or not they are Muslims.<sup>22</sup> Schedule Caste/Scheduled Tribe groups and Muslims are

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<sup>20</sup>The surveys were conducted by the National Council of Applied Economic Research in Delhi, the University of Maryland, Indiana University and the University of Michigan. Each survey round spanned two years. IHDS-I and IHDS-II have much larger sample sizes (41,554 households) and are more widely used, but they include a sample of 10,792 households originally part of the 33,230 household sample in HDPI. In this study, I include only those 10,792 households included in all three surveys. The originally surveyed households eventually split into multiple households, for a total sample of 13,081 original HDPI households surveyed in 2012. My unit of analysis, however, is each of the 10,792 households originally surveyed in 1994. When constructing variables, I take averages across all households connected to the household in 1994.

<sup>21</sup>Respondents were asked “Does any member of the household currently participate in any development programs/schemes?” If the answer was “Yes,” respondents were referred to a list of programs (on which IAY was included) and enumerators were directed to code two “major” programs in which the respondent had participated. By only coding two responses, this methodology possibly does not code some beneficiaries as such, but my assumption is that because IAY provided the largest direct transfer of any of the schemes on the list, enumerators were likely to code it as one of the two major programs. As the 1993-1994 survey occurred in the early years of the program’s expansion, there were just 149 (1.5%) reported beneficiaries in the original sample. By the 2011-2012 round, there were 821 (8%) beneficiaries. I compare the outcomes of those who were beneficiaries by the 1993-1994 round to those who *never became* beneficiaries in subsequent rounds. In cases where households had split into multiple households, I include only those parent households for which no branch reports benefitting from IAY in later years.

<sup>22</sup>I use R’s `MatchIt` package.

historically and currently marginalized population groups in the country.<sup>23</sup> A comparison within villages controls for a wide array of spatial, demographic, and economic variables. Comparisons within these specific caste and religious groups are meant to control for a degree of social and political marginalization. In other words, I compare outcomes for beneficiaries and non-beneficiaries who are from the same village *and* who might experience a similar degree of marginalization.<sup>24</sup> This matching process requires me to drop 19 households for which the village name is unknown. The process yields a final dataset of 144 beneficiaries and 1155 non-beneficiaries. The procedure for estimating program effects is detailed in the appendix for Chapter 2.

When compared with the the MHADA program, IAY reaches a much larger swathe of the disadvantaged caste groups in India. About 66% of beneficiaries are from Scheduled Caste/Scheduled Tribe groups, and about 5% are from Muslim households. Given that the program is rural, it can be safely assumed that beneficiaries of IAY are generally poorer than those of MHADA as well.

### **The Mumbai Slum Rehabilitation Authority Program**

Finally, I study Mumbai’s Slum Rehabilitation Authority (SRA) program. Its current iteration, launched as the Slum Rehabilitation Scheme in 1995, builds upon the city’s previous efforts (and failures) with slum clearance and slum upgrading in the 1970s and 1980s. It aims to accommodate those living in informal housing. But rather than allowing this informal housing to proliferate, the program relocates residents to newly constructed formal housing. It is therefore reminiscent of the central-level slum relocation programs from the 1950s. Other cities in India have similar programs, but I conduct my study in Mumbai for ease of comparison with the MHADA study.

The new formal housing is constructed not by the government, but by the private sector. It is therefore emblematic of the increase in public-private partnerships to address housing shortages. Developers are incentivized to construct this housing through reduced height restrictions (i.e. a greater floor space index) for all included plots of land. A developer can further allocate a fraction of the building or plot of land to market rate housing. As these plots are centrally located, this housing can be sold at a large profit.

To initiate the process, however, a developer must obtain consent from at least 75% of a community’s residents, a nontrivial task that requires substantial collective action within a community. Once the housing is constructed, the original settlement is destroyed. In cases where the housing is constructed in the location of the original community, residents are relocated to a “transit camp” until the redevelopment is complete, a process that can take years. By 2022, developers had redeveloped or begun the process of redeveloping 1481 settlements.<sup>25</sup> Larger projects abound as well, such as the government’s relocation of the residents of a huge settlement in Sanjay Gandhi National Park (Ramanath, 2018).

<sup>23</sup>See Asher et al. (2020) on inter-generational mobility over time for these groups and how Muslims fare the worst of major groups in India.

<sup>24</sup>I do not include other variables such as proxies for income or occupation because they are measured after the implementation of IAY, and matching on them would result in post-treatment bias. I conduct the matching procedure only on fixed variables unlikely to be affected by IAY beneficiary status.

<sup>25</sup>Information about the SRA’s projects can be found at <https://sra.gov.in/page/innerpage/our-projects.php>.



