Economic Inequality in Kathmandu: A Multi-Indicator Perspective

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Studying economic inequality is increasingly important because of its multidimensional effects on human and societal well-being. This paper examines economic inequality in Kathmandu using wealth, income, and consumption as its indicators. Amidst the finding that wealth, income, and consumption have mutually reinforcing relationships, recent survey data indicate that high income many not necessarily accumulate into wealth as normally expected. Data also show that the household and householder characteristics somewhat differ when it comes to explaining disparities in household wealth, income, and consumption. The suggestion that spatial segregation, human capital and capability, inheritance, and household composition are important determinants of economic inequality—with almost no systematic role for discrimination—provides enormous implications for policies aimed at curbing economic inequality in Kathmandu.

Introduction

As its capital city, Kathmandu enjoys the status of major economic and political power center in Nepal. While recent political developments in the country have further accelerated this concentration of power, its roots go back to the formation of Nepal as a nation-state over two and a half centuries ago, establishing all central government offices in Kathmandu. Together with the unification of hundreds of desegregated and largely disorganized cliques ruled by

feudal leaders came the power to draw resources nationally. Kathmandu still constitutes the core of this largely agrarian nation with several semi-urban localities serving as its peripheries by catering with the needed agricultural and other agriculture-based products.

Development of infrastructural facilities that were previously nonexistent invoked a massive population influx in the 1960s and onwards[1] as people started to relocate to this city for education, business, employment, and other opportunities. In spite of a lack of hard data, the ongoing political problems with communist (Maoist) rebellion in much of the rural Nepal claiming thousands of lives have further escalated its population growth. Since the inception of this communist rebellion in 1996, and especially since 1999, which was when the violence and mass killings escalated, people from the countryside have migrated seeking more secure lives.

The increasing economic activities, particularly after the advent of liberal economic policies of the 1980s and 1990s, have impressively expanded opportunities in Kathmandu. Its primarily labor intensive economy thrives only with the combined efforts of both the rich and the poor, providing the needed investment as well as skilled and unskilled manpower. During all of the 1990s, for example, the overall income growth in Kathmandu averaged over five percent, the rate much higher than in the rest of the country (UNDP/Nepal, 1998, 2002). Although the ongoing political violence has caused massive industrial, manufacturing, and export slump, retail, construction, and especially real estate businesses have witnessed a boom, with record highs on real estate prices and housing construction. People have relocated there, bought parcels of land, and erected new buildings, thus creating jobs and contributing to the local economy.

These economic and political dynamics offer no more than what typical areas in the developing world undergo as they urbanize. But its geopolitical situation with a large native population, persistent political instability, and massive economic concentration[2], despite a slow process of industrialization, make Kathmandu an interesting venue to study economic inequality. Only in the 1980s and later did this lead city in Nepal feel the wave of economic liberalization, albeit with considerable setbacks due to enduring political instability and physically land-locked situation (Pandey, 1999). Slow, incompetent, and charged with corruption, even the democratically elected governments of the 1990s were unable to deliver much awaited economic performance, thus creating a breeding ground for both Maoist causes and causes of a more authoritarian monarchy[3]. Implications have been a state with complete absence of social policies to curb rampant economic polarization in the country. The more recent wave of migration triggered by the communist rebellion has further intensified inequality. While some migrate to secure lives and maintain their economically well-off positions, others flee homes eschewing forced entry to the rebellion, together with prospect for better opportunities over their current farm jobs providing means increasingly short of subsistence.

Given a paucity of systematic and focused studies, this paper seeks to expose the extent of economic inequality in Kathmandu and to identify major

factors that create and sustain it. While a multitude of factors relate to economic inequality, it seeks to identify, first, what is the extent of economic inequality as indicated by wealth, income, and consumption and, second, what explains differences in households' economic capacities. Because economic inequality can be contextual in a major part, depending on social, political, and demographic structures and systems of intergenerational transfer, this analysis explores how these contexts dictate economic status of households and what policy implications can be drawn.

This paper is organized as follows. Next section discusses the concept and hypotheses. Section C describes the data, with the following section providing a fresh look into the state of economic inequality in Kathmandu. The three stage least square models of wealth, income, and consumption and their results are presented in section E. Section F discusses the findings and the last section concludes.

Concept and Hypotheses

Studying economic inequality can be a Herculean task because of its multidimensional nature including inequality in opportunity, talent, education, earning, income, wealth, consumption, leisure, bequests, and luck (Diaz-Gimenez, Quadrini, and Rios-Rull, 1997). From pragmatic standpoint, however, it is the wealth, income, and consumption that researchers underscore the most, as these provide the means, by which people derive a variety of subsequent means or ends that characterize inequality. Other factors are largely predictable using these interrelated indicators.

It is one thing to identify the extent of economic inequality as indicated by wealth, income, and consumption and yet another to ascertain how these indicators are interrelated. Simplistically, income and wealth are 'flow' and 'stock' indicators respectively, postulating that income accumulates into wealth and wealth creates income, forming a self-perpetuating cycle. But in a society, in which inheritance plays enormous role in occupying wealth that is primarily in traditional forms including real estates, houses, and other belongings, as opposed to more modern forms such as business ownership, stock, savings, and talent, one needs to rethink the thesis that income accumulates into wealth. In spite of having a fully operational stock market, for example, people avoid investment in stocks as they seek to expand their physical property base, which they can always account for. At the same time, however, those without inheritance or without significant value to transfer as they migrate from the countryside carry high hopes to accumulate their incomes into wealth. Because physical and immovable wealth does not necessarily create income, especially when it lacks proper management, one may be less important than the other. I seek to test whether this hypothesis of self-perpetuating cycle holds in Kathmandu, suggesting that income and wealth provide large effects on each other.

Missing in this wealth-income nexus is the consumption as only that part

of income that is not consumed can accumulate into wealth. While part of wealth derives from intergenerational transfer, income and consumption essentially enter the wealth determination calculus. Similarly, although wealth, income, and consumption all constitute means with which one can acquire economic well-being, consumption serves as a conduit towards this end with ability to explain some of the variation in economic capacity (Wagle, 2005). In the same vein, people may have consumption, despite a lack of income or wealth, for example, through family/friends, government transfer, charity, or other relationships (Pradhan and Ravallion, 2000). A study of economic inequality in terms of the capacity to acquire economic well-being will be incomplete without including consumption [4].

Yet the most difficult task in explaining economic inequality is to identify why people have the level of wealth, income, and consumption they do, which forms the basis for answering the question of what creates and sustains inequality. Why do, for example, some households own parcels of land and multiple buildings where as others have none or are even heavily indebted? In a different tone, especially when more fluid concept of means is applied, the question becomes why some households succeed more than others in owning and operating businesses, commanding large economic resources, or maintaining higher levels of consumption. Competing explanations exist, with one suggesting that large households, especially when composed of large number of adult, working age members, are likely to earn more income, as they have a large pool of resources or manpower to work with, thus leading to high command over resources (Wagle, 2004, 2004a; Pradhan and Ravallion, 2000). While it relates to the capacity of household members and efficient mobilization of household resources, one plausible hypothesis is to ask if household size and presence of children can systematically explain economic inequality.

Second, a large body of research focuses on discriminatory practices, which inhibit groups from being equal citizens, thus creating a wide gulf between the 'equals' and 'unequals'(Bista, 1991; Darity and Meyers, 1994; Deshpande, 2000; Sen, 1992, 1999; UNDP/Nepal, 1998). The widely held notions of political and social disenfranchisement of women, Muslims, and lower caste and ethnic groups in Nepal suggest that a reasonable hypothesis to test includes if the resulting discrimination serves as a credible source of economic inequality. Third, human capital or capability theories suggest that economic performance is a function of one's degree of preparedness with needed skills, training, and education (Becker, 1964; Lucas, 1988; Sen, 1992). In a society where seniority, meritocracy, and occupational choice and capacity influence how one fares economically, how much these factors contribute to economic inequality deserves empirical examination.

