MODERNIZATION AND HOUSEHOLD CHANGE IN INDIA

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A DISSERTATION
PRESENTED TO THE FACULTY
OF PRINCETON UNIVERSITY
IN CANDIDACY FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

RECOMMENDED FOR ACCEPTANCE BY
THE PROGRAM IN
POPULATION STUDIES
Adviser: Douglas S. Massey

September 2019
ABSTRACT

The classical modernization hypothesis predicted that urbanization, industrialization and educational expansion would cause a worldwide convergence to small and nuclear households. Although rejected as a global theory of household change, this hypothesis remains central to household research in several countries. This is notably the case in India, where scholars still debate whether modernization has caused the disintegration of the traditional joint household system.

This dissertation uses a mixed-methods approach to provide new insights into the study of modernization and household change in India. Over three empirical chapters, I develop and apply a common conceptual framework to investigate this relationship at three levels of analyses – national, subnational and local. All three chapters converge to show that modernization influences household patterns in India, although often in ways that contradict the classical modernization hypothesis.

The first empirical chapter uses data from India’s National Sample Survey (NSS) harmonized by IPUMS-International to show that there was no strong increase in nuclear households at the national-level over the past three to four decades. Further analyses reveal that the strongest driver of household nucleation has not been the emergence of a modern elite, but the economic stagnation or pauperization of segments of the population left behind by modernization.

The second empirical chapter uses the same NSS dataset to explore state-level variations in household patterns. Results show significant regional differences, mainly between south India, where joint households are rare, and several states located in the Indo-
Gangetic Plain, where the prevalence of joint households is highest. Further analyses show that modernization is a significant albeit weak predictor of these variations.

The third empirical chapter combines data from my fieldwork and ICRISAT data to study the mechanisms linking modernization to household change in two villages in India’s Deccan Plateau. I find that modernization has taken very different forms in these two villages, and thereby has had opposite implications for their patterns of household formation and composition.

Taken together, these findings demonstrate that modernization is not a monolithic process leading to an ineluctable convergence to nuclear households, but instead hides multiple countervailing forces that both foster and curtail household nucleation.
ACKNOWLEDGEMENTS

This dissertation has benefited the support and advice of many people. I would first like to thank my adviser, Doug Massey, for his mentorship, insightfulness and affability. Beyond research accomplishments, Doug’s dedication to his students has been a constant source of motivation, a humbling lesson to give back. To Marta Tienda: my heartfelt thanks for your unwavering support. Since my very first day at OPR, you have inspired me to believe in my ideas and to strive to communicate them with a clear and confident voice.

I would like to thank Biju Rao for challenging me to seek answers across disciplinary boundaries and Patricia Fernández-Kelly for encouraging me to communicate my research to broader audiences. I am thankful to have worked with many OPR faculty – Alícia Adserà, Betsy Armstrong, Jeffrey Hammer, Arun Hendi, and Germán Rodríguez – on general examinations, precepts, and other stimulating projects. I am also grateful for the warmth and diligence of OPR’s extraordinary staff. Thanks go especially to Lynne, Nancy, Mary-Lou, Joyce, Robin, Wayne, Steven, Joann, Elana, Dawn and Boriana: you have made OPR my professional home.

To my OPR colleagues: thank you for the fascinating conversations, the solidarity, and the sense of belonging. Special thanks to Chris, Yo-Yo, Theresa, Federica, Ian, Angelina, Ed, Kristin, Takudzwa, Wanru, to members of my cohort and officemates, for your everyday encouragements, curiosity and passion. I would also like to thank Michel Verdon and Karine Bates, my mentors from Montreal, for inspiring me to combine anthropological and demographic perspectives to study India.
I owe a debt of gratitude to the team of researchers, staff and friends at ICRISAT. Working with data collected by the VLS and VDSA teams has been one of the main motivations for this dissertation. I would like to thank, among others, Padmaja, Swathi, Babu, Duche, Kavitha, Padmini, Shankar, Thomas, Naveen, and Cynthia Bantilan; your constant support helped me overcome the vagaries of fieldwork; your insights made me a better researcher; you made my stay in India not only possible, but life-changing.

À ma famille et à mes amis, pour votre soutien et vos encouragements : merci.
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CHAPTER 1:
INTRODUCTION

Household composition is a fundamental sociodemographic dimension. Knowing who resides with whom has helped social scientists predict and understand a wide range of processes in both developed and developing countries – from consumption patterns (Ermisch 2003) to women’s status (Das Gupta 1995), from elderly care (Chen and Short 2008) to child well-being (Amato 2005; Perkins 2019), from resilience in times of economic hardship (Angel and Tienda 1982) to the reproduction of socioeconomic inequality (McLanahan and Percheski 2008; Lundberg et al. 2016). The study of long-term changes in patterns of household composition has thus attracted a sizeable historical and comparative literature (Ruggles 2012).

Scholars have long theorized that broad economic transformations play a major role in shaping the direction and magnitude of long-term household change. The modernization hypothesis, classically formulated by Goode (1963), remains the standard anchor to study this relationship (Therborne 2004; Thornton 2005). This hypothesis predicts that urbanization, industrialization and educational expansion would cause a worldwide convergence to the western model of small and nuclear households. While studies suggest that modernization has led to increases in nuclear households in many settings (Cherlin 2012, 2017), the recent literature has by and large rejected this global prediction (Bongaarts 2001, Bongaarts and Zimmer 2002, Ruggles an Heggeness 2008; Ruggles 2009, 2010, 2012; Spijker and Esteve 2011; Pesando et al. 2019). Instead, studies show that modernization is linked to persistent – if not growing – diversity in international household
patterns (Pesando et al. 2019). The underlying mechanisms of this diversification, however, are not well established. This research context underscores the need for more contextualized analyses of the impact of modernization on residential systems.

This dissertation contributes to this endeavor by examining the relationship between modernization and household composition in India. The Indian household embodies many of the paradoxes underscored in international household research and thereby offers an ideal case study to elucidate international change and diversification in patterns of living arrangements. The decline or nucleation of India’s traditional joint household system (Hajnal 1982), a paradigmatic case of the modernization hypothesis, has puzzled social scientists for more than a century (Gait 1913; Orenstein 1961; Shah 1974, 1998; Allendorf 2013). Scholars still debate whether India’s modernization has caused a nationwide convergence from joint households (composed of a married couple living with two or more of their married sons) to nuclear households (composed of a married couple living on its own or with unmarried children). As this debate lingers, moreover, India’s regional variations in living arrangements remain virtually unexplored (except in Kolenda 1987). Despite decades of interdisciplinary research, there is no theoretical consensus on how and why Indian households vary across time and space, or on how these variations relate to India’s broader story of modernization (Uberoi 2004; Shah 2005).

Against this backdrop, a growing literature shows that simple pointers of household composition in India (e.g., whether a young woman lives with her domineering mother-in-law, or whether aging parents receive the care they need from a coresiding adult child) are strong predictors of everyday processes with far-reaching implications for women’s
autonomy and reproductive health (Jejeebhoy and Sathar 2001; Bloom et al. 2001; Mistry et al. 2009; Allendorf 2012; Debnath 2015; Coffey et al. 2016), son preference (Miller 1981; Das Gupta et al. 2003), educational investments in children (Myroniuk et al. 2017), domestic violence (Fernandez 1997; Bhattacharya 2004), elderly care (Das Gupta 1999), and so on. While these empirical linkages suggest that living arrangements play a major role in explaining key regional contrasts in India’s demography (Dyson and Moore 1983; Uberoi 2004), the empirical literature has only tangentially addressed this claim (Kolenda 1987; Mookerjee 2017). Given these linkages, and given that data on living arrangements have become widely available in recent decades, the study of household variations emerges as one of the most under-analyzed topics in contemporary Indian demography.

Accordingly, this dissertation aims to provide key conceptual and empirical insights into the study of modernization and household change and variations in India. To this end, I use a mixed-methods approach uniting macro-demographic analyses of newly-harmonized national survey data with a micro-demographic analysis of quantitative and qualitative data collected in the rural Deccan Plateau, where I conducted a fieldwork between July 2016 and March 2017 in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The dissertation’s three chapters develop and apply a common conceptual framework to study household composition at three different levels of analyses – national, subnational (state-level) and local (village-level). All three chapters converge to show that modernization influences household patterns in India, although often in contradiction to predictions of Goode’s classical modernization hypothesis.
In this first chapter, I use data from the National Sample Survey (NSS) harmonized by IPUMS-International (Minnesota Population Center, 2017) to analyze modernization and national-level household change in India between 1983 and 2009. This dataset combines precise measures of household composition with the largest sample size and the longest time frame of all comparable large-scale sociodemographic surveys in India. Results show that, despite India’s ongoing modernization, there was only a modest increase in nuclear households during this period. While occupational diversification is broadly associated with a higher prevalence of nuclear households, the same cannot be said of urbanization and the expansion of schooling. Contrary to prior predictions, nuclear households are most prevalent not among young college-educated professionals, but among their less educated counterparts. At older ages, nuclear households have been most prevalent among uneducated laborers and have also increased sharply among farmers. These analyses suggest that the strongest driver of household nucleation has not been the emergence of a modern elite, but the economic stagnation or pauperization of vulnerable segments of the population left behind by modernization.

In the second chapter, I use the same NSS dataset to provide a study of subnational or state-level variations in household patterns in India between 1983 and 2009. In line with prior results from the more ethnographic literature (Kolenda 1987), I find significant regional differences in household patterns, mainly between south India, where joint households are rare, and several states located in the Indo-Gangetic Plain, where the prevalence of joint households is highest. Indicators of demographic change and modernization predict roughly half of these regional differences, but demographic indicators have a much greater predictive power than modernization. I show that India does
not have a monolithic joint household system and that modernization is a significant albeit weak predictor of interstate variations and trends in living arrangements in India.

In the third chapter, I combine data from my fieldwork with data collected by ICRISAT to explore the mechanisms linking modernization to contrasting stories of household change in two villages in India’s Deccan Plateau. I find that modernization has taken very different forms in these two villages and thereby appears to have had opposite implications for their household patterns. In the first village, households never grew to a stable joint level in part because young men needed to migrate to a nearby city for employment. Modernization, in the form of labor migrations and depopulation, precluded the formation of stable joint households. In the second village, households increasingly grew to a joint level. The recent expansion of canal irrigation created new economic opportunities in agriculture. With land prices and revenues soaring, many young men jointly invested in land with their father and brother(s) instead of purchasing separate houses. Modernization, in the form of improvements in agriculture, encouraged the formation of joint households.

Taken together, results from these three chapters demonstrate that modernization is not a monolithic process leading to an inexorable convergence to nuclear households, but instead hides multiple countervailing trends that both foster and curtail household nucleation. Reclaiming this complex and multidirectional influence of modernization on household patterns therefore requires a range of conceptual and theoretical adjustments. These adjustments should aim at permitting a better understanding of modernization and household patterns in local contexts. This dissertation highlights several avenues to carry
out these qualifications, moving beyond Goode’s classical modernization hypothesis while salvaging some of its fruitful – and in some cases empirically validated – intuitions. In so doing, this dissertation contributes to a broad literature on household and family change, in India and elsewhere.

References


CHAPTER 2:
MODERNIZATION AND HOUSEHOLD COMPOSITION IN INDIA, 1983-2009

Introduction

The modernization hypothesis, classically formulated by Goode (1963), predicted that urbanization, industrialization and educational expansion would cause a worldwide convergence to the western model of small and nuclear households. Although rejected as a global theory of household change (Bongaarts and Zimmer 2002; Thornton 2005; Ruggles and Heggeness 2008; Ruggles 2009, 2010; Cherlin 2012), this hypothesis remains central to household research in several regions and countries. This is notably the case in India, where the decline or nucleation of the traditional joint household system (Hajnal 1982), a paradigmatic case of the modernization hypothesis, has puzzled social scientists for more than a century (Gait 1913; Allendorf 2013).

Living arrangements in India have since emerged at a crucial intersection in the study of demography, gender inequality and intergenerational relationships (Dyson and Moore 1983; Das Gupta 1995; Agarwal 1997; Mookerjee 2017). A growing literature shows that household composition (e.g., whether a young woman resides with her mother-in-law, or whether aging parents are cared for by coresiding children) is a key determinant

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1 A version of this chapter was presented as “Neither Modern nor Traditional: The Recent History of the Indian Household” at the American Sociological Association 2018 Annual Meeting, August 2018, Philadelphia, PA, USA. Another version of this chapter was presented as “Modernization and Household Composition in India, 1983-2009” at the Population Association of America 2019 Annual Meeting, April 2019, Austin, TX, USA. Another version of this chapter titled “Modernization and Household Composition in India, 1983-2009” is an accepted manuscript for publication at Population and Development Review.

2 I provisionally define joint households as composed of a married couple with two or more of their married sons, and nuclear households as composed of a married couple alone or with their unmarried children only.
of everyday processes that have far reaching sociodemographic consequences – whether in terms of women’s autonomy and reproductive health (Jejeebhoy and Sathar 2001; Bloom et al. 2001; Mistry et al. 2009; Allendorf 2012; Coffey et al. 2016), son preference (Miller 1981; Das Gupta et al. 2003), investments in children (Myroniuk et al. 2017), domestic violence (Fernandez 1997; Bhattacharya 2004), and so on. In this research context, understanding how modernization has transformed Indian households becomes even more essential.

Yet the literature on household change in India remains divided. Over the past decades, as India continued its economic modernization (Dyson et al. 2004), scholars have simultaneously announced the disintegration of the joint household system (Goode 1963; Niranjan et al. 2005; Allendorf 2013) and its rejuvenation (Orenstein 1961; Caldwell et al. 1988; Shah 1998, 1999). Two major issues underpin these conflicting claims. First, scholars have often drawn different prognoses on the fate of the India’s joint households because they have not used the same typologies and measures of household change. Second, their analyses were typically limited by a dearth of precise and long-term microdata on household composition.

In this article, I study the relationship between modernization and household change in India in recent decades. In light of prior issues in the literature, my strategy is twofold. First, I review the main concepts and measures used to model residential variations in India. Building on advances in household theory (Verdon 1998) and family demography (Ruggles 2012), I develop an analytical approach offering a middle-ground between prior definitions and measures of household change in India. Second, I apply this
framework to study national trends in household composition between 1983 and 2009 using cross-sectional data from the National Sample Survey (NSS) harmonized by IPUMS-International (Minnesota Population Center 2017). This dataset combines precise measures of household composition with the largest sample size and the longest time frame of all comparable large-scale surveys in India. I ask three overarching empirical questions. First, how rapid was India’s modernization during this period? Second, was there a strong national trend toward household nucleation during the past decades? Third, are trends and differentials in household nucleation observed by urban and rural residence, occupation and educational attainment consistent with predictions of the modernization hypothesis?

Overall, and as other studies have established (Dyson et al. 2004; Desai et al. 2010; Drèze and Sen 2013), I find that India’s urbanization and industrialization (measured as occupational diversification) have been fairly slow in past decades, whereas its educational expansion has been more rapid. Correspondingly, I find that the prevalence of nuclear households increased only modestly between 1983 and 2009. These trends imply that a slow modernization entailed a slow nucleation of the Indian household, but further analyses suggest otherwise. Descriptive findings show that India’s modernization is not a unitary force prompting a steady convergence toward nuclear households, but instead hides multiple countervailing forces that both foster and curtail household nucleation. While occupational diversification is broadly linked to a higher prevalence of nuclear households, the same cannot be said of urbanization and the expansion of schooling, depending on the age group under study. Contrary to predictions, nuclear households are most prevalent not among young highly educated professionals, but among their less educated counterparts, whether they are farmers or daily laborers. At older ages, nuclear households have been
most prevalent among uneducated laborers and have increased sharply among farmers. These findings suggest that the strongest driver of household nucleation in India has not been the emergence of modern elite, but the economic stagnation or pauperization of vulnerable segments of the population who have been left behind by modernization.

**Conflicting Claims**

Early claims of the impending nucleation of India’s joint household system were made in the absence of precise data on household composition. In his report of the 1911 Census of India, Gait compared recent trends in household size between India and England and concluded that the joint household was slowly nucleating owing to “various new factors, such as the growth of individualism, the rise in the standard of living, which makes it increasingly difficult for a large number of people to live together, and increased migration, due to the better means of communication afforded by the railways” (1913: 47). The available historical data now suggests that households in 19th century India were not larger than they were in the first decades of the 20th century (Shah 1998). India then experienced a rise in household size between the 1911 and 1981 census, followed by a decline sharp between 1981 and 2011 (Registrar General 2005, 2011). Demographers have since demonstrated that household size is only a crude approximation of household composition and is highly sensitive to demographic variations (Bongaarts et al. 1987).

As better data became available, often in regional and ethnographic surveys, scholars began measuring the transformation of India’s joint households using cross-sectional distributions of household types. Many ethnographers measured unexpectedly
high proportions of nuclear households in these surveys and concluded that the joint household was indeed nucleating. However, as Shah (1974) remarked, a high prevalence of nuclear households does not preclude that most households at some point go through a joint phase. There are also demographic constraints to the number of joint households one can observe at any given point in time (e.g., some couples are childless, some parents die before their children’s marriage). To assess whether nuclear households are indeed overrepresented in a given distribution, one needs to specify an attainable prevalence of joint households given prevailing demographic rates and age distribution (Burch 1970; Wachter et al. 1977).

Data on this counterfactual, however, are typically not available. A ready alternative has been to anticipate the impact of demographic factors. Orenstein (1961: 349) claimed that the stem family or household “may be a widespread type in India”, and that it may constitute “a modification of the nuclear [family] to provide for dependent parents”, adding that “the greater age of the present Indian population would likely result in a higher incidence of stem families as against nuclear”. Caldwell et al. (1988: 130-131) similarly argued that Indian society “cares for its aged by means of a stem-family system which hitherto has meant a larger number of nuclear than stem families, although with much the same number of people living in each. Now that there is a real possibility that the society will be characterized by low fertility […], the balance might well shift toward a greater number of stem families”.

In fact, most scholars from the 1960s onward (including Goode) have not predicted a rapid nucleation of the joint household despite India’s ongoing socioeconomic
development. Conklin criticized Goode’s argument on the “fit” between economic modernization and nuclear households, stating that “there is no empirical evidence to show that a joint family could not provide a good adaptive vehicle for solving the problems of urbanization or industrialization” (1973: 748). He argued that socioeconomic change would not affect the formation of joint households as much as the distribution of social roles within joint households. Shah (1998, 2005) claimed that the transformation of the Indian household is shaped by the countervailing forces of Westernization and Sanskritization. While Westernization describes the diffusion of the preference for nuclear living arrangements stemming from professional urban classes, Sanskritization describes the process whereby families of lower castes adopt the practices of higher caste groups, including a greater emphasis on the joint household (Srinivas 2002).