Beneficiaries enjoy full ownership of the apartments.<sup>26</sup> As with the MHADA program, rental and resale (also officially allowed only 10 years after allotment) are common. A survey conducted by Cadavid (2010) in 2009 of SRA beneficiaries finds that the rental and resale value of the SRA homes are several multiples of beneficiaries' previous housing in informal settlements. Nijman (2008) further finds that the estimated value of a 225 square foot SRA apartment in a neighborhood called Ganesh Nagar was about 23,000 USD in 2008. In 2022, the list price of units in the SRA buildings in this study ranged from 18,000 to 50,000 USD. As described in the vignette at the start of this book, one beneficiary claimed his apartment was worth 70,000 USD in 2022.

Like the MHADA program, the SRA scheme transfers a large durable asset to beneficiaries. The net value of this asset depends on the unit's size, location, and the value of the informal housing being destroyed. The key differences between the SRA and MHADA programs are 1) the housing is completely free and does not entail a mortgage, 2) the program is targeted to those living in informal settlements, and 3) beneficiaries must relocate from their existing housing because it will be destroyed. As all eligible households were once living in squatter settlements, the target beneficiary group can be considered to be poorer as a whole than MHADA beneficiaries (at least some of whom lived in permanent housing at baseline). As urban beneficiaries, I assume they are still wealthier than IAY beneficiaries.

The way in which the program is implemented has important implications for its gains for beneficiaries. If the new housing is far from the original settlement, this relocation may remove beneficiaries from their jobs, but it is less likely to sever social ties because whole communities relocate together.

The apartments are also generally smaller than those allocated by MHADA, and the buildings are much taller and denser. Given builders' incentives to maximize the space available for market rate housing, SRA units are usually constructed to be 225 square meters, or as small as possible while still meeting official guidelines. And while a typical MHADA apartment building may have 20 to 30 units, an SRA building may have well over one hundred units, in buildings over 20 stories tall. Common space, such as courtyards, is also limited, and parking is non-existent.

For these reasons, perhaps the biggest complaint that beneficiaries typically make is about the built space of the SRA building. The small space may be larger than a residence in a dense informal settlement (Nijman, 2008). Yet the way in which these units are stacked upon each other inhibits the flow of air, people, goods, and services. Quite literally, Sarkar and Bardhan (2020) find that SRA buildings have less airflow than informal settlements. Cadavid (2010) further finds that 73% of beneficiaries who do not move into the housing make the choice mainly because they find the space incompatible with their lifestyles or businesses they run out of their households. This incompatibility may be particularly burdensome for women's cooking, cleaning, and caregiving responsibilities that primary take place within the home (Sunikka-Blank et al., 2019).

Yet beneficiaries still benefit from SRA housing even if building quality or some other reason prevents them actually living in the buildings. Cadavid (2010), for example, finds

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<sup>26</sup>Technically, the *land* on which buildings are constructed is subject to a thirty year renewable lease held by either the developer or a cooperative of owners, but this land lease does not affect beneficiaries' property rights over the units in any meaningful way.

that among those who do not move into SRA housing, just 18% moved back into informal housing, with the remaining 82% moving into formal housing. This suggests that the SRA allows some upward mobility in housing quality, even if it is not in the specific buildings constructed for the program.

I study the effects of the SRA program on beneficiaries using paired qualitative interviews conducted in Spring 2022.<sup>27</sup> I opted to conduct semi-structured qualitative interviews to give beneficiaries and non-beneficiaries an opportunity to explain, in their own words, how they perceived the program and their housing to have shaped their lives. The open-ended nature of the questionnaire also allowed me to explore effects on less clearly defined outcomes, particularly dignity. Finally, qualitative surveys are useful for the study of the SRA program in particular because one of my main hypotheses is that the relocation required as part of the program undermines its benefits for residents. An open-ended questionnaire is somewhat less subject to social desirability bias and gives respondents space to express their dissatisfaction with the policy. They also shed light on how beneficiaries' experiences have changed over time.

In partnership with PUKAR, the same organization with which I worked for the MHADA study, I approached residents of SRA buildings in 3 different sites along with residents of informal settlements in the neighborhoods. I selected locations to generate variation in geography, with two sites in a central location and one in a more peripheral location. I also ensured selected building sites that had an informal settlement within two streets. The three sites (displayed in Figure 7) were Lallubhai Compound (residents relocated in 2005), Sewri (residents relocated in 2006), and Parel (residents relocated in 2014). The informal settlement near Lallubhai Compound is Annabhai Sathe Nagar, while the informal settlements near the other sites go by the same names. Parel and Sewri are the two centrally located sites, and Annabhau Sathe Nagar and Lallubhai Compound are slightly more peripheral.