Fourth, the practice of intergenerational transfer, in which the offspring share the wealth belonging to their parents once they pass away, is unsurprisingly extensive in Nepal with, unlike in many western countries, virtually no tax mechanism to discourage them. While a system of highly uneven playing field can have multidimensional effects on one's capability and economic

performance, how large a role inheritance plays forms another relevant hypothesis (Menchik and Jianakoplos, 1997). Finally, urban areas, especially when composed of large migrant population, form pockets of neighborhoods, in which residents share common interests or statuses along ethnic, geographic, economic, or cultural lines (Beall, 1997; Mills and Pernia, 1994; Oberai, 1993). The core part of the city with Newar ethnicity making up the majority of the population is quintessential to the immense spatial concentration taking place in Kathmandu. The last hypothesis to test, therefore, states that spatial segregation can explain variation in economic performance.

As elsewhere, many other potentially relevant factors contribute to economic inequality in Kathmandu. It is the epicenter of most high profile corruption scandals in the country, letting government officials to collect large sums of unearned money. Government transfer including taxation is another factor often underscored, as it alters the effective rate of monetary incentives that people derive from different sources. Remittance by people employed outside of the country and the treatment of capital gains also form plausible explanations (Leibbrandt, Woolard, and Woolardt, 2000). A dearth of appropriate data, however, disallows inclusion of these otherwise highly relevant factors in this analysis.

Data and Variables

I use data derived from a random survey of 625 households[5] conducted in 2002 and 2003 (Wagle, 2004). The survey gathered data on a variety of household well-being issues through interviews with householders or other knowledgeable members on households' economic, social, and political dynamics. Sampling involved delineating some 224 geographic clusters out of the 35 city-wards and, with the help of an Arial map, selecting two to four households from each cluster depending on its size and population. A group of eight university students identified the sampled households out of the planned sample of 672 households and interviewed them using a standardized survey instrument. In case of failure to interview people from the chosen households, the interviewers interviewed householders from adjacent houses. A number of measures were adopted to maintain validity and reliability of the data including a balanced gender composition of interviewers, appropriate interviewer training, and standardization of both questions asked and the interview process.

The resulting sample data compared reasonably well to the population census data collected in 2001. Sample proportions on sex, age group, religion, region, and type of dwelling, for example, lay within six percent margin around the population proportions (CBS, 2002; KMC, 2003). Similarly, the sample average for household size, one of the defining characteristics of population, was just 0.39 greater than the population average. Although the dataset was fairly comprehensive, this analysis uses wealth, income, consumption, and other socio-demographic variables where appropriate (see Appendix for definitions and

coding schemes).

First, household wealth constitutes the net worth of households derived by adding movable and immovable property and then subtracting any liability. Household property includes real estate, building, business, motor vehicle, cash, other liquid assets, and loan receivables, while household liability includes what the households owe in the form of household or business loans. Second, I estimate annual household income by aggregating wage, self-employment and business earnings, house rental, in-cash government transfer[6], and remittance and miscellaneous incomes. While a large part of the household income is derived from informal sources in Kathmandu, the amount of income used here includes income from both formal and informal sources. Third, estimates of consumption are derived by aggregating household expenditures on different kinds of food items including those consumed at home or outside and on non-food items including house rental, utilities, health care, clothing, transportation, and entertainment [7].

Fourth, I use a number of explanatory variables that are useful to test the five hypotheses posed above. Household composition is represented by household size and presence of children under 6 where as the concept of discrimination is captured by caste, ethnicity, religion, percent female among adults, and having female householders. The concept of human capital or capability is fairly comprehensive requiring a number of factors to represent it including householder's age and average age for adults, householder's educational attainment and average educational attainment for adults, employment status and work place of adults, and occupation and employment status of householders[8]. Although finding appropriate indicators of inheritance is complex (which could ideally be accomplished by asking questions directly), I use migration status, house title, and permanent dwelling as proxy measures [9]. By the same token, location of households is expected to capture spatial segregation, with perhaps such other variables as house title and substandard houses indicating micro level, neighborhood segregation. While I could use either household or householder characteristics as proxy measures of many household dimensions, I apply both as and when appropriate with an expectation to provide more realistic results.

The Extent of Economic Inequality

While economic inequality is essentially a relative measure, a look at some absolute measures will provide a useful framework for comparison. As Table 1 reports, the average household wealth in Kathmandu was over NRS 2.6 million in 2002, with per capita wealth of NRS 563,000 whereas the average household income was NRS 246,000, with per capita annual income of NRS 54,000. This per capita income appears to be almost triple that for the entire country of NRS 19,50010, almost double the international poverty standard of NRS 28,470, and almost quadruple the absolute consumption poverty standard of NRS 14,976

(Wagle, 2004, Forthcoming) 11. The average household wealth was over 10 times the average household income, indicating that the overall savings rate that might be fundamental to wealth accumulation was relatively low. But while almost 60 percent of the income appears to have been spent on consumption on both household and per capita basis, the residual 40 percent estimate does not automatically apply to savings as households likely to save more are also likely to spend on other more expensive activities including vacation and education at home and abroad.

Table 1 Distribution of Wealth, Income, and Consumption at the Household and Individual level (N=621)				
Variable	**Mean**	**Std. Dev.**	**Min**	**Max**
Per Capita				
Wealth	562,932	840,121	-161,667	8,373,334
Income	54,001	64,137	3,000	660,000
Consumption	31,885	21,882	3,550	162,100
Household				
Wealth	2,596,710	3,867,917	-646,667	41,900,000
Income	246,335	308,762	18,000	3,300,000
Consumption	142,058	108,023	14,900	828,000

Note: All values are in Nepali currency (NRS)

Table 2 provides share of households on the total wealth, income, and consumption in Kathmandu. The bottom 20 percent of the households occupied less than one half of a percent of the total wealth, four percent of the total income, and seven percent of the total consumption, whereas the top 20 percent scored over 62 percent of the wealth, 55 percent of the income, and 43 percent of the consumption[12]. The shares of wealth, income, and consumption for the bottom 40 percent of the households were slightly over 4, 11, and 17 percent, compared to 43, 38, and 28 percent respectively for the top 10 percent. These figures are milder than those found by the 1996 CBS (1997) study, showing the share of the top 20 percent's per capita income to be slightly over 50 percent in Nepal. While it might indicate an improvement in the distribution of income after 1996 (less likely scenario) and/or sampling variation (likely in these types of studies) [13], I find internal consistency and validity more important than external convergence with other studies.

Table 2			
Household Share of Total Wealth, Income, and Consumption			
Household Category	Wealth (%)	Income (%)	Consumption (%)
Bottom quintile	0.48	3.92	6.55
Next quintile	3.97	7.61	11.40
Next quintile	11.39	12.84	15.93
Next quintile	22.09	20.41	22.24
Top quintile	62.06	55.22	43.88
Top decile	43.66	38.54	27.93

As reported in Table 3, the Gini indices of 0.61, 0.50, and 0.37 for the distribution of wealth, income, and consumption respectively indicate a moderate degree of inequality in Kathmandu. But while these estimates appear to be less persistent than the per capita income and consumption based Gini indices of 0.55 and 0.47 reported in 1996 for the entire country (WIDER, 2005), a direct comparison is strictly prohibitive because of the contextual, temporal, and methodological differences. Moreover, the top 10 percent of the households were over 52 times wealthier, earned over 16 times more income, and consumed eight times more than those at the bottom 40 percent. The mean wealth, income, and consumption were 1.73, 1.52, and 1.25 times the median figures respectively, indicating that the income, consumption, and especially wealth distributions were highly skewed with a very thin, long upper tail. Coefficient of variation paints similar picture with income and especially wealth demonstrating twice the inequality in consumption.