As a result, many scholars have claimed that “the joint household seems to have weakened in the urban, educated, professional class” (Shah 1996: 537), or that “education among the young or their increasing ability to secure work elsewhere poses a continued threat of partition, at least as seen by the patriarch; this has meant a reduction in the pyramidal control structure of the classical joint-stem or stem family” (Caldwell et al. 1988: 112). However, others have hypothesized that “while the lifestyles and occupational mobility of the professional middle classes may discourage joint-household living, another section of the urban middle class (for instance, those engaged in business enterprise) may prefer to maintain joint household along with their joint business and property interests” (Uberoi 2004: 283).
In the more recent empirical literature, Niranjan et al. (2005) and Allendorf (2013) measured a sharp rise in the prevalence of nuclear households in India during the last two or three decades. Using data from India’s National Family Health Survey (NFHS), they both found nuclear households to be positively associated with urban residence and negatively associated with wealth, although their findings on the effect of education do not converge. By contrast, using nationally representative samples of elderly individuals and couples, Ruggles (2010) did not observe any clear trend toward nucleation in India in recent decades.

Differences in analytical samples could account for conflicting results in the recent empirical literature, but further analyses indicate that broader discrepancies in data sources are at play. Niranjan et al. focused on all eligible households in the NFHS survey and did not decompose household trends by age group. Allendorf measured household trends among young married women (aged 15 to 29), whereas Ruggles focused on the living arrangements of the elderly (aged 65 and over). India’s ongoing demographic transition should have increased the risk of intergenerational coresidence among junior generations: young people now have fewer siblings with whom their parents could reside, and their parents also live longer. Conversely, these demographic changes should have decreased the risk to intergenerational coresidence among senior generations, as elderly people now have fewer adult children with whom they could live, and as their children also tend to marry at a later age. Nevertheless, these differences in analytical sample cannot explain discrepancies observed between the results of Allendorf and Ruggles. Allendorf’s sample

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3 I also could not replicate Allendorf’s results using the NSS data on her analytic sample of young married women. Furthermore, while the NFHS shows a large increase in nuclear households up to 2004-05, it then
of young married women experienced a strong nucleation despite demographic circumstances favoring an increase in intergenerational coresidence, whereas Ruggles' sample of elderly people saw no clear trend toward nucleation despite demographic circumstances favoring such a trend.

In sum, disagreements persist as to whether there has been an increase in nuclear households in India in recent decades, but also over the role that modernization plays as a determinant of household change and stability. Furthermore, scholars still debate which conceptual framework, analytical sample, and data sources are best suited to address these questions (this last debate stems in large part from the unavailability of census microdata on living arrangements). These divergences require a thorough reconsideration of how household change is best defined and measured using available data opportunities.

Cross-Sectional and Longitudinal Approaches to Household Change

In addition to their different samples, prior conflicting claims on the nucleation of India’s joint households also stem from the different strategies that scholars have used to model residential variations. More specifically, the prior review highlights at least three approaches to define the transformation of the joint household.

The first approach defines household change as a transformation in broad patterns of interactions (especially in power relationships) taking place between household

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shows a proportional equivalent decrease between 2004-05 and 2015-16, that is, after the publication Allendorf’s study. Hence there is no strong trend toward household nucleation in the NFHS sample between 1992-93 and 2015-16, a similar conclusion reached using the NSS sample.
members. This approach predicts that a modern and more egalitarian joint household will eventually replace the patriarchal, traditional joint household. In this perspective, as Conklin intuited, household change may occur without any shift in patterns of composition. To measure such a change, one needs a typology that distinguishes households with same membership but with broadly different patterns of internal interactions. For instance, Ruggles and Heggeness (2008) offered a variant of this approach by distinguishing intergenerational households with a junior head from those with a senior head. However, the NSS dataset used in this paper does not permit to study this aspect of household change.

The second approach defines the nucleation of the joint household as a series of increases in the cross-sectional prevalence of nuclear households. This measure can be computed with relative ease where the data is available but entails a key analytical problem: cross-sectional distributions of household types can be highly sensitive to a population’s age and marital composition. Demographic factors may increase or decrease the number of kin available for coresidence in joint households, thereby causing variations in the prevalence of joint households in the absence of genuine changes in patterns of household formation.

Analyses of the cross-sectional prevalence of nuclear households, especially when they are carried out over a short time period, may also obfuscate the fact that households

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4 The NSS specifies that: “when there is an aged father who does nothing but has an adult son who actually runs the management of the house, the old father might still be deemed to be the formal head. However, it should be left to the members of a household to decide upon whom they consider to be the head of the household” (Minnesota Population Center 2017). In other words, headship in the NSS may be insensitive to key variations in intrahousehold dynamics.
are inherently dynamic entities undergoing various developmental processes of growth and
decline, as anthropologists and historians have long demonstrated (Fortes 1958, Berkner
1972). Some scholars have argued that these processes are in fact more legitimate objects
of analyses than the static household types they encompass (Netting et al. 1984). Recent
studies have underscored the importance of longitudinal residential processes as both
dependent and independent variables across a range of contexts (e.g., Winters et al. 2009;
Glick and Van Hook 2011; Ruggles 2011; Pearlman et al. 2017), leaving open the question
of how they can be linked to a broader study of modernization and household change.

Accordingly, a third approach to define household change in India is to measure
changes in households’ developmental processes. However, this approach entails problems
on two fronts. First, there is no nationally representative longitudinal dataset on residential
processes in India. Second, because the developmental trajectories of households observed
in any given population are often very diverse, it is not clear how to define a standard
developmental sequence against which to measure changes (Shah 1974; Verdon 1998;
D’Cruz and Bharat 2001). Nevertheless, because marriage is virtually universal in India,
one may examine changes in a decisive segment of the household’s life-cycle: postmarital
household separation (Pearlman et al. 2017).

Neolocal residence (where spouses set up their own household immediately upon
marriage) is very rare in India. With some notable exceptions (such as matrilocal
communities in the south or the northeast), residence in India is patrilocal, meaning that
most young couples move in husband’s parents’ house after marriage. The key nuance is
that some young married couples will remain in the husband’s parents’ house for only a
short period (for a few weeks, months or years), while others may continue to reside there more or less indefinitely. For instance, some young couples may wait until they have amassed enough resources to establish their own household. Others may move to and from the husband’s parents’ house through circular labor migrations. They may also be allowed to separate only after the marriage the husband’s sibling(s). There are even cases of parents rotating between their married sons’ households to assuage domestic tensions (Caldwell et al. 1988; Shah 1998). In contrast to these cases of temporary intergenerational coresidence, the ethnographic literature also highlights more permanent ones. Shah (1998) wrote of the pressure placed on only sons to coreside with their parents until their death. In some settings, the youngest son receives a larger or preferential share of the family property as a compensation for looking over his elderly parents while coresiding with them (Mandelbaum 1970; Caldwell et al. 1988). The ethnographic literature further shows that married sons asking for partition of the living arrangements before their father’s death violate several norms and ideals of joint family life (Shah 1974; Attwood 1995).

There is therefore a crucial difference between “temporary” intergenerational coresidence, which is associated with pre-mortem household partition (i.e., household division occurring before the father’s death), and “permanent” intergenerational coresidence, which is associated with post-mortem household partition (i.e., occurring after the father’s death). This distinction entails that a rising rate of premortem residential partition is the best single measure of household nucleation in the Indian context. While

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5 This distinction must not be confused with that between de facto and de jure residence. By “temporary” intergenerational coresidence, I mean de jure intergenerational coresidence interrupted before the death of the patriarch; by “permanent” intergenerational coresidence, I mean de jure intergenerational coresidence interrupted by or after the death of the patriarch.
this measure has several limitations (some parents may be dead before the marriage(s) of their son(s); married sons may leave their parents’ house shortly after marriage, but return later on, or else welcome their parents in their new house), the available evidence suggests that a household, once its married members have separated, is much more likely to stay divided than to reform permanently (Attwood 1995; Pearlman et al. 2017).

At a local level, one may measure an increase in rates of premortem household partition using a combination of ethnographic and longitudinal data. At the national level, however, options are more limited because most nationally representative datasets in India are cross-sectional. Given these limitations, the most reliable alternative (Ruggles 2012) remains to interpret long-term trends in household composition in key age groups, namely from the standpoint of young married adults whose parents are still alive or from the standpoint of older couples whose children are married. This alternative strikes a balance between cross-sectional and longitudinal approaches to household change. It also motivates an analytical focus on married couples in age groups most exposed to the risk of premortem residential partition.

**Measures of Living Arrangements**

Married couples are the most pertinent denominator for analyses household change in India: they form the core membership of joint households and marriage is virtually universal in India. This study thus focuses solely on the living arrangements of coresiding married couples. Following the methodology set out by Ruggles (2012), I analyze the living arrangements of young couples (with a husband between ages 30 and 39) separately from
those of elderly couples (with a husband aged 65 and over)\(^6\). I select these two age groups because I assume them to be the most exposed to the risk of premortem residential partitions; by contrast, middle-aged adults are more exposed to postmortem partitions and delays in marriage. In the absence of data on kin availability, I assume that most young couples are old enough to be capable of living on their own, but young enough to have surviving parents with whom they could alternatively coreside. Correspondingly, I assume that most elderly couples are old enough to have married children capable of living on their own, but with whom they could also coreside.

As shown in Table 2.1, I study the relative distribution of five major household types: 1) nuclear, 2) nuclear plus a lone parent from either spouse (hereafter supplemented-nuclear), 3) stem, 4) joint, 5) and a residual category. To ensure that the typology remains parsimonious while taking into account India’s patrilocal residential context, I distinguish these household types chiefly on the basis of their core membership of married couples related by patrifiliation, which directly links a married father to his married son(s). Households without a patrifiliative intergenerational core are included in a residual type (except for nuclear and supplemented-nuclear households). These residual types are only tangentially related to the modernization hypothesis and require a separate set of analyses (D’Cruz and Bharat 2001), a task exceeding the scope of this paper. Notable examples of this residual category include households where married brothers coreside in the absence of their father, households where a married couple lives with a widowed or separated

\(^6\) I carried out robustness checks using different age boundaries (from ages 25 to 45 for the younger age group, and ages 60+ to 70+ for the older age group); the results of these analyses remained substantively similar to those presented in later sections.
daughter and her children, or households where a married couple resides with the wife’s parents (or *ghar-jamai*; Shah 1974).

I focus on the distribution of household types 1 to 4 as these have been the most theorized arrangements in the ethnographic literature in India. Virtually all family scholars (see Kolenda 1987) define the nuclear household as a group formed around the coresidence of a couple with or without their unmarried children. They also all distinguish nuclear households from supplemented-nuclear households, where a couple resides with a lone parent from either spouse (as a result of widowhood, separation or divorce). Divorce and separation remain very uncommon in India, such that most supplemented-nuclear households include a widowed mother from either spouse. Supplemented nuclear households also differ from stem and joint households in at least one major respect: they are much more likely to be headed by the junior generation. Many studies have argued that widows typically have a lower decision-making power than elderly in intergenerational households (e.g., Das Gupta 1995, 1999).

[TABLE 2.1 HERE]

While some scholars do not distinguish between stem and joint households in their analyses (e.g., Shah 1998), I argue that broad contrasts in the determinants and prevalence of these two types strongly motivate this distinction in the Indian context. In the ethnographic literature (see mainly Kolenda 1987; Caldwell et al. 1988; Uberoi 2004), cases of permanent coresidence between a married man and two or more of his married

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7 Only 0.4% of the total population of India is divorced or separated, and less than 2% of all marriages in India end in divorce or separation (Jacob and Chattopadhyay 2016; Dommaraju 2016).
sons (i.e. joint households) are mostly seen as arrangements for upward socioeconomic and caste mobility. By contrast, households where a married man coresides with only one of his married sons (i.e. stem households) are mostly viewed as arrangements to ensure that parents receive adequate care in their old age. As a result, the coresidence of married brothers, even if held as an ideal in India, is relatively rare (especially after the father’s death; Attwood 1992).

Yet stem households in India cannot be directly assimilated to Le Play’s conception of the stem family. In historical Europe and North America, the stem household was part of a wider system of practices typically associated with individual property, impartible inheritance, and strategies of heirship (Verdon 1979, 1987, 1998). By contrast, households in India are tied to the practice of corporate ownership and partible inheritance of the family (or ancestral) property. In most of India, an individual has an inalienable right to a per stirpes share of any property inherited by his or her father, although this right is rarely enforced in the case of women (Agarwal 1994, 1997). Given these important differences in devolution practices, it is perhaps preferable to write of “stem-like” households in the Indian context. For simplicity’s sake, however, I continue to use the term stem household in this paper.

The distinction between stem and joint households is also central for understanding household change in India. The available evidence suggests that permanent joint household are mostly found among upper caste or class families, whereas permanent stem households are more prevalent in the general population (despite substantial regional variations; Kolenda 1987). Importantly, there is no historical evidence documenting a progressive
dissolution of joint households into nuclear households with stem households serving as an intermediary stage. In other words, an increase in stem households relative to joint ones does not mean that the joint household is nucleating, nor does a rise in stem households relative to nuclear ones signify a rejuvenation of the joint household system; nuclear, stem and joint households must be considered in relation to one another to properly assess the direction of household change in India.

Data and Sample

I use data from six rounds of India’s National Sample Survey (NSS) on employment and unemployment held at approximately five-year intervals between 1983 and 2009. All samples are harmonized and made available by IPUMS-International (Minnesota Population Center 2017). This harmonized dataset combines the largest sample size, the longest time frame, and the most precise measures of household composition of all comparable large-scale surveys in India. It also includes sample weights that can be used to compute nationally representative estimates of several demographic and socioeconomic indicators. To further assess the validity of the NSS estimates, I provide an appendix replicating my results using two other large-scale, nationally representative surveys on Indian households, namely the National Family Health Survey (NFHS) and India Human Development Survey (IHDS).

The NSS offers a de jure sample of the non-institutionalized population, defining the household as the group of people who normally reside together under the same roof.
and take food in the same kitchen (Bender 1967). I delineate household types using the family pointers developed by IPUMS-International (Sobek and Kennedy 2009).

**Socioeconomic Trends**

Tables 2.2 and 2.3 present the demographic and socioeconomic characteristics of young and elderly couples between 1983 and 2009. (I present these statistics for both husband and wife, but I carry out the upcoming analyses using only the husband’s characteristics, as analyses by the wife’s characteristics presented either very similar or weaker results.) These descriptive results show that India’s modernization has been relatively slow in the past decades. These trends are consistent with those reported in the Indian census and other studies of socioeconomic change (e.g., Dyson et al. 2004; Desai et al. 2010; Drèze and Sen 2013). They also show that India’s modernization has had slightly different implications for young and elderly couples.

[TABLE 2.2 HERE]

[TABLE 2.3 HERE]

Among younger couples (Table 2.2), urbanization has been very slow, having increased by only 3.5 percentage points over 25 years. Industrialization, as measured by the changing occupational structure⁸, has been more rapid. The most notable occupational

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⁸ To measure changes in the occupational structure, I divide all occupations into five broad categories. First are individuals declaring that they are either “self-employed” or “doing unpaid family work” in the agricultural sector; I categorize them as working on the family farm. Second are those declaring that they are either “self-employed” or “doing unpaid family work” in all sectors other than agriculture; I categorize them as working in the family business. Third are people declaring that they are working for daily wages or a
changes have been the decline of family farming (from 31.8 to 24.5 percent) and the increase in employment in the family business (from 17.3 to 23.81 percent). Despite large oscillations, daily labor and salaried jobs also appear to be on the rise (although not decidedly so), increasing more than 4 percent over 25 years. Unemployment fluctuates between roughly 3 and 4 percent every year, with the exception of 2009 where it sits at 0.6 percent (an exceptionally low figure that must be interpreted cautiously). Small increases in the mean age of both spouses reflect India’s ongoing population ageing. Overall, the most salient socioeconomic change among young couples has been the expansion of schooling. The proportion of married young men with less than a primary school degree decreased by almost 50 percent. This increase in educational attainment has been even more pronounced for women, thereby narrowing the gender gap in education – although this gap remains large even in 2009.

Among elderly married couples (Table 2.3), urbanization has also been slow yet slightly more rapid than among young couples, which could partly reflect the higher life expectancy of urban dwellers. Relatedly, the average age of elderly married men has not increased since 1983, but their wife’s age has increased by almost three years, potentially a result of women’s larger gains in life expectancy. Both husband and wife have made substantial gains in education, although somewhat less markedly than among younger couples. Employment in the family farm, business or in the labor market remained fairly stable among elderly couples (aside from a decline in farming in 2009). The largest socioeconomic changes occurred among retirees and the economically inactive: the

salary. Fourth are those declaring to be either unemployed or inactive. Fifth are individuals who are retired with a rent or pension.
proportion of elderly married men retired with a rent or pension more than quadrupled over 25 years, whereas the proportion of inactive elderly with neither rent nor pension has decreased by roughly a third.

**Trends in Living Arrangements**

Was there a strong increase in nuclear households coupled with a decline in stem and joint households in India during the past decades? Are trends and differentials in nuclear households observed by urban and rural residence, occupation and educational attainment consistent with the predictions of the modernization hypothesis? In the present section, I answer these questions relying on descriptive analyses of patterns of household composition. First, I describe national trends in the prevalence of the major household types presented above. Second, to simplify the interpretation of the results, I restrict my analyses only to nuclear households and assess whether their prevalence differs by place residence, occupation and education. Socioeconomic differences in the prevalence of nuclear households are sufficiently telling to directly address key predictions of the modernization hypothesis.9

The main difficulty encountered in these analyses is to assess the confounding impact of changes in the availability of kin for coresidence. In the absence of individual-

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9 In most socioeconomic categories, there is no significant association between changes in the prevalence of nuclear households and changes in the ratio of stem to joint households (results available upon request). Household nucleation seems to disproportionately affect joint households (relative to stem ones) only among farmers and uneducated couples, but by a very small margin.
level data on kin availability, the only available option is to “anticipate the potential effects of demographic conditions on the availability of kin” (Ruggles 2012).

National Trends

Figure 2.1 presents national trends in household composition between 1983 and 2009 for young and elderly couples. On the whole, patterns of household composition have been remarkably stable during this period, a key finding considering India’s slow but steady economic modernization in the last three decades. This does not mean, however, that the Indian household has been stationary: the historical literature shows that some household changes can be very slow yet seemingly irreversible in the long run (Ruggles 2007).

[FIGURE 2.1 HERE]

Among young couples, there was no clear trend toward household nucleation; the rise in the prevalence nuclear households observed between 1983 and 1993 is followed by a commensurate decline up to 2004. Steadier changes are under way among elderly couples, for whom the prevalence of nuclear households increased by more than 6 percentage points over 25 years, reaching in 2009 a proportion nearly equal to that of stem households. To further examine these variations, Figure 2.2 shows trends in the ratio of nuclear to stem and joint households, as well as in the ratio of stem to joint households, for young and elderly couples. Among young couples, the ratio of nuclear to stem and joint households decreased sharply between 1993 and 2009 (from 3.85 to 2.75), whereas it increased by nearly 20 percent among elderly couples (from 0.64 to 0.76). As noted
decades ago by Orenstein (1961) and Caldwell et al. (1988), stem households are much more prevalent than joint ones among both young and elderly couples. The ratio of stem to joint households also increased more markedly for elderly couples than for young couples.