Within each site, we interviewed 6-7 residents from both the SRA building and informal settlement, for a total of 40 interviews. We aimed to interview respondents exhibiting variation in gender, age, caste, and religion at each location. We found respondents simply by arriving at the sites and asking residents if they could suggest friends and neighbors who met the desired profile.

We asked respondents 33 open-ended questions covering topics such as the history of their housing and the neighborhood, their strategies for problem resolution in the neighborhood, the different types of problems they faced everyday, their livelihoods, and their interactions with government officials. Because these responses are all qualitative, I analyze them by comparing responses to different questions across sites within locations and across settlement types. I also include quotes and anecdotes from these interviews to illustrate the difference in the lives and attitudes of beneficiaries and non-beneficiaries.

## DATA COLLECTION PROCESS FOR THE MHADA SURVEY

All winners from the relevant year were included in the survey sampling frame. There are about 1,000 applicants for each apartment. For this reason, I interviewed a random sample

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<sup>27</sup>This research was approved by the Protection of Human Subjects Committee at William & Mary, protocol ID PHSC-2021-11-29-15325-tkumar.

of non-winning applicants. I procured from MHADA phone numbers and addresses for both winners and a random sample of applicants drawn in the same stratified method used for the selection of winners. One non-winner was drawn for each winner within each block. Recall that a block consists of a caste/occupation group within each lottery. In this way, both the sample of winners and non-winners was a random draw from the sample of applicants.

In the case that households had applied for multiple lotteries included in the study (either within a year or across years), they would have a higher likelihood of appearing in either the sample of treatment or control households. The sampling procedure explicitly allowed for the possibility of the same household being drawn multiple times, and I had planned to include multiple rows for the household in question in this situation. If a household won lottery A but also was drawn in the sample of non-winners for lottery B, its data would have been included as a set of outcomes under treatment for lottery A and under control for lottery B. Ultimately, no households were drawn more than once, likely reflecting the fact that being sampled from the pool of applicants is an extremely rare event.<sup>28</sup>

I accessed a total of 1,862 pre-treatment addresses, or those used at the time of application to the lottery. These addresses were first mapped by hand using Google Maps. Addresses that were incomplete (42), outside of Greater Mumbai (611), or could not be mapped (146) were removed from the sample. This left 531 and 532 control and treatment households, respectively. The winning sample was stratified by caste and occupation group (Table 4), as each lottery had quotas for these groups within which random selection occurred. The lottery caste/occupation group within which stratification occurred will be referred to as “blocks” from now on. Table 5 demonstrates that even after this mapping procedure, I was left with roughly equal proportions of winners and applicants in each caste/occupation category, lottery income category, and apartment building. Given the assumption that the lottery was truly randomized and the fact that I used pre-treatment addresses for the mapping exercise, there is no reason to expect the mapping exercise to systematically favor treatment or control units.

I expect the mapping procedure to have favored wealthier applicants because 1) addresses that could not be mapped often referred to informal settlements, and 2) to create a sample that I could feasibly survey, I also dropped all who lived outside of Greater Mumbai, limiting my sample to urban applicants. Table 6 indeed shows that proportions of membership in certain categories in the mapped sample are significantly different from the original sample obtained from MHADA. Importantly, there are relatively fewer Scheduled Tribe members and more General Population (or Forward Castes) members in the mapped sample than in the full sample provided by MHADA. The mapped sample may thus have slightly higher socio-economic status than the full sample of applicants on average. While this issue may affect the external validity of the study, it should not impinge upon the internal validity or causal interpretation of results.

Once mapped, I can place households into state and municipal electoral wards to test for evidence of selection into the mapped treatment group by electoral ward. Selection by ward would indicate that individuals from certain locations or with certain political

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<sup>28</sup>As described by de Chaisemartin and Bhargava (2015), this is a case of a randomized waiting list. I use what they describe as the consistent “Initial Offer” estimator. Note that given the size of this lottery, however, the bias of the “Ever Offer” estimator may be approaching zero.

representatives are more likely than others to win the lottery. Here, I estimate regressions of the treatment indicator on the state and municipal ward membership indicators and calculate a heteroscedasticity-robust Wald statistic for the hypothesis that the coefficients on all of the indicators (other than block randomization dummies) are zero. The p-values for regressions on state and municipal ward membership are 0.35 and 0.46, respectively. These p-values leave me unable to reject a null hypothesis that members of any electoral constituency were equally likely to be in the mapped treatment group.