Table 3			
Other Measures of Inequality at the Household Level			
Inequality Measure	Wealth	Income	Consumption
Gini Index	0.61	0.50	0.37
Ratio of top decile to bottom quintile	181.11	19.67	8.53
Ratio of mean to median	1.73	1.52	1.25
Coefficient of variation	1.49	1.25	0.76
Correlation with wealth	1.00	0.56	0.56
Correlation with income	0.56	1.00	0.72

Apparently, wealth is more highly concentrated than income and both of which are more concentrated than consumption in Kathmandu. This should not be surprising, however, given that not all expenditures are included in consumption, that more resourceful households do not necessarily spend all they have, and that disparity in income is likely to accumulate into large disparities in wealth. While no directly comparable estimate is available for Kathmandu, it may manifest more intense and increasing proclivity of economic inequality than

does the rest of Nepal. Increasing economic inequality is more common a problem in urban areas where more economic activities take place, thus providing more opportunities and economic incentives that can be highly disparate (Wong, 1995). But the correlation estimate of only 0.56 between income and wealth suggests a cautionary note that, though somewhat interrelated, the roots of income and wealth might be different 14. Knowing one's level of income, for example, does not necessarily indicate her/his level of wealth and vice versa. Similarly, whereas income and consumption are equally correlated with wealth (0.56), correlation of 0.72 between income and consumption adds an interesting dynamic. While there is no way to determine whether part of consumption is financed through wealth, correlation coefficients of this relatively close magnitude serve as a precursor to a complex relationship among the three indicators of economic inequality.

Models and Results

This complex relationship can be disentangled using an appropriate regression technique. But the possible endogenity among the three inequality indicators suggests that a simultaneous model would be more appropriate to remove any simultaneity bias. I therefore estimate the following simultaneous system of equations.

$$W = \beta_0 + \beta_1 Y + \beta_2 C + \beta_3 h + \beta_4 d + \beta_5 p + \beta_6 i + \beta_7 s + \varepsilon_1$$

$$Y = \gamma_0 + \gamma_1 W + \gamma_2 C + \gamma_3 h + \gamma_4 d + \gamma_5 p + \gamma_6 i + \gamma_7 s + \varepsilon_2$$

$$C = \lambda_0 + \lambda_1 W + \lambda_2 Y + \lambda_3 h + \lambda_4 d + \lambda_5 p + \lambda_6 i + \lambda_7 s + \varepsilon_3$$

Where, W is the wealth; Y is the income; C is the consumption; **h**, **d**, **P**, **i**, and **s** are the vectors of variables relating to household composition, discrimination, human capital, inheritance, and spatial segregation; β's, γ's, and λ's are the estimates or vectors of associated coefficients; and ε's are the disturbance terms. Incorporation of the three dimensions of economic inequality in one comprehensive model will be helpful to test hypotheses involving bidirectional relationships using full, rather than partial, analysis. To obtain the complete picture of the relationships, I estimate two separate models: the first focusing on household characteristics and the second focusing on householder characteristics. While many variables appear in both models, I include additional household characteristics in the first model including percentage adults female, mean age for adults, mean educational attainment for adults, and employment status and workplace of adults. This model is then compared with another model including such householder characteristics as householder's gender, age, education, employment status, and occupation [15].

Results from estimation of the model using three stage least square procedure reported in Tables 4 and 5 indicate that each model is fairly robust

with relatively large capacity to explain variation in each of the inequality indicators. Since the indicators carry large values, their inclusion in natural log form detected unsurprisingly more consistent relationships. Also notable are the scales of the coefficients, which though exceedingly small in magnitudes represent the percent change in the natural log of the indicators being explained due to a one unit change (i.e., NRS 1) in the explanatory indicator.

Both models overwhelmingly support that wealth, income, and consumption are highly interrelated, with each being a strong predictor of the other. Specifically, the models support relevance of the bidirectional relationships for two of the three possible dyads involving wealth and consumption in the first case and income and consumption in the second. Surprisingly, however, both models indicate that this bidirectional nature of relationship does not apply to the dyad involving wealth and income. At the face value, contrary to my expectation for income to accumulate into wealth, this last set of relationships suggests that, while wealth positively interacts with income, the latter does not do the same with the former.

The model estimates indicate that using household and householder characteristics provides largely similar outcomes with respect to the determinants of household wealth, income, and consumption. Particularly consistent are the determinants of income and consumption, manifesting greater power of the models to explain variations in household income and consumption[16]. This issue of lower degree of predictability of household wealth may be an indication that possession of large amounts of wealth, whether it is through inheritance or through accumulation, is more random throughout the population in Kathmandu. I will take up this issue further in the discussions section to follow but first I focus on the direction and significance of the coefficient estimates [17].

First, both income models produce positive coefficients on household size, untouchable caste, age, education, and center location and negative coefficients on having migrant householders and lacking house title in determining household wealth. The models do not provide consistent sets of coefficients supporting the roles of presence of children, gender, employment status, industry type, occupation, and residential locations other than center when it comes to explaining variations in household wealth. As presented in Table 4, the model with household characteristics also detects positive coefficients on percent adult female and residential locations in the eastern, northern, and western parts of the city and negative coefficients on presence of children under six as percent of adults and percent adults employed in registered and in unregistered businesses. The model including householder characteristics reported in Table 5 also produces negative coefficients on Muslim religion and having householders who are unemployed or are in menial labor, machine operation, or other services occupations.

Second, both models identifying the determinants of household income estimate consistently positive coefficients on household size, age, self-employed status especially for those owning registered businesses, and permanent dwelling and consistently negative coefficients on lacking house title and residential

locations other than the core part of the city. Other coefficients produced by the model with household characteristics, however, also include the positive effect of percent adult female and the negative effects of children under six, percent adults employed in unregistered businesses, and percent adults unemployed.

Third, results from the two models consistently indicate that variables positively affecting household consumption include household size, gender, age, educational attainment, self employed status especially with registered businesses, and permanent dwelling, with the eastern, northern, and western locations negatively affecting it. Additionally, the model with household characteristics detects negative roles of percent employed at unregistered businesses and absence of house title, whereas the model with householder characteristics provides negative coefficients on having householder in labor occupation.

Discussions

Household wealth, income, and consumption are highly interrelated indicators, with ability to explain most of the economic inequality in a society. As the models presented here indicate, however, their determinants are largely different, substantiating their ability to capture somewhat different aspects of economic inequality. Therefore, only by putting these empirical results in perspective that we can decipher the nature and basis of economic inequality in Kathmandu. In what follows, I discuss the model results in light of how economic inequality is created and sustained in Kathmandu with their policy implications.

Wealth, Income, and Consumption as Indicators of Economic Inequality

As summarized in Figure 1, empirical results confirm that the effects of wealth, income, and consumption on each other are consistently significant and positive. The effect of income on wealth, however, runs contrary to what is commonly presumed: statistically insignificant and negative. As surprising as the insignificance of this effect is its negative sign, which if significant would have suggested that high income retards wealth. Seemingly an anomaly very difficult to explain, this may be something idiosyncratic to Kathmandu. But this needs to be explained by putting the aggregate picture into perspective.