[FIGURE 2.2 HERE]

Fertility and mortality decline may well have played a major role in explaining household trends observed among young couples. Fertility decline in most of India began sometime between the mid-1960s and the mid-1970s; India’s total fertility rate dropped from 6.5 children per women in the 1960s to roughly 3.5 children per woman in the 1990s (Dyson et al. 2004). Given a lag of 20 to 30 years after the onset of fertility decline, this means that men married from the 1990s onward have had on average fewer brothers than men from prior marriage cohorts; having fewer brothers, in turn, should have increased their risk of coresiding with their parents. As for the impact of mortality decline, the sharp increase in stem households happened symmetrically to a decrease in supplemented-nuclear households and therefore may well be a consequence of rising life expectancy. This suggests that rates of postmortem residential partition are decreasing among young couples because their parents live longer. However, these results do not provide any evidence that rates of premortem partition are either increasing or decreasing at younger ages.

By contrast, the effect of mortality and fertility decline on the living arrangements of elderly couples has likely been less important. The role of mortality decline should be minimal because measures of living arrangements for elderly couples are conditional on survival to age 65. Fertility decline may be linked to increases in the prevalence of nuclear households (because more couples are childless) and in the ratio of stem to joint households
(because more couples have only one son). This is consistent with numbers observed on Figure 2.2, although scholars have argued that the effect of fertility decline on the living arrangements of the elderly tends to be marginal (see Ruggles and Heggeness 2008). Moreover, the completed family size of India’s elderly cohorts between 1983 and 2009 remained high (Spoorenberg 2010).

Delays in marriage could also explain the increase in nuclear households among elderly couples. Between 1983 and 2009, the NSS data shows that the singulate mean age at marriage increased from 23.1 to 25.5 years for men, and from 18.3 to 21.3 years for women (author’s own calculation; results available upon request). A rising age at marriage, especially among men, may increase the cross-sectional prevalence of nuclear households without increasing rates of premortem partition among married couples. However, I do not expect marriage delays to entirely explain the rising prevalence of nuclear households measure among the elderly because the distance between generations is relatively short in India. In support of this claim, I still measure an increase of six percentage points in the prevalence of nuclear households among elderly couples aged 70 or more.

On balance, anticipating the impact of demographic factors on kin availability for coresidence, the results presented in Figures 1 and 2 suggest that rates of premortem household partition have been mostly stable among young couples but could be modestly increasing from the standpoint of elderly couples. Neither trend reflects a fundamental change in national household patterns. There was no large increase in nuclear households linked to a sizeable decline in stem and joint households. Similarly, there is no strong evidence showing that joint households are being progressively divided into stem one, as
their ratio follows a trend consistent with the impact of fertility decline on kin availability for coresidence.

*Trends by Rural and Urban Residence*

Are nuclear households more prevalent in urban areas than in rural areas? The short answer is, no. As shown in Figure 2.3, the urban-rural gap in nuclear households in India is neither large nor expanding. Among young couples, this gap was once sizeable but has narrowed considerably after 2004. Among elderly couples, rural households have become more predominantly nuclear than urban households from 1993 onwards, although this gap is not statistically significant (at p<0.05) in 2004 and 2009.

[FIGURE 2.3 HERE]

Demographic factors may partly explain the absence of a strong urban trend toward household nucleation among young couples, but not among elderly couples. In India, fertility and mortality have long been lower in urban areas, while age at marriage is typically lower in rural areas (IIPS and ICF 2017). As a result, the probability of forming nuclear households in urban relative to rural areas should be lower at younger ages, but higher at older ages. In the absence of demographic change, therefore, the prevalence of nuclear households among rural elderly couples would likely have been higher.

Several factors may play a role in the slightly lower prevalence of nuclear households measured among elderly couples in urban areas. Rising housing costs and high population density in cities could increasingly hinder the ability of young and elderly urban couples to form independent households (Ruggles and Heggeness 2008). Similarly, a
theme often echoed in the ethnographic literature is that elderly farmers find it increasingly difficult to recruit their sons in joint residential and economic ventures (Agarwal and Agrawal 2017). Although this could stem from the increasing attractiveness of urban employment among the rural youth (Dandekar 1986), rural-urban migrations cannot entirely explain this trend as urbanization among young couples has been comparatively slow.

Overall, the negligible rural-urban gap in nuclear households contradicts a key prediction of the modernization hypothesis but must also be interpreted cautiously. Dyson (2010: 26) has argued that “many areas that are currently classed as ‘rural’ actually have urban characteristics and should be reclassified”. He cites Visaria (2000) who noted that more than 13,000 villages had populations of 5000 or more in the 1991 census – had these villages been reclassified as urban areas, India’s level of urbanization “would have been raised from 26 to 39 per cent” (Dyson 2010: 26). Insofar as such a misclassification occurred in the NSS, the observed gap in living arrangements between rural and urban areas could be biased downward.

_Trends by Husband’s Occupation_

Figure 2.4 presents trends in nuclear households by husband’s age and occupation. Among young couples, the prevalence of nuclear households is highest in occupations other than family farming. In comparison to farmers, the prevalence of nuclear households is roughly 10 percentage points higher among workers employed in a family or self-own
business, and 20 percentage points higher among salaried workers. These occupational differences have remained stable over time.

[FIGURE 2.4 HERE]

Among elderly couples, the prevalence of nuclear household is lowest for couples whose husband is inactive and does not receive any rent or pension. This finding is consistent with the claim that intergenerational coresidence often serves as a mechanism ensuring that elderly parents receive adequate care when they are unable to work or fend for themselves (Das Gupta 1999). Moreover, nuclear households are on average 25 percentage points less prevalent among those inactive without a pension compared to their counterparts with a pension, a sizeable gap considering the context of India’s population aging. Among elderly married men still in the labor force, large increases in nuclear households occurred for farmers and for those employed for a wage or salary. Crucially, most elderly married men working for a salary or wage are categorized as daily laborers, as more than 80% of them hold less than a primary school degree.

Overall, occupational differences in patterns of living arrangements are consistent with predictions of the modernization hypothesis and are likely not the result of demographic factors, as there is ample demographic heterogeneity within occupational categories. As shown in Tables 2.2 and 2.3, there has been a slow shift away from occupations in which nuclear households are the least prevalent, namely farming and retirement without rent or pension. However, among young couples, the pace and the direction of occupational diversification in India has limited its impact on household nucleation: there has been a decline in family farming, but the concomitant increase in non-
farming jobs has mainly occurred in family business, where the prevalence of nuclear households is lower than among those employed for a salary or wage. By contrast, the rise of retirement pensions has been more rapid than the decline of farming and may have a major impact on the living arrangements of the elderly in coming decades.

*Trends by Husband’s Educational Attainment*

Figure 2.5 presents trends in nuclear households by husbands’ age and education. Among young couples, educational differences in nuclear households are pronounced but run counter to predictions of the modernization hypothesis. The prevalence of nuclear households is much higher (on average 15 percentage points) among less educated couples than among college-educated couples. What is more, this gap has increased over time: the prevalence of nuclear households among less educated couples rose by more than 10 percentage points between 1983 and 2009, whereas it slightly decreased among college-educated couples.

Crucially, this negative educational gradient can be interpreted in occupational terms. Between 1983 and 2009, among young married men with less than a primary school education, the proportion of family farmers decreased from 36% to 24%, whereas the proportion of those employed for salaries or wages (most of them as daily laborers) increased from 46% to 59%. During the same period, among their counterparts with a college degree, the proportion of workers employed for a salary or wages decreased from 73% to 58%, whereas the proportion of workers employed in the family business (where the prevalence of nuclear households is lower) increased from 18% to 32%. These trends
can be linked to the growing literature on India’s jobless economic growth (see Joshi 2010 for an overview), which highlights that employment growth in India in the past decades has barely absorbed labor force growth. As a result, “[i]n the organised sector, employment is utterly stagnant… Jobs are being produced only in the informal, unorganised sector. Many of these are purely notion jobs of low quality” (Joshi 2010: 101). These results suggest that the economic stagnation or even pauperization (Thorat et al. 2017) occurring among the least educated are potent drivers of household nucleation among young couples. That is, the highest rates of household nucleation are not found among those who are at the forefront of modernization, but among those who have been left behind by recent economic advances.

Among elderly couples, the association between educational attainment and household composition is positive, as predicted by the modernization hypothesis, but less pronounced. There are virtually no differences between the living arrangements of elderly couples with less than a primary school degree and those with a primary or a secondary school degree. The gap in the prevalence of nuclear households between the least and most educated elderly couples is smaller than that observed at younger ages (roughly 5% on average), and is statistically significant only in 2004 and 2009. In short, elderly married men with a college education are much more likely to be rentiers or pensioners than their less educated counterparts. Notably, in 2009, roughly 70% of elderly college-educated married men were retired with a rent or pension, compared to 12.5% among those with less than a primary education. Controlling for these large differences in occupation, the (within-
prevalence of nuclear households tends to be higher among those with less than a primary school education, although this paradox must be interpreted cautiously because of low sample sizes (results available upon request).

In both age groups, educational differences in household composition may be partly due to demographic factors. In India, higher education is associated with lower fertility and mortality, and higher age at marriage; these parameters are associated with a higher risk of intergenerational coresidence from the junior generation’s standpoint, and vice versa from the senior generation’s standpoint. Importantly, however, demographic factors alone cannot explain the large and growing educational gap in living arrangements observed among young couples because even the uneducated experienced sharp mortality and fertility declines in past decades (IIPS and ICF 2017).

To the extent that demographic factors do not entirely explain educational differences in household composition, socioeconomic factors likely play an important role. To further explore this claim, Figure 2.6 details trends in living arrangements for young couples by husband’s occupation and education. The negative association between household nucleation and husband’s education (at younger ages) holds even after controlling for husband’s occupation. Notably, from 2004 onward, the prevalence of nuclear households has been higher among uneducated farmers than among college-educated salaried workers, a finding that directly contradicts a key prediction of the modernization hypothesis.

[FIGURE 2.6 HERE]
Addressing the role of socioeconomic factors, a key hypothesis in the literature is that poor and less educated people often need to migrate to find employment, which in turn may prevent the formation of permanent stem and joint households (Dandekar 1986; Pearlman et al. 2017). However, the role of migration must not be overstated. The NSS collected data on household migrations in 1983, 1987 and 1999. These data measure permanent household migrations (as opposed to more temporary moves such as seasonal labor migrations) and do not show that less educated people are more mobile than their more educated counterparts – in fact, the opposite prevails\textsuperscript{10}. These results suggest that educational differences in living arrangements are not mainly driven by the higher mobility of less educated couples.

Another hypothesis suggests that incentives in favor of joint coresidence, or deterrents against premortem residential partition, are greater in wealthier and more educated families (Pearlman et al. 2017). For instance, parents in more educated families may have more economic resources at their disposal to convince their married son(s) to collaborate in joint economic ventures, especially in comparison to poor farmers; having more resources may also give them a higher bargaining power, helping them thwart the claims of a married son asking for partition of the living arrangements. Similarly, parents may be more likely to reside with their wealthiest or most educated son (when they have more than one), which would favor a higher prevalence of nuclear households among their

\textsuperscript{10} In all three survey waves, an average of roughly 90\% of young married men with less than a primary school degree declare that they have not migrated from their “last usual place of residence” (i.e., administrative unit), compared to 65\% among young college-educated married men. This gap is even wider if we restrict the sample to those currently residing in a nuclear household (results available upon request).
less-educated siblings. Further research is needed to adjudicate between these potential explanations.

Discussion

On balance the results presented in this paper highlight the stability of living arrangements in India between 1983 and 2009. During this period, despite India’s ongoing modernization, the prevalence of nuclear households increased only modestly. This trend signals a marginal increase in rates of premortem residential partitions – mostly visible from the standpoint of older age groups – but does not reflect a fundamental change in patterns of household formation and composition for the country as whole. The fact that the prevalence of stem and joint households remained almost constant over time, and even increased in younger age groups, further supports this conclusion.

This does not mean, however, that the Indian household has been inert and stationary. Rather, this study shows that India’s modernization is not a monolithic process leading to an inexorable increase in nuclear households, but instead hides multiple countervailing forces that both foster and curtail household nucleation. The decline of farming and the rise of retirement pensions are linked to a higher prevalence of nuclear households, but occupational changes in India have been relatively slow and thereby have not led to large shifts in household composition at the national level. Urbanization is not evidently associated with a higher prevalence of nuclear households in urban areas, but is linked to a transformation of residential processes within rural areas – such as the increase in household nucleation among elderly rural couples, especially elderly farmers. Nor is
educational expansion associated with higher rates of household nucleation among young couples, because household nucleation has long been highest among the least educated – who now form a declining share of the population. A striking outcome of these competing trends is that nuclear households have recently become more prevalent among young uneducated farmers than young college-educated salaried workers. These findings show that the transformation of the Indian household is as much a story of modernization and social change, as one of persistent socioeconomic inequality.

Yet these results must be interpreted cautiously. Cross-sectional distributions of household types also do not allow us to definitely distinguish temporary stem and joint households from permanent ones. The NSS data does not provide information on kin availability for coresidence, which makes it difficult to measure to which extent changes and socioeconomic differences in household composition are entirely driven by demographic factors; it also does not precisely measure patterns of intergenerational and gender interactions within households, thereby not addressing the hypothesis that stem and joint households in India are becoming more egalitarian. Despite these limitations, the findings presented in this paper are robust to alternative specifications and have been replicated using nationally representative datasets from other major Indian surveys (see Appendix).

Moving forward, a more thorough approach to household change in India will require determining why households normally grow to a permanent stem or joint level in some locations or socioeconomic strata but not in others, or else why complex households split at varying rates in different subpopulations and at different periods. Notably, future
research should investigate why nuclear households have become increasingly prevalent in low socioeconomic strata, but also why stem and joint households continue to thrive in high socioeconomic strata. An exhaustive study of these variations will ultimately necessitate a combination of ethnographic and longitudinal data on the precise timing and sequencing of residential events.

Many of the trends described in this study run counter to predictions of the modernization hypothesis; however, they also indicate that modernization remains a relevant parameter of household change and stability. In line with recent studies in the comparative and historical literature on households (e.g., Demont and Heuveline 2008; Szoltysek et al. 2011), this paper shows that the key tenets of the modernization hypothesis reveal as much as they conceal. Modernization, once better defined, need not only (and teleologically) lead to household nucleation (Ruggles and Heggeness 2008). For example, urbanization alone connotes several definitions, such as rural exodus of the youth, rising housing costs in cities, the spread of urban culture and individualism – all of which may have different impacts on the rural-urban gap in household composition. That is, modernization remains a legitimate starting point to study household change but must be conceptualized and contextualized with more precision before its impact on living arrangements can be properly assessed.

**Appendix**

To further evaluate findings from the NSS data, I replicate my results using two other large-scale, nationally representative surveys on Indian households: the National
Family and Health Survey (NFHS), held between 1992-93 and 2015-16, and the Indian Human Development Survey (IHDS), held between 2004-05 and 2011-12. The NFHS has a time frame and sample size similar to those of the NSS, but does not contain information on the living arrangements of elderly couples not residing with a woman of reproductive age. By comparison, the IHDS has a much smaller sample size and time frame than both the NSS and the NFHS, but includes a small random sample of elderly couples.

There is one key divergence between the three datasets. This difference is consistent over time: among young couples (husband between ages 30 and 39), the average prevalence (over all survey years) of nuclear households is much higher in the NSS (59.6%) than in the NFHS (49.6%) and the IHDS (46%). By comparison, among elderly couples (husband aged 65 and over), the average prevalence of nuclear households is very similar between the NSS (35%) and the IHDS (35.3%). It remains unclear why the NSS provides a comparatively higher estimate of the prevalence of nuclear households at younger ages; differences in sampling frame, or differences in how enumerators have delineated households (although all three datasets use virtually identical definitions of the household) could be at play.

Nevertheless, neither the NFHS nor the IHDS show a strong trend toward household nucleation among young couples during the past decades. This is consistent with findings obtained using the NSS data. Using the NFHS data, I estimate that the prevalence of nuclear households among young couples went from 46.5% in 1992-93 to 47.6% in 2015-16. By comparison, using the IHDS data, I estimate that the prevalence of nuclear households decreased from 47.8% in 2004-05 to 44.1% 2011-12. The IHDS data also
shows that the prevalence of nuclear households among elderly couples increased from 32.7% in 2004-05 to 37.8% in 2011-12, which is similar to the NSS’ estimates at older ages.

Importantly, the NFHS and IHDS show a strong negative association between education and the prevalence of nuclear households among young couples, and this negative association is growing over time in both datasets, which is consistent with the NSS results. In the NFHS data, on average, the prevalence of nuclear households among young couples with less than a primary education is roughly 20 percentage points higher than that observed among their college-educated counterparts; this gap is virtually equal to the one measured in the NSS. By comparison, this gap is much larger (roughly 30 percentage points) in the IHDS data.

The NFHS and the IHDS also do not show a strong urban-rural gap in the prevalence of nuclear households, which is in accord with findings from the NSS. Notably, in 2011-12, the IHDS shows that rural households are more predominantly nuclear than urban ones among both young and elderly couples.