From the mapped sample, I randomly selected 500 households from each treatment condition to interview. The process for contacting was as follows: The addresses and phone numbers provided by MHADA constituted the contact information for households at the time of application. Non-winners were attempted at these addresses. In cases where they had moved away, neighbors were asked for updated contact information, with which the enumerators once again attempted to contact non-winners. Winners were initially approached at either the old addresses or new lottery buildings, based on whether or not lottery apartment “society” chairmen reported that they were renting out their units.<sup>29</sup> Lottery housing societies were thus first contacted to ascertain which of the winners were living at the apartments. Owner-occupiers were approached at the lottery apartments. Landlords were approached at the addresses listed on the application using the procedure developed for non-winners.

In all cases, we attempted to speak to the individual who had filled out application for the lottery home. Applicants applied with their Permanent Account Numbers (PAN), which are linked to their bank accounts. A PAN is issued by the Indian Income Tax Department to all eligible for an income tax. Its stated purpose is to minimize tax evasion. It has evolved to become a unique identifier for financial transactions and is required for actions such as opening a bank account or receiving a taxed salary. Given the sensitive nature of the information required for application, I assumed that the individual applying was most likely to be the head of the household. In the case a child had applied for the home (likely because the form could be completed online and youth may be better able to use computers and the internet than their parents), enumerators were instructed to speak to the household head. Interviews were conducted on Sundays and weekday evenings, or times when this individual was mostly likely to be home. In my sample, 78% of respondents had reportedly completed the applications themselves.

The data collection process yielded a sample of 834, with 413 (82.6% contact rate) of the surveyed households in the control condition and 421 (84.2% contact rate) households in the treatment condition. Full information on the number of households contacted in each stratum along with reasons for attrition can be found in Table 7. I do not see strong evidence of differential rates of contact for control and treated units. The p-value for the difference in proportion contacted is 0.8. Balance tests for fixed or baseline characteristics among the contacted sample can be found in Table 8. Winners and non-winners appear to be similar based on a number of fixed observable covariates, limiting concerns of corruption in the lottery or differential selection into the treatment groups. Importantly, both treatment groups have an equal proportion of those belonging to the *Maratha* caste group, a dominant group in Mumbai and Maharashtra more generally. *Kunbi Marathas* have been excluded from this group, as they are considered a “lower” caste group (*jati*) and do not intermarry

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<sup>29</sup>A society here can be thought of as a homeowners’ association.

with other *Marathas*. As there were too many *jatis* to generate a coherent balance test on *jati*, I tested balance on being a member of the dominant caste group. Balance tests on other *jatis* are available upon request.

In line with my pre-analysis plan, I also perform an omnibus test to judge whether observed covariate imbalance at the household level is larger than would normally be expected from chance alone. This test involves a regression of the treatment indicator on the covariates (Table 9) and calculation of a heteroscedasticity-robust Wald statistic for the hypothesis that all the coefficients on the covariates (other than block dummies) are zero. The p-value for this test is 0.39.<sup>30</sup>

#### ESTIMATION PROCEDURE FOR THE MHADA SURVEY

I estimate the treatment effect  $\beta$ , on  $i$  households or individuals across the pooled sample of lotteries. In the following equation,  $Y_i$  is the outcome (as measured through a survey or enumerator observations),  $T_i$  is an indicator for treatment (winning the lottery), and  $C_1 \dots C_j$  is the group of fixed (or pre-treatment) covariates used for randomization checks, and  $\epsilon_i$  is an error term. Given that randomization happened within blocks, I treat each of the blocks as a separate lottery and include a set of centered dummies,  $B_1 \dots B_l$  for each. Following Lin (2013), I allow for heterogeneous effects within the blocks by centering the block dummies and interacting them with the treatment indicator:

$$Y_i = \alpha + \beta T_i + \sum_1^j \gamma_j C_j + \sum_1^l \omega_l B_l + \sum_1^l \eta_l (T \times B_l) + \epsilon_i \quad (1)$$

I label households as “treated” if they win the lottery in the specific year for which they appear in the sample. While this study potentially suffers from two-sided noncompliance (8% of treated units did not purchase homes), I simply conduct an intent-to-treat (ITT) analysis.<sup>31</sup>  $\beta$  can thus be interpreted as a weighted average of block-specific intent-to-treat effects. Following Imbens and Kolesar (2015), I compute standard errors using the HC2 estimator (MacKinnon and White 1985).

#### ESTIMATION PROCEDURE FOR IAY

I estimate the difference in multiple outcomes across these two groups using the following simple ordinary least squares regression equation:<sup>32</sup>

$$Y_i = \alpha + \beta T_i \times \sum_v^3 \gamma_v C_{i,c} + \epsilon_i \quad (2)$$

Here,  $i$  is an index for each household.  $T_i$  is an indicator for being a beneficiary in the 1993-1994 round, and  $C_v$  is the set of  $v$  variables (village, caste group, and religion) used for matching. These variables are mean centered and interacted with  $T_i$  to increase efficiency

<sup>30</sup>Other balance tests are available in SI2.