Figure 1
The Wealth-Income-Consumption Nexus
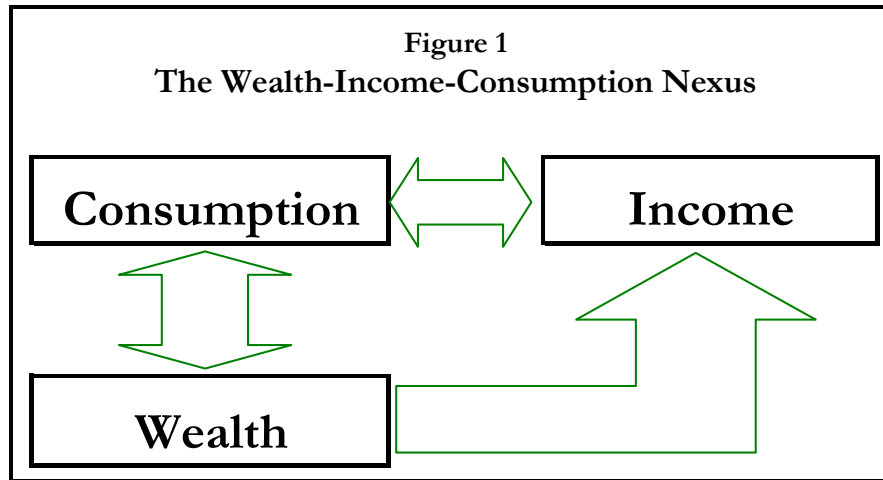
As expected, results indicate that income and consumption reinforce each other even after controlling for the effect of wealth and all other explanatory variables included. It is logical that households with large incomes are not only capable to consume more, but they veritably do so in Kathmandu. The other face of the relationship also indicates that households with large amounts of consumption expenses can also expect to earn large incomes. Consumption expenses have values that lead to more healthy, productive lives, which, though partly embedded in the educational status, might have been reflected in its effects on household income. In societies where food inadequacy and malnutrition are prevalent, consumption of nutritionally balanced diet and other necessities is crucial to avoid unhealthy lifestyle and be successful economically (Satterwaite, 1995; Wagle, 2005). Even following capability arguments, anthropometric measures which partly constitute the 'end' in terms of human well-being further enable one to achieve more complete set of 'functioning' through increased income and other necessary means (Sen, 1993, 1999). To be more confident with this explanation, however, one would have to more systematically control for the effect of health and nutritional status, thus invoking appropriate data.

Results also indicate a mutually reinforcing relationship between wealth and consumption, even after controlling for the effects of income and other explanatory variables. The positive effect of wealth on consumption, though not conspicuous in a society unless supported by data, is absolutely plausible given that relatively wealthy people can afford to consume more. This is independent of the effect of wealth on income, which in turn affects consumption, as this indirect effect would enhance the relationship between wealth and consumption. The direct effect of wealth on consumption may have mirrored how the former directly fuels the latter. For many households with high value properties mostly in real estate, jewelry, or other unproductive form, for example, wealth may fuel consumption only with its depletion. But the positive effect of consumption on

wealth is difficult to explain. This along with the result that income does not have any effect on wealth may be an indication that some people tended to underreport income and at the same time report consumption more accurately or that part of their consumptions were financed through wealth. Over 25 percent of the households, for example, reported consumption in excess of income and these households also included relatively high-income households. Irrespective of the explanation offered, however, people with high consumption in Kathmandu could also expect to possess large amounts of wealth.

Finally, the positive effect of wealth on income is consistent with expectations as wealth if put to productive use creates income. The case of no effect of income on wealth, however, invokes explanations similar as those used for the positive effect of consumption on wealth. Added to underreporting of income is the suspicion that a large number of households might have underreported their wealth [18], thereby blurring the relationship between income and wealth. Because households with large amounts of wealth are not necessarily the households with large amounts of income, the models were not able to detect this part of the relationship. This calls for more systematic and accurate data on both the estimates of income and wealth. Despite considerable data problems, however, this lack of relationship does have implications on how wealthy households might have gotten there. Partly it is the deeply rooted inheritance factor that applies to most households in Nepal. But this finding is above and beyond the effect of inheritance factor, which is controlled for in the model, implicating that the dreams of generating wealth through regular income is difficult to realize in Kathmandu.

While whether a particular government sees any reason to reduce economic inequality is a separate issue, invoking broader political concerns, the findings regarding the relationships among the three dimensions of economic inequality have enormous policy implications. Measures to equalize income, which are what most governments underscore, might not be adequate to reduce the overall economic inequality in Kathmandu. In fact, it may be the contrary as the effects of consumption and especially wealth are more comprehensive with ability to influence the other two indicators of inequality. Not only is it important to enable households to consume adequately as it affects the ability to derive income and wealth. Policies are also needed to equalize wealth distribution perhaps through more aggressive tax and other government transfer mechanisms that affect possession of wealth.

Household Composition

Having large households and having large number of children are generally considered barriers to acquiring high per capita income and wealth. In Kathmandu, however, data show the former to positively affect per capita income, since larger size enables households to derive more income, perhaps detecting the role of extended family households with more productive members

(Pradhan and Ravallion, 2000; Wagle, 2004a) [19]. When it comes to increasing household wealth, income, and consumption, on the other hand, while large households are conducive to acquiring high income and consumption, they may not be equally so to acquiring large amounts of wealth.

The role of having children under six, which was significant only in the model with household characteristics, is negative on all forms of economic inequality. The model detecting negative effect of having children on wealth, income, and consumption may have validated the oft-cited explanations that parents and especially mothers of young children cannot work. Families with large number of young children relative to adults suffer from consistently low levels of wealth, income, and consumption as this disallows working for income and at the same time lowers consumption as these tend to be young households with less number of earners and multiple children.

While it was not incorporated in the model, the effect of household size on different inequality indicators partly depends on the ratio of children under six to adult members in households. Because less than 30 percent of the households included children under six and because most of the households with children included between two and six adult members, interaction between these two variables needs to be more thoroughly investigated. Although increasing household size is not an effective policy to advocate, encouraging keeping low the ratio of children under six to adult members in households may be a viable policy option especially among young households.

Discrimination

While discrimination can take many forms, this caste-based, patriarchal, predominantly Hindu society always puts discrimination based on gender, caste, ethnicity, and religion high on the agenda. Findings, however, appear to be sketchy at best and inconclusive at worst with important policy implications for continuation of the current anti-discriminatory policies based on gender, caste, and religion.

The models suggest that having large percent adult female and having female householders hold some power to determine household income and especially consumption, but their positive coefficients run counter to the discrimination of women in this male-dominated society. It is plausible that the survey mislabeled a considerable number of households as female-headed, especially when their income earning, male counterparts were not present in Kathmandu at the moment of the survey. But the effect of having large numbers of women among adult members further disproves any economic and social disenfranchisement of women [20]. Because of large remittances from outside, which these households are likely to receive, however, it does not provide a solid basis for any form of gender discrimination. This is consistent with complete absence of the role of gender in determining household wealth.

Findings do not lend support to the widespread belief that upper castes

economically dominate this Hindu society (Bista, 1991; Deshpande, 2000; UNDP/Nepal, 1998). Neither is there any evidence for the role of ethnicity in determining household wealth, income, and consumption. Surprisingly, being from the lowest caste appears to bless households with large household wealth. While this might be an indication of a major blow to the deeply rooted caste-based discrimination, owing to the recent anti-discriminatory policies including outright constitutional ban, what is operational may instead be their functional motivation providing large payoffs[21]. Nevertheless, their low representation, with less than one percent of the households in aggregate, along with no evidence of higher household income and consumption, disallows any conclusive claim.