Overall, these replications largely support findings obtained using the NSS data, but with an important nuance: the NFHS and NSS suggest that there are more stem and joint households in India than estimated in the NSS. Nevertheless, there is no evidence that stem and joint households are on the decline in India, nor that modernization clearly entails household nucleation among highly-educated urban elites.
References


Table 2.1 – Definitions of Household Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Household</td>
<td>A married couple with or without unmarried children.</td>
</tr>
<tr>
<td>Supplemented-Nuclear</td>
<td>A married couple with or without unmarried children, plus a lone parent from either spouse.</td>
</tr>
<tr>
<td>Household</td>
<td></td>
</tr>
<tr>
<td>Stem Household</td>
<td>At most two married couples (with or without unmarried children) related by patrification; can include any additional person, couple or family unit.</td>
</tr>
<tr>
<td>Joint Household</td>
<td>At least three married couples (with or without unmarried children) related by patrification; can include any additional person, couple or family unit.</td>
</tr>
<tr>
<td>Residual Type</td>
<td>Any household that is not nuclear, supplemented nuclear, stem or joint.</td>
</tr>
</tbody>
</table>
Table 2.2 – Selected Economic and Demographic Characteristics of Young Married Couples (Husband’s Age: 30-39), India 1983-2009

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Residence</td>
<td>0.25</td>
<td>0.24</td>
<td>0.26</td>
<td>0.27</td>
<td>0.27</td>
<td>0.29</td>
</tr>
<tr>
<td>Husband’s Age</td>
<td>33.57</td>
<td>33.57</td>
<td>33.71</td>
<td>33.87</td>
<td>34.03</td>
<td>34.01</td>
</tr>
<tr>
<td>Wife's Age</td>
<td>28.27</td>
<td>28.46</td>
<td>28.80</td>
<td>29.19</td>
<td>29.45</td>
<td>29.58</td>
</tr>
<tr>
<td>Husband’s Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed on Family Farm</td>
<td>0.32</td>
<td>0.29</td>
<td>0.27</td>
<td>0.26</td>
<td>0.26</td>
<td>0.24</td>
</tr>
<tr>
<td>Employed in Family/Own Business</td>
<td>0.17</td>
<td>0.19</td>
<td>0.20</td>
<td>0.21</td>
<td>0.26</td>
<td>0.24</td>
</tr>
<tr>
<td>Salary/Daily Labor</td>
<td>0.47</td>
<td>0.48</td>
<td>0.50</td>
<td>0.49</td>
<td>0.45</td>
<td>0.51</td>
</tr>
<tr>
<td>Unemployed/Inactive</td>
<td>0.04</td>
<td>0.04</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
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N (unweighted)            | 33,920| 38,105| 35,279| 37,232| 38,487| 30,326|

Notes: Estimates of means and proportions obtained using survey weights. Source: NSS
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Notes: Estimates of means and proportions obtained using survey weights. Source: NSS.
Figure 2.1 - Household Composition by Husband's Age, India 1983-2009

Source: NSS
Figure 2.2 - Ratios of Selected Household Types by Husband's Age, India 1983-2009

Husband's Age: 30-39
Husband's Age: 65+

Source: NSS
Figure 2.3 - Nuclear Households by Husband's Age and Place of Residence, India 1983-2009

Source: NSS
Figure 2.4 - Nuclear Households by Husband's Age and Occupation, India 1983-2009

Source: NSS
Figure 2.5 - Nuclear Households by Husband's Age and Education, India 1983-2009

Source: NSS
Figure 2.6 - Nuclear Households by Husband's Occupation and Education, Young Couples, India 1983-2009

Source: NSS
CHAPTER 3:
MODERNIZATION AND INTERSTATE VARIATIONS IN HOUSEHOLD COMPOSITION IN INDIA\textsuperscript{11}

Introduction

For decades, social scientists have debated the hypothesis that modernization – defined as urbanization, industrialization and educational expansion – would cause a worldwide convergence to small and nuclear households (Goode 1963; Thornton 2005). In recent years, scholars have revived this debate using newly harmonized data on living arrangements (Bongaarts 2001; Bongaarts and Zimmer 2002; Ruggles and Heggeness 2008; Ruggles 2009, 2010; Spijker & Esteve 2011). They have found that modernization has not caused a strong international convergence toward nuclear households but that it remains a significant predictor of household change in several settings (e.g., De Vos and Lee 1993; Spijker and Esteve 2011), even if sometimes in unexpected directions (Demont and Heuveline 2008). These results underscore the need to further examine the relationship between modernization and household change within specific countries and regions, both at the national and sub-national level.

In this article, I build on a prior analysis of household change carried out at the national level (Breton n.d.) to study how modernization is linked to sub-national or interstate variations in household composition in India. Given India’s demographic prominence and traditional “joint household system” (in which parents reside with two or more of their married sons), the nucleation of the Indian household has long been a

\textsuperscript{11} A version of this chapter was presented as “Interstate Variations in Household Composition, India 1983-2009” at the Population Association of America 2018 Annual Meeting, April 2018, Denver, CO, USA.
paradigmatic case of the modernization hypothesis (Cherlin 2012). However, scholars still debate whether economic development and demographic changes have caused India’s joint households to nucleate during the past decades (Shah 1998, 1999; Uberoi 2004; Niranjan et al. 2005; Allendorf 2013).

As this debate continues, the regional variations underlying national trends in household composition remain largely unexplored. Yet India is known to be a land of sharp regional contrasts. There is a vast literature on India’s regional demography (e.g., Dyson and Moore 1983; Drèze and Sen 1997), but its regional variability in living arrangements has received far too little attention. The most important contribution to this field of inquiry remains Kolenda’s splendid *Regional Differences in Family Structure in India* (1987), whose analyses are mostly limited to data from the 1950s and 1960s. Recent studies have documented broad regional contrasts of living arrangements, but only cursorily (Niranjan et al. 2005; Allendorf 2013).

Furthermore, there is at least indirect evidence that living arrangements play a significant role in India’s regional demography. In their seminal article on the demographic divide between north and south India, Dyson and Moore (1983) posited that “[g]reater acceptance of family planning in areas of southern kinship may well be due in part to the fact that women there are less likely to be constrained by the influence of senior wives in a joint family situation” (49); by contrast, in north Indian kinship regimes, the greater emphasis on “patrilineal descent and the need to control and resocialize in-marrying females promote joint families” (56). Household composition has since been shown to be a key predictor of several sociodemographic outcomes in India, such as women’s autonomy.
and reproductive health (Jejeebhoy and Sathar 2001; Bloom et al. 2001; Mistry et al. 2009; Allendorf 2012; Coffey et al. 2016), son preference (Miller 1981; Das Gupta et al. 2003), investments in children (Myroniuk et al. 2017), and domestic violence (Fernandez 1997; Bhattacharya 2004). In a recent article on the impact of inheritance law reforms on women’s autonomy across Indian states, Mookerjee (2017) found that “the positive effect of the reform on women’s autonomy is achieved, to a considerable extent, through a shift in family structure from traditional joint setups to smaller nuclear households” (16).

This article examines interstate variations in household composition between 1983 and 2009 as a first step toward of more comprehensive assessment of India’s regional variability in living arrangements. Using data from six rounds of the National Sample Survey (NSS) harmonized by IPUMS-International (Minnesota Population Center 2017), I ask four main questions. First, are there significant differences in household composition among Indian states? Second, are these variations entirely the result of key demographic and economic differences among states? Third, is there evidence that Indian states are converging to higher levels of prevalence of nuclear households? Fourth, do demographic change or economic modernization (i.e. urbanization, industrialization and educational expansion) explain this convergence?

To answer these questions, I apply the approach developed by Ruggles (2009, 2010) in a recent series of papers on intergenerational coresidence. I find that there are significant regional differences in patterns of household composition, chiefly between south India (except Karnataka), where joint households are rare, and several states located in the Indo-Gangetic Plain, where the prevalence of joint households is highest. Indicators
of demographic change and economic modernization account for roughly half of these regional differences, although demographic covariates are far better predictors than economic ones. I also measure a modest nationwide within-state increase in the prevalence of nuclear households, but only among elderly couples. Further results show that demographic factors – mostly delays in marriage – have likely contributed to this slow convergence toward nuclear households, whereas economic modernization – especially educational expansion – may have slowed it down. On balance, I conclude that economic modernization is a significant albeit weak predictor of interstate variations and trends in living arrangements in India.

**Background**

The literature on modernization and household change in India spans multiple decades and has already been the focus of several in-depth theoretical reviews (Shah 1974; D’Cruz and Bharat 2001; Breton n.d.; see Cherlin 2012 and Ruggles 2012 for international and historical perspectives). Instead of expanding on this effort, the present review takes stock of recent national trends in household composition and of regional variations in living arrangements documented in the literature.

There is no conclusive empirical evidence that modernization caused a strong household nucleation at the national-level in India. In recent decades, some empirical studies measured a strong increase in the prevalence of nuclear households (e.g., Niranjan et al. 2005; Allendorf 2013), while others found that patterns of household composition have remained mostly stable (e.g., Bongaarts and Zimmer 2002; Ruggles 2010). A prior
study using data from the NSS between 1983 and 2009 (the same dataset used in the present article) measured only a modest increase in the national prevalence of nuclear households during this period (Breton n.d.). This study found that occupational diversification and the decline of farming are broadly linked to a rising prevalence of nuclear households, although that the same cannot be said of urbanization and the expansion of schooling. Contrary to prior claims (Shah 1974, 1998; Caldwell et al. 1988), nuclear households are most prevalent not among young highly educated professionals, but among their less educated counterparts. At older ages, nuclear households have been most prevalent among uneducated laborers and have increased sharply among farmers. These results suggest that the strongest driver of household nucleation has not been the emergence of a westernized or modern elite, but the economic stagnation or pauperization of vulnerable segments of the population who have been left behind by modernization.

In contrast to the sizeable literature on national household change in India, the literature on regional variations in household composition is comparatively scant (outside of ethnographic studies). The main empirical evidence on these variations can be found in the work of Kolenda (1987), who used district-level data from the 1961 census, as well as meta-analyses of ethnographic surveys, to study living arrangements in early postcolonial India.

Kolenda found the prevalence of joint households to be highest in the Indo-Gangetic plain, and lowest in northeast and south India, with the rest of India typically situated between these two opposites. Her analyses of census data show that joint households tend to be less prevalent in districts where women have a higher bargaining
power, as measured by their higher education, participation in the industrial labor force, higher rates of divorce, and higher physical proximity to their natal kin. Other district-level variables broadly related to modernization – such as average size of landholdings, percent employed in agriculture (for men and women), sex ratios, average family size – were not significantly associated with the prevalence of joint households. Kolenda’s ethnographic analyses highlight similar patterns and further reveal that joint households are rarest among low castes families, leading her to hypothesize that “joint families are a result of shortage of space, both for residences and for cultivation” (1987: 152).

However, these findings must be interpreted cautiously. Because Kolenda mostly used cross-sectional data collected at only one point in time (except in her seminal study of Lonikand), she could not draw inferences on long-term trends in household formation and therefore could not investigate the temporal component of the modernization hypothesis. Her cross-sectional measures also do not control for the impact of age and other demographic factors on household composition. Yet these factors determine the availability of kin for coresidence and thereby may strongly influence the prevalence of joint households (Ruggles 2012). For instance, insofar as fertility has long been lower in south India (Dyson et al. 2004), demographic factors could partly account for the lower prevalence of joint households in this region.

Furthermore, much of Kolenda’s work does not address the distinction between stem households (in which a married couple resides with only one of their married sons) and joint households (in which a married couple resides with two or more of their married sons) because she often had to rely on imprecise data on household membership. Yet there
is ample evidence showing that this distinction is essential in the Indian context\(^{12}\). Many scholars have argued that stem households are – and have long been – much more prevalent than joint households in the general population, whereas joint households are concentrated among families of higher caste or class (Orenstein 1961; Caldwell et al. 1998; Uberoi 2004). These studies suggest that stem households are formed mainly to ensure the support of elderly parents, whereas joint households would be a mean for achieving upward socioeconomic (and status) mobility for family. One would therefore expect regional variations in the prevalence of stem households to be less pronounced than variations in the prevalence of joint households: ageing in the absence of a retirement home system is a constraint on living arrangements experienced throughout India, whereas joint households require economic resources and demographic opportunities (i.e., a man must have two or more married sons, which is likelier in higher fertility settings) which may vary more substantially across regions. Lastly, studies using international samples also suggest that modernization is typically a better predictor of the prevalence of stem households than that of joint households (Ruggles 2010; Gruber and Szoltysek 2012).

Despite the expansion of microdata on households, the recent literature has neither build on nor furthered Kolenda’s interdisciplinary contribution. While some scholars have documented regional household patterns similar to those highlighted by Kolenda, they have not investigated the matter in detail (Niranjan et al. 2005; Allendorf 2013). In short, there is simply a need to revisit the study of regional variations in living arrangements in India using more recent data and methods.

\(^{12}\) However, stem households in India cannot be directly equated with Le Play’s conception of the stem family (Breton n.d.).
Data

I use data from six rounds of India’s NSS on employment and unemployment held at approximately five-year intervals between 1983 and 2009. The NSS offers a *de jure* sample of the non-institutionalized population and defines the household as the group of people who normally reside together under the same roof and take food in the same kitchen. All samples were harmonized and made available by the IPUMS-International Project (Minnesota Population Center 2017). This dataset has the longest time frame and largest sample size of any large-scale sociodemographic survey in India; it also offers precise measures of household composition due to efforts by IPUMS-International to delineate family relationships within households (Sobek and Kennedy 2009).

I study the 21 most populous Indian states as per the 2011 census, excluding Delhi. To maintain consistent geographical boundaries across survey rounds, I merge the newly created states with their original state (Telangana absorbed in Andhra Pradesh, Jharkhand in Bihar, Uttarakhand in Uttar Pradesh, and Chhattisgarh in Madhya Pradesh). My final working sample comprises 17 states surveyed on six occasions over more than 25 years (N=102). I use harmonized survey weights to estimate state-level demographic and socioeconomic characteristics, as well as measures of living arrangements.
Measures of Living Arrangements

The cross-sectional format of the NSS data imposes two key constraints on measures of living arrangements: they must control for age and use a typology that is both parsimonious and adapted to India’s sociocultural context.

Cross-sectional measures of living arrangements are sensitive to variations in a population’s age and marital composition. Mortality and fertility decline tend to have opposite effects on the probability of intergenerational coresidence among young and old people (Ruggles and Heggeness 2008). It is also essential to know whether household variations are driven by the changing characteristics of junior or senior generations. Furthermore, the best indicator of household nucleation in India is an increase in rates of premortem household partitions (son(s) separating from their father’s household before his death); yet there is no nationally representative longitudinal dataset in India to measure these rates directly. Hence the best alternative using cross-sectional data is to measure long-term trends in household composition in age groups for whom household changes are most likely to be driven by premortem partitions – that is, from the standpoint of young married men whose parents are still alive and from the standpoint of older married men whose children are married.

Accordingly, I study the living arrangements of young couples (which I define as coresiding married couples with a husband aged 30 to 39) separately from those of elderly couples (which I define as coresiding married couples with a husband aged 65 or more). I focus on couples because marriage is virtually universal in India and because only married couples are at risk of being core members of stem and joint households. In the absence of data on kin availability, I assume that most young couples are old enough to be capable of
living on their own, but young enough to have surviving parents with whom they may alternatively choose to coreside; and that most elderly couples are old enough to have married children capable of living on their own, but with whom they could also coreside. Results are robust to alternative specifications where I add or subtract five years to each interval end.

As shown on Table 3.1, I build a typology of four major household types to measure living arrangements within these two age groups: 1) nuclear, 2) supplemented nuclear, 3) stem, and 4) joint households – including all other households in a category of 5) residuals. These four types are by far the most theorized in the literature on Indian households. To use parsimonious definitions adapted to India’s patrilocal context, I distinguish these types mainly on the basis of their core membership of married couples related by patrifiliation, which link father and son(s). In the present study, I focus only on the prevalence of nuclear, stem and joint households. Virtually all family scholars in India define the nuclear household as a group formed by a couple with or without their unmarried children. Stem households include two couples related by patrifiliation, namely a married man and his married son, whereas joint households include three or more couples related by patrifiliation, namely a married man with two or more of his married sons (Ruggles 2012).
Covariates

To determine if interstate variations in household composition are explained by the unequal pace of modernization among Indian states, I use a series of demographic and economic covariates estimated for each state at each survey year (Ruggles 2009, 2010).

Demographic covariates account for key features of the population’s age and marital composition – and thereby control for interstate differences in kin availability for coresidence. The most important demographic covariate is percent of the population age 65 and over. This variable can be viewed as an indicator of population ageing, and therefore as a proxy of past mortality and fertility trends. I also control for current marital fertility using an age-standardized index of mean number of children under age five for women aged 15 to 49. I use two additional variables to control for the composition of the elderly population, namely percent of elderly (age 65 and over) who are coresiding with their spouse and percent of elderly who are widowed women (leaving widowed men as a residual category). In the Indian context, these two covariates are especially important given that widow remarriage is prohibited in some regions but more tolerated in others (Kolenda 1987), and because the life expectancy of women was lower than that of men in several states in past decades. Other things equal, a higher proportion of elderly couples in the population increases the probability of forming a stem or joint household among young couples but decreases this probability among elderly couples.

I control for the population’s marital composition using the singulate mean age at marriage (SMAM) for women and men. In the Indian context, variations in the SMAM partly reflect patterns of gender and intergenerational inequality that differ across states (Desai and Andrist 2010). More generally, they influence the availability of kin for
coresidence. At the international level, Ruggles (2010) found that a higher SMAM for women was associated with a significantly lower probability of forming stem households, whereas a higher SMAM for men had the opposite effect. Because most Indian women marry early and have their first child shortly after marriage (IIPS and ICF 2017), their SMAM partly controls for the distance (in years) between generations and may thereby influence the probability and duration of intergenerational coresidence. Similarly, because a nuclear household can only become stem or joint following the marriage of its son(s), an increase in men’s SMAM should automatically increase the cross-sectional prevalence of nuclear households, all else unchanged.

The modernization hypothesis states that the prevalence of nuclear households increases as a result of urbanization, industrialization and the decline of farming, and educational expansion. I use five economic covariates to assess this claim. I use percent of the population living in urban areas as an indicator of India’s urbanization, as the NSS’s definition of urban areas is consistent across all states and survey waves. I measure India’s industrialization through changes in the occupational structure among active men (aged 18 to 64), that is, in the percent working in agriculture and the percent working for a salary or wage in non-agricultural occupations (the residual category includes unemployed or retired men, self-employed men, and men working in their family’s business outside agriculture). Lastly, I measure India’s educational expansion using percent with less than a primary degree and percent with a college degree or more.

I carried out multiple robustness checks testing for alternative specifications of the employment and education variables, notably by dividing these covariates by age and
gender. The substantive results of these alternative specifications were either similar or weaker to those presented in the upcoming sections (results available upon request). Importantly, contrary the prior findings by Kolenda (1987), variations in men’s occupation and education are better predictors of variations in living arrangements than women’s occupation and education.

Table 3.2 shows the average values and standard deviations of these covariate for each survey wave between 1983 and 2009. These descriptive statistics do not provide national averages, but yearly averages in which all states are given the same weight (irrespective of their population size), as the main objective of this table is to underline two major trends that occurred during this period.

First, variations in the demographic covariates highlight India’s ongoing mortality and fertility declines. These declines are linked to population ageing and to a rising proportion of elderly couples in the total population. It is also noteworthy that the SMAM increased rapidly for both women and men. The second major trend is the steady economic modernization. Urbanization in India remains comparatively slow by international standards. The decline of farming and the rise in industrial employment have been more substantial; rising standard deviations for variables also suggest that the interstate heterogeneity in occupational structures has increased over time. The largest socioeconomic change has been India’s educational expansion. The percent of the population with less than a primary school degree decreased by more than a third, whereas
the percent of the population with a college degree in 2009 is almost four times as high as it was in 1983.

**Analyses**

*Descriptive Results*

Are there significant interstate differences in the prevalence of nuclear, stem and joint households? The short answer is, yes. Considering India’s large and diverse population, this is not a surprising finding. Tables 3.3 and 3.4 show the prevalence of nuclear, stem and joint households for each state at every survey year, for young and elderly couples respectively; for presentation purposes, states are sorted in ascending order of their average proportion of joint households across survey waves.

Among both young and elderly couples, joint households are most prevalent in states situated in the Indo-Gangetic Plain (chiefly Haryana, Rajasthan, Uttar Pradesh and Bihar) and Madhya Pradesh in central India, and least prevalent in south India with the exception of Karnataka. States from east and west India, such as West Bengal or Maharashtra, fall between these two opposites, whereas Assam (in northeast India) is somewhat closer to the south Indian pattern. These broad regional configurations are largely consistent with those identified by Kolenda in the 1961 census, suggesting that they have been fairly stable over the past decades.