<sup>31</sup>This choice should typically bias treatment effects to zero.

<sup>32</sup>This estimation procedure follows guidelines outlined here: <https://kosukeimai.github.io/MatchIt/articles/estimating-effects.html>

and flexibility in the estimation procedure as described by Lin (2013). I also use matching weights to account for the fact that the sample of non-beneficiaries is much larger than the sample of beneficiaries.  $\epsilon_i$  is an error term, and standard errors are estimated using a heteroskedasticity-robust (HC2) estimator. Finally,  $Y_i$  is the outcome variable of interest as described in the subsequent sections and chapters. Ultimately, this methodology aims to measure differences in outcomes over time for beneficiaries and non-beneficiaries of IAY who were exactly the same on a set of three variables in the 1993-1994 round.  $\beta$  is the coefficient of interest that estimates this difference.

## OTHER TABLES AND FIGURES

Table 3: Lotteries included in the sample

Lottery ID	N winners	Year	Group	Neighborhood	Area <sup>1</sup>	Allotment price <sup>2</sup>	Current price <sup>3</sup>	Downpayment <sup>4</sup>
274	14	2012	LIG	Charkop	402	42,581	78,125	235
275	14	2012	LIG	Charkop	462	48,922	93,750	235
276	14	2012	LIG	Charkop	403	42,679	78,125	235
283	270	2012	LIG	Malvani	306	30,261	43,750	235
284	130	2012	LIG	Vinobha Bhawe Nagar	269	23,438	42,188	235
302	227	2014	EWS	Mankhurd	269	25,414	31,250	238
303	201	2014	LIG	Vinobha Bhawe Nagar	269	31,848	42,188	394
305	61	2014	EWS	Magathane	269	22,883	78,125	238

<sup>1</sup> In square feet. Refers to “carpet area,” or the actual apartment area and excludes common space.

<sup>2</sup> Price at which winners purchased the home with the cost converted from INR to 2017 USD. In 2017, about 64 rupees made up 1 USD. <sup>3</sup> Average sale list price of a MHADA flat of the same square footage in the same community. Data collected from magicbricks.com in 2017. <sup>4</sup> Cost converted from INR to 2017 USD. Includes application fee of roughly 3 USD.

Table 4: Caste/occupation category codes

Code	Category
AR	Artist
CG	Central govt. servant occupying staff qrts.
DF	Families of defense personall
DT	Denotified tribes
EX	Ex-servicemen and dependents
FF	Freedom fighters
GP	General public
JR	Journalists
ME	MHADA employees
MP/MLA/MLC	Ex-members of parliament, legislative assemblies, legislative councils
NT	Nomadic tribes
PH	Handicapped persons
SC	Scheduled castes
SG	State government employees who have retired
ST	Scheduled tribes

Table 5: Proportion of members of each category in winner and non-winner groups after mapping with p-values for difference in proportions test.

	Non-winners (C)	Winners (T)	p
<i>Caste/Occupation category</i>			
AR	0.021	0.026	0.541
CG	0.021	0.019	0.829
DF	0.017	0.008	0.164
DT	0.008	0.011	0.524
EX	0.024	0.021	0.683
FF	0.006	0.015	0.129
GP	0.592	0.601	0.774
JR	0.021	0.032	0.249
ME	0.009	0.021	0.130
MP/MLA/MLC	0.002	0.008	0.179
NT	0.019	0.011	0.316
PH	0.030	0.023	0.447
SC	0.135	0.124	0.593
SG	0.062	0.047	0.284
ST	0.034	0.034	0.995
	<b>1.00</b>	<b>1.00</b>	
<i>Lottery income category</i>			
EWS	0.314	0.298	0.563
LIG	0.686	0.702	0.563
	<b>1.00</b>	<b>1.00</b>	
<i>Apartment building #</i>			
274	0.011	0.017	0.434
275	0.019	0.015	0.638
276	0.013	0.021	0.340
283	0.293	0.305	0.673
284	0.139	0.139	0.990
302	0.239	0.243	0.872
303	0.211	0.205	0.833
305	0.075	0.055	0.174
	<b>1.00</b>	<b>1.00</b>	

Figure 5: Location of the addresses of households in the MHADA sample (small pink dots) along with the location of apartment buildings (large blue dots) at the time of application