Moreover, the expectation that Hindu religion would serve as a basis for economic inequality does not appear to be credible. Whereas one model suggests being from Muslim religion to be important to predict household wealth, this negative effect appears to be confined only to this indicator perhaps underscoring that these households tend to be migrant households with low levels of accumulated wealth. More important than this, which can be explained just like the case of migrant householders and residential location (see below), is the fact that society lacks systematic discrimination against Muslims especially in income and consumption.

Human Capital and Capability

Given the seniority based reward system in Nepal, the finding that age and economic resources are positively related is useful for policymakers seeking to introduce measures that facilitate transition to meritocratic reward system. While income might decline as one grows older, which explains why the squared form of age variable works best in most econometric models[22], findings from these models perhaps highlight two important issues. One, although one becomes unable to hold a job as s/he grows older, strong social insurance system with younger members taking on productive activities renders continuation to the capacity of the household to earn high income and maintain high level of consumption. Next, increasing economic resources that can be derived with increase in age allows one to build adequate safety nets in the form of wealth and eligibility to receive regular pensions—the latter in case of government and semi-government retirees.

The models also detect the role of occupational and employment characteristics of householders and households in determining economic inequality. While households with large percent of adults employed in highly volatile unregistered businesses fare consistently worse on all three indicators, other occupational and employment characteristics do not have highly consistent roles. Despite their comparable incomes and consumption, for example, households with self-employed householders and with large percent of adults self-employed with registered businesses own less wealth. Having householders who are in such low profile jobs as menial labor, machine operation, and other

services, though not necessarily low paid and low consumption other than in case of labor occupation, disallows households to possess large amounts of wealth. Also interesting is the finding that households with large percent of adults employed in registered businesses and unemployed householders, although not necessarily low earners or consumers as they tend to be young in age tend to possess less wealth. Households with large percent of adults unemployed, on the other hand, tend to earn less despite having comparable wealth and consumption, perhaps because of their old age. Particularly surprising was the finding that occupation of householders did not provide any effect of more rewarding executive and professional occupation and that of less rewarding menial labor and machine operation occupations—the latter in case of income only.

Consistent with the view that educated, skilled, and well-prepared people can do better in every sphere, thereby making more informed decisions (Becker, 1964; Lucas, 1988; Sen, 1992; Wagle, 2002, 2005), households associated with educated householders or members overall tend to hold higher wealth, income, and consumption[23]. This is no surprise, with the ability of wealth, income, and consumption to explain each other, that more of all three is concentrated in the hands of the more educated, as they hold the skills and information necessary to make decisions that lead to, inter alia, large economic payoffs. Though obvious, this provides a compelling evidence for policymakers being confronted with views that education cannot reverse increasing economic inequality.

Inheritance

Consistent with the findings elsewhere (Menchik and Jianakoplos, 1997), the models offer a compelling case for the effect of inheritance on wealth, income, and consumption. There is clear demarcation in terms of household wealth between households with native-born householders that are assumed to inherit high value property [24] and those with migrant householders that lack it. When it comes to determining income and consumption, on the other hand, there is no such cleavage indicating that migrant households are worse off wealth-wise because of differences in inheritance and not because of their abilities to earn income and consume.

The role of inheritance is further captured in the status of houses. The role of permanent dwelling that may be a sign of better economic position today is consistently better in terms of consumption and income and not that of wealth. It appears that those residing in permanent dwelling can expect to earn more income and consume more but it is not because they have large amounts of wealth. While those with permanent dwellings ideally possess large values of wealth, this does not apply to the entire group, which includes among others those that are renting apartments in such dwellings and therefore may lack high-value properties to own. In terms of those lacking house title, on the other hand, results are largely consistent that they fare worse on all three indicators. This finding is coherent with what one would normally expect as those residing in

such dwellings are there because they do not own high value properties, neither do they earn high income or are able to consume well. A disproportionately large group (80 percent) of those lacking house title were also migrant households signifying their inability to inherit much wealth.

Inheritance plays a dominant role in Nepal, with rich parents bestowing large amounts of wealth to their sons who are entitled to them by social contract. Since the model estimates substantiate a strong relationship among wealth, income, and consumption, the effect of wealth inheritance further extends to the ability to derive high values of income and consumption. While results paint a picture with relatively large effect of inheritance on determining consumption, income, and especially wealth, limited policy options are available for the government to discourage inheritance due to its highly institutionalized tradition of intergenerational transfer. Nonetheless, reforming tax structures especially targeted at inherited property with a strong government transfer mechanism would be effective to discourage such inheritance.

Spatial Segregation

Findings overwhelmingly support the relevance of spatial segregation in determining inequality. This role of location can be justified using the notion of highly segregated neighborhoods that have had a history of only two to three decades. Since people and especially migrants tend to settle in places where they find others with similar economic, social, and other backgrounds, the spatial face of economic inequality that has been suggested elsewhere is equally applicable in Kathmandu (Beall, 1997; Mills and Pernia, 1994; Oberai, 1993, Wilson, 1996).

At the same time, however, the highly dense, historically well-established core location appears to inhabit people who have large household income and consumption and yet comparable amounts of household wealth. Comparable or even lower amounts of wealth in the core location are at odds when households have capacities to score significantly higher on income and consumption. Especially troubling is the finding that the core part of the city could expect significantly lower household wealth than north, west, and especially center location after controlling for all other variables, whereas as Table 6 shows its second position with average household wealth that is slightly lower than in the north location and considerably higher in all other locations. Real estate and housing prices are relatively higher in the core part but the population itself is highly dense leading to lower values for typical households to own. However, the findings might have also indicated a fundamental shift from this core part to other more emerging parts with skyrocketing real estate and housing prices.

Table 6 Average Wealth, Income, and Consumption in the Five Macro Locations in Kathmandu					
Description	**Locations**				
	Core	**Central**	**East**	**North**	**West**
Household wealth	2,816,896	1,974,587	2,311,312	3,157,453	2,958,314
	(2,660,012)	(4,731,307)	(3,664,794)	(3,842,067)	(4,514,099)
Household Income	421,620	176,815	174,018	254,977	259,259
	(415,394)	(186,990)	(173,370)	(338,401)	(373,956)
Household consumption	206,938	117,806	123,814	138,572	133,514
	(129,717)	(61,116)	(97,421)	(95,118)	(124,199)

Note: Values in parentheses represent standard deviations.

The suggestion that households from all other parts of the city can expect to have lower income and consumption than those from the core part is interesting but highly consistent with the data (Table 6). Households from the core part are able to earn and consume more, despite having lower values of wealth, perhaps by putting their assets to more productive use. Alternatively, despite owning comparable or even higher value properties households from other parts may not look for ways to invest them to maximize returns. Apparently, missing from the picture are the qualitative differences among households from the central, eastern, northern, and western parts of the city as the models only detected their difference with the core part as the reference category [25].

Additionally, the role of micro-level neighborhood segregation especially in terms of those residing in illegal and temporary settlements, which often include sub-standard houses, is substantiated with the negative roles of both temporary dwelling (the opposite of permanent dwelling) and lack of house title in holding large value of wealth, income, and consumption. This form of spatial segregation is perhaps more important from policy standpoint as it includes more homogenous population, compared with broader divisions discussed above. The models clearly reaffirm that these illegal or squatter settlements, which lack basic social services as well as political rights to ask for them, are particularly prone to economic inequality and thus need to be the focus of public policies. These settlements are also likely to inhabit people with lower sets of inherited property and with lower endowments of human capital including health, education, and skill thus leading to lower capabilities to score income and consumption.