[TABLE 3.3 HERE]

[TABLE 3.4 HERE]
Among young couples, nuclear households are by far the most prevalent type in all states (at every survey year). Among elderly couples, stem households are more prevalent than nuclear ones in virtually all states: Tamil Nadu and Andhra Pradesh are exceptions to this rule, as they consistently have more nuclear than stem households at older ages. More importantly, interstate variations in joint households are proportionally more pronounced than interstate variations in other household types. The coefficient of variation, a simple measure of dispersion, is much larger for joint households than for the other household types among both age groups at any given survey year (results available upon request).

These large interstate variations in joint households further suggest that there are fundamental regional differences in how these households are formed. Scholars have long argued that the joint household is best seen a phase in a broader developmental cycle of households (Mandelbaum 1970; Shah 1974, 1998; D’Cruz and Bharat 2001). Most young couples in India reside with the husband’s parents following their marriage, either for a brief or an extended period; during this period, joint households can be formed following the marriage of two or more sons. However, when considered from a more longitudinal perspective, joint households vary in their duration and can be either “temporary” or “permanent”. In the case of temporary joint households, married brothers reside with their parents until some or all of them separate from the households before their father’s death; that is, they perform a *premortem* partition of living arrangements and in so doing often violate family and community norms (Shah 1998). In the case of permanent joint households, married brothers reside with their parents at least until their father’s death; they then typically perform a *postmortem* partition of living arrangements.
This means that a given proportion of joint households observed in a cross-section eventually split up before the death of the father. However, there are very limited data indicating what this percentage is or on how it varies across regions and subpopulations. In their study of Karnataka villages, Caldwell et al. (1988, 120) found that between a third and a half of the households they surveyed were the result of premortem residential partitions. Assuming that this range applies to most regions in India, a strong but not unwarranted assumption (these numbers may actually be too low for most of south India), one may approximate how many joint households remain intact until the father’s death.

Under this assumption, the prevalence of permanent joint households among elderly couples should range between roughly 7 and 10 percent in key northern states (Haryana, Bihar, Rajasthan, but also Madhya Pradesh in central India), and between 2.5 and 3.5 percent in key southern states (Tamil Nadu, Kerala and Andhra Pradesh, but with the exception of Karnataka). More than a difference in degree, this crude approximation hints at a difference in kind: namely, I conjecture that permanent joint households are systematic occurrences in most of north India but not in south India (except Karnataka). More specifically, the low prevalence of joint households in south India suggests that, in most of this region, permanent joint households are mostly idiosyncratic or exceptional occurrences (outliers even by local standards) or else are found only in specific subpopulations (such as high castes or classes). By contrast, permanent joint households may well be common among large sections of the population in much of north India.

This does not mean that India’s regional variability in living arrangements can be reduced to a simple contrast between north and south India. A growing literature shows
that this regional contrast may obfuscate significant heterogeneity observed within each region. Scholars have also highlighted many cases that simply do not follow the north-south divide underscored by Dyson and Moore, either in terms of rules of marital exogamy, women’s autonomy, how young married women receive support from their kin, and so on (e.g., Vera-Sanso 1999; Rahman and Rao 2004; Grover 2009). Furthermore, the current study shows a fundamental exception to the north-south divide in the case of Karnataka, not to mention the significant variability observed within north and south India – such as the high prevalence of stem households in Kerala compared to other southern states. Nevertheless, the broad north-south contrast in patterns of living arrangements provides a useful heuristic to show that India does not have a monolithic joint household system.

Multivariate Analyses

Are interstate variations in household composition entirely the result of key demographic and economic differences among states? Answering this question using ordinary least squares (OLS) regression analyses provides a useful test of the modernization hypothesis. By carrying out a regression of key demographic and economic covariates on the prevalence of nuclear, stem and joint households, I test the validity of a hypothetical scenario in which all Indian states are situated on a continuum ranging from less to more “modernized”. In this scenario, all interstate differences in household composition, measured at any point in time, result from differences in their degree of modernization. A high model fit using the covariates listed previously would support but not corroborate the modernization hypothesis. A low model fit, however, would falsify Goode’s hypothesis, indicating that modernization is not sufficient to explain interstate
differences in living arrangements, i.e. that these differences do not solely arise from states being situated at different points on a single modernization continuum. Using OLS regression analysis, I therefore report multiple measures of goodness of fit – the $R^2$, adjusted $R^2$, AIC and BIC – to triangulate the parsimony and predictive power of the aforementioned covariates.

Table 3.5 presents the results of OLS regressions of demographic and economic covariates on the prevalence of nuclear, stem and joint households among young couples. The full model (which uses demographic and economic covariates) best predicts interstate differences in the prevalence of stem households. The adjusted $R^2$ of this full model approaches 0.70 for stem households, compared to roughly 0.50 for nuclear and joint households. This high model fit suggests that modernization plays a significant role in explaining interstate differences in household composition at younger ages. However, further analyses reveal that demographic covariates are far better predictors of interstate differences in living arrangements than economic covariates. The BIC, which carries a larger penalty for the number of parameters than the AIC, indicates that adding economic covariates to demographic covariates does not improve predictions of the prevalence of nuclear and joint households. The AIC, by comparison, considers the full model as the most efficient. These substantive results indicate that economic modernization is a significant albeit weak predictor of interstate household variations in India.

[TABLE 3.5 HERE]

Demographic factors predict between 45 and 60 percent of interstate differences in household composition among younger couples. Population ageing and higher proportions
of elderly couples are associated with a lower prevalence of nuclear households, and a higher prevalence of stem and joint households. Higher proportions of widows are linked to a lower prevalence of nuclear households, but with a higher prevalence of stem households; this counterintuitive result is also found in international studies (Ruggles 2010). A higher male SMAM is associated with a significantly lower prevalence of stem and joint households, suggesting that marriage delays among men are linked to delays in the formation of these households. But there are also some unexpected findings. Higher values on the current marital fertility index are associated with a lower prevalence of nuclear households and a higher prevalence of stem and joint households. Similarly, a higher SMAM for women is associated with a lower prevalence of nuclear households and a higher prevalence of stem households.

Point estimates on economic covariates provide only mixed empirical support in favor of the modernization hypothesis. Consistent with this hypothesis, urbanization is significantly linked to a higher proportion of nuclear households but a lower proportion of stem households; yet urbanization is not significantly associated with variations in the prevalence of joint households. Contrary to predictions, occupational diversification and the decline of farming are not significantly associated with variations in household composition after controlling for demographic factors. Stem and joint households are also more prevalent in states with higher proportions of college graduates, which suggest that

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13 I hypothesize that the negative association between women’s SMAM and nuclear households is due to the cumulative risk of postmarital residential separation among couples. That is, I posit that this risk is mostly a function of marriage duration. In this scenario, holding age constant, women who married at an earlier age have a higher cumulative hazard of household separation or nucleation. Testing this hypothesis, however, requires longitudinal data which is not available for India as a whole.
educational expansion in India is not associated with increased rates of household nucleation.

Table 3.6 shows the results of OLS regressions of demographic and economic covariates on household composition among elderly couples. The full model has an adjusted $R^2$ of 0.28 for stem households, less than half that among young couples; and the corresponding adjusted $R^2$ for nuclear and joint households is 0.38 and 0.45 respectively (compared to roughly 0.50 among young couples). Demographic covariates have a higher predictive power than economic covariates. For all three household types, the AIC indicates that the full model offers the best combination of fit and parsimony, whereas the BIC considers that the best model is the one using only demographic covariates. Overall, these findings reinforce the conclusion that economic modernization is a significant albeit weak predictor of interstate variations in household composition – among both young and elderly couples.

[TABLE 3.6 HERE]

Several demographic and economic covariates significantly predict the prevalence of nuclear, stem and joint household among older couples. The point estimates typically run in the same direction as they did among young couples, and they are often larger and tend to have larger standard errors. While percent elderly had a strong negative association with the prevalence of nuclear households among young couples, it is not significantly associated with household nucleation among elderly couples. Higher urbanization predicts a significantly higher prevalence of nuclear household (e.g., a 10 percent increase in proportion urban is associated with a 2.2 percent increase in nuclear households among
older couples), whereas educational expansion predicts the opposite. After controlling for demographic factors, occupational diversification is not significantly linked to changes in the prevalence of any household type among elderly couples.

Is There a Convergence Toward Nuclear Households?

Are Indian states converging toward a higher prevalence of nuclear households, and does economic modernization explain (within-state) trends in household patterns? To answer these questions, I use OLS regression analyses with state-level fixed effects. This model estimates time trends as within-state coefficients and thereby takes advantage of the dataset’s panel format to provide another useful test of the modernization hypothesis.

Table 3.7 presents the results of OLS regressions with state-level fixed effects of demographic and economic covariates on the prevalence of nuclear, stem and joint households among young couples. Despite substantial demographic and economic changes in India recent decades, there is no evidence of a convergence toward nuclear households among young couples; this conclusion holds even after controlling for demographic of economic variables. Results show that demographic and economic changes have on the whole favored household nucleation, but not substantially so. Furthermore, demographic and economic changes partly explain increases in stem and joint households, which runs counter to the predictions of the modernization hypothesis.

[TABLE 3.7 HERE]

Table 3.8 presents the results of OLS regressions with state-level fixed effects of demographic and economic covariates on the living arrangement of elderly couples.
Results show a modest trend toward household nucleation among older couples, most pronounced from 2004 onward. This trend is entirely explained by demographic factors, particularly delays in marriage for men. Surprisingly, results also show that educational expansion may have slowed down household nucleation in recent decades; this finding holds even after controlling for demographic changes. This suggests a composition effect linked to the expansion of literacy and primary schooling in India: prior research has shown that nuclear households have long been most prevalent among the least educated (Breton n.d.), who now form a rapidly decreasing share of the population.

[TABLE 3.8 HERE]

There is limited evidence of an increase in stem households among older couples, but no evidence of significant changes in the prevalence of joint households. The increase in stem households is not consistent over time and is entirely explained by economic and demographic covariates. Similarly, results suggest that the stable prevalence of joint households is likely the result of multiple countervailing trends; notably, mortality decline is positively associated with a higher state-level prevalence of joint household, whereas delays in marriage for women are associated with a lower state-level prevalence of joint households.

**Discussion**

There is a rich literature on modernization and household change in India but comparatively little is known about India’s regional variability in living arrangements and how it is linked to India’s broader process of modernization and demographic transition.
As a first step toward a more comprehensive study of this variability, the present article uses newly harmonized data from six waves of India’s NSS to examine interstate variations in household composition between 1983 and 2009.

Results show significant differences in patterns of household composition among states, chiefly between south India (except Karnataka), where joint household are rare, and several states of the Indo-Gangetic plain and central India (mainly Haryana, Bihar and Madhya Pradesh), where joint households are most prevalent. These patterns are consistent with those observed by Kolenda (1987) in the 1950s and 1960s, suggesting that they have been mostly stable over the long-term. While further results show that most states are slowly converging toward higher levels of nuclear household, this increase is modest and only detectable from the standpoint of elderly couples, and therefore does not signal any fundamental change in regional patterns of living arrangements. Key economic and demographic differences among states explain roughly half of the observed interstate variations in household composition. However, further analyses show that demographic factors better predict these variations than economic factors. Analyses of within-state trends even suggest that economic modernization, especially educational expansion, may have slowed down the convergence toward nuclear households among older couples. Instead, the main driver of this slow convergence appears to be men’s rising age at marriage.

On balance, I interpret these findings as showing that economic modernization in its traditional definition (i.e., urbanization, industrialization and educational expansion) is a significant albeit weak predictor of regional variations and trends in living arrangements.
in India. The modernization hypothesis as formulated by Goode (1963) becomes a more potent explanation of household variations once it incorporates demographic factors as independent variables. But even this synthetic framework does not explain all observed regional variations in household composition, and further analyses indicate that it may not be a parsimonious model. This suggests that long-standing sociocultural differences among India’s regions play an important role in explaining the observed spatiotemporal variations in living arrangements.

These conclusions must be interpreted cautiously. Measures of living arrangements among elderly couples are sensitive to lower sample sizes among older age groups (elderly couples form between 0.9% and 4.7% of the total population of any state at any survey wave), which could partly account for the weaker model fit in this age group. My working sample of 102 state-year observations provides only few degrees of freedom to carry out more in-depth analyses of the modernization hypothesis, especially when including additional independent variables not harmonized on all survey waves (e.g., income, land size and irrigation, religion). Furthermore, the NSS sample size is not large enough to permit more fine-grain analyses of household variations occurring at the district-level or at lower levels of aggregation (e.g., villages, slum, neighborhood). In other words, before one entirely rejects the modernization hypothesis on household change in India, there remains scope to revise its scale and explanatory parameters. Given India’s diverse population, a logical avenue is to provide meso-level analyses linking modernization and household changes in specific regions and socioeconomic strata, and using better contextualized variables (Smith 1989). Building on such sets of analyses, one may better assess the scope for a general theory of modernization and household change in India.
Despite these limitations, the results presented in this paper show without a doubt that India does not have a monolithic “joint household system”. On the basis on available evidence, I have even conjectured that permanent joint households (formed when two or more brothers reside with their father until the latter’s death) are mostly exceptional or idiosyncratic (i.e., not systematic) occurrences in most of south India. This conjecture admittedly oversimplifies the divide between north and south India, but nonetheless provides a useful heuristic deserving further empirical scrutiny. Correspondingly, future research should examine whether the very low frequency of joint households in southern states contributes to the broad divide between north and south India in terms of women’s autonomy and other key sociodemographic indicators.

References


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<thead>
<tr>
<th>Type</th>
<th>Definition</th>
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<td>Nuclear Household</td>
<td>A married couple with or without unmarried children.</td>
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<tr>
<td>Supplemented-Nuclear Household</td>
<td>A married couple with or without unmarried children, plus a lone parent from either spouse.</td>
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<td>Stem Household</td>
<td>At most two married couples (with or without unmarried children) related by patrification; can include any additional person, couple or family unit that does not increase the patrificiative core.</td>
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<tr>
<td>Joint Household</td>
<td>At least three married couples (with or without unmarried children) related by patrification; can include any additional person, couple or family unit.</td>
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<td>Residual Type</td>
<td>Any household that is not nuclear, supplemented nuclear, stem or joint.</td>
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Table 3.2 – Interstate Demographic and Economic Trends by Year, India 1983-2009

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<td>(1.20)</td>
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<td>Percent Less than Primary</td>
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Notes: Means and percentages; standard deviations in parentheses. N=102, or 17 states each year. Source: NSS.
TABLE 3.3 – Timing Arrangements of Young Couples (Husband’s Age: 30-39) by State and Year, India 1982-2009

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Note: The table shows the timing arrangements of young couples in India from 1982 to 2000, with data for states such as Andhra Pradesh, Bihar, Gujarat, Haryana, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharastra, Orissa, Punjab, Tamil Nadu, and Uttar Pradesh. The data is presented by year and shows the number of couples in the specified age group.
<table>
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<tr>
<th>Table 3.4 – Living Arrangements of Elderly Couples (Husband’s Age 65) by State and Year, India 1983-2009</th>
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<tr>
<td>Year</td>
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Table 3.5 – OLS Regressions of Selected Covariates on Nuclear, Stem and Joint Households, Young Couples, India 1983-2009

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Source: NSS.
Table 3.6. OLS Regressions of Selected Covariates on Nuclear, Stem, and Joint Households, Elderly Couples, India 1983-2009

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<tr>
<th>Economic Covariates</th>
<th>Demographic Covariates</th>
<th>Joint Households</th>
<th>Elderly Couples</th>
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<td>Demographic Covariates</td>
<td>Joint Households</td>
<td>Elderly Couples</td>
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<td>Economic Covariates</td>
<td>Demographic Covariates</td>
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<td>Elderly Couples</td>
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Note: Standard errors in parentheses. **p < 0.01, *p < 0.05, Source: NSS.
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<td>2020</td>
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**Table 3.7 - OLS Regressions of Income Trends and Controll on Nuclear, Steam and Non-Households, Young Couples, India 1983-2009**
<table>
<thead>
<tr>
<th>Year</th>
<th>Household</th>
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<th>Own Room</th>
<th>Own Toilet</th>
<th>Own Kitchen</th>
<th>Own TV</th>
<th>Own Telephone</th>
<th>Own Refrigerator</th>
<th>Own Dishwasher</th>
<th>Own Car</th>
<th>Own Bicycle</th>
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**Table 3.8 - OLS Regressions of Time Trends and Covariates on Nuclear, Joint, Own Households, India 1993-2009**
CHAPTER 4:
A TALE OF TWO VILLAGES: MODERNIZATION AND HOUSEHOLD CHANGE IN INDIA’S DECCAN PLATEAU

Introduction

In recent decades, an “explosion of new data resources” (Ruggles 2012) has allowed social scientists to reexamine the classical hypothesis that modernization – broadly defined as urbanization, industrialization and educational expansion – would cause a worldwide convergence to small and nuclear households (Goode 1963). The modernization hypothesis has been challenged on many fronts since its inception but remains a common starting point in studies of household change in the developing world (Therborn 2004; Thornton 2005; Cherlin 2012; Pesando et al. 2019). After all, it has been partly validated in some regions (Cherlin 2012, 2017), can be measured with relative ease, and retains a strong intuitive appeal. Modernization has not led to the predicted worldwide convergence to nuclear households in past decades, but studies show that it nonetheless plays a key role in explaining international household variations (Bongaarts 2001; Bongaarts and Zimmer 2002; Demont and Heuveline 2008; Ruggles and Heggeness 2008; Ruggles 2009, 2010; Spijker and Esteve 2011). At this juncture, moving beyond the classical modernization hypothesis requires elucidating the mechanisms linking modernization with diverse household transformations across a range of contexts.

The decline or nucleation of the India’s joint households is a paradigmatic case of the modernization hypothesis and is central to this endeavor. Goode devoted an entire chapter of his seminal World Revolution and Family Patterns to examining the impact of modernization on the Indian family. Hajnal (1982) wrote of the Indian household as an
archetypal case of the joint household system. India’s formidable regional heterogeneity offers an ideal template to investigate how modernization can be linked to both change and persistent diversity in patterns of living arrangements (Pesando et al. 2019). A sizeable literature shows that household composition in India – e.g., whether a young woman lives with her domineering mother-in-law, or whether aging parents receive the care they need from a coresiding adult child – shapes everyday processes that have far-reaching sociodemographic implications, notably for women’s autonomy and reproductive health (Jejeebhoy and Sathar 2001; Bloom et al. 2001; Mistry et al. 2009; Allendorf 2012; Debnath 2015; Coffey et al. 2016), educational investments in children (Myroniuk et al. 2017), son preference (Miller 1981; Das Gupta et al. 2003), elderly care (Das Gupta 1999; Samantha et al. 2015) and domestic violence (Fernandez 1997; Bhattacharya 2004). These empirical linkages suggest that living arrangements play a major role in explaining key regional contrasts in India’s demography (Dyson and Moore 1983; Kolenda 1987; Uberoi 2004; Mookerjee 2017). This is not to mention that India is poised to become the most populous country in the world in the next decade – by then, she will be home to more than one sixth of the world’s population – and is thus essential to our understanding of global household and family change.