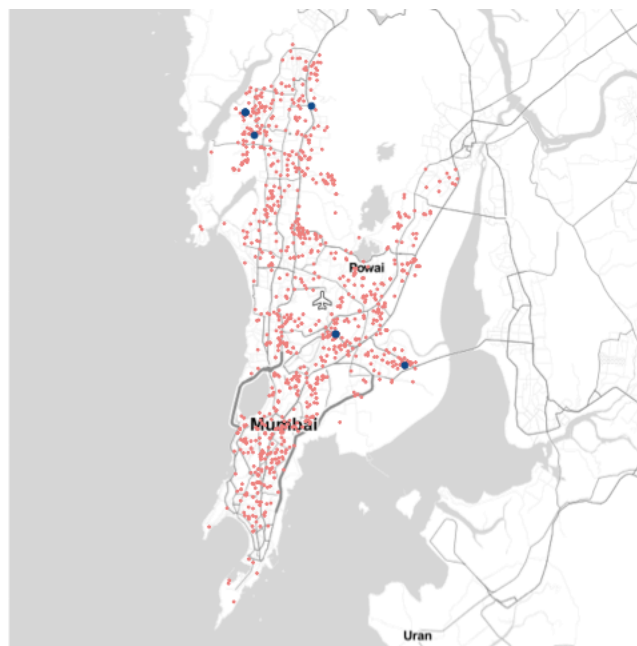




Table 6: Proportion of members of each category in full and mapped samples after mapping with p-values for difference in proportions test.

	Full Sample	Mapped Sample	p
AR	0.022	0.024	0.740
CG	0.021	0.020	0.886
DF	0.022	0.012	0.050
DT	0.014	0.009	0.250
EX	0.052	0.023	0.00
FF	0.028	0.010	0.00
GP	0.520	0.596	0.00
JR	0.028	0.026	0.779
ME	0.017	0.015	0.723
MP/MLA/MLC	0.004	0.005	0.883
NT	0.014	0.015	0.828
PH	0.026	0.026	0.947
SC	0.117	0.130	0.303
SG	0.053	0.055	0.902
ST	0.063	0.034	0.00
	<b>1.00</b>	<b>1.00</b>	
<i>Lottery income category</i>			
EWS	0.307	0.306	0.950
LIG	0.693	0.694	0.950
	<b>1.00</b>	<b>1.00</b>	
<i>Apartment building #</i>			
274	0.015	0.014	0.825
275	0.015	0.017	0.711
276	0.015	0.017	0.711
283	0.291	0.299	0.651
284	0.140	0.139	0.926
302	0.241	0.241	0.968
303	0.216	0.208	0.602
305	0.065	0.065	0.961
	<b>1.00</b>	<b>1.00</b>	

Table 7: Reasons for attrition with p-values for difference in proportions tests.

	Control	Treatment	p
Surveyed	413	421	0.6
Address not found	9	7	0.8
Home demolished	1	0	1
Home locked	5	11	0.2
Respondent deceased	1	0	1
Refused	14	20	0.4
Unable to locate household that has moved	19	10	0.1
Incomplete survey	37	31	0.5
<b>Total</b>	<b>500</b>	<b>500</b>	-

Table 8: Balance tests on household and individual characteristics as measured through a survey.

Variable	Control	Treatment	sd	Pr(> t )
<b>A: Household characteristics</b> N=834				
OBC <sup>1</sup>	0.150	-0.021	0.035	0.543
SC/ST <sup>2</sup>	0.080	-0.018	0.026	0.499
Maratha <sup>3</sup>	0.295	0.018	0.045	0.690
Muslim	0.090	0.006	0.029	0.852
<i>Kutcha</i> <sup>4</sup> floor	0.031	0.028	0.019	0.136
<i>Kutcha</i> <sup>4</sup> roof	0.039	0.001	0.018	0.945
Originally from Mumbai	0.809	0.062	0.039	0.114
From the same ward as the apartment	0.097	0.023	0.030	0.454
<b>B: Individual characteristics</b> N=3,170				
Age	35.874	0.095	0.574	0.869
Female	0.485	0.000	0.011	0.998
OBC <sup>1</sup>	0.148	-0.022	0.023	0.340
SC/ST <sup>2</sup>	0.084	-0.029	0.021	0.165
Maratha <sup>3</sup>	0.292	0.024	0.032	0.457
Muslim	0.086	0.015	0.021	0.477
<i>Kutcha</i> <sup>4</sup> floor	0.028	0.030	0.023	0.188
<i>Kutcha</i> <sup>4</sup> roof	0.043	0.001	0.023	0.979
From Mumbai	0.812	0.051	0.026	0.052
From the same ward as the apartment	0.095	0.030	0.021	0.154