Conclusion

There are strong suggestions that economic inequality confers detrimental effects on multiple dimensions of human lives. Since it causes concentration of economic resources, it leaves a large percentage of the population deprived of the command over resources, thus disallowing them to have a life-style that is considered decent especially from the relative poverty standpoint (Wagle, 2002, Forthcoming). Because those lacking resources are

unable to meet adequate consumption of even basic necessities, its pronounced effects fall on health, education, productivity, and overall economic well-being. Additionally, those lacking adequate economic resources cannot fully participate in those social, cultural, and political activities that are embedded in the modern concept of human well-being (Townsend, 1993). As a recent APSA Task Force Report (2004) argued, for example, economic inequality creates unequal voices in democratic systems with deleterious effects on who gets what from policies. It is even more critical in developing countries like Nepal, where politics is a game only a few minority members play, with the mass population largely detached from the political process (Bista, 1991) and the fragile democracy cannot be stabilized without adequate participation from citizens.

This analysis found that the three key indicators of inequality including wealth, income, and consumption have mutually reinforcing relationships thus playing important roles in creating and sustaining economic inequality in this capital city of Nepal. Income does not appear to contribute directly to wealth creation, perhaps reaffirming the traditional, inheritance-driven approach to acquiring wealth. But possible measurement errors and its direct effects on consumption and indirect effects on wealth indicate that income may still have some power to drive disparities in wealth. The suggestion, therefore, is that the focus of policymakers seeking to curb economic inequality in Kathmandu and perhaps in Nepal ought to be on the distribution of all three dimensions.

Despite this largely mutually reinforcing relationship, however, the bases of inequality in household consumption, income, and especially wealth appear to be somewhat different. Admittedly, many of the factors contributing to inequality in wealth, income, and consumption are uniform; the effects of educational attainment, age, household size, children under six, percent adults employed in unregistered businesses, and a lack of house title were consistent. Surprisingly, the effect of residential location being other than the core part of the city was opposite in sign between wealth on one side and income and consumption on the other. Moreover, the effects of many variables differed in significance among the three dimensions of inequality, indicating, for example, that the households with high income are not necessarily the households with high wealth and consumption.

Findings further suggested that spatial segregation would rank consistently high as the strongest determinant of economic inequality in Kathmandu. This is highly plausible given the regional variability in economic conditions of households with more homogenous households concentrating in certain neighborhoods. Human capital and capability form another broader issue with considerable power to explain inequality. This is because of the role of age and educational attainment, both important in this developing society, trying to leap from its highly imbedded seniority culture to more modern meritocracic culture.

Inheritance has its own role in this society with long history of extended family and agrarian practice, in which the offspring, and especially sons, share the property of their parents once they pass way. Although the more modern

concept of wealth accumulation especially in the form of liquid assets and movable and intangible property is anecdotally replacing the system of intergenerational transfer, even this most modern, urban center in the country is yet to witness full transition. Household composition including household size and presence of children are important in terms of a household's capacity to earn income, accumulate wealth, and consume adequately. Finally, while contradictory to the dominant views, this analysis does not find discrimination as a potential source of economic inequality in Kathmandu. Gender, Muslim religion, and untouchable caste that demonstrate some association do not sufficiently warrant consistent effects.

Future studies need to focus on the horizontal and longitudinal expansion of this concept to derive more general findings. Horizontal expansion is needed to uncover the trend in other parts of Nepal so that these findings can be verified. Longitudinal expansion, on the other hand, would be useful to look at the historical trend in economic inequality in Kathmandu, thus identifying how these different sources of inequality play out over time. Also needed are comprehensive studies of inequality with more accurate data so that the findings would not suffer from measurement errors.

Notes

1. Kathmandu, where this analysis focuses, recorded a 4.53 percent annual population growth in the 1990s with 672,000 inhabitants in 2001 (KMC, 2002). It is notable that Kathmandu is the largest and perhaps the fastest growing of the four cities and towns—including Lalitpur, Bhaktapur, and Kirtipus—in the Kathmandu Valley.

2. A report by UNDP/Nepal (1998) shows, for example, that the per capita household income of the top 10 percent in urban Nepal including Kathmandu increased from close to 20 percent in 1985 to about 70 percent in 1996.

3. The country currently has government officials appointed by the monarch, with election long overdue for all units of government and thus virtually no elected political representatives.

4. The assumption is that consumption, expressed mostly—but not necessarily—in monetary terms, captures what is needed to maintain a healthy lifestyle. In reality, however, increasing levels of consumption may not lead to more healthy lifestyles, as higher expenditures may be devoted to taste and quality of items consumed.

5. Out of these households, however, only 621 had income and wealth data, thus making it the effective sample size for the extent of economic inequality. In case of the ensuing analysis, however, the sample size further diminishes, depending on the missing values on some of the explanatory variables.

6. In-kind government transfers that are often included in studies of economic inequality are not included here. In a country, where social services including education and health care are available from public agencies, it is difficult to estimate the value of services received by households.

7. While what expenditures are included in consumption is debatable, more important in studying economic inequality in a particular society is the consistency across households.

8. While I could use workplace and occupation of both householders and all adults, I use workplace of adults and occupation of householders to capture the general effects of both factors.

9. Since the real estate and housing prices are generally higher in Kathmandu than in other parts of the country, migration status indicates that the property inherited by migrants would not be as expensive as those inherited by the native-born population. Additionally, I assume that those with large inherited property would not lack title to their houses and/or reside in substandard dwellings.

10. This is based on the US$250 estimate reported by the World Bank (2003) for 2002/2003 using the nominal exchange rate of US$1=NRS 78 that prevailed at the end of 2002, the actual time of the survey. One could, however, come up with different US$ estimates using purchasing power parity rate of conversion.

11. This does not apply to real economic welfare or well-being since the cost of living in Kathmandu is much higher.

12. Here I focus on household rather than on per capita figures. While the latter figures are also important, the former are more appropriate to examine economic inequality, for households comprise young and old as well as productive and unproductive members, who enjoy the same command over resources. The economic welfare of different members within a household tends to be similar, suggesting that the unit of analysis needs to be the 'household.' This is true unless there are other ways to account for intra-household differences in welfare, which this analysis does not cover.

13. Especially noteworthy was the timing of this survey, in which a general sense of distrust over outsiders loomed large in Kathmandu owing to the ongoing communist rebellion as well as government's anti-corruption initiatives targeting high profile political representatives and government officials. Underreporting of income and wealth might have occurred, perhaps attenuating both their estimates for those at the high end of the distribution and the overall magnitude of inequality.

14. It is interesting, however, that this correlation is much higher than those found in industrial countries. In the United States, for example, the correlation between income and wealth is just 0.321 (Diaz-Gimenez et al, 1997).

15. This practice of estimating separate models including household and householder characteristics is not common. But wide disparities that are likely in Nepal among household members on education, employment, occupation, and the like indicate that using only one set of characteristics does not capture the full range of issues. Recent changes producing very productive household members, whereas the householders constitute less educated, unskilled parents in this society with extended families, make a compelling case that householder characteristics do not necessarily predict household status and performance and vice versa.

16. This is also conspicuous from large R^2 estimates. As Tables 4 and 5 indicate, for example, R^2 estimates are considerably higher for the income and consumption dimensions.

17. I use the negative or positive signs of coefficients to indicate the nature of effects, with their underlying significance. Unless otherwise indicated, the nature of effects provided will imply that the effects are statistically significant at 95 percent confidence level. Moreover, guided by a motivation to explain the general bases of economic inequality in Kathmandu, I do not focus on the absolute magnitudes of the coefficients and their interpretations. Because the dependent variables enter in the model in their natural log form, however, absolute values of the model coefficients would require careful interpretations. The coefficient of 0.109 on household size for income shown in Table 4, for example, indicates that increasing household size by one point (or person) would lead to 10.9 percent increase in income. In case of dummy variables such as center location, on the other hand, the coefficient of –0.374 indicates that household residence in that location would make it 37.4 percent worse off in income.