Despite decades of interdisciplinary research, however, scholars continue to debate whether modernization has caused the decline of India’s joint households. Some have argued that household nucleation is under way, either slowly or rapidly (e.g., Gait 1913; Goode 1963; Niranjan et al. 2005; Allendorf 2013), while others have claimed that demographic factors have ensured the stability of the joint household system (e.g., Orenstein 1961; Shah 1999; Ruggles 2010). Scholars also diverge on which conceptual
framework, analytical sample, data source, and methodological approach are best suited to answer this question. As these debates linger, moreover, India’s population diversity is often swept under the rug. Her regional variations in living arrangements, and how they relate the uneven pace of modernization across the subcontinent, remain virtually unexplored (except Kolenda 1987).

This article addresses some of these issues and provides new insights into the study of modernization and household change and variations. Building on findings from macro-level studies of household patterns in India for the past decades, I focus on the mechanisms linking modernization and living arrangements at a more micro- or meso-level. To this end, I use a mixed-methods approach to compare recent stories of modernization and household change in two villages located in India’s Deccan Plateau.

Overall, I find that modernization has taken very different forms in these two villages and thereby has had opposite implications for their household patterns. Households in the first village never grew to a joint level in part because young men needed to migrate for employment. Modernization, in the form of labor migrations and depopulation, precluded the formation of stable intergenerational households. By contrast, in the second village, the recent expansion of canal irrigation created attractive economic opportunities in agriculture for young men. With land prices and revenues soaring, many young men jointly invested in land with their father and brother(s) before forming and purchasing a separate house. Modernization, in the form of improvements in agriculture and a revitalization the village economy, led to delays in household nucleation and enabled the formation of joint households.
These results provide an important proof of concept that we can qualify the modernization hypothesis on household change by anchoring it more rigorously in local economic and sociocultural contexts. Reclaiming modernization’s impact on households requires moving from a single global theory of unidirectional convergence to a set of meso-level theories explaining a multidirectional range of outcomes. In this formulation, modernization – defined at a local-level and stripped of its teleological premises – influences the set of constraints and opportunities that people face when making residential decisions and thereby contributes to variations in household patterns observed across communities. As this study demonstrates, this meso-level formulation unveils local manifestations of modernization often ignored in studies of household and family change while emphasizing key differences in household patterns across communities.

**Background: Macro-Level Investigations**

India’s story of modernization and household change has puzzled social scientists for more than a century (Gait 1913; Goode 1963; Allendorf 2013). Conflicting empirical and theoretical claims made on the decline of India’s joint household system (Breton n.d.1) largely stem from key data limitations and conceptual divergences. Recent studies have sought to address these issues by applying a parsimonious household typology to newly-harmonized data from India’s National Sample Survey (NSS). These studies reveal discrepancies between India’s observed household patterns and several predictions of the classical modernization literature.
The first study (Breton n.d.1) establishes that national-level patterns of household composition in India have been largely stable in recent decades: India’s comparatively slow-placed modernization is linked to a very modest increase in the prevalence of nuclear households. However, simple descriptive findings show that India’s modernization is not a unitary force prompting an inexorable convergence toward nuclear households, but instead hides multiple countervailing forces that both foster and curtail household nucleation. Contrary to prior claims (Shah 1974, 1998; Caldwell et al. 1988), nuclear households are most prevalent not among young highly educated professionals, but among their less educated counterparts. At older ages, nuclear households have been most prevalent among uneducated laborers and have increased sharply among farmers. These findings suggest that the strongest driver of household nucleation in India has not been the emergence of a so-called modern elite, but the economic stagnation or pauperization of vulnerable segments of the population left behind by modernization.

The second study (Breton n.d.2), carried out at the state-level, confirms prior findings from the more ethnographic literature (Kolenda 1987) by showing that India does not have a monolithic joint household system. More precisely, joint households in selected states of north India are three to four times as prevalent as they are in selected states in south India. Crucially, this study shows that economic variables related to modernization are only weak predictors of interstate variations in household composition, whereas demographic factors (the age and marital composition of the population) explain roughly half of these variations. These results suggest that long-standing sociocultural factors are at play in explaining state-level differences in household patterns, or else that
modernization’s predictive power could be improved by specifying the hypothesis at lower levels of aggregation.

Taken together, these two studies show that the role of modernization on household change in India must be recalibrated to address broader problems plaguing Goode’s classical hypothesis. These problems are also emphasized in the recent comparative literature on family change (Ruggles 2012; Pesando 2019; Furstenberg 2019). First, the classical modernization hypothesis is too broad: its worldwide scope conceals meaningful national and sub-national heterogeneity and its key predictors (urbanization, industrialization and educational expansion) are misleadingly monolithic. Second, modernization need not ineluctably lead to household nucleation (Demont and Heuveline 2008). In India more specifically, scholars have long argued that “there is no empirical evidence to show that a joint family could not provide a good adaptive vehicle for solving the problems of urbanization or industrialization” (Conklin 1973: 748). Third, the hypothesis’ implicit focus on household change among the forerunners of modernization obscures the important changes experienced by those left behind by economic changes. In so doing, the classical modernization hypothesis overlooks the importance of socioeconomic inequality on sociodemographic patterns – especially in developing countries.

These problems, because they are clearly circumscribed, suggest key avenues for rethinking the relationship between modernization and household change. They show that, first and foremost, modernization must be better defined and better contextualized before its impact on living arrangements can be properly analyzed. This assessment strongly
motivates micro- and meso-level reinvestigations of the mechanisms linking modernization to household change.

**Background: Micro-Level Investigations**

Anthropologists dominated the micro-level study of household patterns in India up to the 1980s and provided much of the substantive research that led to the classical formulation of the modernization hypothesis in India (Mandelbaum 1970; Shah 1974). By the turn of the 1990s, however, they mostly abandoned the study of patterns or *structures* of household composition and turned their attention to interpersonal *processes* among family members, processes which often reached well beyond the household’s boundaries (such as love and marriage, the patriarchal bargain, the rights of widows, and so on; Kandiyoti 1988; Chen 2000; Uberoi 2004; Shah 2005; Chowdhry 2007; Mody 2008; Grover 2011).

As anthropologists undertook a critique of the very concept of household (Verdon 1998), demographers embraced household composition as a crucial independent variable to study a wide range of population processes (e.g., Caldwell 1976; Cain 1978; Bongaarts et al. 1987; Das Gupta 1995). In so doing, demographers often relied on anthropological accounts to isolate meaningful household variations for their empirical analyses. Yet they have seldom updated these accounts. As a result, the in-depth micro-level study of spatiotemporal household variations has become a lost thread in the sociodemographic literature about India.

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14 Research carried out in Nepal by the Chitwan Valley Family Study is a notable exception.
The main ethnographic or microdemographic analyses of household variations in India mostly date from before the 1990s (for critical reviews, see Uberoi 2004 and Shah 2005). In the Deccan Plateau, where the present study is situated, these classical studies were written against the backdrop of the transition from “dry” or rain-fed agriculture to “wet” or irrigated agriculture. This transition has inspired landmark monographs in development studies and political economy (e.g., Epstein 1962, 1973; Attwood 1992), but there are only few analyses addressing irrigation’s direct impact on household and family patterns. While these studies provide key insights into the local manifestations of modernization and household change, they also present three important limitations.

First, much of the research of household change and variations in the Deccan lacks a clear and rigorous conceptual distinction between the household and the family (Shah 1974). Without this distinction, any process defined as a “joint family separation” may either describe 1) the partition of living arrangements, 2) the partition of the family property, 3) separation in economic activities (mainly in farming or income pooling), or 4) some or all of the above. Similarly, while scholars have documented that joint families are most prevalent among the wealthiest castes, it is unclear whether these accounts refer to the living arrangements and/or economic ties observed in high-caste families.

Second, few analyses differentiate between stem and joint households (or families) despite evidence indicating that this distinction is crucial in the Indian context. Several studies have shown that the prevalence and the determinants of stem and joint households differ in significant ways, both in India and internationally (Kolenda 1987; Caldwell et al. 1988; Uberoi 2004; Ruggles 2010; Gruber and Szoltysek 2012). This contrast suggests that
modernization may have a different impact on stem households than on joint households, although this proposition remains largely unexplored (except for Caldwell et al. 1988).

Third, while micro-level studies provide rich *synchronic* descriptions of household and family patterns in the Deccan, their *diachronic* descriptions of household and family change are less detailed and often rely on questionable assumptions about family patterns in the past (D’Cruz and Bharat 2001). Many micro-level studies assume that joint households were ubiquitous in the distant past, leading scholars to interpret the high prevalence of nuclear households in contemporary India as the outcome of a long-term decline in joint households. This interpretation has been discredited in the historical literature (Kolenda 1987 and Shah 1998) but has led many scholars to credit modernization for the purported long-term decline. To a large extent, therefore, micro-level analyses share a major limitation of macro-level studies in defining modernization and household change as strictly unidirectional processes.

Despite these limitations, the rich descriptions found in micro-level studies form the basis of our understanding of household formation and composition in the Deccan. The central parameter of dry grain farming families in the Deccan, according to Hill (1982), is that “married sons usually find considerable difficulty in establishing independent, viable households which are mainly dependent on farming their own land, unless they receive some help from their father”, whereas “fathers prefer family labour to hired labour” (1982: 92, italics removed). In this relationship, Hill argues, the balance of power typically lies in the hands of the senior generation. Every adult man is “sooner or later to be faced with the need to calculate and compromise” on how to arrange coresidence and cooperation
depending on “numerous factors, including mutual love and respect or hatred and fear, overcrowding of the parental home, the attitudes of women (which are often crucial), the feasibility of dividing the farmland, the risk of driving sons to migrate, and so forth” (ibid.).

Where Hill emphasized implicit tensions or oppositions between household and family members, Caldwell et al. (1988) highlighted several forces uniting them. In their survey of dry villages in Karnataka, they found that the stem, not the joint household, was the predominant household type. The main function of the stem household, they argued, has been to ensure that ageing parents receive proper care and support in their old age. Joint households, by contrast, mainly “act as an engine for marrying off the daughters of the family” (126) as well as for the domestic training of in-marrying daughters-in-law. Assuming an essentially stable need for old-age care and marriage payments over time, Caldwell et al. concluded that “there is no evidence of change in the pattern of family structure during the past several generations and no real evidence that the present situation has not persisted almost indefinitely” (130).

Moving to a diachronic account, Caldwell et al. reported that the expansion of schooling, the spread of urban culture, and the increased availability of non-farm work outside the village had disrupted household patterns in dry farming communities via “a reduction of the pyramidal control structure of the classical joint-stem or stem family, which in this qualitative sense is being transformed” (112). They hypothesized that a growing proportion of household separations were caused by young couples seeking employment outside the village. In her study of migrants from a Maharashtra dry farming village, Dandekar (1986) similarly argued that monetization and industrialization led to
increases in household nucleation, especially “where the family is land poor and there are fewer reasons to remain cohesive” (272). Frequent rural-urban migrations for employment caused “emotional stress and hardship in the personal lives on individuals” (225) and encouraged household and family separation.

In her seminal study of two Deccan villages, Epstein (1962) argued that irrigation and the transition to cash crops led to a decline of the joint family and household. She claimed that “new economic opportunities and more remunerative cultivation” had stimulated “individual initiative and competitive attitudes” (177) and had led to “the breaking of wider kinship ties” (178) that hitherto ensured the permanence of the joint family and household. Epstein later nuanced her argument by emphasizing that “it is the richest peasants who appear to feel the need to form and maintain joint households” (1973: 206). Orenstein (1965) had already explored the role of wealth inequality in his study of a newly-irrigated village in Maharashtra. He also observed a higher incidence of joint families among the wealthiest villagers, noting that “[w]here jointness was maintained, the possibilities for holding on to wealth were greater and also the possibilities, through pooling of resources, for investment and, hence, a further increase in wealth” (41). By contrast, such opportunities made little difference on the household patterns of the lowest socioeconomic strata, as “their capital wealth could not support even one nuclear family, so partition made little difference” (41-42). This led him to conclude that “the fact that a high percentage of well-off families kept to the ideal is probably due to the economic advantage of joint living” (44).
In short, these ethnographic studies show that, in order to elucidate the micro- and meso-level mechanisms linking modernization with household change, one must clarify existing definitions of household variations and contextualize local instances of modernization (such as irrigation and its collaterals) against a backdrop of socioeconomic inequality.

**Conceptual Framework: Measuring Household Variations**

To address prior conceptual issues in the micro-level literature, I define the household strictly as a residential group, that is, as the set of individual(s) involved in the activity of residence and a minimal definition of residence as consisting “in occupying part or all of a dwelling-place in an exclusive manner, regularly or intermittently, for the purpose of sleeping” (Verdon 1998: 37, italics removed). This definition isolates living arrangements from other activities taking place in the domestic and family realm and thereby treats the household as an independent, *sui generis* sociodemographic dimension (Bender 1967; Perkins 2019).

Most micro-level studies in India equate the household with the local concept of *ghar*, that is, as the set of individual(s) who normally sleep under the same roof and share a common hearth or kitchen (Shah 1974). The *ghar* therefore includes both the residential

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15 Several meaningful family and domestic interactions reach well beyond the walls of the household and cannot be captured by data on residential membership (Agarwal 1997). As Verdon noted, “a father living next door might impose his will on his son as much as a father coresiding with his son” (1998: 35). However, not recognizing residence’s independent status introduces important conceptual and measurement problems (Verdon 1998; Perkins 2019). I argue that the solution to this dilemma is to recognize residence as an independent sociodemographic dimension while acknowledging that its impact may vary greatly depending on the context and specific outcome under study.
group and the commensal group attached to a specific dwelling. Insofar as there is a large overlap in the membership of these two groups in most of India (Mandelbaum 1970) and a near perfect overlap in the village studied in the present article, I consider the residential group and the *ghar* to be equivalent units of analysis.

The household as a residential group has – as does any group – a size and a composition. Typologies have long been the preferred approach to describe variations in the size and composition of households. These typologies should ideally be parsimonious and adapted to the sociocultural context they describe (Ruggles 2012). To achieve this balance, I focus on the four most theorized types in the literature on Indian households: 1) nuclear, 2) supplemented-nuclear, 3) stem and 4) joint, to which I add 5) a residual category. These categories are further described in Table 4.1.

I distinguish these household types mainly on the basis of their core membership of married couples related by patrilateral (which directly links a married father to his married son(s)) to anchor this typology in India’s patrilocal residential context. In so doing, my objective is to build a minimal typology to study of living arrangements of married

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16 In the two villages I studied, I have formulated the following rule of thumb: the hearth demarcates the boundaries of the dwelling-place, and those who occupy this dwelling-place form the residential group. For instance, I observed a few cases of family members residing in separate buildings but sharing a common hearth. Villagers defined this set of buildings as one *ghar*. Similarly, I have defined this set of buildings as one dwelling-place occupied exclusively by one residential group. There were also many cases where families had partitioned a building initially composed of only one room into two *ghar* by adding a wall dividing the building into two parts, each with its separate entrance and a separate hearth. I have defined these partitioned buildings as two dwelling-places occupied by two residential groups. It is noteworthy that I never observed a *ghar* with more than one hearth.
couples in most regions of India. Each major household type defined above can be divided into additional sub-categories to assess specific nuances of household patterns.

In any given population, the cross-sectional prevalence of multigenerational and multifamily households partly depends on this population’s age and marital composition (Ruggles and Heggeness 2008). Ceteris paribus, in the context of India’s demographic transition, younger generations have become increasingly likely to reside with their parents: they have fewer siblings who could also reside with their parents, and their parents also live longer. The opposite prevails among older generations: they now have fewer children who tend to marry at later ages. It is therefore essential to consider the prevalence of the household types described above from the standpoint of relevant age and marital groups. Accordingly, the present study focuses on the living arrangements of coresiding married couples, analyzing young married couples (husband’s age: 30-39) separately from elderly married couples (husband’s age: 65+). Married couples are the most pertinent denominator to study household change and variations in India. Given prior definitions, only married couples are at risk of forming the core membership of nuclear, stem and joint households. Marriage is also virtually universal and divorce exceedingly rare in India: almost 90 percent of all men and more than 97 percent of all women are ever-married by age 30 (IIPS et al. 2017), and less than 2% of all marriages end in divorce (Dommaraju 2016). A key assumption of this approach is that most young couples are old enough to be capable of living on their own but young enough to have surviving parents with whom they could alternatively coreside. Correspondingly, I assume that most elderly couples are old enough to have married children capable of living on their own, but with whom they could also coreside.
The household as a residential group also undergoes processes of growth and decline. Scholars have long sought to classify these processes in parsimonious typologies permitting fruitful comparisons across sociocultural contexts. Fortes’ concept of development cycle (1949, 1958) provided a key intuition for drawing such typologies, but several studies have shown that developmental cycles are highly heterogenous within most communities and thus cannot be used for parsimonious comparisons (Shah 1974; Netting et al. 1984). Addressing this problem, Verdon (1979, 1981, 1998) noted that the wide range of developmental cycles observed in a given community nonetheless implies that households reach an absolute limit in both their size and complexity: “[t]he permutations are many, but finite. There is a boundary beyond which groups will not grow, or will grow only under exceptional, or abnormal, circumstances” (Verdon 1998: 42). This boundary may differ depending on the sociodemographic category under study and can also be surpassed by outliers but, leaving such exceptions aside, Verdon operationalized this intuition by developing the concept of limit of residential growth (hereafter LRG). The LRG is a contextual-level variable describing the upper boundary of household growth in a given community, thereby permitting to build parsimonious typologies and comparative analyses of communities’ household formation processes. Applying this concept in India, prior research suggests that the joint household is the LRG in some regions and

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17 Household processes in any given community have, by definition, an absolute maximum. However, specific groups within a community may each reach different maxima. For instance, monogamous units may reach a different maximum than polygynous units or monoparental families; upper caste farmers may reach a different maximum than lower caste shepherds; and so on. In the present study, I compare limits of growth between all monogamous married couples residing in the two villages.

18 These outliers, crucially, are defined as such by local actors who “recognize that these … ‘out of bounds’ cases are irregular and … provide specific explanations for their existence” (Verdon 1998: 42). Identifying outliers requires a combination of typological data on household membership and ethnographic data on local contexts.
socioeconomic strata but not in others, where the stem or supplemented-nuclear households may instead be LRGs (Kolenda 1987; Breton n.d.2).

This proposition implies a fundamental conceptual nuance. Joint and stem households defined as phases or moments in developmental processes are ubiquitous throughout India. This is because postmarital residence is typically patrilocal. However, the duration of the postmarital coresidence between young couples and the husband’s parents may vary significantly across regions and socioeconomic strata. In this regard, there is a crucial and ethnographically motivated distinction between “temporary” and “permanent” coresidence between married couples: temporary coresidence is associated with *premortem* household partition (i.e., household separation occurring before the father’s death), whereas permanent coresidence is associated with *postmortem* household partition (i.e., occurring after the father’s death). Insofar as the joint household can be defined as a LRG in a given community, it must represent a form of permanent coresidence\(^\text{19}\) – and the same applies for stem households. Hence the study of residential variations in India in terms of LRGs requires determining where (in which regions, community and/or socioeconomic strata) and why households normally grow to a permanent joint or stem level as opposed to cases where they do so only temporarily.