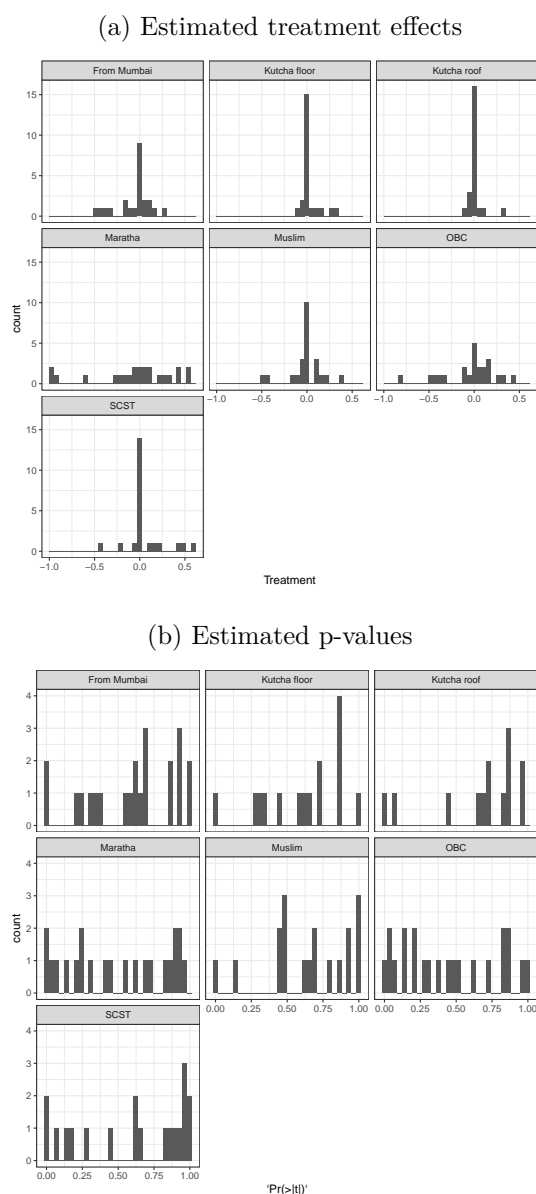
The “Control” column presents means for winning households. The “Treatment” column presents the difference between winning and non-winning households estimated through an OLS regression of each variable on indicators for winning the lottery. Each regression includes an interaction with the centered block-level indicator for randomization groups. All regressions include HC2 errors, with errors clustered at the household level for individual results.

<sup>1</sup> Other backward class caste group members

<sup>2</sup> Scheduled caste or scheduled tribe groups, also known as Dalits.

<sup>3</sup> A dominant group in Mumbai and Maharashtra more generally. <sup>4</sup> “*Kutcha*” means “rough” or “impermanent.” Variable measured at time of application through recall.

Figure 6: Distribution of (a) treatment effects and (b) p-values of those tests on fixed characteristics across Mumbai's 24 administrative wards.



The Treatment effect estimated is the difference between winning and non-winning households estimated through an OLS regression of each variable on indicators for winning the lottery. Each regression includes an interaction with the centered block-level indicator for randomization groups. All regressions include HC2 errors. I also conduct balance tests *within* each of Mumbai's municipal wards. The indicator for being from the same ward as the one in which the lottery is held is removed here. One ward (A) is dropped due to low sample size. Figure 6 presents the distribution of the 24 estimated treatment effects along with the estimated 24 p-values. Consistent with the null hypothesis, the distributions of the estimated treatment effects appear roughly centered at 0, and the p-curves appear to take on a roughly uniform distribution.

Table 9: Regression of treatment indicator on fixed covariates

Covariates <sup>1</sup>	Winning the housing lottery
OBC	-0.053 (0.057)
SCST	0.060 (0.071)
<i>Maratha</i> caste member	-0.041 (0.046)
Muslim	0.002 (0.066)
<i>Kutcha</i> <sup>2</sup> floor	0.200 (0.118)
<i>Kutcha</i> <sup>2</sup> roof	-0.277*** (0.124)
From Mumbai	-0.003 (0.047)
From the same ward as the apartment building	0.051 (0.061)
Block dummies?	Yes
F Statistic (df = 91; 742)	1.2046
N	834
R <sup>2</sup>	0.120
Adjusted R <sup>2</sup>	0.015

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

<sup>1</sup> Unless otherwise specified, all covariates are dummy variables. <sup>2</sup> "*Kutcha*" means "raw" or "impermanent." Variable measured at time of application through recall.

Figure 7: Location of SRA building and informal settlement locations.