18. It is not unexpected due to the timing of the survey as discussed in note 13. As a simple check, for example, results indicate that over 12 percent of the householders reported their income and/or wealth to be less than their consumption. While some households may get heavily indebted, this anomaly for a large number of households hinges on a more systematic problem.

19. A correlation coefficient of 0.83 between household size and the number of adult members, for example, supports that large households indeed tend to include more productive members even after accounting for those who are old and thus may not be as economically active.

20. Acharya, Mathema, and Acharya (1999), for example, find similar empirical results and admit that 'feminization of poverty' which is real in Nepal is hard to prove with household level data. The argument relates to intra-household disparities between men and women, leading to similar resources and yet dissimilar levels of individual welfare.

21. Many of these households from the untouchable caste, for example, owned tailor shops, one of the highly lucrative skill-intensive businesses in the city.

22. It is interesting to note that the squared form of age that almost always works well in econometric models did not turn out to be so in this analysis.

23. Using human capital theories to justify inequality in income is almost outdated now. But in a society where traditional forms of assets still dominate with large role of inherited property and very little investment in human capital, these theories do not necessarily provide the best explanation.

24. Having native-born householder does not necessarily imply that households have inherited property. But given the structural changes in Kathmandu with more recent influx of population, the assumption that native-born householders are more established with perhaps real estate and other high value properties is realistic.

25. While the coefficient magnitudes may indicate such differences, they are difficult to compare across dimensions and across models and therefore are not included in this analysis.

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Appendix Description of Variables			
Variable	**Type**	**Value**	**Definition**
Inequality Variables			
Household income (NRS)	Continuous	3k to 660k	Total household income including wages, self-employment and business earnings, house rental, in-cash government transfer, and remittance and miscellaneous income
Household Wealth (NRS)	Continuous	-64/k to 41900k	Household net worth including value of real estate, building, business, motor vehicle, cash, other liquid assets, and loan receivables, less any loans
Household consumption (NRS)	Continuous	15k to 828k	Total household expenditures on consumption including of food items consumed at home or outside and such non-food items as house rental, transportation, utilities, clothing, health care, and entertainment
Household characteristics:			
Household size	Dichotomous	0 and 1	Household size including children
Children under 6 as % of adults	Continuous	0 to 1	Children under 6 as percentage of all adult members
% adult females	Continuous	0 to 1	Adult females as percentage of all adults 18 and over
Average age for adults	Continuous	19 to 62	Average age for all adults 18 and over
No house title	Dichotomous	0 and 1	Households lacking title to the house they own
Permanent dwelling	Dichotomous	0 and 1	Residence in permanent versus substandard dwelling
Average education for adults	Continuous	0 to 18	Average educational attainment in years for all adults 18 and over
Employment and Work place:			
% adults employed in government agencies	Continuous	0 to 1	Percent adult members employed in government agencies
% adults employed in NGOs	Continuous	0 to 1	Percent adult members employed in nongovernment organizations
% adults employed in public enterprises	Continuous	0 to 1	Percent adult members employed in government owned public enterprises
% adults employed in private companies	Continuous	0 to 1	Percent adult members employed in private companies
% adults employed in registered businesses	Continuous	0 to 1	Percent adult members employed in registered businesses
% adults employed in unregistered businesses	Continuous	0 to 1	Percent adult members employed in unregistered businesses
% adults self employed with registered businesses	Continuous	0 to 1	Percent adult members self-employed with registered businesses
% adults self employed with unregistered businesses	Continuous	0 to 1	Percent adult members self-employed with unregistered businesses
% adults unemployed	Continuous	0 to 1	Percent adult members employed
Householder characteristics:			
Female	Dichotomous	0 and 1	Household's in which householder is female
Age	Continuous	19 to 86	Householder's age
Marital status: Married	Dichotomous	0 and 1	Households in which householder's marital status is married
Marital status: Unmarried	Dichotomous	0 and 1	Households in which householder's marital status is unmarried
Marital status: Widow	Dichotomous	0 and 1	Households in which householder's marital status is widow
Caste: Brahmin	Dichotomous	0 and 1	Households in which householder is from Brahmin caste
Caste: Chhetri	Dichotomous	0 and 1	Households in which householder is from Chhetri caste
Caste: Untouchable	Dichotomous	0 and 1	Households in which householder is from Untouchable caste
Caste: Baishya	Dichotomous	0 and 1	Household in which householder is from Baishya caste including different ethnicities
Ethnicity: Newar	Dichotomous	0 and 1	Households in which householder is from Newar ethnicity
Ethnicity: Magar	Dichotomous	0 and 1	Households in which householder is from Magar ethnicity
Ethnicity: Gurung	Dichotomous	0 and 1	Households in which householder is from Gurung ethnicity
Ethnicity: Rai	Dichotomous	0 and 1	Households in which householder is from Rai ethnicity
Ethnicity: Tamang	Dichotomous	0 and 1	Households in which householder is from Tamang ethnicity
ethnicity: Other	Dichotomous	0 and 1	Households in which householder is from other ethnicity within Baishya caste
Religion: Hindu	Dichotomous	0 and 1	Households in which householder is Hindu
Religion: Buddhist	Dichotomous	0 and 1	Households in which householder is Buddhist
Religion: Muslim	Dichotomous	0 and 1	Households in which householder is Muslim
Religion: Other	Dichotomous	0 and 1	Households in which householder follows other religions
Migrant	Dichotomous	0 and 1	Households in which householder immigrated from other places
Educational attainment	Continuous	0 to 22	Educational attainment of householder in years
Householder's occupation and employment:			
Armed forces	Dichotomous	0 and 1	Householder in armed forces occupation
Farming	Dichotomous	0 and 1	Householder in farming occupation
Labor	Dichotomous	0 and 1	Householder in unskilled labor occupation
Machine operation	Dichotomous	0 and 1	Householder in machine operation including driving occupation
Craft	Dichotomous	0 and 1	Householder in craft occupation
Sales	Dichotomous	0 and 1	Householder in sales occupation
Administrative support	Dichotomous	0 and 1	Householder in administrative support occupation
Executive and professional	Dichotomous	0 and 1	Householder in executive and professional occupation
Other services	Dichotomous	0 and 1	Householder in other services occupation
Unemployed	Dichotomous	0 and 1	Householder unemployed
Self employed	Dichotomous	0 and 1	Householder self employed
Location:			
Core	Dichotomous	0 and 1	Residential location in the Core Sector of the city
Center	Dichotomous	0 and 1	Residential location in the Center Sector of the city
East	Dichotomous	0 and 1	Residential location in the East Sector of the city
North	Dichotomous	0 and 1	Residential location in the North Sector of the city
West	Dichotomous	0 and 1	Residential location in the West Sector of the city