Taken together, these conceptual nuances highlight three complementary approaches to measure and compare household patterns between the two villages studied

\(^{19}\) Defining temporary joint or stem households as LRGs would cause intractable measurement problems. Notably, it would require defining different LRGs for different “normal” durations of postmarital intergenerational coresidence. This first poses the problem of how to establish cutoffs between various lengths of “normal” durations – i.e., when would a difference in degree be large enough to describe a difference in kind? These measures of duration of coresidence would, in turn, be confounded by exogenous demographic factors and circular migratory movements between households (Pearlman et al. 2017).
in this paper, but also across many contexts in India. The first approach is to compare, over time and within relevant age and marital categories, the prevalence of the major household types defined above between the two villages. The second is to compare rates of postmarital premortem partitions of living arrangements between the two villages. The third is to establish whether both villages have different LRGs. While the first two approaches help establish how household patterns in both villages differ in degree, the third approach determines whether these differences in degree also entail typological discontinuities (or differences in kind) that could guide parsimonious comparative analyses.

Data, Setting and Approach

The two villages surveyed in the present study are located in the north of the Deccan Plateau. The first village is situated in Telangana, a newly created state of roughly 35 million inhabitants. The second village is situated in Maharashtra, India’s second largest state and home to roughly 115 million inhabitants. To preserve the villages’ anonymity, I will refer to the first village as the Telangana Village and to the second village as the Maharashtra village.

Both villages have been surveyed by the International Crops Research Institute for the Semi-Arid Tropic (ICRISAT) since the mid-1970s (see Walker and Ryan 1990 for details on ICRISAT’s sampling strategy). ICRISAT carried out an annual prospective longitudinal survey on a sample of 10% of all households in both villages; the first wave of this survey occurred between 1976 and 1984, and the second between 2001 and 2014. In addition to data on this sample, ICRISAT conducted multiple censuses in both villages.
For the present paper, I use data from ICRISAT censuses conducted in 1989, 2007 and 2013, because these include data on household composition. In particular, the 2007 and 2013 censuses include individual-level data on the main demographic and socioeconomic characteristics of all household members.

I carried out fieldwork in both villages between August 2016 and March 2017 in collaboration with research assistants from ICRISAT. We conducted semi-structured interviews with all households forming ICRISAT’s longitudinal sample, randomly selecting and interviewing one married man and one married woman per household. The men’s questionnaire included special sections on genealogy and intergenerational transmission of property, and the women’s questionnaire included special sections on reproductive health and decision-making patterns in everyday activities. In the Telangana village, we collected sociodemographic data on 68 households and interviewed 56 married men and 68 married woman (many households in this village were composed only of a widow and her unmarried dependents). In the Maharashtra village, we collected the same sociodemographic data on 89 households and interviewed 86 married men and 87 married women. We also conducted a round of semi-structured interviews with a random sample of households that had a stem or joint composition in the 2013 census (N=61 in the Telangana village and N=122 in the Maharashtra village). We supplemented these data with unstructured interviews with key informants, group discussions, and more general ethnographic observations on village and family life. This combination of quantitative and qualitative data complements ICRISAT’s already rich dataset with contextualized information on household variations and their determinants.
I used a mixed-methods approach inspired by the microdemographic approach of Caldwell et al. (1988) to interpret this data and formulate flexible and contextualized hypotheses on modernization and household change in both villages. I began fieldwork with preliminary hypotheses about household patterns in the rural Deccan. Preliminary analyses of ICRISAT data and preliminary comparisons between both villages, as well as conversations with respondents and key informants, allowed me to refine and adjust these hypotheses at multiple points during fieldwork. Crucially, this iterative process led me to realize the heuristic value of the concept of LRG for comparing the villages’ household patterns, which prompted the supplemental survey of stem and joint households in both villages. Overall, the study’s dynamic, reflexive and comparative approach enriched both the hypothesis-building process and data collection processes.

**Tales of Modernization**

The main explanatory terms of the modernization hypothesis – urbanization, industrialization, educational expansion – reveal as much as they conceal. At the local-level, they may denote an array of potentially countervailing processes, many of which have been overlooked by the sociodemographic literature on household and family change. In this regard, the two villages studied in this article undertook widely diverging demographic and economic trajectories in recent decades. Despite sharp differences, both trajectories nonetheless tell stories of modernization.

As contextualizing modernization at the local-level involves a tradeoff between breath and depth, my goal in this study is to describe the villages’ processes of
modernization and household change in ways conducive to the formulation of comparative, meso-level hypotheses. I therefore anchor my descriptions on the contrast between rainfed and irrigated agriculture and its implications for demographic growth and household patterns in both villages.

The Telangana village is a dry village – that is, it is a farming village mostly dependent on rainfed agriculture yet situated in a drought prone area. Partly as a result of this predicament, this village has been historically poor and home to a large proportion of scheduled and other backward castes (SC and OBC). By many indicators, however, living conditions in this village have greatly improved over the past three or four decades. Monetization, the adoption of cash crops (in recent years, cotton) and hybrid cultivars, as well as other agricultural innovations, have enhanced farm productivity and created new economic opportunities for villagers. Villagers report increased access to consumer goods. Numerous roads, schools, and medical facilities have been built in the village and in nearby towns and have likewise improved villagers’ welfare during this period. Most young adults in the village now have at least a primary school education, whereas their parents are mostly illiterate.

Despite these ongoing developments, however, most of the farmland around the village remains unirrigated. In the late 1970s, 20 percent of all farmland in the village was irrigated (Singh et al. 1982) compared to 27 percent in 2013. Farmers thus remain problematically exposed to droughts. For most, there are too few opportunities for viable secondary income sources in the village economy. This has created a long-standing demand for employment outside the village (documented in Walker and Ryan 1990). A large share
of the village’s male population is therefore involved in seasonal labor migrations to Hyderabad, a city of 6 million inhabitants and the economic heart of Telangana. On any given year, if rains are abundant, villagers who migrated for work in Hyderabad may return to live in the village and cultivate their land, or else work as agricultural laborers in nearby farms. When there is a drought or a very little rain, many villagers, especially young men not interested in dry agriculture, remain outside the village for extended periods or permanently.

Owing to these processes, the village’s population declined from 3,385 in 1989 to 2,183 in 2013 (according to ICRISAT censuses, which capture *de jure* residence), at a mean annualized growth rate of -1.8 percent. This trend must be interpreted with caution, as even a *de jure* census may be sensitive to fluctuations in residential status due to seasonal labor migrations. Nevertheless, even a more conservative estimate including household members declared to be “living away” (some of whom may never return) yields a population of 2,562 in 2013, which still represents a large decline. Either decline is striking considering that the population of the district where this village is located grew at a mean annualized growth rate of roughly 1.5 percent between 1991 and 2011 (Registrar General 2017). I label *depopulation* this large population decline in the Telangana village (Johnson and Lichter 2019).

The second village, situated in Maharashtra, has a different caste composition20 but was also a dry village when ICRISAT began its longitudinal survey in the mid-1970s.

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20 The Marathas, a forward caste dominating much of rural Maharashtra, form more than half of the village’s population.
However, access to irrigation has since greatly expanded; first in the late 1990s, when villagers built a small irrigation canal; then in the early 2000s, when local farmers gained access to water redirected from a major dam project in Maharashtra. More than 70 percent of all farmland in the village was irrigated by 2013, compared to roughly 13 percent in the late 1970s. Following these and other improvements in agriculture, many farmers have reported large increases in land revenues – but also in land prices. Most farmers began growing cash crops, especially sugar cane but also various fruits and vegetables. This led to the creation of a sugar cane factory on the outskirts of the village, which now employs more than 100 villagers on a seasonal basis. The village is also situated within commuting distance of the city of Solapur, an urban center of roughly 1 million inhabitants. More than 100 villagers are employed as truck drivers transporting material and goods between Solapur and Pune (the second largest city in Maharashtra and home to roughly 3 million inhabitants). Young people in the Maharashtra village are also more educated than their parents and have seen, in recent years, the building of primary health center in the village.

Partly as a result of these new economic opportunities in both farming and non-farm occupations, the Maharashtra village has become more economically dynamic than the Telangana village. It now shows potential for demographic growth and even immigration. Between 1989 and 2009, the population of the Maharashtra village increased from 2,124 to 2,841, which represents a mean annualized growth rate of 1.2 percent.

Table 4.2 summarizes the sociodemographic contrast between the two villages as of recent years – for which socioeconomic and demographic data in ICRISAT censuses are more detailed. In 2007 and 2013, the Telangana village has had a lower sex ratio and an
older population than the Maharashtra village, which could be partly a result of a relative shortage of young working age men. The expansion of schooling has been more rapid in the Maharashtra village\textsuperscript{21}. Employment in agriculture is on the rise in the Telangana village and slowly on the decline in the Maharashtra village, but differs largely by age in both villages. Between 2007 and 2013, farming has been on the decline among men in their twenties or thirties but on the rise among men in their forties and above\textsuperscript{22}. Landlessness is more prevalent, and the average size of farm landholdings is also larger, in the Maharashtra village. Lastly, the proportion of farmland that is irrigated is roughly three times as high in the Maharashtra village than in the Telangana village.

\[\text{[TABLE 4.2 HERE]}\]

The two villages’ recent history shows that the same broad modernization processes may take very different forms when conceptualized at the local-level, notwithstanding important commonalities. In the Telangana village, urbanization and industrialization have taken the form of an asymmetry between the village’s stagnant agricultural sector and Hyderabad’s economic dynamism; this asymmetry is in turn linked to seasonal labor migrations and village depopulation. In the Maharashtra village, urbanization and industrialization have been linked to new investment and economic opportunities in the village itself. Irrigation and improvements in agriculture, occupational diversification and

\textsuperscript{21} I focus on the education of adult men because most adult women were born and educated outside the villages, as they married outside their natal village (due to marital exogamy rules).

\textsuperscript{22} These numbers must be interpreted with caution because employment in farming is influenced by yearly fluctuations in rainfall, especially in the Telangana village.
proximity to an urban center have all contributed to a revitalization of the village’s economy and have encouraged population growth.

**Tales of Household Change**

What are the implications of these contrasting modernization stories on household patterns in both villages? By several indicators, the Maharashtra village is more modernized than its Telangana counterpart; its population is more educated, its occupational structure is more diversified, and it is located closer to a large urban center and more exposed to its sphere of influence. The classical modernization hypothesis would therefore predict that households in the Maharashtra village will be smaller and more predominantly nuclear than households in the Telangana village, especially in recent years. However, the available data on household composition contradict this prediction.

ICRISAT carried out a census in both villages in 1989 and collected household-level data. These data can be used to draw a distribution of households according to their number of married men. This distribution, which I also computed using data from the 2007 and 2013 censuses, approximates the prevalence of the major household types defined in Table 4.1 and provides an overview of long-term trends in household composition in both villages (see Table 4.3). These distributions suggest that residential patterns were very similar in both villages before access to irrigation was greatly improved in the Maharashtra village. If anything, there were slightly more stem and joint households in the Telangana village in 1989. This implies that differences in household composition between the two
villages are likely not the result of long-term patterns but have instead emerged only in recent decades.

[TABLE 4.3 HERE]

Over a period of roughly 25 years, residential patterns in both villages have diverged at an accelerating pace. In the Telangana village, results indicate that there has been a large decrease in the prevalence of stem and joint households and a large increase in households with no married men – these are, for the most part, households headed by widows or by married women whose husband has been living outside the village. In the Maharashtra village, by contrast, stem and joint households have become more prevalent. The contrast is even more acute in absolute numbers: between 1989 and 2013, the number of households with three or more married men fell from 34 to 6 in the Telangana village, and rose from 21 to 46 in the Maharashtra village. These changes suggest that depopulation in the Telangana village is linked to a proliferation of female-headed households and to the gradual extinction of joint households, whereas population growth in the Maharashtra village is absorbed in part by a higher prevalence of stem and joint households.

These changes can be further examined by analyzing recent trends in the living arrangements of young and elderly couples in both villages. As shown on Table 4.4, between 2007 and 2013, most young couples in the Telangana village lived in nuclear households. During this period, young couples in the Telangana village experienced an increase in nuclear households linked to a decrease in supplemented-nuclear households, whereas the prevalence of stem and joint household remained mostly stable. Among young couples in the Maharashtra village, nuclear households are much less prevalent and
somewhat on the decline; by contrast, stem and joint household have increased during this period. By 2013, stem households were more than 1.5 times as prevalent, and joint households more than 3 times as prevalent, among young couples in the Maharashtra village compared to their counterparts in the Telangana village.

[TABLE 4.4 HERE]

As shown on Table 4.5, most elderly couples in the Telangana village lived in nuclear households between 2007 and 2013. Roughly one fourth of all elderly couples in the Telangana village resided in stem households, whereas joint households were much rarer and still on the decline. By contrast, most elderly couples in the Maharashtra village lived in stem and joint households during the same period. However, stem households have been declining at the expense of increases in both nuclear and joint households. In particular, the prevalence of joint households among elderly couples in the Maharashtra village has risen by almost 60 percent between 2007 and 2013, a sizeable increase (see Ruggles 2010 for international comparisons). As a result, by 2013, joint households were more than 5.5 times as prevalent among elderly couples in the Maharashtra village compared to elderly couples in the Telangana village.

[TABLE 4.5 HERE]

These results suggest that rates of household nucleation are higher in the Telangana village than in the Maharashtra village. The incidence of postmarital premortem partition estimated from genealogical data supports this hypothesis. Figure 4.1 shows a Kaplan-Meier survival function of the probability of maintaining coresidence with one’s father
after marriage. This function is estimated on a random sample of men born in either village, married in the same village after 1990, and who still resided in the village at the moment of household partition; that is, this sample of married men who did not separate from their father’s household as a result of migration. After 5 years of marriage, roughly 25 percent of married men still coreside with their father in the Telangana village compared to approximately 75 percent in the Maharashtra village. These results clearly show that household nucleation is higher in the Telangana village; not only from the standpoint of elderly couples whose married sons may choose to emigrate from the village, but also from the standpoint of young married men who elect to remain in the village.

These differences in degree hint at a more fundamental discontinuity and suggest that LRGs differ between married couples in both villages. To further investigate this hypothesis, we conducted a special survey to assess whether stem and joint households enumerated in the 2013 census had separated by 2016, and whether those who stayed intact were viewed as temporary or permanent arrangements by their members. In the Telangana village, we interviewed residents of all existing stem and joint households in the 2013 census. In the Maharashtra village, we interviewed a random sample of 122 stem and joint households.

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23 In this model marriage marks the onset of the risk period; the event or “failure” is the premortem household partition; observations are truncated if the father was not alive at the moment of the marriage of his son(s), and right-censored when the observation is missing, incomplete or when the father dies before there has been a premortem partition.
In the Telangana village, all joint households enumerated in the 2013 census had separated before the death of the patriarch by 2016\textsuperscript{24}, indicating that they were only temporary arrangements. Moreover, roughly half of all stem households enumerated in 2013 had separated by 2016; of the remaining half, nearly half were outliers by local standards, such as cases including members with serious handicaps, cases of adoption of a relative or a son-in-law, and so on. This means that up to one fourth of all stem households (plausibly less, since the remaining stem households may still separate before the death of the patriarch) in the Telangana village were formed as permanent arrangements outside circumstances which could be deemed exceptional. These represent less than 2\% of all households in the village. Moreover, most of these permanent stem households were formed after an initial premortem household partition; in most cases, an only son who had been living in Hyderabad for multiple years returned to live with his parents and acted as the \textit{de facto} household head. These cases represent a reversal of the intergenerational power dynamics found in traditional stem households, where (as Hill and others noted) the senior generation is typically in charge. The low prevalence and unusual dynamics of more permanent stem households in the Telangana village make it difficult to establish whether they represent a LRG in the village. At any rate, results from the supplemental survey clearly establish that the permanent joint household is not an LRG in this village.

By contrast, in the Maharashtra village, only a third of all joint households and a fourth of all stem households enumerated in 2013 had separated by 2016. These numbers

\textsuperscript{24} Two new joint households were formed during this interval; one was only a temporary arrangement and the other was an outlier by local standards. I do not reveal the details making this household an idiosyncratic case to preserve its members’ anonymity.
reflect the lower rates of premortem partition documented on Figure 4.1. We interviewed many young married from joint households still intact in 2016 and asked them whether they viewed their current arrangements as temporary or permanent. Most of them situated their living arrangements on a time horizon of five to ten years. That is, they declared that they would decide whether to form their own household depending on options available to them in five to ten years, given various financial and personal considerations. Insofar as many of these married men may lose their father during this time interval, or may choose to maintain coresidence indefinitely, I posit that several of these joint households will prove to be permanent in the long-term (i.e., they will separate only after the death of the senior patriarch) in circumstances deemed normal by local standards. I therefore hypothesize that the permanent joint household is the LRG for couples residing in the Maharashtra village.

These results show that joint households formed on a permanent basis in the Maharashtra village, but not in the Telangana village. To investigate this contrast, I examine key socioeconomic characteristics of joint households and their members in the Maharashtra village. In 2013, almost 60% of all joint households in the Maharashtra village declared farming to be their main income source compared to a village average of roughly 40%. However, the primary occupations of married men in joint households vary considerably largely by age. Among married men less than 40 years old living in joint households, roughly one fourth were farmers and two thirds were employed in salaried occupations; they were also more educated than the age-specific village average (10.3 years versus 8.7 years of schooling). By contrast, approximately two thirds of married men aged

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25 I focus on the occupation of married men because reports of women’s occupation were potentially affected by multiple measurement errors and biases – commonly encountered in the Indian context.
40 and over were employed on the family farm (compared to half among other household types), although they had roughly the same level of schooling as their age counterparts living in other household types. Crucially, joint households in the Maharashtra village owned more land, and irrigated land in particular, than other types of households: 10 percent of joint households in the Maharashtra village were landless compared to 40 percent among other household types. Joint households owned on average 7.1 acres of farmland, compared to 2.9 acres for all other household types. In terms of acreage per adult, joint households owned on average 15 percent more land and 30 percent more irrigated land than all other household types.

In most joint households in the Maharashtra village, the father or senior head primarily works on the family farm while his married sons are employed outside farming (but often work on the family farm as a secondary occupation). When asked why they maintain joint coresidence instead of cooperating in economic matters while living in separate households, most young men living in joint households replied that a new house is a valued asset but brings little to no profit, especially in comparison to operating irrigated land. Instead, they prefer to pool their savings and income with those of their father and brother(s) to purchase new land or irrigate existing farmland. Purchasing farmland often requires getting a loan that may take many years to reimburse, but the revenues derived from newly-irrigated land bring higher earnings that can in due time be used for other investments, such as buying additional land, or even for purchasing a bigger house (for themselves alone or for all the whole joint family). Put differently, for these young men,

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26 Among households who owned any land, however, patterns of land ownership per adult or per capita were very similar between joint households and all other household types.
delaying the purchase of the house meant investing in their economic future. When asked
the same set of questions, young men living in stem households (in both villages) almost
invariably replied that they maintained coresidence with their parents “because I’m an only
son” or “if I do not take care of my parents, who will?”. Such statements are consistent
with the hypothesis that permanent stem households are formed primarily to ensure that
parents receive adequate care in their old age, whereas permanent joint households are
instruments for upward socioeconomic mobility – a proposition that Orenstein (1961,
1965) and Caldwell et al. (1988) have long underscored. However, these accounts
contradict the prior literature on household change – not only in the Deccan – by showing
that modernization need not be solely linked to the weakening of joint family ties. They
suggest that occupational diversification within families and households, far from only
fostering “competitive attitudes” (Epstein 1962: 177) among family members, may also
enable family members to access the necessary monetary resources to pursue joint
investments.