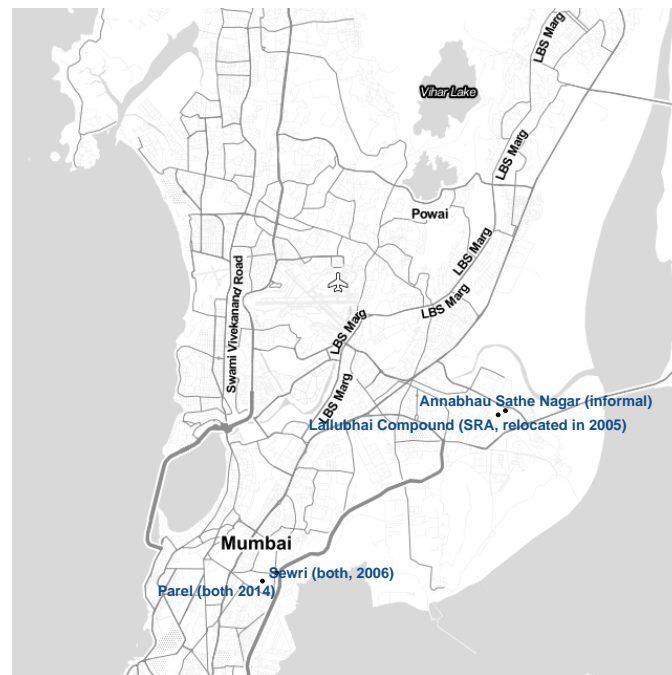


Table 10: Summary of non-winners.

Statistic	Mean	St. Dev.	Min	Max
<i>Housing quality</i>				
Permanent floor	0.96	0.19	0	1
Permanent roof	0.79	0.41	0	1
Private water source	0.73	0.45	0	1
Private toilet	0.62	0.49	0	1
<i>Assets</i>				
Dining table	0.20	0.40	0	1
TV	0.91	0.29	0	1
Fridge	0.87	0.33	0	1
Gas	0.88	0.33	0	1
Computer	0.39	0.49	0	1
Internet	0.47	0.50	0	1
Smartphone	0.73	0.44	0	1
Car	0.06	0.23	0	1
2 wheeler	0.36	0.48	0	1
Bicycle	0.04	0.20	0	1
<i>Household education and employment variables</i>				
Public school (sons)	0.06	0.23	0.00	1.00
Public school (daughters)	0.05	0.22	0.00	1.00
After school tuition (sons)	0.20	0.39	0.00	1.00
After school tuition (daughters)	0.19	0.38	0.00	1.00
Main earner salaried	0.80	0.40	0	1
Main earner has govt. job	0.18	0.38	0	1
<i>Individual education and employment variables</i>				
Years of education	10.31	4.67	0	18
Working	0.46	0.48	0	1
Working full-time	0.47	0.49	0	1
Working part-time	0.09	0.30	0	1

Table 11: Variable definitions for outcomes for MHADA study. Data from original survey.

Label	Survey Question	Response options	Coding
Would never consider leaving Mumbai	Do you think you will leave Mumbai in the future?	Would never leave, Might leave in future, Will definitely leave	I(x=Would never leave); Unsure:I(x=Might leave)
Happy with financial situation	How happy are you with the financial situation of your household?	Happy, Neither happy nor unhappy, Unhappy	I(x=Happy)
Status relative to local leaders	Do you/people like you need to listen to what leaders in the area say?	Yes, No, Don't know	I(x=No)
Children will have better lives than them	Do you expect your children to have better lives than you?	Yes, No, Don't Know	I(x=Yes)
Trusts others	Would you say that one can trust other people or that people cannot be trusted?	Yes, No, Don't know	I(x=Yes)
Thinks effort leads to greater success	Do you think people who put in effort have more success than those who don't?	More, Less, Don't know	I(x=More)
Claims to make own decisions	When making an important life decision (e.g. about your career, marriage, children's education), how do you make your choices?	Traditional values guide me, My family's input guides me, Input from the neighborhood guides me, I make my own choices without input from others	I(x=I make my own choices)

Table 12: Variable definitions for outcomes for IAY study. Data from India Human Development Survey (2004-2005, 2011-2012)

Label	Variable construction
Looking at interviewers	Respondent usually looked at interviewer while answering (as opposed to "never" or "sometimes"). Mean across all households connected to the 1994 parent household.

Table 13: Predictors of whether interview respondent made eye-contact with enumerators by group in the IHDS, 2005. Standard errors are HC2.

<i>Dependent variable:</i>	
	Eye contact
SC/ST	−0.019* (0.011)
Female	−0.351*** (0.020)
Muslim	0.086*** (0.019)
Some education	0.134*** (0.012)
Above poverty line	0.076*** (0.012)
Urban	0.035 (0.024)
Constant	0.424*** (0.015)
Observations	9,448
R <sup>2</sup>	0.058
Adjusted R <sup>2</sup>	0.057
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

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