Variables	Wealth	Income	Consumption
Table 4 **Three Stage Least Square Model of Household Wealth, Income, and Consumption** **Using Household Characteristics**			
Household wealth		2.62E-08 **	2.71E-08 **
		(6.81E-09)	(5.59E-09)
Household income	-2.22E-07		5.60E-07 **
	(3.95E-07)		(7.12E-08)
Household consumption	3.40E-06 **	3.43E-06 **	
	(1.24E-06)	(2.72E-02)	
Household Composition			
Household size	0.116 *	0.055 **	0.088 **
	(0.047)	(0.011)	(0.009)
Childrenn under 6 as % of adults	-1.386 **	-0.246 *	-0.211 *
	(0.447)	(0.109)	(0.087)
Discrimination			
Chhetri caste	-0.171	-0.041	-0.033
	(0.235)	(0.057)	(0.046)
Newar ethnicity	0.016	0.016	0.011
	(0.265)	(0.064)	(0.052)
Magar ethnicity	-0.208	0.075	-0.077
	(0.529)	(0.128)	(0.103)
Gurung ethnicity	0.392	0.114	0.052
	(0.538)	(0.130)	(0.105)
Rai ethnicity	0.440	0.092	-0.130
	(0.576)	(0.140)	(0.112)
Tamang ethnicity	0.333	-0.105	0.034
	(0.495)	(0.120)	(0.097)
Untouchable caste	2.813 **	0.123	0.135
	(0.982)	(0.238)	(0.192)
Buddhist religion	-0.288	0.039	0.028
	(0.267)	(0.065)	(0.052)
Muslim religion	-1.279	0.208	0.270
	(0.747)	(0.181)	(0.146)
% adult female	0.549	0.400 **	0.241 *
	(0.496)	(0.120)	(0.097)
Human Capital			
Mean age for adults	0.050 **	0.012 **	0.006 **
	(0.012)	(0.003)	(0.002)
Mean educational attainment for adults	0.208 **	0.040 **	0.044 **
	(0.028)	(0.007)	(0.005)
% adults employed in government agencies	-0.449	-0.106	0.028
	(0.597)	(0.145)	(0.117)
% adults employed in NGOs	-1.003	0.246	-0.156
	(0.966)	(0.234)	(0.189)
% adults employed in public enterprises	0.069	-0.337	0.039
	(1.178)	(0.285)	(0.230)
% adults employed in private companies	-0.728	-0.102	-0.134
	(0.540)	(0.131)	(0.105)
% adults employed in registered businesses	-1.661 *	-0.284	-0.194
	(0.687)	(0.167)	(0.134)
% adults employed in unregistered businesses	-1.337 *	-0.377 *	-0.448 **
	(0.683)	(0.166)	(0.133)

% adults self employed with registered businesses	0.539	0.390 **	0.272 **
	(0.510)	(0.124)	(0.099)
% adults self employed with unregistered businesses	-0.198	-0.128	-0.032
	(0.415)	(0.101)	(0.081)
% adults unemployed	-0.573	-0.226 *	-0.011
	(0.397)	(0.096)	(0.077)
Inheritance			
Householder migrant	-1.310 **	-0.023	0.054
	(0.219)	(0.054)	(0.043)
Permanent dwelling	0.395	0.222 **	0.159 **
	(0.263)	(0.064)	(0.051)
No house title	-2.884 **	-0.423 **	-0.173
	(0.522)	(0.126)	(0.102)
Spatial Segregation			
Center location	0.980 **	-0.226 **	-0.097
	(0.343)	(0.084)	(0.067)
East location	0.393	-0.379 **	-0.207 **
	(0.297)	(0.072)	(0.059)
North location	0.637 *	-0.236 **	-0.171
	(0.325)	(0.080)	(0.065)
West location	0.647 *	-0.226 **	-0.283 **
	(0.325)	(0.080)	(0.064)
Constant (in natural log)	9.424 *	10.399 **	10.343 **
	(0.761)	(0.186)	(0.150)
N	619	619	619
R-squared	0.439	0.694	0.63

Note: Values in parentheses are standard errors

 * $p<0.05$; ** $p<0.01$

Variables	Wealth	Income	Consumption
Table 5 **Three Stage Least Square Model of Household Wealth, Income, and Consumption** **Using Householder Characteristics**			
Household Wealth		3.17E-08 **	3.17E-08 **
		(6.98E-09)	(5.63E-09)
Household Income	-3.95E-08		5.72E-07 **
	(3.91E-07)		(7.18E-08)
Household Consumption	4.19E-06 **	3.59E-06 **	
	(1.22E-07)	(2.79E-07)	
Household Composition			
Household size	0.067	0.051 **	0.086 **
	(0.049)	(0.012)	(0.009)
Childrenn under 6 as % of adults	-0.811	-0.043	-0.100
	(0.421)	(0.106)	(0.084)
Discrimination			
Chhetri caste	-0.115	-0.021	-0.016
	(0.229)	(0.058)	(0.046)
Newar ethnicity	0.140	0.046	0.024
	(0.264)	(0.067)	(0.053)
Magar ethnicity	-0.446	-0.012	-0.118
	(0.529)	(0.133)	(0.105)
Gurung ethnicity	0.446	0.166	0.017
	(0.533)	(0.134)	(0.106)
Rai ethnicity	0.435	0.067	-0.120
	(0.571)	(0.144)	(0.114)
Tamang ethnicity	0.602	-0.084	0.077
	(0.492)	(0.124)	(0.098)
Untouchable caste	2.840 **	0.146	0.299
	(1.004)	(0.253)	(0.200)
Buddhist religion	-0.326	0.047	0.017
	(0.264)	(0.066)	(0.053)
Muslim religion	-1.913 **	-0.006	0.149
	(0.730)	(0.184)	(0.145)
Householder female	-0.300	0.136	0.164 **
	(0.298)	(0.075)	(0.059)
Human Capital			
Householder's age	0.026 **	0.006 **	0.005 **
	(0.008)	(0.002)	(0.002)
Householder's Educational attainment	0.144 **	0.028 **	0.032 **
	(0.023)	(0.006)	(0.004)
Householder's occupation: Armed forces	-0.422	-0.092	-0.165
	(0.508)	(0.128)	(0.101)
Householder's occupation: Farming	0.437	-0.032	-0.121
	(0.643)	(0.162)	(0.128)
Householder's occupation: Other services	-0.895 *	-0.154	-0.112
	(0.426)	(0.108)	(0.085)
Householder's occupation: Labor	-1.796 **	-0.148	-0.450 **
	(0.488)	(0.123)	(0.097)
Householder's occupation: Machine operation	-0.929 *	0.085	-0.024
	(0.468)	(0.118)	(0.093)
Householder's occupation: Craft	0.191	-0.001	-0.254
	(0.653)	(0.165)	(0.130)

Householder's occupation: Sales	-0.416	-0.027	-0.060
	(0.387)	(0.098)	(0.077)
Householder's occupation: Administrative support	-0.102	-0.026	-0.107
	(0.407)	(0.103)	(0.081)
Householder's occupation: Executive and professional	-0.283	0.082	-0.041
	(0.310)	(0.078)	(0.062)
Householder unemployed	-1.000 *	-0.025	-0.018
	(0.422)	(0.106)	(0.084)
Householder self employed	0.308	0.138 *	0.119 **
	(0.234)	(0.059)	(0.047)
Inheritance			
Householder Migrant	-1.394 **	-0.034	0.048
	(0.219)	(0.056)	(0.044)
Permanent dwelling	0.294	0.242 **	0.158 **
	(0.260)	(0.065)	(0.052)
No house title	-2.615 **	-0.423 **	-0.133
	(0.525)	(0.132)	(0.105)
Spatial segregation			
Center location	0.785 *	-0.327 **	-0.159 *
	(0.334)	(0.084)	(0.067)
East location	0.362	-0.467 **	-0.255 **
	(0.287)	(0.073)	(0.058)
North location	0.435	-0.344 **	-0.219 **
	(0.312)	(0.080)	(0.063)
West location	0.491	-0.299 **	-0.324 **
	(0.319)	(0.081)	(0.064)
Constant (in natural log)	10.961 **	10.687 **	10.577 **
	(0.671)	(0.170)	(0.135)
N	619	619	619
R-squared	0.444	0.675	0.625

Note: Values in parentheses are standard errors
    * $p<0.05$; ** $p<0.01$