These accounts can be reconciled with prior ethnographic observations on the role
of economic incentives for household patterns. If, as Orenstein (1965: 41) argued,
“jointness … probably enhanced economic position, not the other way around”, then the

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27 Interviews with members of joint households in the Maharashtra village also indicate that economic
decision-making among men tended to be more egalitarian across generations than patterns described in
traditional joint households. I hypothesize that modernization plays a key role in this potential shift. In a more
diversified economy, sons have more opportunities to earn a living wage outside the family farm or family
business. In this context, joint coresidence may require some managerial compromises on the part of fathers. As Hill noted, a patriarch wishing to control the whole of his sons’ monetary incomes runs the risk of driving
them to separate or migrate from the household. Either he will need to grant his sons more economic
autonomy or he must maintain his authority by virtue of his higher competence and experience, or else by
fostering genuinely trusting relationships – as opposed to upholding a more coercive form of authority as
described in traditional joint households (Hill 1982). In the absence of data on decision-making patterns in
the past, however, this hypothesis cannot be tested.
new economic opportunities brought about by modernization in the Maharashtra village may have led to an increase in joint households by increasing the incentive(s) for joint coresidence. The absence of comparable opportunities and incentives in the Telangana village, coupled with the steady flow of out-migrants to the nearby city of Hyderabad, partly explains why permanent joint households have become almost extinct in this village – even among young couples who remained in the village. Mirroring national-level trends in living arrangements, household nucleation has been highest among villagers who in many ways has been left behind by modernization, thus suggesting that the interplay of modernization and inequality plays a key role in explaining difference in LRGs between the two villages.

This is not to say that modernization is the sole driver of the differences in LRGs observed between both villages. Additional factors, such as differences in women’s status, caste composition and organization, village- or state-level policies, or even demographic factors, likely play an important role in explaining this contrast. These factors, however, did not figure prominently in villagers’ account of their own residential decisions. The key conclusion to be derived from prior accounts is that modernization – properly defined at the local-level – influences the set of constraints and incentives that family members face when making residential choices and thereby has a bearing on variations in LRGs observed

28 A more complicated understanding of the role of inequality would undoubtedly emerge if one were to consider household variations within each village. For instance, it is noteworthy that most joint households in the Maharashtra village were found among members of only two out of more than twenty jatis. This suggests that determining who gets access to specific economic opportunities – depending on their caste origin, level of education, prior level of wealth, political connections, and so on – may help explain why certain households within a given community reach the LRG while others do not. Further analysis of this hypothesis, however, far exceed the scope of the present study, which instead focuses on differences in LRGs between the two villages.
across regions, communities and socioeconomic strata. Results show that this influence can be multidirectional and vary greatly across local contexts, and therefore must be assessed empirically as opposed to being posited *a priori*.

**Discussion**

A growing literature underscores the need to move beyond Goode’s modernization hypothesis on household change (e.g., Ruggles 2012; Pesando et al. 2019). While Goode’s prediction of an worldwide convergence to small and nuclear households has not taken place in most settings, studies show that modernization remains an important correlate of international household patterns. These studies neither validate nor completely invalidate Goode’s hypothesis, but they reveal that the hypothesis’ scope is too broad, that many of its forecasts need be qualified, and that its implicit focus on the forerunners of modernization overlooks the residential trajectories of large segments of the population that modernization leaves behind.

India, given her demographic prominence, population diversity and traditional joint household system, offers a paradigmatic case to reconsider Goode’s modernization hypothesis on living arrangements. National-level and state-level trends in household composition in India contradict many predictions of the modernization hypothesis and highlight the need for more contextualized, microdemographic analyses of household change. Accordingly, the current study uses a mixed-methods approach to compare trajectories of modernization and household change in two Deccan villages.
This comparative analysis shows that modernization has taken very different forms in the two villages and is associated with contrasting residential outcomes. In this first village, situated in Telangana, modernization has taken the form of labor migrations and depopulation. These changes are linked to a rising prevalence of nuclear households among couples living in the village, not only because of instability of migrants’ living arrangements, but also because of the high rates of household nucleation observed among young couples who elect to stay and work in the village. A striking outcome of these trends is that permanent joint households have become extinct in this village. In the second village, situated in Maharashtra, modernization has taken the form of improvements in agriculture – chiefly a rapid expansion of irrigation – and is linked to a revitalization of the village economy. This revitalization enabled the creation of joint households by encouraging young couples to delay the purchase of a separate house and instead pool their economic resources with those of their brother(s) and father – that is, to invest in new economic opportunities alongside, not in defiance of, their family members. These findings suggest that economic opportunities brought about by modernization may, in specific circumstances, raise the incentive for joint coresidence.

These findings show that modernization matters for household change but not necessarily in the way(s) predicted by Goode’s classical hypothesis. Modernization, once it is defined and contextualized at the local-level, is associated with multidirectional outcomes for household patterns, including but not limited to a convergence toward nuclear households. Local manifestations of modernization influence the set of constraints and incentives that people face when making residential choices, and thereby have a bearing on the distribution of LRGs observed across regions, communities and socioeconomic
strata. Insights garnered from the local role of modernization amount to replacing a high-level theory of unidirectional change with a set of meso-level theories explaining a multidirectional set of outcomes. This meso-level formulation is partly in continuity, largely in discontinuity with Goode’s formulation, but highlights avenues for qualifying the modernization hypothesis instead of rejecting it entirely.

Qualifying the modernization hypothesis on household change also requires conceptual adjustments to properly fully represent household variations across local contexts. In this regard, the present study introduces two main conceptual contributions following Verdon’s (1998) work on living arrangements. First, I have emphasized the need to define the household as an independent, *sui generis* unit of analysis in order to avoid analytical confusion and to provide measures of living arrangements that are comparable across contexts. This, I have argued, can be accomplished by defining the household strictly as a residential group. Second, I have shown that variations in LRGs provide a valid anchor to formulate meso-level theories of household change. By anchoring comparisons on key discontinuities in household patterns, the concept of LRG offers a useful balance between breadth and depth, between the need for parameter parsimony and the need to capture the full richness of living arrangements as observed on the field. The balance is interdisciplinary can only be achieved by combining demographic and ethnographic data (and methods) on household patterns. Analyzing living arrangements in terms of LRGs further requires elucidating the underlying assumptions of our theories of household formation and composition; insofar as these assumptions often remained unexamined, Verdon argued, our conclusions may already be written in our premises.
References


Breton, n.d.2. “Modernization and Interstate Variations in Household Composition in India.”


______. “Is the Joint Household Disintegrating?” Economic and Political Weekly 31(9): 537-542.


### Table 4.1 – Definition of Household Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Household</td>
<td>A married couple with or without unmarried children.</td>
</tr>
<tr>
<td>Supplemented-Nuclear Household</td>
<td>A married couple with or without unmarried children, plus a lone parent from either spouse.</td>
</tr>
<tr>
<td>Stem Household</td>
<td>At most two married couples (with or without unmarried children) related by patrilineation; can include any additional person, couple or family unit that does not increase the patrilineative core.</td>
</tr>
<tr>
<td>Joint Household</td>
<td>At least three married couples (with or without unmarried children) related by patrilineation; can include any additional person, couple or family unit.</td>
</tr>
<tr>
<td>Residual Type</td>
<td>Any household that is not nuclear, supplemented nuclear, stem or joint.</td>
</tr>
</tbody>
</table>
### Table 4.2 – Descriptive Statistics of the Villages

<table>
<thead>
<tr>
<th></th>
<th>Telangana Village</th>
<th>Maharashtra Village</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2013</td>
</tr>
<tr>
<td>Sex Ratio (♂/♀)</td>
<td>0.93</td>
<td>0.98</td>
</tr>
<tr>
<td>Median Age</td>
<td>29</td>
<td>33</td>
</tr>
<tr>
<td>Active Men Employed in Agriculture (Age: 18-65)</td>
<td>0.53</td>
<td>0.63</td>
</tr>
<tr>
<td>Men with Less than a Primary School Degree (Age: 30-39)</td>
<td>0.59</td>
<td>0.40</td>
</tr>
<tr>
<td>Women with Less than a Primary School Degree (Age: 30-39)</td>
<td>0.91</td>
<td>0.90</td>
</tr>
<tr>
<td>Proportion of Households Landless</td>
<td>0.18</td>
<td>0.23</td>
</tr>
<tr>
<td>Average Size of Landholding</td>
<td>3.93</td>
<td>4.43</td>
</tr>
<tr>
<td>Average Proportion of Landholding Irrigate</td>
<td>0.24</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Source: ICRISAT Censuses.
Table 4.3 – Distribution of Households per Number of Married Men, 1989 to 2013

<table>
<thead>
<tr>
<th># Married Men</th>
<th>Telangana Village</th>
<th>Maharashtra Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>8.28</td>
<td>12.06</td>
</tr>
<tr>
<td>1 (~Nuclear)</td>
<td>70.48</td>
<td>72.53</td>
</tr>
<tr>
<td>2 (~Stem)</td>
<td>16.11</td>
<td>13.37</td>
</tr>
<tr>
<td>3+ (~Joint)</td>
<td>5.13</td>
<td>2.04</td>
</tr>
<tr>
<td>N</td>
<td>664</td>
<td>688</td>
</tr>
</tbody>
</table>

Source: ICRISAT Censuses.
Table 4.4 – Living Arrangements of Young Couples (Husband’s Age: 30-39), 2007 and 2013

<table>
<thead>
<tr>
<th></th>
<th>Telangana Village</th>
<th>Maharashtra Village</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2013</td>
</tr>
<tr>
<td>Nuclear</td>
<td>52.9</td>
<td>69.8</td>
</tr>
<tr>
<td>Supplemented Nuclear</td>
<td>24.8</td>
<td>10.5</td>
</tr>
<tr>
<td>Stem</td>
<td>14.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Joint</td>
<td>4.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Residual</td>
<td>3.3</td>
<td>0.6</td>
</tr>
<tr>
<td>N</td>
<td>153</td>
<td>162</td>
</tr>
</tbody>
</table>

Source: ICRISAT Censuses.
Table 4.5 – Living Arrangements of Elderly Couples (Husband’s Age: 65+), 2007 and 2013

<table>
<thead>
<tr>
<th></th>
<th>Telangana Village</th>
<th>Maharashtra Village</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2013</td>
</tr>
<tr>
<td>Nuclear</td>
<td>58.7</td>
<td>67.0</td>
</tr>
<tr>
<td>Supplemented Nuclear</td>
<td>2.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Stem</td>
<td>27.2</td>
<td>25.5</td>
</tr>
<tr>
<td>Joint</td>
<td>5.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Residual</td>
<td>6.5</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>92</td>
<td>106</td>
</tr>
</tbody>
</table>

Source: ICRISAT Censuses.
Notes: Random sample includes only men who married in either village from 1990 onward and who did not emigrate from the village before or at the moment of household separation (N=37 in the Telangana Village, and N=81 in the Maharashtra Village).
CHAPTER 5: CONCLUSION

Demographers have traditionally divided the study of international family change into three interrelated yet analytically distinct dimensions: childbearing, nuptiality (or union formation and dissolution) and coresidence. Worldwide fertility decline and rising age at first marriage (Mensch et al. 2005) have long hinted at the possibility that a common set of socioeconomic and ideational changes could lead to the same sociodemographic transitions across contexts. These trends inspired the formulation of high-level or general theories of family and population change, such as those of the first and second demographic transition (Notestein 1945; Lesthaeghe 2010) as well as contemporary theories of cultural diffusion (Bongaarts and Watkins 1996; Thornton 2005). By contrast, coresidence has shown little sign of a similar international convergence, in part because living arrangements embody a wide range of sociocultural variants (Randall et al. 2011). In much of the developed world, moreover, the long-term secular decline in marriage and the growing diversity of forms of living arrangements have made it difficult to analyze coresidence separately from union formation and dissolution – hence the frequent confusion between the concepts of “family structure” and “household composition” (Perkins 2019).

Demographers nevertheless continue to investigate the scope for formulating a general theory of international family change in which modernization, socioeconomic development and ideational changes would cause the decline of the traditional extended family and the rise of a more atomized modern family (e.g., Ruggles 2012; Cherlin 2012, 2017; Pesando et al. 2019; Furstenberg 2019). This dissertation contributes to this literature
by providing conceptual and empirical insights into the centerpiece of this transformation: coresidence.

In much of the developing world, the transition from large and complex households to small and simple ones remains a dominant and independent research theme (Bongaarts 2001; Bongaarts and Zimmer 2002; Ruggles and Heggeness 2008; Spijker and Esteve 2011). The standard theoretical anchor to study this transition remains Goode’s classical modernization hypothesis, which states that urbanization, industrialization and educational expansion would cause a worldwide convergence to the western model of nuclear households (Goode 1963). This hypothesis has received, at best, mixed empirical support. Instead, the recent literature shows modernization to be associated with persistent – if not growing – diversity in international household patterns (Pesando et al. 2019). Much work remains to be done to elucidate the mechanisms of this diversification, and how they arise across contexts and levels of analysis.

This dissertation focuses on the Indian household as a paradigmatic case to reconsider the relationship between modernization and household change and diversity. Scholars continue to disagree on whether modernization has caused the decline of India’s joint household system. They have also neglected the of study regional variations in living arrangements of the world’s largest and arguably most diverse population. To address these debates and omissions, I develop and apply a common conceptual framework on households to newly-harmonized national survey data as well as microdemographic data from a fieldwork carried out in India’s Deccan Plateau. Over three empirical chapters, I
show that modernization influences household change in India but often in ways contradicting Goode’s modernization hypothesis.

In the first chapter, I use data from India’s National Sample Survey (NSS) to analyze the association between modernization and national-level household change between 1983 and 2009. Despite ongoing processes of urbanization, industrialization and educational expansion, there was only a modest increase in nuclear households observed during this period. Further analyses show that modernization is not a monolithic process leading to a uniform increase in nuclear households, but instead comprises multiple forces that both promote and hinder household nucleation. Notably, I find that India’s “jobless growth” (Joshi 2010) has been linked to a slowly decreasing prevalence of nuclear households among young college-educated men, who are shifting away from the formal industrial economy and into the family business. By contrast, nuclear households have long been most prevalent – and increasingly so – among their less-educated counterpart, whether farmers or daily laborers. These results show that the transformation of the Indian household is as much a story of modernization as one of enduring inequality amid development.

In the second chapter, I use the same NSS dataset to measure and analyze state-level variations in the prevalence of nuclear, stem and joint households. I find that interstate variations in household patterns partly follow the well-known sociodemographic contrast between north and south India (Dyson and Moore 1983), as joint households are rarest in south India and most prevalent in selected states in north India. However, I also observe ample heterogeneity as well as exceptions to this broad divide within each region.
Multivariate regression analyses further show that modernization is a significant albeit weak predictor of interstate variations in living arrangements. Results even suggest that educational expansion may have slowed down the modest increase in nuclear households observed across most states. These findings highlight the need to better define and classify spatiotemporal household variations in India. They also underscore the need to better contextualize modernization processes as they occur at subnational levels of analysis.

Correspondingly, in the third chapter, I provide a comparative analysis of modernization and household change in two villages situated in India’s Deccan Plateau to further examine the mechanisms linking modernization and household change at a more local-level. I show that these two villages underwent largely contrasting processes of modernization associated with divergent trends of living arrangements. In this first village, population decline, relative economic stagnation and frequent labor migrations have been associated with a large decline in joint households and a concomitant increase in nuclear households. In the second village, revitalization of the village economy and the recent expansion of canal irrigation have been linked to a rapidly rising prevalence of joint households. This contrast highlights avenues for rethinking modernization as a multidirectional process more aptly defined and studied at a micro- or meso-level.

The interplay of these three chapters reinforces their respective results, as the macro-level findings of the first two empirical chapters are mirrored and substantiated in the micro-level analyses of the third empirical chapter. Where chapter two argued that relative economic stagnation and pauperization have been among the strongest drivers of household nucleation in India, chapter four found the highest rate of household nucleation
among those who have been left behind by modernization – that is, among rural dwellers whose experience of modernization has been one of depopulation, seasonal labor migrations, and relatively stagnant village economy. Where chapter three showed that India does not have a monolithic joint household system, chapter four highlighted a contrast between two villages where joint households formed at strikingly contrasting rates, to the extent that permanent joint households had become extinct in one village and increasingly common in the other. All three chapters thereby demonstrate that the same broad modernization processes may take very different forms and have different implications for households depending on the level of analysis and context under study.

These results provide new insights into the study of family change by showing that there is ample scope to qualify the modernization hypothesis as it pertains specifically to households. Reclaiming the often-paradoxical impact of modernization on household patterns requires adopting a more flexible, bottom-up and meso-level theoretical approach. This approach is necessary to properly measure and classify the local diversity of both modernization and household processes. Modernization, defined at the local-level, is among the many factors that shape the set of constraints and opportunities that people face when making residential choices, and thereby is associated to household variations observed within and among communities. To elucidate how modernization may lead to a diversification of international household patterns, these contextual variations must be treated as the starting point of our analyses.

This dissertation shows that a valid anchor to study these contextual variations in future research is the concept of limit of residential growth (LRG; Verdon 1998). The
concept of LRG, by emphasizing key discontinuities in household patterns, strikes a balance between the need for parsimonious comparisons and the need to describe the full richness of residential processes as they occur on the field. Elucidating the spatiotemporal distribution of LRGs requires using a combination of macro- and micro-demographic methods whereby one distinguishes household variations observed *within* a given community from those observed *among* different communities. In India more specifically, this requires determining where (in which regions, community and/or socioeconomic strata) and why households normally grow to a permanent joint or stem level as opposed to cases where they do so only temporarily.

For demographers to fully take advantage of the recent “explosion of new data resources” (Ruggles 2012) in historical and comparative family studies, they must first define what type of theory best suits their project. In the recent literature, the prevailing approach has been to analyze large international samples of individuals and countries in order to identify dimensions of international family convergence or divergence, as well as the factors causing them. This puts an implicit aim for formulating general theories of family change identifying factors driving convergence or divergence irrespective of the context(s) in which they arise. This dissertation demonstrates that contextualized analyses, notably through regional comparisons, are an indispensable complement to global approaches. Contextualized or comparative case studies are compatible with meso-level theories explaining separate dimensions of family change in some contexts or parts of the world but not in others. These meso-level theories not only serve as building blocks of general theories of family change, but also help delineate their scope conditions; their
purpose is both to foster generalizable hypotheses and to restrict and demarcate the scope of existing hypotheses found to be overly broad or inadequately contextualized.

References


Changing Transitions to Adulthood in Developing Countries: Selected Studies.


